

# Controls – Contactors and Contactor Assemblies



## Technical Information

can be found at  
[www.siemens.com/industrial-controls/support](http://www.siemens.com/industrial-controls/support)

under Product List:  
 - Technical specifications

under Entry List:  
 - Updates  
 - Downloads  
 - FAQ  
 - Manuals/Operating instructions  
 - Characteristic curves  
 - Certificates

and at  
[www.siemens.com/industrial-controls/configurators](http://www.siemens.com/industrial-controls/configurators)

- Configurators

*Note:*  
 For safety characteristics for contactors, see "Appendix" → "Standards and Approvals" → "Overview"

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## Introduction

## Overview

Size  
Type**S00**  
3RT10 1**S0**  
3RT10 2**S2**  
3RT10 3**3RT10 contactors • 3RT12 and 3TF68/69 vacuum contactors**

Type	<b>3RT10 15</b>	<b>3RT10 16</b>	<b>3RT10 17</b>	<b>3RT10 23</b>	<b>3RT10 24</b>	<b>3RT10 25</b>	<b>3RT10 26</b>	<b>3RT10 34</b>	<b>3RT10 35</b>	<b>3RT10 36</b>
AC, DC operation	(p. 3/15, 3/19)			(p. 3/16, 3/20)			(p. 3/17, 3/21)			

Type

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**AC-3**

$I_e$ /AC-3/400 V	A	7	9	12	9	12	17	25	32	40	50
<b>400 V</b>	<b>kW</b>	<b>3</b>	<b>4</b>	<b>5.5</b>	<b>4</b>	<b>5.5</b>	<b>7.5</b>	<b>11</b>	<b>15</b>	<b>18.5</b>	<b>22</b>
230 V	kW	2.2	3	3	3	3	4	5.5	7.5	11	15
500 V	kW	3.5	4.5	5.5	4.5	7.5	10	11	18.5	22	30
690 V	3RT10/12 kW	4	5.5	5.5	5.5	7.5	11	11	18.5	22	22
1000 V	3RT10/12 kW	--	--	--	--	--	--	--	--	--	--

**AC-4** (for  $I_a = 6 \times I_e$ )

<b>400 V</b>	<b>kW</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>5.5</b>	<b>7.5</b>	<b>7.5</b>	<b>15</b>	<b>18.5</b>	<b>22</b>
400 V	3RT10/12 kW	1.15	2	2	2	2.6	3.5	4.4	8.2	9.5	12.6
(200000 operating cycles)											

**AC-1** (40 °C, ≤ 690 V)

$I_e$	3RT10/12	<b>A</b>	<b>18</b>	<b>22</b>	<b>22</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>60</b>
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**3RT14 AC-1 contactors**

Type

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 $I_e$ /AC-1/40 °C ≤ 690 V

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**Accessories for contactors**

<b>Auxiliary switch blocks</b>	front lateral	<b>3RH19 11</b>	(p. 3/102)	<b>3RH19 21</b>	(p. 3/102)	<b>3RH19 21</b>	(p. 3/104)			
<b>Terminal covers</b>		--		--		--		<b>3RT19 36-4EA2</b>	(p. 3/113)	
<b>Box terminal blocks</b>		--		--		--		--		
<b>Surge suppressors</b>		<b>3RT19 16</b>	(p. 3/108)	<b>3RT19 26</b>	(p. 3/108)	<b>3RT19 26/36</b>	(p. 3/108)			

**3RU1 and 3RB2 overload relays (Protection Equipment --> Overload Relays)**

<b>3RU11</b> , thermal, CLASS 10	<b>3RU11 16</b>	0.1 ... 12 A (Chap. 5)	<b>3RU11 26</b>	1.8 ... 25 A (Chap. 5)	<b>3RU11 36</b>	5.5 ... 50 A (Chap. 5)
<b>3RB20/21</b> , solid-state, CLASS 5, 10, 20 and 30	<b>3RB20 16</b>	0.1 ... 12 A (Chap. 5)	<b>3RB20 26</b>	3 ... 25 A (Chap. 5)	<b>3RB20 36</b>	6 ... 50 A (Chap. 5)
	<b>3RB21 16</b>		<b>3RB21 26</b>		<b>3RB21 36</b>	
<b>3RB22/23</b> , solid-state, CLASS 5, 10, 20 and 30	<b>3RB2. 83 + 3RB29 06</b>				<b>3RB2. 83 + 3RB29 06</b>	10 ... 100 A (Chap. 5)
		0.3 ... 25 A (Chap. 5)				

**3RV10 motor starter protectors (Protection Equipment --> Motor Starter Protectors)**

Type	<b>3RV10 11</b>	0.18 ... 12 A (Chap. 5)	<b>3RV10 21</b>	9 ... 25 A (Chap. 5)	<b>3RV10 31</b>	22 ... 50 A (Chap. 5)
<b>Link modules</b>	<b>3RA19 11</b>	(Chap. 5)	<b>3RA19 21</b>	(Chap. 5)	<b>3RA19 31</b>	(Chap. 5)

**3RA13 reversing contactor assemblies**

<b>Complete units</b>	Type	<b>3RA13 15</b>	<b>3RA13 16</b>	<b>3RA13 17</b>	<b>3RA13 24</b>	<b>3RA13 25</b>	<b>3RA13 26</b>	<b>3RA13 34</b>	<b>3RA13 35</b>	<b>3RA13 36</b>
		(p. 3/33)			(p. 3/34)			(p. 3/35)		
<b>400 V</b>	<b>kW</b>	<b>3</b>	<b>4</b>	<b>5.5</b>	<b>5.5</b>	<b>7.5</b>	<b>11</b>	<b>15</b>	<b>18.5</b>	<b>22</b>
<b>Assembly kits/wiring modules</b>		<b>3RA19 13-2A</b>	(p. 3/38)	<b>3RA19 23-2A</b>	(p. 3/38)	<b>3RA19 33-2A</b>	(p. 3/38)			
<b>Mechanical interlocks</b>		<b>3RA19 12-2H</b>	(p. 3/39)	<b>3RA19 24-1A/-2B</b>	(p. 3/37)					

**3RA14 contactor assemblies for wye-delta starting**

<b>Complete units</b>	Type	<b>3RA14 15</b>	<b>3RA14 16</b>	<b>3RA14 23</b>	<b>3RA14 25</b>	<b>3RA14 34</b>	<b>3RA14 35</b>	<b>3RA14 36</b>
		(p. 3/42)		(p. 3/43)		(p. 3/44)	(p. 3/45)	
<b>400 V</b>	<b>kW</b>	<b>5.5</b>	<b>7.5</b>	<b>11</b>	<b>15/18.5</b>	<b>22/30</b>	<b>37</b>	<b>45</b>
<b>Assembly kits/wiring modules</b>		<b>3RA19 13-2B</b>	(p. 3/47)	<b>3RA19 23-2B</b>	(p. 3/47)	<b>3RA19 33-2B/-2C</b>	(p. 3/47)	

*Note:*

For safety characteristics for contactors, see "Appendix" --&gt; "Standards and Approvals" --&gt; "Overview"



**S3**  
3RT1.4



**S6**  
3RT1.5



**S10**  
3RT1.6



**S12**  
3RT1.7



**S14**  
3TF6

<b>3RT10 44</b> (p. 3/18, 3/21)	<b>3RT10 45</b>	<b>3RT10 46</b>	<b>3RT10 54</b> (p. 3/23)	<b>3RT10 55</b>	<b>3RT10 56</b>	<b>3RT10 64</b> (p. 3/23)	<b>3RT10 65</b>	<b>3RT10 66</b>	<b>3RT10 75</b> (p. 3/23)	<b>3RT10 76</b>	--			
--			--			<b>3RT12 64</b> (p. 3/27)	<b>3RT12 65</b>	<b>3RT12 66</b>	<b>3RT12 75</b> (p. 3/27)	<b>3RT12 76</b>	<b>3TF68</b> (p. 3/28)	<b>3TF69</b>		
65	80	95	115	150	185	225	265	300	400	500	630	820		
<b>30</b>	<b>37</b>	<b>45</b>	<b>55</b>	<b>75</b>	<b>90</b>	<b>110</b>	<b>132</b>	<b>160</b>	<b>200</b>	<b>250</b>	<b>335</b>	<b>450</b>		
18.5	22	22	37	45	55	55	75	90	132	160	200	260		
37	45	55	75	90	110	160	160	200	250	355	434	600		
45	55	55	110	132	160	200	250	250	400	400/500	600	800		
30	37	37	75	90	90	90/315	132/355	132/400	250/560	250/710	600	800		
<b>30</b>	<b>37</b>	<b>45</b>	<b>55</b>	<b>75</b>	<b>90</b>	<b>110</b>	<b>132</b>	<b>160</b>	<b>200</b>	<b>250</b>	<b>355</b>	<b>400</b>		
15.1	17.9	22	29	38	45	54/78	66/93	71/112	84/140	98/161	168	191		
<b>100</b>	<b>120</b>	<b>120</b>	<b>160</b>	<b>185</b>	<b>215</b>	<b>275/330</b>	<b>330</b>	<b>330</b>	<b>430/610</b>	<b>610</b>	<b>700</b>	<b>910</b>		
<b>3RT14 46</b>		(p. 3/50)	<b>3RT14 56</b>		(p. 3/51)	<b>3RT14 66</b>		(p. 3/51)	<b>3RT14 76</b>		(p. 3/51)	--		
<b>140</b>			<b>275</b>			<b>400</b>			<b>690</b>		--			
											--			
											<b>3TY7 561</b>		(p. 3/121)	
<b>3RT19 46-4EA1/2</b>		(p. 3/113)	<b>3RT19 56-4EA1/2/3</b>		(p. 3/113)	<b>3RT19 66-4EA1/2/3</b>		(p. 3/113)	<b>3RT19 76</b>		(p. 3/113)	<b>3TX7 686/696</b>		(p. 3/121)
--			<b>3RT19 55/56-4G</b>		(p. 3/113)	<b>3RT19 66-4G</b>		(p. 3/113)	--		--			
			<b>3RT19 56-1C</b>		(RC element) (p. 3/109)						<b>3TX7 572</b>		(p. 3/120)	
<b>3RU11 46</b>	18 ... 100 A	(Chap. 5)	--			--			--		--			
<b>3RB20 46</b>	12.5 ... 100 A	(Chap. 5)	<b>3RB20 56</b>	50 ... 200 A	(Chap. 5)	<b>3RB20 66</b>	55 ... 630 A	(Chap. 5)	<b>3RB20 66</b>	160 ... 630 A	(Chap. 5)	<b>3RB20 66</b>	160 ... 630 A	(Chap. 5)
<b>3RB21 46</b>			<b>3RB21 56</b>			<b>3RB21 66</b>			<b>3RB21 66</b>			<b>3RB21 66</b>		
			<b>3RB2. 83 + 3RB29 56</b>	20 ... 200 A	(Chap. 5)	<b>3RB2. 83 + 3RB29 66</b>	63 ... 630 A	(Chap. 5)						
<b>3RV10 41</b>	45 ... 100 A	(Chap. 5)	--			--			--		--			
<b>3RA19 41</b>		(Chap. 5)	--			--			--		--			
<b>3RA13 44</b>	<b>3RA13 45</b>	<b>3RA13 46</b>	--			--			--		--		<b>3TD68 04</b>	(p. 3/48)
(p. 3/36)													<b>335</b>	
<b>30</b>	<b>37</b>	<b>45</b>	<b>55</b>	<b>75</b>	<b>90</b>	<b>110</b>	<b>132</b>	<b>160</b>	<b>200</b>	<b>250</b>	<b>335</b>			
<b>3RA19 43-2A</b>		(p. 3/38)	<b>3RA19 53-2A</b>		(p. 3/38)	<b>3RA19 63-2A</b>		(p. 3/38)	<b>3RA19 73-2A</b>		(p. 3/38)	<b>3TX7 680-1A</b>		
			<b>3RA19 54-2A</b>		(p. 3/37)							<b>3TX7 686-1A</b>		
<b>3RA14 44</b>	<b>3RA14 45</b>		--			--			--		--		<b>3TE68 04</b>	(p. 3/49)
(p. 3/46)													<b>630</b>	
<b>55</b>	<b>75</b>		--			--			--		--			
<b>3RA19 43-2B/-2C</b>		(p. 3/47)	<b>3RA19 53-2B</b>		(p. 3/47)	<b>3RA19 63-2B</b>		(p. 3/47)	<b>3RA19 73-2B</b>		(p. 3/47)	<b>3TX7 680-1B</b>		

# Controls – Contactors and Contactor Assemblies

## Introduction

### The advantages at a glance



3TX7



3RS18



LZS/LZX



3TG10

	Order No.	Page
<b>Coupling links, narrow design</b>		
<b>Relay couplers</b>	<ul style="list-style-type: none"> <li>Width 6.2 mm (1 NO, 1 CO), 12.5 mm and 17.5 mm</li> <li>Output coupling links</li> <li>Input coupling links with hard gold-plating</li> </ul>	3TX7 002, 3TX7 003, 3TX7 004, 3TX7 005
<b>Plug-in base couplers, complete with relay</b>	<ul style="list-style-type: none"> <li>Width 6.2 mm (1 NO, 1 CO)</li> <li>Relays, replaceable</li> </ul>	3TX7 014-1..00
<b>Plug-in base couplers, complete with relay and hard gold-plating</b>	<ul style="list-style-type: none"> <li>Width 6.2 mm (1 CO)</li> </ul>	3TX7 014-1..02
<b>Semiconductor couplers</b>	<ul style="list-style-type: none"> <li>Output 1 semiconductor, triac or transistor</li> </ul>	3TX7 002, 3TX7 004, 3TX7 005
<b>Coupling relays in industrial housing</b>		
<b>Relay couplers</b>	<ul style="list-style-type: none"> <li>Protective separation up to 300 V between contacts and relay circuits</li> <li>1, 2 and 3 changeover contacts</li> <li>Hard gold-plated contacts in combination and wide voltage range versions</li> </ul>	3RS18
<b>Coupling relays with plug-in relays</b>		
<b>Plug-in relay couplers with 2, 3 and 4 changeover contacts</b>	<ul style="list-style-type: none"> <li>Switching capacity 12 A/10 A/6 A</li> <li>Width 27 mm</li> <li>Base optionally with or without logical isolation</li> </ul>	LZS/LZX:PT
<b>Plug-in relay couplers with 3 changeover contacts and circular base</b>	<ul style="list-style-type: none"> <li>Switching capacity 6 A</li> <li>11-pole circular base</li> <li>Width 38 mm</li> </ul>	LZS/LZX:MT
<b>Plug-in relay couplers with 1 or 2 changeover contacts</b>	<ul style="list-style-type: none"> <li>Switching capacity 16 A/8 A</li> <li>Width 15,5 mm</li> <li>Base optionally with or without logical isolation</li> </ul>	LZS/LZX:RT
<b>Power relays</b>		
<b>With screw and flat connectors</b>		3TG10

### Connection methods

The contactors and relays are available with screw terminals (box terminals and flat connectors) or with Cage Clamp terminals or spring-type terminals. Some device types are also available with plug-type connectors.



Screw terminals



Cage Clamp terminals or spring-type terminals



Flat connectors



Plug-in terminals



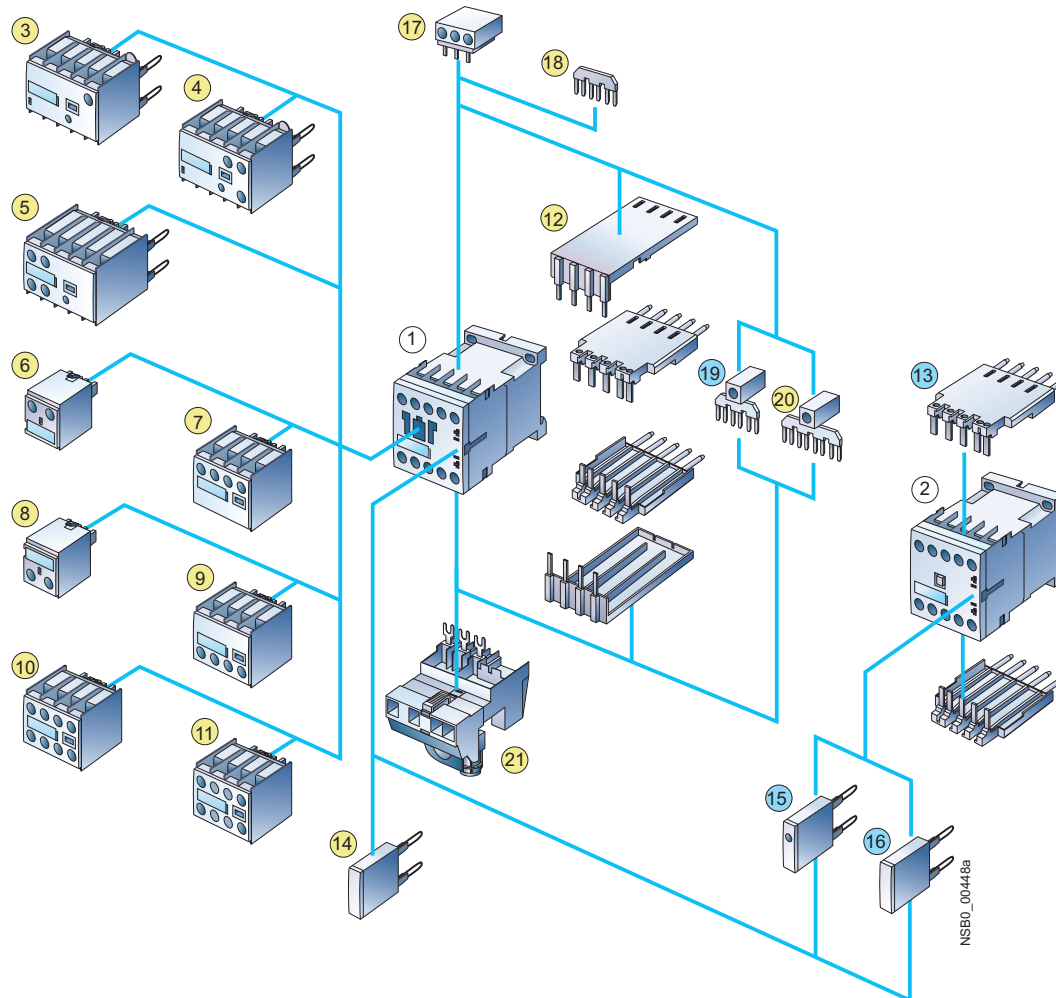
Solder pin connections

The terminals are indicated in the selection and ordering data by orange backgrounds.

## Overview

**3RT1 contactors and coupling relays**  
**Size S00 with mountable accessories**

The SIRIUS generation of controls is a complete, modular system family, logically designed right down to the last detail, from the basic units to the accessories.



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>① Contactor (page 3/15)</li> <li>② Coupling relay (page 3/79)</li> <li>③ Solid-state timing relay block, ON-delay (page 3/107)</li> <li>④ Solid-state timing relay block, OFF-delay (page 3/107)</li> <li>⑤ Auxiliary switch block with solid-state time delay (page 3/106)<br/>(ON or OFF-delay or wye-delta function)</li> <li>⑥ 1-pole auxiliary switch block, cable entry from above (page 3/102)</li> <li>⑦ 2-pole auxiliary switch block, cable entry from above (page 3/102)</li> <li>⑧ 1-pole auxiliary switch block, cable entry from below (page 3/102)</li> <li>⑨ 2-pole auxiliary switch block, cable entry from below (page 3/102)</li> <li>⑩ 4-pole auxiliary switch block (page 3/102)<br/>(terminal designations according to EN 50012 or EN 50005)</li> <li>⑪ 2-pole auxiliary switch block, standard version or<br/>solid-state compatible version (pages 3/102, 3/105)<br/>(terminal designations according to EN 50005)</li> <li>⑫ Solder pin adapter for contactors with 4-pole auxiliary switch block<br/>(page 3/112)</li> <li>⑬ Solder pin adapter for contactors and coupling relays (page 3/111)</li> </ul> | <ul style="list-style-type: none"> <li>⑭ Additional load module for increasing the permissible residual current<br/>(page 3/110)</li> <li>⑮ Surge suppressor with LED (page 3/109)</li> <li>⑯ Surge suppressor without LED (page 3/109)</li> <li>⑰ Three-phase feeder terminal (page 3/47)</li> <li>⑱ Link for paralleling (star jumper), 3-pole,<br/>without connection terminal (page 3/47)</li> <li>⑲ Link for paralleling, 3-pole, with terminal (page 3/112)</li> <li>⑳ Link for paralleling, 4-pole, with terminal (page 3/112)</li> <li>㉑ Connection module (adapter and plug) for contactors with screw-type<br/>connection (page 3/111)</li> </ul> |
|--|---|
- For contactors  
● For contactors and coupling relays (interface)

For contactor assemblies see pages 3/32 to 3/39.  
 For assembly kit for reversing contactor assemblies  
 (mech. interlocking, wiring modules) see page 3/38.  
 For mountable overload relays see Chapter 5  
 "Protection Equipment" → "Overload Relays".

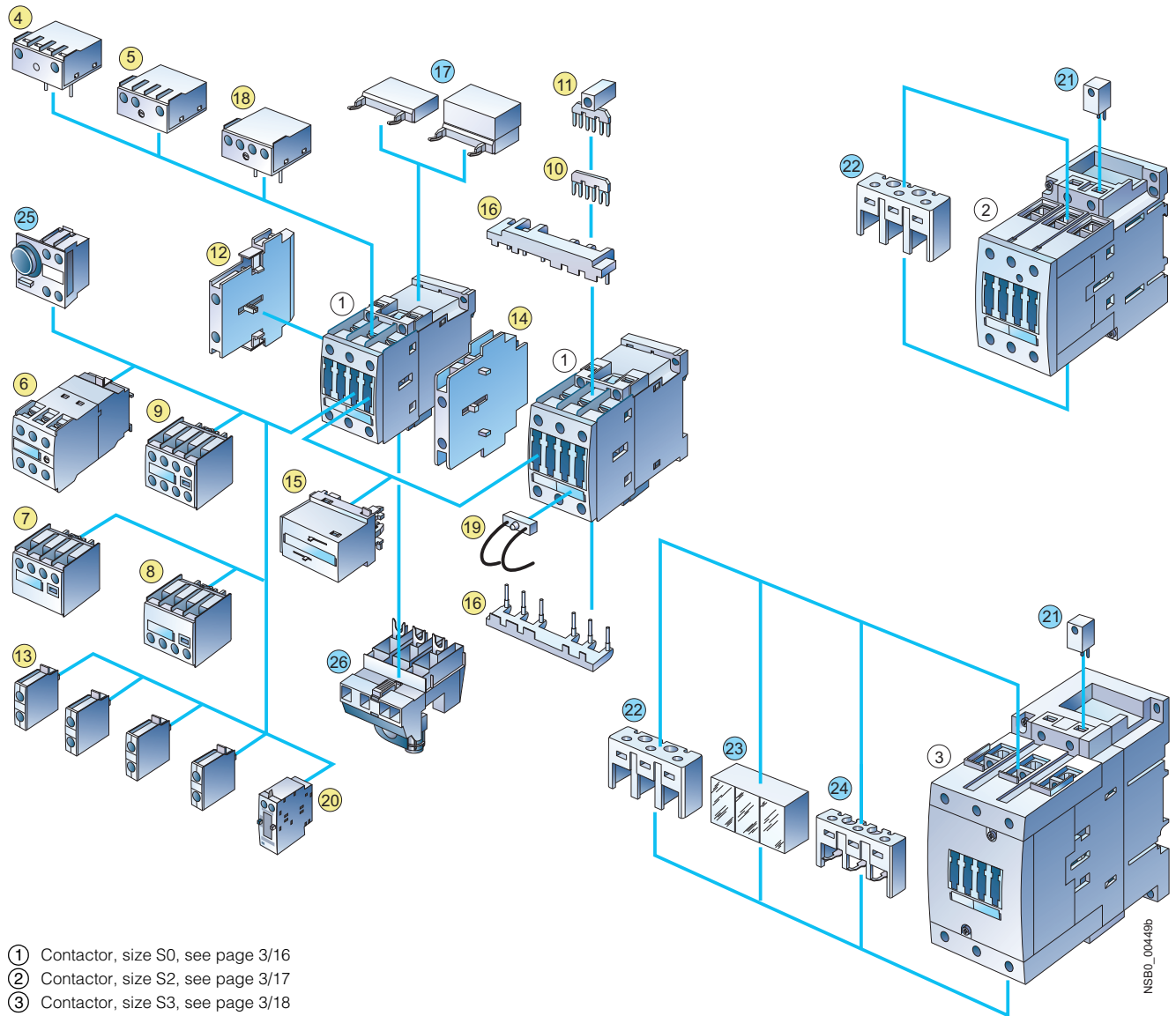
For fuseless load feeders, see Chapter 6  
 "Load Feeders, Motor Starters and Soft Starters" →  
 "3RA Fuseless Load Feeders".

# 3RT, 3TB, 3TF Contactors for Switching Motors

## General data

### 3RT1 contactors

Sizes S0 to S3 with mountable accessories



NSFD\_00449b

- ① Contactor, size S0, see page 3/16
- ② Contactor, size S2, see page 3/17
- ③ Contactor, size S3, see page 3/18

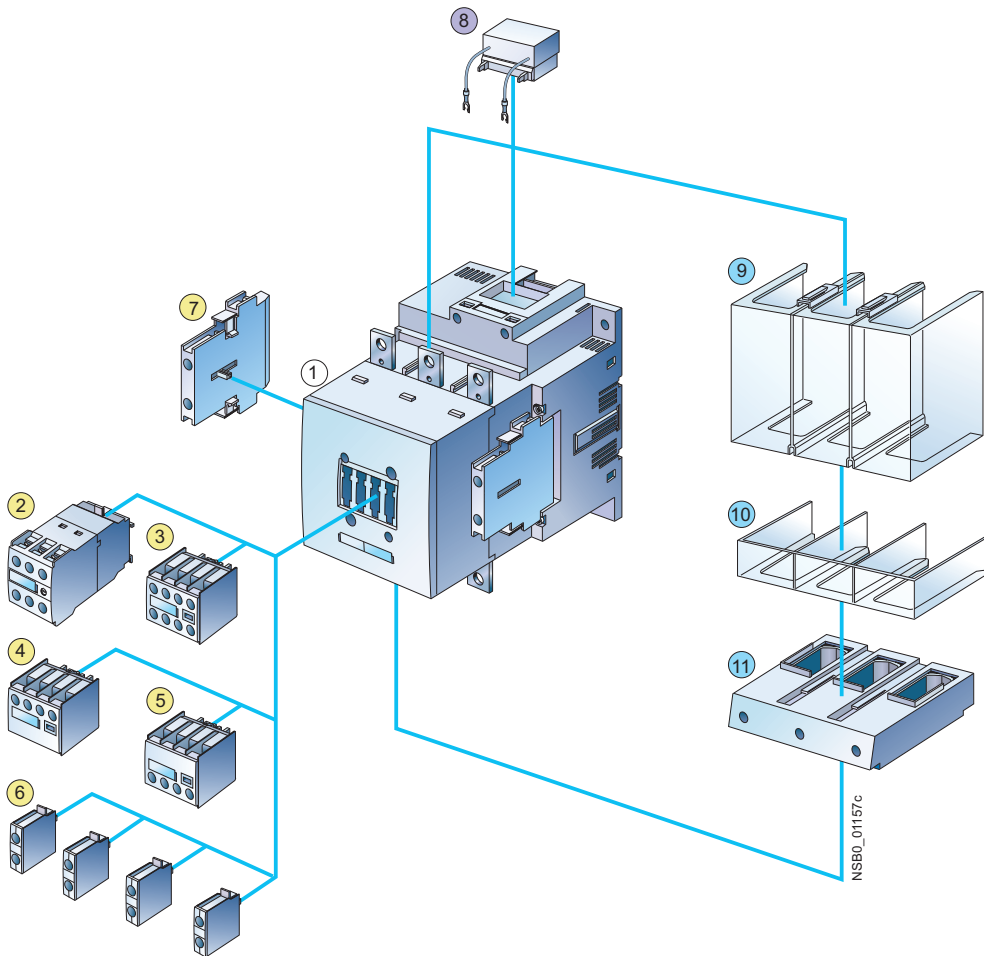
For sizes S0 to S3:

- ④ Solid-state timing relay block, ON-delay (page 3/107)
- ⑤ Solid-state timing relay block, OFF-delay (page 3/107)
- ⑥ Auxiliary switch block with solid-state time delay (page 3/106) (ON or OFF-delay or wye-delta function)
- ⑦ 2-pole auxiliary switch block, cable entry from above (page 3/103)
- ⑧ 2-pole auxiliary switch block, cable entry from below (page 3/103)
- ⑨ 4-pole auxiliary switch block (page 3/102, 3/103) (terminal designations according to EN 50012 or EN 50005)
- ⑩ Link for paralleling (star jumper), 3-pole, without connection terminal (page 3/47)
- ⑪ Link for paralleling, 3-pole, with terminal (page 3/112)
- ⑫ 2-pole auxiliary switch block, laterally mountable left or right (page 3/104) (terminal designations according to EN 50012 or EN 50005)
- ⑬ Single-pole auxiliary switch block (up to 4 can be snapped on) (page 3/103)
- ⑭ Mechanical interlock, laterally mountable (page 3/37)
- ⑮ Mechanical interlock, mountable on the front (page 3/37)
- ⑯ Wiring modules on the top and bottom (reversing duty) (page 3/39)
- ⑰ Surge suppressor (page 3/108) (varistor, RC element, diode assembly), can be mounted on the top or bottom (different for S0 and S2/S3)

- ⑱ Coupling link for mounting directly onto contactor coil (page 3/111)
  - ⑲ LED module for indicating contactor operation (page 3/111)
- Only for size S0:
- ⑳ Pneumatic delay block (page 3/107)
  - ㉑ Connection module (adapter and plug) for contactors with screw-type connection (page 3/111)
- Only for sizes S0 and S2:
- ㉒ Mechanical latching (page 3/107)
- Only for sizes S2 and S3:
- ㉓ Coil repeat terminal for making contactor assemblies (page 3/37)
  - ㉔ Terminal cover for box terminals (page 3/113)
- Only for size S3:
- ㉕ Terminal cover for cable lugs and busbar connections (page 3/113)
  - ㉖ Auxiliary conductor terminal, 3-pole (page 3/111)

- Accessories identical for sizes S0 to S3
- Accessories differ according to size

**3RT1 contactors**  
**Sizes S6 to S12 with accessories**  
*(illustration for basic unit)*



① 3RT10 and 3RT14 air-break contactor, sizes S6, S10 and S12  
 (page 3/23 and 3/51)

② Auxiliary switch block with solid-state time delay (page 3/106)  
 (ON or OFF-delay or wye-delta function)

③ 4-pole auxiliary switch block (page 3/102, 3/103)  
 (terminal designations according to EN 50012 or EN 50005)

④ 2-pole auxiliary switch block, cable entry from above (page 3/103)

⑤ 2-pole auxiliary switch block, cable entry from below (page 3/103)

⑥ Single-pole auxiliary switch block (up to 4 can be snapped on)  
 (page 3/103)

⑦ 2-pole auxiliary switch block, laterally mountable left or right  
 (page 3/104) (terminal designations according to EN 50012 or EN 50005),  
 identical for S0 to S12

⑧ Surge suppressor (RC element) (page 3/109),  
 for plugging into top of withdrawable coil

⑨ Terminal cover for cable lug and busbar connection  
 (page 3/113), different for sizes S6 and S10/S12

⑩ Terminal cover for box terminal, (page 3/113),  
 different for sizes S6 and S10/S12

⑪ Box terminal block (page 3/113),  
 different for sizes S6 and S10/S12

● Accessories identical for sizes S0 to S12

○ Accessories identical for sizes S6 to S12

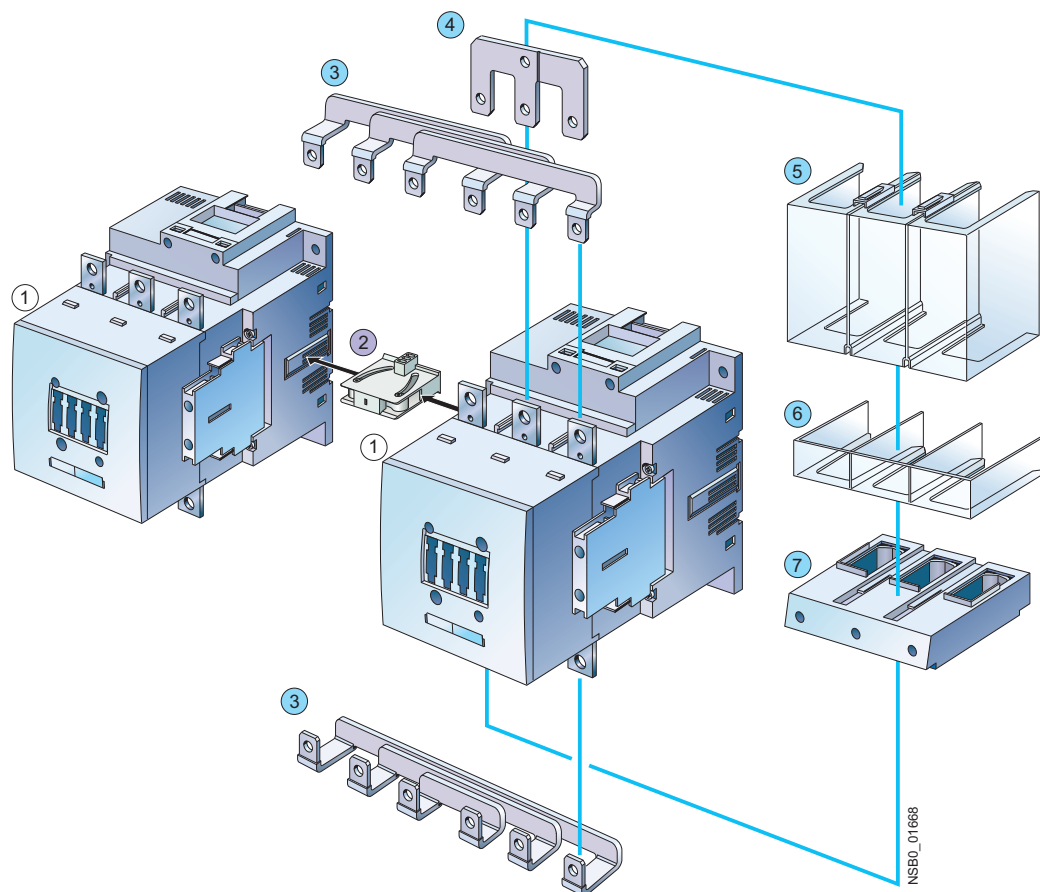
● Accessories differ according to size

For mountable overload relays see Chapter 5  
 "Protection Equipment" → "Overload Relays".

# 3RT, 3TB, 3TF Contactors for Switching Motors

## General data

3RA1 contactor assemblies, 3RT1 contactors  
Size S6 with accessories



① 3RT10 and 3RT14 air-break contactors, size S6  
(page 3/23 and 3/51)

② 3RA19 54-2A mechanical interlocks, laterally mountable  
(page 3/37)

③ 3RA19 53-2A wiring modules on the top and bottom (page 3/39)

④ 3RT19 56-4BA31 link for paralleling (star jumper), 3-pole,  
with through-hole (page 3/112)

⑤ Terminal cover for cable lug and busbar connection  
(page 3/113), different for sizes S6 and S10/S12

⑥ Terminal cover for box terminal, (page 3/113),  
different for sizes S6 and S10/S12

⑦ Box terminal block (page 3/113),  
different for sizes S6 and S10/S12

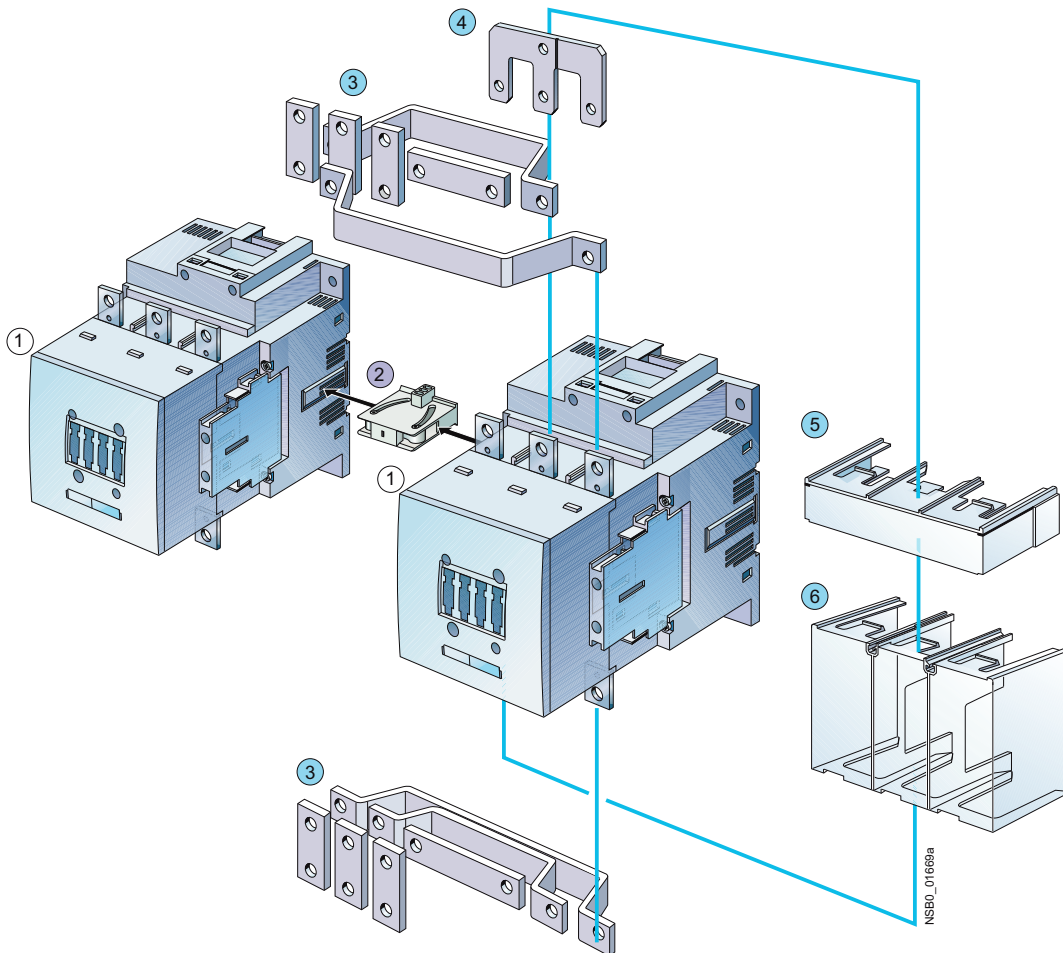
○ Accessories identical for sizes S6 to S12

● Accessories differ according to size

For mountable overload relays see Chapter 5  
"Protection Equipment" → "Overload Relays".



**3RA1 contactor assemblies, 3RT1 contactors**  
**Sizes S6, S10 and S12 with accessories**



① 3RT10 and 3RT14 air-break contactor, sizes S6, S10 and S12 (page 3/23 and 3/51) or 3RT12 vacuum contactor, sizes S10 and S12 (page 3/27)

② Mechanical interlock, laterally mountable (page 3/37)

③ 3RA19 wiring modules on the top and bottom (page 3/38)

④ 3RT19 56-4BA31 link for paralleling (star jumper), 3-pole, with through-hole (page 3/112)

⑤ Terminal cover for box terminal, (page 3/113), different for sizes S6 and S10/S12

⑥ Terminal cover for cable lug and busbar connection (page 3/113), different for sizes S6 and S10/S12

○ Accessories identical for sizes S6 to S12

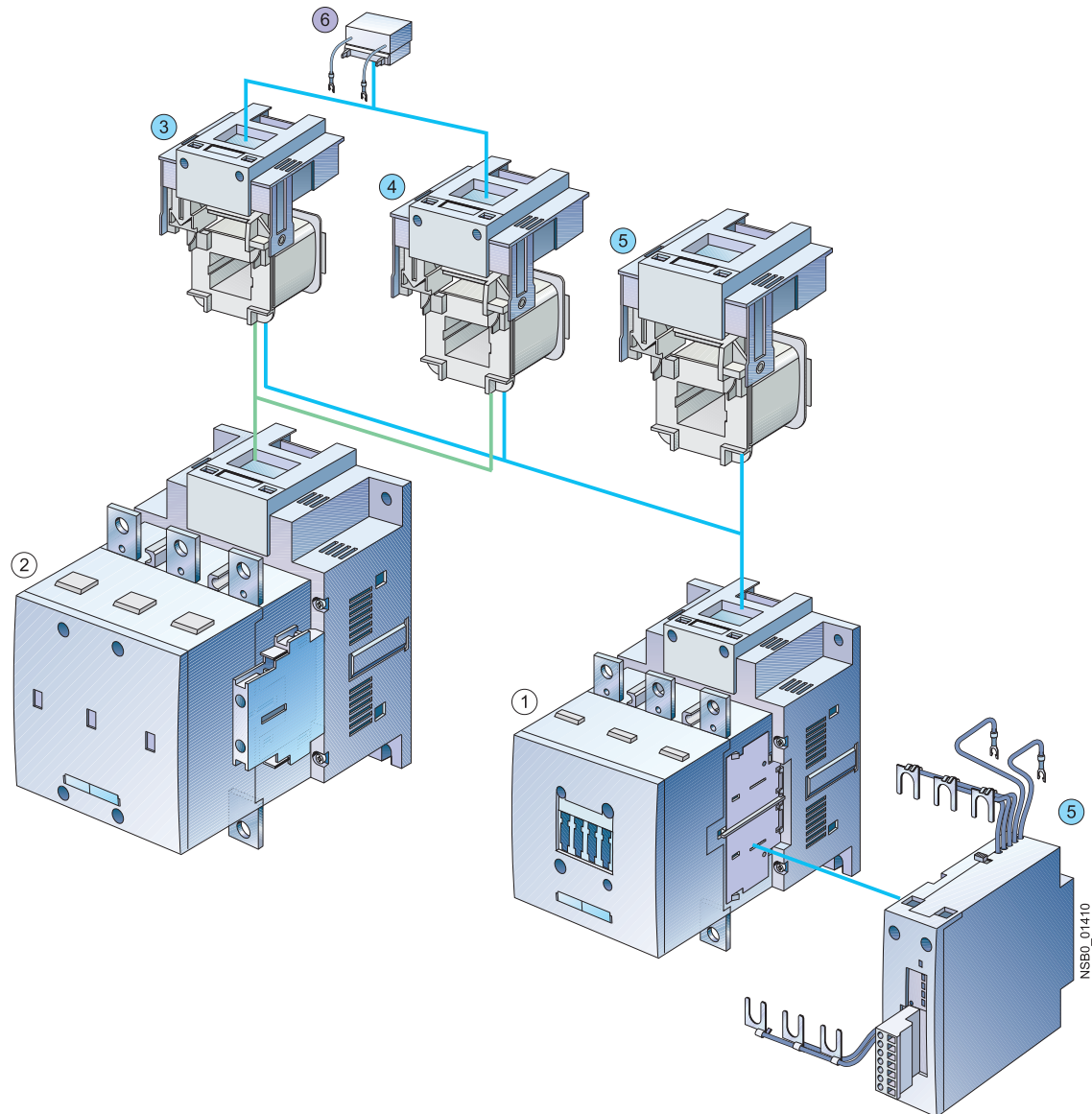
● Accessories differ according to size

For mountable overload relays see Chapter 5 "Protection Equipment" → "Overload Relays".

# 3RT, 3TB, 3TF Contactors for Switching Motors

## General data

### 3RT1 contactors Sizes S6 to S12 with accessories



- ① Air-break contactor, sizes S6, S10 and S12 (page 3/23)
- ② Vacuum contactor, sizes S10 and S12 (page 3/27)
- ③ Withdrawable coils for 3RT1...-A.. contactors with conventional operating mechanism  
(size S10: differentiation between 3RT10/3RT14 air-break contactors and 3RT12 vacuum contactors)  
(size S12: the same for air-break and vacuum contactors)
- ④ Withdrawable coils for 3RT1...-N.. contactors with solid-state operating mechanism  
(size S10: differentiation between 3RT10/3RT14 air-break contactors and 3RT12 vacuum contactors)  
(size S12: the same for air-break and vacuum contactors)
- ⑤ Withdrawable coil and laterally mountable module (plug-on) for 3RT1...-P.. and 3RT1...-Q.. air-break contactors with solid-state operating mechanism and remaining lifetime indicator.
- ⑥ Surge suppressor (RC element) (page 3/108), plug-mountable on withdrawable coils
  - 3RT1...-A.. with conventional operating mechanism
  - 3RT1...-N.. with solid-state operating mechanism

- Identical for sizes S6 to S12
- Different according to size

For mountable overload relays see Chapter 5  
"Protection Equipment" → "Overload Relays".

## Overview

### Sizes S00 to S3, up to 45 kW

#### AC and DC operation

IEC 60947-1, EN 60947-1,  
IEC 60947-4-1, EN 60947-4-1

The 3RT1 contactors are climate-proof. They are finger-safe according to EN 50274.

Size S00 contactors have an auxiliary contact integrated in the basic unit. The basic units of sizes S0 to S3 contain only the main contacts.

All basic units can be extended with auxiliary switch blocks. For size S0 and higher, complete units with 2 NO + 2 NC are available (connection designation according to EN 50012). The auxiliary switch block can be removed (for more information see [Accessories on page 3/97](#)).

In addition, complete units with permanently mounted auxiliary switch block (2 NO + 2 NC according to EN 50012) are offered for sizes S00 and S0. These versions are built according to special Swiss regulations "SUVA" and are distinguished externally by a red labeling plate.

#### Connection methods

The 3RT1 contactors are available with screw terminals (box terminals) or Cage Clamp terminals.

The size S3 contactors have removable box terminals for the main conductor connections. This permits connection of ring terminal lugs or busbars.

#### Contact reliability

If voltages  $\leq 110$  V and currents  $\leq 100$  mA are to be switched, the auxiliary contacts of the 3RT1 contactor or 3RH11 contactor relay should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are suitable for solid-state circuits with currents  $\geq 1$  mA at a voltage of 17 V.

#### Short-circuit protection of the contactors

For more information about short-circuit protection of contactors without overload relay, see [Technical specifications](#). For short-circuit protection of the contactors with overload relay, see ["Overload Relays"](#). To assemble fuseless motor feeders you must select combinations of motor starter protector and contactor as explained in ["Fuseless Load Feeders"](#).

#### Motor protection

3RU11 thermal overload relays or 3RB20 solid-state overload relays can be fitted to the 3RT1 contactors for protection against overload. The overload relays must be ordered separately.

#### Ratings of induction motors

The quoted rating (in kW) refers to the output power on the motor shaft (according to the nameplate).

#### Surge suppression

3RT1 contactors can be retrofitted with RC elements, varistors, diodes or diode assemblies (assembly of diode and Zener diode for short break times) for damping opening surges in the coil.

The surge suppressors are plugged onto the front of size S00 contactors. Space is provided for them next to a snap-on auxiliary switch block.

For size S0 to S3 contactors, varistors and RC elements can be snapped on either on the top or directly below the coil terminals. Diode assemblies are available in 2 different versions on account of their polarity. Depending on the application they can be connected either only at the bottom (assembly with motor starter protector) or only at the top (assembly with overload relay).

The plug-in direction of the diodes and diode assemblies is specified by coding.

Exceptions:

3RT19 26-1T.00 and

3RT19 36-1T.00, in this case the plug-in direction is marked with "+" and "-".

Coupling relays are supplied either without overvoltage damping or with a varistor or diode connected as standard, according to the version.

#### Note:

*The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assemblies 2 to 6 times, varistor +2 to 5 ms).*

### Sizes S6 to S12, > 45 to 250 kW

- 3RT10, contactors for switching motors,
- 3RT12, vacuum contactors for switching motors,
- 3RT14, contactors for AC-1 applications.

#### Operating mechanism types

Two types of solenoid operation are available:

- Conventional operating mechanism
- Solid-state operating mechanism (with 3 performance levels)

#### UC operation

The contactors can be operated with AC (40 to 60 Hz) as well as with DC.

#### Withdrawable coils

For simple coil replacement, e. g. if the application is replaced, the solenoid coil can be pulled out upwards after the release mechanism has been actuated and can be replaced by any other coil of the same size.

#### Auxiliary contact complement

For details of the auxiliary switch fittings for the contactors S0 to S12 see [Accessories, page 3/97](#).

- 3RT10 and 3RT14 contactors:  
Auxiliary contacts mounted laterally and on front
- 3RT12 vacuum contactors:  
Auxiliary contacts mounted laterally

#### Note:

*Auxiliary contact complement according to SUVA.*

Contactors with permanently mounted auxiliary switch block for safety applications according to SUVA.

#### Contactors with conventional operating mechanism

##### Version 3RT1. ...A:

The solenoid coil is switched directly on and off with the control supply voltage  $U_s$  by way of terminals A1/A2.

#### Multi-voltage range for the control supply voltage $U_s$ :

Several closely adjacent control supply voltages, available around the world, are covered by just one coil, e. g. 110-115-120-127 V UC or 220-230-240 V UC. In addition, allowance is also made for a coil operating range of 0.8 times the lower ( $U_{s\min}$ ) and 1.1 times the upper ( $U_{s\max}$ ) rated control supply voltage within which the contactor switches reliably and no thermal overloading occurs.

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

### Contactors with solid-state operating mechanism

The solenoid coil is supplied selectively with the power required for reliable switching and holding by upstream control electronics.

- **Wide voltage range for the control supply voltage  $U_s$ :**  
Compared with the conventional operating mechanism, the solid-state operating mechanism covers an even broader range of control supply voltages used worldwide within one coil variant. For example, the coil for 200 to 277 V AC/DC ( $U_{s \min}$  to  $U_{s \max}$ ) covers the voltages 200-208-220-230-240-254-277 V used worldwide.
- **Extended operating range 0.7 to 1.25 x  $U_s$ :**  
The wide range for the rated control supply voltage and the additionally allowed coil operating range of  $0.8 \times U_{s \min}$  to  $1.1 \times U_{s \max}$  results in an extended coil operating range of at least  $0.7$  to  $1.25 \times U_s$ , within which the contactors will operate reliably, for the most common control supply voltages of 24, 110 and 230 V.
- **Bridging temporary voltage dips:**  
Control voltage failures dipping to 0 V (at A1/A2) are bridged for up to approx. 25 ms to avoid unintentional tripping.
- **Defined ON and OFF thresholds:**  
For voltages above  $0.8 \times U_{s \min}$  the electronics will reliably switch the contactor ON, and for voltages below the value  $0.5 \times U_{s \min}$  it is reliably switched OFF. The hysteresis in the switching thresholds prevents the main contacts from chattering as well as increased wear or welding when operated in weak, unstable networks. This also prevents thermal overloading of the contactor coil if the voltage applied is too low (contactor does not close properly and is continuously operated with overexcitation).
- **Low control power consumption when closing and in the closed state.**

### Electromagnetic compatibility (EMC)

The contactors with solid-state operating mechanism conform to the requirements for operation in industrial plants:

- Interference immunity
  - Burst (IEC 61000-4-4): 4 kV
  - Surge (IEC 61000-4-5): 4 kV
  - Electrostatic discharge, ESD (IEC 61000-4-2): 8/15 kV
  - Electromagnetic field (IEC 61000-4-3): 10 V/m
- Emitted interference
  - Limit value class A according to EN 55011

### Note:

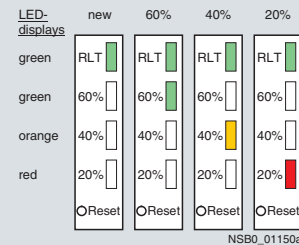
*In connection with converters, the control cables must be routed separately from the load cables to the converter.*

### Indication of remaining lifetime (RLT)

Main contactor contacts are working parts which therefore must be replaced in good time when the end of their service life has been reached. The degree of contact erosion and thus the electrical endurance (= number of operating cycles) depends on the loading, utilization category, operating mode, etc. Up to now, routine checks/visual inspections by the maintenance personnel were needed in order to gain an insight into the state of the main contacts. The remaining lifetime indication function now takes over this task. It does not count the number of operating cycles – which does not provide information about contact erosion – but instead electronically identifies, evaluates and stores the actual progress of erosion of each one of the three main contacts, and outputs a warning when specified limits are reached. The stored data are not lost even if the control supply voltage for A1/A2 fails. After replacement of the main contacts, measurement the remaining lifetime must be reset using the "RESET" button (hold down RESET button for about 2 seconds using a pen or similar tool).

### Advantages:

- Signaling through relay contact or AS-i when remaining lifetime is 20 %, i. e. contact material wear is 80 %.
- Additional visual indication of various levels of erosion by means of LEDs on the laterally mounted solid-state module when remaining lifetime is 60 % (green), 40 % (orange) and 20 % (red).

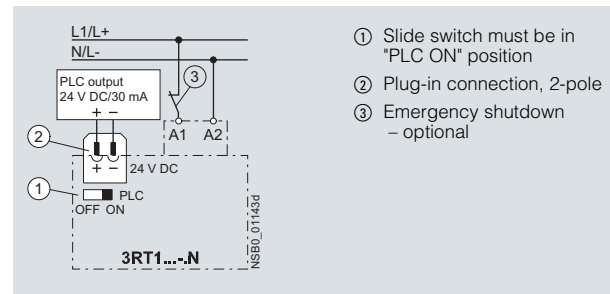


- Early warning to replace contacts
- Optimum utilization of contact material
- Visual inspection of the condition of contacts no longer necessary
- Reduction of ongoing operating costs
- Optimum planning of maintenance measures
- Avoidance of unforeseen plant downtimes

### Version 3RT1...-N: for PLC output 24 V DC

#### 2 control options:

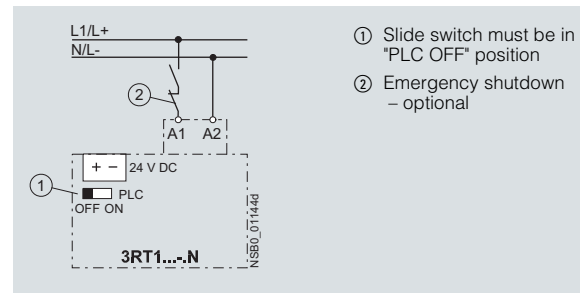
- Control without a coupling link directly through a 24 V DC  $\geq 30$  mA PLC output (EN 61131-2). Connection by means of 2-pole plug-in connection. The screwless spring-type connection is part of the scope of supply. The control supply voltage which supplies the solenoid operating mechanism must be connected to A1/A2.



### Note:

*Before start-up, the slide switch for PLC operation must be moved to the "PLC ON" position (setting ex works: "PLC OFF").*

- Conventional control by applying the control supply voltage at A1/A2 through a switching contact.

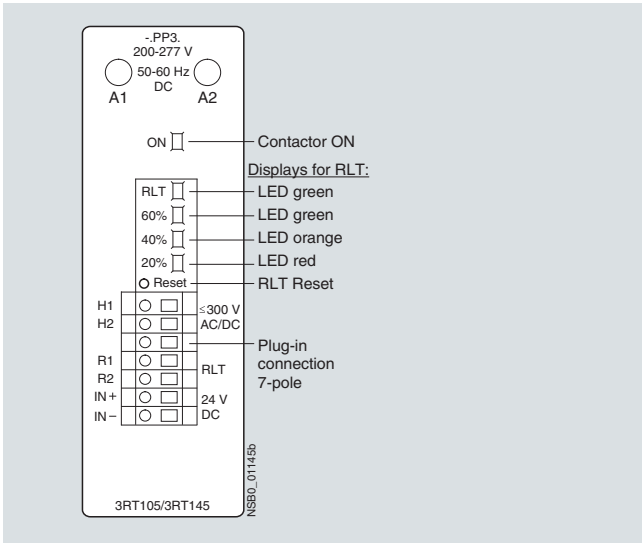


### Note:

*The slide switch must be in the "PLC OFF" position (= setting ex works).*

# 3RT, 3TB, 3TF Contactors for Switching Motors

Version 3RT1...-P: for 24 V DC PLC output or PLC relay output, with remaining lifetime indicator (RLT)

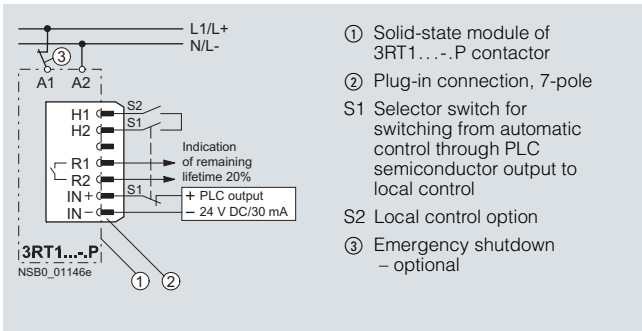


To supply the solenoid and the remaining lifetime indicator with power, the control supply voltage  $U_s$  must be connected to terminals A1/A2 of the laterally mounted solid-state module. The control inputs of the contactor are connected to a 7-pole plug-in connection; the screwless spring-type connection is part of the scope of supply.

- The "Remaining Lifetime RLT" status signal is available at terminals R1/R2 through a floating relay contact (hard gold-plated, enclosed) and can be input to SIMOCODE, PLC or other devices for processing, for example. Permissible current-carrying capacity of the R1/R2 relay output:
  - $I_e/AC$ -15/24 to 230 V: 3 A
  - $I_e/DC$ -13/24 V: 1 A
- LED indications  
The following states are indicated by means of LEDs on the laterally mounted solid-state module:
  - Contactor ON (energized state): green LED ("ON")
  - Indication of remaining lifetime

## 2 control options:

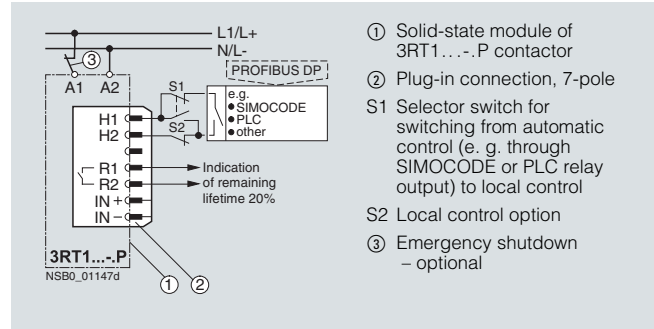
- Contactor control without a coupling link directly through a 24 V DC  $\geq 30$  mA PLC output (EN 61131-2) by way of terminals IN+/IN-.



Possibility of switching from automatic control to local control by way of terminals H1/H2, i. e. automatic control through PLC or SIMOCODE/PROFIBUS DP can be deactivated e. g. at start-up or in the event of a fault and the contactor can be controlled manually.

## 3RT10 contactors, 3-pole, 3 ... 250 kW

- Contactor control through relay outputs at connections H1/H2, e. g. by
  - PLC or
  - SIMOCODE.

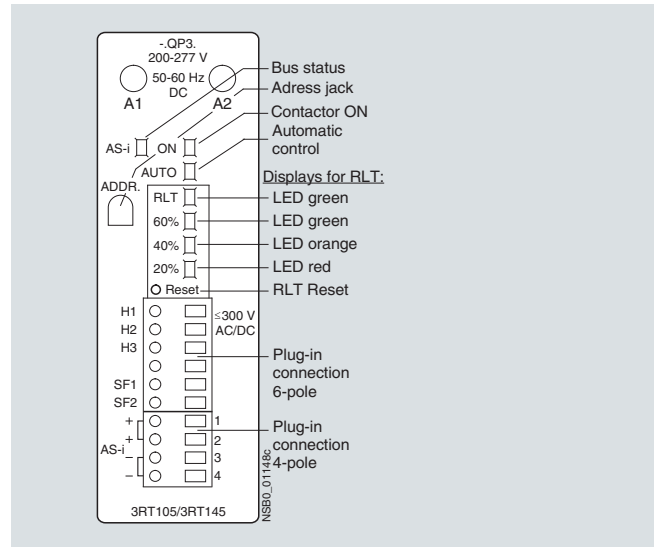


- Solid-state module of 3RT1...-P contactor
- Plug-in connection, 7-pole
- Selector switch for switching from automatic control (e. g. through SIMOCODE or PLC relay output) to local control
- Local control option
- Emergency shutdown - optional

Contact loading:  $U_s$ /approx. 5 mA.

When operated through SIMOCODE, a communication link to PROFIBUS DP is also provided.

Version 3RT1...-Q: Communication-capable with integrated AS-Interface and remaining lifetime indicator (RLT)



To supply the solenoid and the remaining lifetime indicator with power, the control supply voltage  $U_s$  must be connected to terminals A1/A2 of the laterally mounted solid-state module. The contactor itself is controlled by way of the integrated AS-Interface interface. The inputs and outputs are connected to a 10-pole plug-in connection; the screwless spring-type connections (6-pole for external connection and 4-pole for AS-Interface connection) are part of the scope of supply.

- LED displays:  
The following states are indicated by means of LEDs on the laterally mounted solid-state module:
  - Contactor ON (energized state): green LED ("ON")
  - Automatic/local control: Green LED ("AUTO")
  - Bus status: Green/red dual LED ("AS-i")
  - Indication of remaining lifetime (RLT)
- AS-Interface addressing socket "ADDR":  
The contactor address can be assigned after installation.

# 3RT, 3TB, 3TF Contactors for Switching Motors

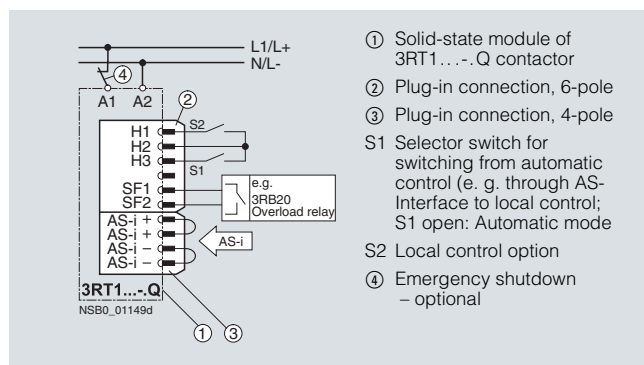
## 3RT10 contactors, 3-pole, 3 ... 250 kW

### Control circuit:

- Contactor control through AS-Interface by way of terminals AS-i +/AS-i -. Each of these terminals is jumpered and connected twice to a 4-pole connector which is separate from the other control inputs.

#### Advantages:

- The AS-Interface cable is not interrupted if the connector is pulled out
- The contactor remains functional through the local control inputs and its own 6-pole connector
- Control signals through AS-i:
  - Contactor ON/OFF
- Status signals through AS-i:
  - Contactor ON/OFF
  - Automatic/local control
  - Indication of remaining lifetime (RLT)
  - Signal through free input, e. g. overload relay tripped.



Possibility of switching from automatic control to local control by means of terminals H1/H2/H3, i. e. automatic control through AS-Interface can be deactivated e. g. during start-up or in the event of a fault and the contactor can be controlled manually.

### Technical specifications

AS-Interface		
I/O configuration (hex)		7
ID code (hex)		F
Power supply (acc. to AS-Interface Specification)	V	26.5 ... 31.6
Power consumption, max.	mA	20
Contact loading at SF1/2	mA	3 ... 6
Watchdog function (disconnects outputs in the event of AS-Interface fault)		Built-in

### Indication behavior of the LEDs

State	LEDs
AS-Interface communication	OK  ON
	Fault  ON
Station address 0 (zero)	Flashing
	Flashing

### Contactor diagnostics using the user program

#### Inputs

Input signals	Device status
DI 0 "Ready"	0 Device not ready/manual operation 1 Device ready/automatic mode
DI 1 "Running"	0 Contactor off 1 Contactor on
DI 2 "Remaining lifetime"	0 Remaining lifetime RLT > 20 % 1 Remaining lifetime RLT ≤ 20 %
DI 3 "Free input"	0 No input signal at SF1/2 1 Input signal at SF1/2

#### Outputs

Output signals	Device status
DO 0 "Running"	0 Contactor off 1 Contactor on
DO 1	0 -- 1 --
DO 2	0 -- 1 --
DO 3	0 -- 1 --

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

### Selection and ordering data

#### AC operation

PU (UNIT, SET, M) = 1  
 PS\* = 1 unit  
 PG = 101



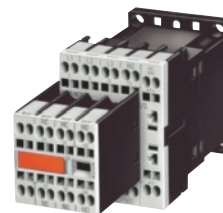
3RT10 1.-1A...



3RT10 1.-2A...



3RT10 1.-1AP04-3MA0



3RT10 1.-2AP04-3MA0

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$ at 50/60 Hz	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
AC-2 and AC-3, $T_U$ : Up to 60 °C	AC-1, $T_U$ : 40 °C	Ident. No.	Version			Order No.	Price per PU			Order No.	Price per PU	
Operational current $I_e$ up to 400 V	Rating of induction motors at 50 Hz and 690 V							kg				kg
A	<b>400 V</b>	A	NO NC	V AC								

### For screw and snap-on mounting onto TH 35 standard mounting rail

#### Size S00<sup>1)</sup>

Terminal designations according to EN 50012

7	3	18	10 E	1	--	24	▶	3RT10 15-1AB01	0.200	▶	3RT10 15-2AB01	0.200
						110	▶	3RT10 15-1AF01	0.200	▶	3RT10 15-2AF01	0.200
						230	▶	3RT10 15-1AP01	0.200	▶	3RT10 15-2AP01	0.200
						24	▶	3RT10 15-1AB02	0.200	▶	3RT10 15-2AB02	0.200
						110	▶	3RT10 15-1AF02	0.200	▶	3RT10 15-2AF02	0.200
						230	▶	3RT10 15-1AP02	0.200	▶	3RT10 15-2AP02	0.200
9	4	22	10 E	1	--	24	▶	3RT10 16-1AB01	0.200	▶	3RT10 16-2AB01	0.200
						110	▶	3RT10 16-1AF01	0.200	▶	3RT10 16-2AF01	0.200
						230	▶	3RT10 16-1AP01	0.200	▶	3RT10 16-2AP01	0.200
						24	▶	3RT10 16-1AB02	0.200	▶	3RT10 16-2AB02	0.200
						110	▶	3RT10 16-1AF02	0.200	▶	3RT10 16-2AF02	0.200
						230	▶	3RT10 16-1AP02	0.200	▶	3RT10 16-2AP02	0.200
12	5.5	22	10 E	1	--	24	▶	3RT10 17-1AB01	0.200	▶	3RT10 17-2AB01	0.200
						110	▶	3RT10 17-1AF01	0.200	▶	3RT10 17-2AF01	0.200
						230	▶	3RT10 17-1AP01	0.200	▶	3RT10 17-2AP01	0.200
						24	▶	3RT10 17-1AB02	0.200	▶	3RT10 17-2AB02	0.200
						110	▶	3RT10 17-1AF02	0.200	▶	3RT10 17-2AF02	0.200
						230	▶	3RT10 17-1AP02	0.200	▶	3RT10 17-2AP02	0.200

#### Size S00<sup>1)</sup>

### With permanently mounted auxiliary switch block for safety applications according to SUVA

Terminal designations according to EN 50012

7	3	18	22 E	2	2	230	▶	3RT10 15-1AP04-3MA0	0.250	B	3RT10 15-2AP04-3MA0	0.250
9	4	22	22 E	2	2	230	▶	3RT10 16-1AP04-3MA0	0.250	B	3RT10 16-2AP04-3MA0	0.250
12	5.5	22	22 E	2	2	230	▶	3RT10 17-1AP04-3MA0	0.250	B	3RT10 17-2AP04-3MA0	0.250

For other voltages see page 3/26, for contactors with permanently mounted auxiliary switch block please inquire.

For accessories, see page 3/102.

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> For size S00: Coil operating range  
 at 50 Hz: 0.8 ... 1.1 ×  $U_s$ ,  
 at 60 Hz: 0.85 ... 1.1 ×  $U_s$ .

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 AC contactors, 3-pole, 3 ... 250 kW

### AC operation

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 2.-1A.00



3RT10 2.-3A.00



3RT10 2.-1A.04



3RT10 2.-1AL24-3MA0

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$ at 50 Hz	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals for coil terminals		Weight per PU approx.
AC-2 and AC-3, $T_U$ : Up to 60 °C	Rating of induction motors at 50 Hz and $I_e$ up to	AC-1, $T_U$ : 40 °C	Operational current $I_e$ up to			Ident. No.	Version			⊕	⊕	
400 V	<b>400 V</b>	690 V										
A	<b>kW</b>	A						kg				kg

For screw and snap-on mounting onto TH 35 standard mounting rail

### Size S0

9	4	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 23-1AB00</b>	0.350	B	<b>3RT10 23-3AB00</b>	0.350
						110	▶	<b>3RT10 23-1AF00</b>	0.350	B	<b>3RT10 23-3AF00</b>	0.350
						230	▶	<b>3RT10 23-1AP00</b>	0.350	▶	<b>3RT10 23-3AP00</b>	0.350
12	5.5	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 24-1AB00</b>	0.350	B	<b>3RT10 24-3AB00</b>	0.350
						110	▶	<b>3RT10 24-1AF00</b>	0.350	B	<b>3RT10 24-3AF00</b>	0.350
						230	▶	<b>3RT10 24-1AP00</b>	0.350	▶	<b>3RT10 24-3AP00</b>	0.350
17	7.5	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 25-1AB00</b>	0.350	B	<b>3RT10 25-3AB00</b>	0.350
						110	▶	<b>3RT10 25-1AF00</b>	0.350	B	<b>3RT10 25-3AF00</b>	0.350
						230	▶	<b>3RT10 25-1AP00</b>	0.350	▶	<b>3RT10 25-3AP00</b>	0.350
25	11	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 26-1AB00</b>	0.350	B	<b>3RT10 26-3AB00</b>	0.350
						110	▶	<b>3RT10 26-1AF00</b>	0.350	B	<b>3RT10 26-3AF00</b>	0.350
						230	▶	<b>3RT10 26-1AP00</b>	0.350	▶	<b>3RT10 26-3AP00</b>	0.350

### Size S0

#### With mounted auxiliary switch block (removable)<sup>2)</sup>

Terminal designations according to EN 50012

9	4	40 <sup>1)</sup>	22 E	2	2	24	▶	<b>3RT10 23-1AB04</b>	0.400	--		
						110	▶	<b>3RT10 23-1AF04</b>	0.400	--		
						230	▶	<b>3RT10 23-1AP04</b>	0.400	--		
12	5.5	40 <sup>1)</sup>	22 E	2	2	24	▶	<b>3RT10 24-1AB04</b>	0.400	--		
						110	▶	<b>3RT10 24-1AF04</b>	0.400	--		
						230	▶	<b>3RT10 24-1AP04</b>	0.400	--		
17	7.5	40 <sup>1)</sup>	22 E	2	2	24	▶	<b>3RT10 25-1AB04</b>	0.400	--		
						110	▶	<b>3RT10 25-1AF04</b>	0.400	--		
						230	▶	<b>3RT10 25-1AP04</b>	0.400	--		
25	11	40 <sup>1)</sup>	22 E	2	2	24	▶	<b>3RT10 26-1AB04</b>	0.400	--		
						110	▶	<b>3RT10 26-1AF04</b>	0.400	--		
						230	▶	<b>3RT10 26-1AP04</b>	0.400	--		

### Size S0

#### With permanently mounted auxiliary switch block for safety applications according to SUVA

At 50/60 Hz  
V AC

Terminal designations according to EN 50012

12	5.5	40 <sup>1)</sup>	22 E	2	2	230	B	<b>3RT10 24-1AL24-3MA0</b>	0.420	--	
17	7.5	40 <sup>1)</sup>	22 E	2	2	230	A	<b>3RT10 25-1AL24-3MA0</b>	0.420	--	
25	11	40 <sup>1)</sup>	22 E	2	2	230	A	<b>3RT10 26-1AL24-3MA0</b>	0.420	--	

For other voltages see page 3/26, for contactors with permanently mounted auxiliary switch block please inquire.

For accessories, see page 3/103.

For spare parts, see page 3/115.

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> Minimum conductor cross-section 10 mm<sup>2</sup>.

<sup>2)</sup> Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2NO + 2NC according to EN 50012; 22E).



# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

### AC operation

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 3.-1A.00



3RT10 3.-3A.00



3RT10 3.-1A.04

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$ at 50 Hz	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals for coil terminals		Weight per PU approx.
AC-2 and AC-3, $T_u$ : Up to 60 °C	AC-1, $T_u$ : 40 °C	Ident. No.	Version			⊕	⊕			⊕	⊕	
Operational current $I_e$ up to	Rating of induction motors at 50 Hz and	Operational current $I_e$ up to				Order No.	Price per PU			Order No.	Price per PU	
500 V	<b>400 V</b>	690 V						kg				kg
A	<b>kW</b>	A										

For screw and snap-on mounting onto TH 35 standard mounting rail

### Size S2

32	<b>15</b>	50	--	--	--	24	▶	<b>3RT10 34-1AB00</b>	0.850 B	<b>3RT10 34-3AB00</b>	0.850
						110	▶	<b>3RT10 34-1AF00</b>	0.850 B	<b>3RT10 34-3AF00</b>	0.850
						230	▶	<b>3RT10 34-1AP00</b>	0.850 ▶	<b>3RT10 34-3AP00</b>	0.850
40	<b>18.5</b>	60	--	--	--	24	▶	<b>3RT10 35-1AB00</b>	0.850 B	<b>3RT10 35-3AB00</b>	0.850
						110	▶	<b>3RT10 35-1AF00</b>	0.850 B	<b>3RT10 35-3AF00</b>	0.850
						230	▶	<b>3RT10 35-1AP00</b>	0.850 ▶	<b>3RT10 35-3AP00</b>	0.850
50	<b>22</b>	60	--	--	--	24	▶	<b>3RT10 36-1AB00</b>	0.850 B	<b>3RT10 36-3AB00</b>	0.850
						110	▶	<b>3RT10 36-1AF00</b>	0.850 B	<b>3RT10 36-3AF00</b>	0.850
						230	▶	<b>3RT10 36-1AP00</b>	0.850 ▶	<b>3RT10 36-3AP00</b>	0.850

### Size S2

#### With mounted auxiliary switch block (removable)<sup>1)</sup>

Terminal designations according to EN 50012

32	<b>15</b>	50	<b>22 E</b>	2	2	24	▶	<b>3RT10 34-1AB04</b>	0.950	--	
						110	▶	<b>3RT10 34-1AF04</b>	0.950	--	
						230	▶	<b>3RT10 34-1AP04</b>	0.950	--	
40	<b>18.5</b>	60	<b>22 E</b>	2	2	24	▶	<b>3RT10 35-1AB04</b>	0.950	--	
						110	▶	<b>3RT10 35-1AF04</b>	0.950	--	
						230	▶	<b>3RT10 35-1AP04</b>	0.950	--	
50	<b>22</b>	60	<b>22 E</b>	2	2	24	▶	<b>3RT10 36-1AB04</b>	0.950	--	
						110	▶	<b>3RT10 36-1AF04</b>	0.950	--	
						230	▶	<b>3RT10 36-1AP04</b>	0.950	--	

### Size S2

#### With permanently mounted auxiliary switch block for safety applications according to SUVA

Terminal designations according to EN 50012

32	<b>15</b>	50	<b>22 E</b>	2	2	230	B	<b>3RT10 34-1AP04-3MA0</b>	0.908	--	
40	<b>18.5</b>	50	<b>22 E</b>	2	2	230	B	<b>3RT10 35-1AP04-3MA0</b>	0.950	--	
50	<b>22</b>	50	<b>22 E</b>	2	2	230	B	<b>3RT10 36-1AP04-3MA0</b>	0.935	--	

For other voltages see page 3/26, for contactors with mounted auxiliary switch block please inquire.

For accessories, see page 3/103.

For spare parts, see page 3/115.

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2 NO + 2 NC according to EN 50012; 22E).

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 AC contactors, 3-pole, 3 ... 250 kW

### AC operation

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 4.-1A.00



3RT10 4.-3A.00



3RT10 4.-1A.04

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$ at 50 Hz	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals for coil terminals	Weight per PU approx.
AC-2 and AC-3, $T_U$ : Up to 60 °C	AC-1, $T_U$ : 40 °C	Ident. No.	Version			⊕			⊕	
Operational current $I_e$ up to	Rating of induction motors at 50 Hz and					Order No.	Price per PU		Order No.	Price per PU
500 V	<b>400 V</b>	690 V								
A	<b>kW</b>	A		NO NC V AC			kg			kg

### For screw and snap-on mounting onto TH 35 and TH 75 standard mounting rail

#### Size S3

65	<b>30</b>	100	--	--	--	24	▶	<b>3RT10 44-1AB00</b>	1.800 B	<b>3RT10 44-3AB00</b>	1.800
						110	▶	<b>3RT10 44-1AF00</b>	1.800 B	<b>3RT10 44-3AF00</b>	1.800
						230	▶	<b>3RT10 44-1AP00</b>	1.800 ▶	<b>3RT10 44-3AP00</b>	1.800
80	<b>37</b>	120	--	--	--	24	▶	<b>3RT10 45-1AB00</b>	1.800 B	<b>3RT10 45-3AB00</b>	1.800
						110	▶	<b>3RT10 45-1AF00</b>	1.800 B	<b>3RT10 45-3AF00</b>	1.800
						230	▶	<b>3RT10 45-1AP00</b>	1.800 ▶	<b>3RT10 45-3AP00</b>	1.800
95	<b>45</b>	120	--	--	--	24	▶	<b>3RT10 46-1AB00</b>	1.800 B	<b>3RT10 46-3AB00</b>	1.800
						110	▶	<b>3RT10 46-1AF00</b>	1.800 B	<b>3RT10 46-3AF00</b>	1.800
						230	▶	<b>3RT10 46-1AP00</b>	1.800 ▶	<b>3RT10 46-3AP00</b>	1.800

#### Size S3

#### With mounted auxiliary switch block (removable)<sup>1)</sup>

Terminal designations according to EN 50012

65	<b>30</b>	100	<b>22 E</b>	2	2	24	▶	<b>3RT10 44-1AB04</b>	1.950	--	
						110	▶	<b>3RT10 44-1AF04</b>	1.950	--	
						230	▶	<b>3RT10 44-1AP04</b>	1.950	--	
80	<b>37</b>	120	<b>22 E</b>	2	2	24	B	<b>3RT10 45-1AB04</b>	1.950	--	
						110	▶	<b>3RT10 45-1AF04</b>	1.950	--	
						230	▶	<b>3RT10 45-1AP04</b>	1.950	--	
95	<b>45</b>	120	<b>22 E</b>	2	2	24	B	<b>3RT10 46-1AB04</b>	1.950	--	
						110	▶	<b>3RT10 46-1AF04</b>	1.950	--	
						230	▶	<b>3RT10 46-1AP04</b>	1.950	--	

#### Size S3

#### With permanently mounted auxiliary switch block for safety applications according to SUVA

Terminal designations according to EN 50012

65	<b>30</b>	50	<b>22 E</b>	2	2	230	▶	<b>3RT10 44-1AP04-3MA0</b>	1.950	--	
80	<b>37</b>	50	<b>22 E</b>	2	2	230	B	<b>3RT10 45-1AP04-3MA0</b>	1.933	--	
95	<b>45</b>	50	<b>22 E</b>	2	2	230	▶	<b>3RT10 46-1AP04-3MA0</b>	1.950	--	

For other voltages see page 3/26, for contactors with mounted auxiliary switch block please inquire.

For accessories, see page 3/103.

For spare parts, see page 3/116.

<sup>1)</sup> Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2 NO + 2 NC according to EN 50012; 22E).

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

### DC operation - DC solenoid system

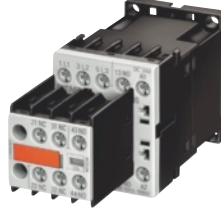
PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



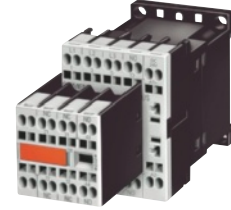
3RT10 1.-1B...



3RT10 1.-2B...



3RT10 1.-1BB44-3MA0



3RT10 1.-2BB44-3MA0

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals	Weight per PU approx.
AC-2 and AC-3, $T_U$ : Up to 60 °C	AC-1, $T_U$ : 40 °C	Ident. No.	Version			⊕			⊕	
Operational current $I_e$ up to	Rating of induction motors at 50 Hz and					Order No.	Price per PU		Order No.	Price per PU
400 V	<b>400 V</b>									
A	<b>kW</b>	A	NO NC V DC				kg			kg

For screw and snap-on mounting onto TH 35 standard mounting rail

#### Size S00

Terminal designations according to EN 50012

7	<b>3</b>	18	<b>10 E</b>	1 -- 24	▶	<b>3RT10 15-1BB41</b>	0.260	▶	<b>3RT10 15-2BB41</b>	0.260
				220	A	<b>3RT10 15-1BM41</b>	0.260	B	<b>3RT10 15-2BM41</b>	0.260
			<b>01</b>	-- 1 24	▶	<b>3RT10 15-1BB42</b>	0.260	▶	<b>3RT10 15-2BB42</b>	0.260
				220	B	<b>3RT10 15-1BM42</b>	0.260	B	<b>3RT10 15-2BM42</b>	0.260
9	<b>4</b>	22	<b>10 E</b>	1 -- 24	▶	<b>3RT10 16-1BB41</b>	0.260	▶	<b>3RT10 16-2BB41</b>	0.260
				220	B	<b>3RT10 16-1BM41</b>	0.260	B	<b>3RT10 16-2BM41</b>	0.260
			<b>01</b>	-- 1 24	▶	<b>3RT10 16-1BB42</b>	0.260	▶	<b>3RT10 16-2BB42</b>	0.260
				220	B	<b>3RT10 16-1BM42</b>	0.260	B	<b>3RT10 16-2BM42</b>	0.260
12	<b>5.5</b>	22	<b>10 E</b>	1 -- 24	▶	<b>3RT10 17-1BB41</b>	0.260	▶	<b>3RT10 17-2BB41</b>	0.260
				220	B	<b>3RT10 17-1BM41</b>	0.260	B	<b>3RT10 17-2BM41</b>	0.260
			<b>01</b>	-- 1 24	▶	<b>3RT10 17-1BB42</b>	0.260	▶	<b>3RT10 17-2BB42</b>	0.260
				220	B	<b>3RT10 17-1BM42</b>	0.260	B	<b>3RT10 17-2BM42</b>	0.260

#### Size S00

With permanently mounted auxiliary switch block for safety applications according to SUVA

Terminal designations according to EN 50012

7	<b>3</b>	18	<b>22 E</b>	2 2 24	▶	<b>3RT10 15-1BB44-3MA0</b>	0.300	B	<b>3RT10 15-2BB44-3MA0</b>	0.300
9	<b>4</b>	22	<b>22 E</b>	2 2 24	▶	<b>3RT10 16-1BB44-3MA0</b>	0.300	A	<b>3RT10 16-2BB44-3MA0</b>	0.300
12	<b>5.5</b>	22	<b>22 E</b>	2 2 24	▶	<b>3RT10 17-1BB44-3MA0</b>	0.300	B	<b>3RT10 17-2BB44-3MA0</b>	0.300

For other voltages see page 3/26, for contactors with permanently mounted auxiliary switch block please inquire.  
 For accessories, see page 3/102.  
 For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes"

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

### DC operation - DC solenoid system

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 2.-1B.40



3RT10 2.-3B.40



3RT10 2.-3B.44



3RT10 2.-1BB44-3MA0

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals for coil terminals		Weight per PU approx.
AC-2 and AC-3, $T_U$ : Up to 60 °C	AC-1, $T_U$ : 40 °C	Ident. No.	Version			⊕	⊕			⊕	⊕	
Operational current $I_e$ up to	Rating of induction motors at 50 Hz and	Operational current $I_e$ up to				Order No.	Price per PU			Order No.	Price per PU	
400 V	<b>400 V</b>	690 V										
A	<b>kW</b>	A	NO NC V DC					kg				kg

### For screw and snap-on mounting onto TH 35 standard mounting rail

#### Size S0

9	<b>4</b>	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 23-1BB40</b>	0.580	▶	<b>3RT10 23-3BB40</b>	0.580
						220	B	<b>3RT10 23-1BM40</b>	0.580	B	<b>3RT10 23-3BM40</b>	0.580
12	<b>5.5</b>	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 24-1BB40</b>	0.580	▶	<b>3RT10 24-3BB40</b>	0.580
						220	A	<b>3RT10 24-1BM40</b>	0.580	B	<b>3RT10 24-3BM40</b>	0.580
17	<b>7.5</b>	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 25-1BB40</b>	0.580	▶	<b>3RT10 25-3BB40</b>	0.580
						220	A	<b>3RT10 25-1BM40</b>	0.580	B	<b>3RT10 25-3BM40</b>	0.580
25	<b>11</b>	40 <sup>1)</sup>	--	--	--	24	▶	<b>3RT10 26-1BB40</b>	0.580	▶	<b>3RT10 26-3BB40</b>	0.580
						220	A	<b>3RT10 26-1BM40</b>	0.580	B	<b>3RT10 26-3BM40</b>	0.580

#### Size S0

#### With mounted auxiliary switch block (removable)<sup>2)</sup>

Terminal designations according to DIN 50012

9	<b>4</b>	40 <sup>1)</sup>	<b>22 E</b>	2	2	24	▶	<b>3RT10 23-1BB44</b>	0.650	--		
						220	B	<b>3RT10 23-1BM44</b>	0.650	--		
12	<b>5.5</b>	40 <sup>1)</sup>	<b>22 E</b>	2	2	24	▶	<b>3RT10 24-1BB44</b>	0.650	--		
						220	B	<b>3RT10 24-1BM44</b>	0.650	--		
17	<b>7.5</b>	40 <sup>1)</sup>	<b>22 E</b>	2	2	24	▶	<b>3RT10 25-1BB44</b>	0.650	--		
						220	B	<b>3RT10 25-1BM44</b>	0.650	--		
25	<b>11</b>	40 <sup>1)</sup>	<b>22 E</b>	2	2	24	▶	<b>3RT10 26-1BB44</b>	0.650	--		
						220	B	<b>3RT10 26-1BM44</b>	0.650	--		

#### Size S0

#### With permanently mounted auxiliary switch block

for safety applications according to SUVA

Terminal designations according to DIN 50012

12	<b>5.5</b>	40 <sup>1)</sup>	<b>22 E</b>	2	2	24	A	<b>3RT10 24-1BB44-3MA0</b>	0.650	--		
17	<b>7.5</b>	40 <sup>1)</sup>	<b>22 E</b>	2	2	24	A	<b>3RT10 25-1BB44-3MA0</b>	0.650	--		
25	<b>11</b>	40 <sup>1)</sup>	<b>22 E</b>	2	2	24	A	<b>3RT10 26-1BB44-3MA0</b>	0.650	--		

For other voltages see page 3/26, for contactors with mounted auxiliary switch block please inquire.

For accessories, see page 3/103.

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> Minimum conductor cross-section 10 mm<sup>2</sup>.

<sup>2)</sup> Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2 NO + 2 NC according to EN 50012; 22E).

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

### DC operation - DC solenoid system

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 3.-1B.40



3RT10 3.-3B.40



3RT10 3.-1B.44

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals for coil terminals	Weight per PU approx.
AC-2 and AC-3, $T_U$ : Up to 60 °C	AC-1, $T_U$ : 40 °C	Ident. No.	Version			⊕			⊕	
Operational current $I_e$ up to	Rating of induction motors at 50 Hz and					Order No.	Price per PU		Order No.	Price per PU
500 V	<b>400 V</b>									
A	<b>kW</b>	A	NO NC V DC				kg			kg

For screw and snap-on mounting onto TH 35 standard mounting rail

#### Size S2

32	15	50	--	--	--	24									
						220	▶	<b>3RT10 34-1BB40</b>	1.450	▶	<b>3RT10 34-3BB40</b>	1.450			
						220	A	<b>3RT10 34-1BM40</b>	1.450	B	<b>3RT10 34-3BM40</b>	1.450			
40	<b>18.5</b>	60	--	--	--	24	▶	<b>3RT10 35-1BB40</b>	1.450	▶	<b>3RT10 35-3BB40</b>	1.450			
						220	B	<b>3RT10 35-1BM40</b>	1.450	B	<b>3RT10 35-3BM40</b>	1.450			
50	<b>22</b>	60	--	--	--	24	▶	<b>3RT10 36-1BB40</b>	1.450	▶	<b>3RT10 36-3BB40</b>	1.450			
						220	B	<b>3RT10 36-1BM40</b>	1.450	B	<b>3RT10 36-3BM40</b>	1.450			

#### Size S2

##### With mounted auxiliary switch block (removable)<sup>1)</sup>

Terminal designations according to EN 50012

32	15	50	<b>22 E</b>	2	2	24									
						220	▶	<b>3RT10 34-1BB44</b>	1.550	--					
						220	A	<b>3RT10 34-1BM44</b>	1.550	--					
40	<b>18.5</b>	60	<b>22 E</b>	2	2	24	▶	<b>3RT10 35-1BB44</b>	1.550	--					
						220	B	<b>3RT10 35-1BM44</b>	1.550	--					
50	<b>22</b>	60	<b>22 E</b>	2	2	24	▶	<b>3RT10 36-1BB44</b>	1.550	--					
						220	B	<b>3RT10 36-1BM44</b>	1.550	--					

#### Size S2

##### With permanently mounted auxiliary switch block for safety applications according to SUVA

Terminal designations according to EN 50012

32	15	50	<b>22 E</b>	2	2	24									
						24	B	<b>3RT10 34-1BB44-3MA0</b>	1.550	--					
40	<b>18.5</b>	50	<b>22 E</b>	2	2	24	B	<b>3RT10 35-1BB44-3MA0</b>	1.550	--					
50	<b>22</b>	50	<b>22 E</b>	2	2	24	B	<b>3RT10 36-1BB44-3MA0</b>	1.550	--					

For other voltages see page 3/26, for contactors with mounted auxiliary switch block please inquire.

For accessories, see page 3/103.

For spare parts, see page 3/116.

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2 NO + 2 NC according to EN 50012; 22E).

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

### DC operation - DC solenoid system

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 4.-1B.40



3RT10 4.-3B.40



3RT10 4.-1B.44

Rated data		Auxiliary contacts		Rated control supply voltage $U_s$	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals for coil terminals	Weight per PU approx.
AC-2 and AC-3, $T_i$ : Up to 60 °C	AC-1, $T_i$ : 40 °C	Ident. No.	Version			⊕			⊕	
Operational current $I_e$ up to	Rating of induction motors at 50 Hz and					Order No.	Price per PU		Order No.	Price per PU
500 V	400 V									
A	kW	A		NO NC V DC			kg			kg

### For screw and snap-on mounting onto TH 35 and TH 75 standard mounting rail

#### Size S3

65	30	100	--	--	24	▶	3RT10 44-1BB40	2.800	▶	3RT10 44-3BB40	2.800
					220	B	3RT10 44-1BM40	2.800	B	3RT10 44-3BM40	2.800
80	37	120	--	--	24	▶	3RT10 45-1BB40	2.800	▶	3RT10 45-3BB40	2.800
					220	B	3RT10 45-1BM40	2.800	B	3RT10 45-3BM40	2.800
95	45	120	--	--	24	▶	3RT10 46-1BB40	2.800	▶	3RT10 46-3BB40	2.800
					220	B	3RT10 46-1BM40	2.800	B	3RT10 46-3BM40	2.800

#### Size S3

##### With mounted auxiliary switch block (removable)<sup>1)</sup>

Terminal designations according to EN 50012

65	30	100	22 E	2	2	24	▶	3RT10 44-1BB44	2.900	--	
						220	B	3RT10 44-1BM44	2.900	--	
80	37	120	22 E	2	2	24	▶	3RT10 45-1BB44	2.900	--	
						220	B	3RT10 45-1BM44	2.900	--	
95	45	120	22 E	2	2	24	▶	3RT10 46-1BB44	2.900	--	
						220	B	3RT10 46-1BM44	2.900	--	

#### Size S3

##### With permanently mounted auxiliary switch block for safety applications according to SUVA

Terminal designations according to EN 50012

65	30	50	22 E	2	2	24	▶	3RT10 44-1BB44-3MA0	2.900	--	
80	37	50	22 E	2	2	24	▶	3RT10 45-1BB44-3MA0	2.900	--	
95	45	50	22 E	2	2	24	▶	3RT10 46-1BB44-3MA0	2.900	--	

For other voltages see page 3/26, for contactors with mounted auxiliary switch block please inquire.

For accessories, see page 3/103.

For spare parts, see page 3/116.

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2 NO + 2 NC according to EN 50012; 22E).

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

AC/DC operation (40 Hz to 60 Hz, DC)

Withdrawable coils with integrated coil circuit (Varistor)

Auxiliary and control conductors: screw terminals

Main conductors: busbar connections, for 3RT10 54 (55 kW) box terminals<sup>1)</sup>



3RT1. 5.



3RT1. 6.



3RT1. 7.

Size	Rated data AC-2 and AC-3, $T_U$ : Up to 60 °C				AC-1, $T_U$ : 40 °C		Auxiliary contacts, lateral		Rated control supply voltage $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$ up to 500 V	Ratings of induction motors at 50 Hz and			Operational current $I_e$ up to	Version										kg
A	kW	kW	kW	kW	A	NO	NC	V AC/DC								

### Conventional operating mechanisms

											Screw terminals						
<b>S6</b>	115	37	<b>55</b>	75	110	160	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 54-1AF36</b> <b>3RT10 54-1AP36</b>	⊕	1	1 unit	101	3.600	
	150	45	<b>75</b>	90	132	185	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 55-6AF36</b> <b>3RT10 55-6AP36</b>		1	1 unit	101	3.500	
	185	55	<b>90</b>	110	160	215	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 56-6AF36</b> <b>3RT10 56-6AP36</b>		1	1 unit	101	3.500	
<b>S10</b>	225	55	<b>110</b>	160	200	275	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 64-6AF36</b> <b>3RT10 64-6AP36</b>		1	1 unit	101	6.500	
	265	75	<b>132</b>	160	250	330	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 65-6AF36</b> <b>3RT10 65-6AP36</b>		1	1 unit	101	6.500	
	300	90	<b>160</b>	200	250	330	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 66-6AF36</b> <b>3RT10 66-6AP36</b>		1	1 unit	101	6.500	
<b>S12</b>	400	132	<b>200</b>	250	400	430	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 75-6AF36</b> <b>3RT10 75-6AP36</b>		1	1 unit	101	10.500	
	500	160	<b>250</b>	355	400	610	2	2	110 ... 127 220 ... 240	▶	<b>3RT10 76-6AF36</b> <b>3RT10 76-6AP36</b>		1	1 unit	101	10.500	

### Conventional operating mechanisms

											Cage Clamp terminals						
											for coil and auxiliary switch terminals						
<b>S6</b>	115	37	<b>55</b>	75	110	160	2	2	110 ... 127 220 ... 240	B	<b>3RT10 54-3AF36</b> <b>3RT10 54-3AP36</b>	⊕	1	1 unit	101	3.600	
	150	45	<b>75</b>	90	132	185	2	2	110 ... 127 220 ... 240	B	<b>3RT10 55-2AF36</b> <b>3RT10 55-2AP36</b>		1	1 unit	101	3.600	
	185	55	<b>90</b>	110	160	215	2	2	110 ... 127 220 ... 240	B	<b>3RT10 56-2AF36</b> <b>3RT10 56-2AP36</b>		1	1 unit	101	3.600	
<b>S10</b>	225	55	<b>110</b>	160	200	275	2	2	110 ... 127 220 ... 240	B	<b>3RT10 64-2AF36</b> <b>3RT10 64-2AP36</b>		1	1 unit	101	6.600	
	265	75	<b>132</b>	160	250	330	2	2	110 ... 127 220 ... 240	B	<b>3RT10 65-2AF36</b> <b>3RT10 65-2AP36</b>		1	1 unit	101	6.600	
	300	90	<b>160</b>	200	250	330	2	2	110 ... 127 220 ... 240	B	<b>3RT10 66-2AF36</b> <b>3RT10 66-2AP36</b>		1	1 unit	101	6.600	
<b>S12</b>	400	132	<b>200</b>	250	400	430	2	2	110 ... 127 220 ... 240	B	<b>3RT10 75-2AF36</b> <b>3RT10 75-2AP36</b>		1	1 unit	101	10.500	
	500	160	<b>250</b>	355	400	610	2	2	110 ... 127 220 ... 240	B	<b>3RT10 76-2AF36</b> <b>3RT10 76-2AP36</b>		1	1 unit	101	10.500	

For other voltages, see page 3/26.

For accessories, see page 3/103.

For spare parts, see page 3/117

<sup>1)</sup> Alternatively the 3RT10 54-1 contactor (55 kW) can be supplied with busbar connections instead of box terminals. Without additional price. In the 8th position of the Order No. the "1" must be replaced with "6" for screw terminals, e. g. 3RT10 54-6A.36; for Cage Clamp terminals the "3" must be replaced by "2", e. g. 3RT10 54-2A.36.

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

AC/DC operation (40 Hz to 60 Hz, DC)

Withdrawable coils with integrated coil circuit (Varistor)

Main conductors: busbar connections, for 3RT10 54 (55 kW) box terminals<sup>1)</sup>

Auxiliary and control conductors: Screw terminals



3RT1. 5.



3RT1. 6.



3RT1. 7.

Size	Rated data AC-2 and AC-3, $T_U$ : Up to 60 °C	Ratings of induction motors at 50 Hz and				AC-1, $T_U$ : 40 °C	Auxiliary contacts, lateral		Rated control supply voltage $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$ up to 500 V	230 V	400 V	500 V	690 V	Operational current $I_e$ up to 690 V	Version 		V AC/DC							kg
A	kW	kW	kW	kW	A	NO	NC	V AC/DC								

### Solid-state operating mechanisms · for 24 V DC PLC output

#### Screw terminals

<b>S6</b>	115	37	<b>55</b>	75	110	160	2	2	96 ... 127 200 ... 277	A	<b>3RT10 54-1NF36</b> ▶ <b>3RT10 54-1NP36</b>	1	1 unit	101	3.500
	150	45	<b>75</b>	90	132	185	2	2	96 ... 127 200 ... 277	A	<b>3RT10 55-6NF36</b> ▶ <b>3RT10 55-6NP36</b>	1	1 unit	101	3.500
	185	55	<b>90</b>	110	160	215	2	2	96 ... 127 200 ... 277	A	<b>3RT10 56-6NF36</b> ▶ <b>3RT10 56-6NP36</b>	1	1 unit	101	3.500
<b>S10</b>	225	55	<b>110</b>	160	200	275	2	2	96 ... 127 200 ... 277	A	<b>3RT10 64-6NF36</b> ▶ <b>3RT10 64-6NP36</b>	1	1 unit	101	6.700
	265	75	<b>132</b>	160	250	330	2	2	96 ... 127 200 ... 277	A	<b>3RT10 65-6NF36</b> ▶ <b>3RT10 65-6NP36</b>	1	1 unit	101	6.700
	300	90	<b>160</b>	200	250	330	2	2	96 ... 127 200 ... 277	B	<b>3RT10 66-6NF36</b> ▶ <b>3RT10 66-6NP36</b>	1	1 unit	101	6.700
<b>S12</b>	400	132	<b>200</b>	250	400	430	2	2	96 ... 127 200 ... 277	A	<b>3RT10 75-6NF36</b> ▶ <b>3RT10 75-6NP36</b>	1	1 unit	101	10.500
	500	160	<b>250</b>	355	400	610	2	2	96 ... 127 200 ... 277	A	<b>3RT10 76-6NF36</b> ▶ <b>3RT10 76-6NP36</b>	1	1 unit	101	10.500

### Solid-state operating mechanisms · for 24 V DC PLC output

#### Cage Clamp terminals

for coil and auxiliary  
switch terminals

<b>S6</b>	115	37	<b>55</b>	75	110	160	2	2	96 ... 127 200 ... 277	B	<b>3RT10 54-3NF36</b> ▶ <b>3RT10 54-3NP36</b>	1	1 unit	101	3.500
	150	45	<b>75</b>	90	132	185	2	2	96 ... 127 200 ... 277	B	<b>3RT10 55-2NF36</b> ▶ <b>3RT10 55-2NP36</b>	1	1 unit	101	3.500
	185	55	<b>90</b>	110	160	215	2	2	96 ... 127 200 ... 277	B	<b>3RT10 56-2NF36</b> ▶ <b>3RT10 56-2NP36</b>	1	1 unit	101	3.500
<b>S10</b>	225	55	<b>110</b>	160	200	275	2	2	96 ... 127 200 ... 277	B	<b>3RT10 64-2NF36</b> ▶ <b>3RT10 64-2NP36</b>	1	1 unit	101	6.700
	265	75	<b>132</b>	160	250	330	2	2	96 ... 127 200 ... 277	B	<b>3RT10 65-2NF36</b> ▶ <b>3RT10 65-2NP36</b>	1	1 unit	101	6.700
	300	90	<b>160</b>	200	250	330	2	2	96 ... 127 200 ... 277	B	<b>3RT10 66-2NF36</b> ▶ <b>3RT10 66-2NP36</b>	1	1 unit	101	6.700
<b>S12</b>	400	132	<b>200</b>	250	400	430	2	2	96 ... 127 200 ... 277	B	<b>3RT10 75-2NF36</b> ▶ <b>3RT10 75-2NP36</b>	1	1 unit	101	10.500
	500	160	<b>250</b>	355	400	610	2	2	96 ... 127 200 ... 277	B	<b>3RT10 76-2NF36</b> ▶ <b>3RT10 76-2NP36</b>	1	1 unit	101	10.500

For other voltages, see page 3/26.

For accessories, see page 3/103.

For spare parts, see page 3/115.

<sup>1)</sup> Alternatively the 3RT10 54-1 contactor (55 kW) can be supplied with busbar connections instead of box terminals. Without additional price. In the 8th position of the Order No. the "1" must be replaced with "6" for screw terminals, e. g. 3RT10 54-6A.36; for Cage Clamp terminals the "3" must be replaced by "2", e. g. 3RT10 54-2A.36.



# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

AC/DC operation (40 Hz to 60 Hz, DC)

Withdrawable coils with integrated coil circuit (Varistor)

Auxiliary and control conductors: screw terminals

Main conductors: busbar connections, for 3RT10 54 (55 kW) box terminals<sup>1)</sup>

Remaining lifetime indicator (RLT)



3RT10 56-6P..

3RT10 56-6Q..

Size	Rated data				AC-1, T <sub>U</sub> : 40 °C	Auxiliary contacts, lateral		Rated control supply voltage U <sub>s</sub>	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
	AC-2 and AC-3, T <sub>U</sub> : Up to 60 °C	Ratings of induction motors at 50 Hz and Operational current I <sub>e</sub> up to				Version	NO								NC
	230 V	400 V	500 V	690 V	Operational current I <sub>e</sub> up to			V AC/DC						kg	
<b>Solid-state operating mechanisms - for 24 V DC PLC output/ PLC relay output, with remaining lifetime indicator (RLT)</b>															
<b>S6</b>	115	37	<b>55</b>	75	110	160	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 54-1PF35</b> <b>3RT10 54-1PP35</b>	1 1	1 unit 1 unit	101 101	4.000 4.000
	150	45	<b>75</b>	90	132	185	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 55-6PF35</b> <b>3RT10 55-6PP35</b>	1 1	1 unit 1 unit	101 101	4.000 4.000
	185	55	<b>90</b>	110	160	215	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 56-6PF35</b> <b>3RT10 56-6PP35</b>	1 1	1 unit 1 unit	101 101	4.000 4.000
<b>S10</b>	225	55	<b>110</b>	160	200	275	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 64-6PF35</b> <b>3RT10 64-6PP35</b>	1 1	1 unit 1 unit	101 101	7.000 7.000
	265	75	<b>132</b>	160	250	330	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 65-6PF35</b> <b>3RT10 65-6PP35</b>	1 1	1 unit 1 unit	101 101	7.000 7.000
	300	90	<b>160</b>	200	250	330	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 66-6PF35</b> <b>3RT10 66-6PP35</b>	1 1	1 unit 1 unit	101 101	7.000 7.000
<b>S12</b>	400	132	<b>200</b>	250	400	430	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 75-6PF35</b> <b>3RT10 75-6PP35</b>	1 1	1 unit 1 unit	101 101	10.500 10.500
	500	160	<b>250</b>	355	400	610	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 76-6PF35</b> <b>3RT10 76-6PP35</b>	1 1	1 unit 1 unit	101 101	10.500 10.500
<b>Solid-state operating mechanisms - with AS-Interface and remaining lifetime indicator (RLT)</b>															
<b>S6</b>	115	37	<b>55</b>	75	110	160	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 54-1QF35</b> <b>3RT10 54-1QP35</b>	1 1	1 unit 1 unit	101 101	4.000 4.000
	150	45	<b>75</b>	90	132	185	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 55-6QF35</b> <b>3RT10 55-6QP35</b>	1 1	1 unit 1 unit	101 101	4.000 4.000
	185	55	<b>90</b>	110	160	215	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 56-6QF35</b> <b>3RT10 56-6QP35</b>	1 1	1 unit 1 unit	101 101	4.000 4.000
<b>S10</b>	225	55	<b>110</b>	160	200	275	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 64-6QF35</b> <b>3RT10 64-6QP35</b>	1 1	1 unit 1 unit	101 101	7.000 7.000
	265	75	<b>132</b>	160	250	330	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 65-6QF35</b> <b>3RT10 65-6QP35</b>	1 1	1 unit 1 unit	101 101	7.000 7.000
	300	90	<b>160</b>	200	250	330	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 66-6QF35</b> <b>3RT10 66-6QP35</b>	1 1	1 unit 1 unit	101 101	7.000 7.000
<b>S12</b>	400	132	<b>200</b>	250	400	430	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 75-6QF35</b> <b>3RT10 75-6QP35</b>	1 1	1 unit 1 unit	101 101	10.500 10.500
	500	160	<b>250</b>	355	400	610	1	1	96 ... 127 200 ... 277	B B	<b>3RT10 76-6QF35</b> <b>3RT10 76-6QP35</b>	1 1	1 unit 1 unit	101 101	10.500 10.500

For other voltages, see page 3/26.

For accessories, see page 3/103.

For spare parts, see page 3/117.

<sup>1)</sup> Alternatively the 3RT10 54-1 contactor (55 kW) can be supplied with busbar connections instead of box terminals.

Without additional price. In the 8th position of the Order No. the "1" must be replaced with "6", e. g. 3RT10 54-6...35.

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT10 contactors, 3-pole, 3 ... 250 kW

Rated control supply voltages (the 10th and 11th position of the order number must be changed)

Contactor type	3RT10 1	3RT10 2, 3RT10 3, 3RT10 4	3RT14 4	3RT13 1, 3RT15 1	3RT13 2 ... 3RT13 4, 3RT15 2 and 3RT15 3	3RT16
Rated control supply voltage $U_s$						

### Sizes S00 ... S3

#### AC operation<sup>1)</sup>

Solenoid coils for 50 Hz (exception: Size S00: 50 and 60 Hz<sup>2)</sup>)

24 V AC	B0	B0	B0	B0	B0	B0
42 V AC	D0	D0	D0	D0	--	--
48 V AC	H0	H0	H0	H0	--	--
110 V AC	F0	F0	F0	F0	F0	F0
230 V AC	P0	P0	P0	P0	P0	P0
400 V AC	V0	V0	V0	V0	V0	V0

Solenoid coils for 50 and 60 Hz<sup>2)</sup>

24 V AC	B0	C2	C2	B0	C2	C2
42 V AC	D0	D2	D2	D0	D2	--
48 V AC	H0	H2	H2	H0	H2	--
110 V AC	F0	G2	G2	F0	G2	G2
220 V AC	N2	N2	N2	N2	N2	N2
230 V AC	P0	L2	L2	P0	L2	L2

Solenoid coils (for USA and Canada<sup>3)</sup>)

50 Hz	60 Hz						
110 V AC	120 V AC	K6	K6	K6	K6	K6	K6
220 V AC	240 V AC	P6	P6	P6	P6	P6	P6

Solenoid coils (for Japan)

50/60 Hz <sup>4)</sup>	60 Hz <sup>5)</sup>						
100 V AC	110 V AC	G6	G6	G6	G6	G6	G6
200 V AC	220 V AC	N6	N6	N6	N6	N6	N6
400 V AC	440 V AC	R6	R6	R6	R6	R6	R6

#### DC operation<sup>1)</sup>

12 V DC	A4	--	--	A4	--	--
24 V DC	B4	B4	B4	B4	B4	--
42 V DC	D4	D4	D4	D4	D4	--
48 V DC	W4	W4	W4	W4	--	--
60 V DC	E4	E4	E4	--	--	--
110 V DC	F4	F4	F4	F4	F4	--
125 V DC	G4	G4	G4	G4	G4	--
220 V DC	M4	M4	M4	M4	M4	--
230 V DC	P4	P4	P4	P4	--	--

### Sizes S6 ... S12

#### AC/DC operation (AC 40 ... 60 Hz, DC)

Conventional operating mechanisms

$U_s$ min ... $U_s$ max <sup>6)</sup>	Contactor type	3RT1. 5.-.A 3RT1. 6.-.A 3RT1. 7.-.A	$U_s$ min ... $U_s$ max <sup>6)</sup>	Contactor type	3RT1. 5.-.A 3RT1. 6.-.A 3RT1. 7.-.A
23 ... 26 V AC/DC	B3		240 ... 277 V	U3	
42 ... 48 V AC/DC	D3		380 ... 420 V	V3	
110 ... 127 V	F3		440 ... 480 V	R3	
200 ... 220 V	M3		500 ... 550 V	S3	
220 ... 240 V	P3		575 ... 600 V	T3	

Solid-state operating mechanism

$U_s$ min ... $U_s$ max <sup>6)</sup>	Contactor type	3RT1. 5.-.N 3RT1. 6.-.N 3RT1. 7.-.N	3RT1. 5.-.P/Q 3RT1. 6.-.P/Q 3RT1. 7.-.P/Q
21 ... 27.3 V AC/DC	B3		--
96 ... 127 V AC/DC	F3		F3
200 ... 277 V	P3		P3

### Examples

<b>AC operating mechanism</b>	3RT10 23-1A <b>P00</b>	Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC.
	3RT10 23-1A <b>G20</b>	Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.
<b>DC operating mechanism</b>	3RT10 34-3B <b>B40</b>	Contactor with Cage Clamp terminals; for rated control supply voltage 24 V DC.
	3RT10 34-3B <b>G40</b>	Contactor with Cage Clamp terminals; for rated control supply voltage 125 V DC.

<sup>1)</sup> For deviating coil voltages and coil operating ranges of sizes S00 and S0, the 24 V DC SITOP Power supply unit with wide range input (93 to 264 V AC; 30 to 264 V DC) can be used for coil excitation (see "Power Supplies" → "SITOP Power Power Supplies").

<sup>2)</sup> Coil operating range  
at 50 Hz: 0.8 to 1.1 ×  $U_s$   
at 60 Hz: 0.85 to 1.1 ×  $U_s$ .

<sup>3)</sup> Coil operating range  
Size S00: at 50 Hz: 0.85 to 1.1 ×  $U_s$   
at 60 Hz: 0.8 to 1.1 ×  $U_s$   
Sizes S0 to S3: at 50 Hz and 60 Hz: 0.8 to 1.1 ×  $U_s$ .

<sup>4)</sup> Coil operating range  
Size S00: at 50/60 Hz: 0.85 to 1.1 ×  $U_s$   
Sizes S0 to S3: at 50 Hz: 0.8 to 1.1 ×  $U_s$   
at 60 Hz: 0.85 to 1.1 ×  $U_s$ .

<sup>5)</sup> Coil operating range  
at 60 Hz: 0.8 to 1.1 ×  $U_s$ .

<sup>6)</sup> Operating range:  
0.8 ×  $U_s$  min to 1.1 ×  $U_s$  max.

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3RT12 vacuum contactors, 3-pole, 110 ... 250 kW

### Overview

#### UC operation

The contactors can be operated with AC (40 to 60 Hz) as well as with DC.

Two types of solenoid operation are available:

- Conventional operating mechanism, version 3RT12...A
- Solid-state operating mechanism, version 3RT12...N

#### Withdrawable coils

For simple coil replacement, e. g. if the application is replaced, the solenoid coil can be pulled out upwards after the release mechanism has been actuated and can be replaced by any other coil of the same size.

#### Vacuum interrupters

In contrast with the 3RT10 contactors – the main contacts operate in air under atmospheric conditions – the contact gaps of the

3RT12 vacuum contactors are contained in hermetically enclosed vacuum contact tubes. Neither arcs nor arcing gases are produced. The particular benefit of 3RT12 vacuum contactors, however, is that their electrical endurance is at least twice as long as that of 3RT10 contactors. They are therefore particularly well suited to frequent switching in jogging/mixed operation, e. g. in crane control systems.

#### Note:

*Vacuum contactors are basically unsuitable for switching DC voltage.*

#### Auxiliary contact complement

The contactors can be fitted with up to 8 lateral auxiliary contacts (identical auxiliary switch blocks from S0 to S12). Of these, no more than 4 are permitted to be NC contacts.

### Selection and ordering data

#### AC/DC operation (40 Hz to 60 Hz, DC)

#### Withdrawable coils with integrated coil circuit (Varistor)

#### Auxiliary and control conductors: screw terminals

#### Main conductors: busbar connections



3RT12 6.



3RT12 7.

Size	Rated data					AC-1, $T_U$ : 40 °C	Auxiliary contacts, lateral		Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$ up to	Ratings of induction motors at 50 Hz and				Operational current $I_e$ up to			V AC/DC		Price per PU				kg
	1000 V	230 V	400 V	500 V	690 V	1000 V	NO	NC		Order No.					
<b>Conventional operating mechanisms</b>															
<b>S10</b>	225	55	110	160	200	330	2	2	110 ... 127 220 ... 240	A	<b>3RT12 64-6AF36</b> <b>3RT12 64-6AP36</b>	1 1	1 unit 1 unit	101 101	7.300 7.300
	265	75	132	160	250	330	2	2	110 ... 127 220 ... 240	A	<b>3RT12 65-6AF36</b> <b>3RT12 65-6AP36</b>	1 1	1 unit 1 unit	101 101	7.300 7.300
	300	90	160	200	250	330	2	2	110 ... 127 220 ... 240	A	<b>3RT12 66-6AF36</b> <b>3RT12 66-6AP36</b>	1 1	1 unit 1 unit	101 101	7.300 7.300
<b>S12</b>	400	132	200	250	400	610	2	2	110 ... 127 220 ... 240	A	<b>3RT12 75-6AF36</b> <b>3RT12 75-6AP36</b>	1 1	1 unit 1 unit	101 101	10.500 10.500
	500	160	250	355	500	610	2	2	110 ... 127 220 ... 240	A	<b>3RT12 76-6AF36</b> <b>3RT12 76-6AP36</b>	1 1	1 unit 1 unit	101 101	10.500 10.500
<b>Solid-state operating mechanisms · for 24 V DC PLC output</b>															
<b>S10</b>	225	55	110	160	200	330	2	2	96 ... 127 200 ... 277	B	<b>3RT12 64-6NF36</b> <b>3RT12 64-6NP36</b>	1 1	1 unit 1 unit	101 101	7.300 7.300
	265	75	132	160	250	330	2	2	96 ... 127 200 ... 277	B	<b>3RT12 65-6NF36</b> <b>3RT12 65-6NP36</b>	1 1	1 unit 1 unit	101 101	7.300 7.300
	300	90	160	200	250	330	2	2	96 ... 127 200 ... 277	B	<b>3RT12 66-6NF36</b> <b>3RT12 66-6NP36</b>	1 1	1 unit 1 unit	101 101	7.300 7.300
<b>S12</b>	400	132	200	250	400	610	2	2	96 ... 127 200 ... 277	B	<b>3RT12 75-6NF36</b> <b>3RT12 75-6NP36</b>	1 1	1 unit 1 unit	101 101	10.500 10.500
	500	160	250	355	500	610	2	2	96 ... 127 200 ... 277	B	<b>3RT12 76-6NF36</b> <b>3RT12 76-6NP36</b>	1 1	1 unit 1 unit	101 101	10.500 10.500

For other voltages see page 3/26.

For more 3TF68/69 vacuum contactors (335 kW and 450 kW), see page 3/28.

For accessories, see page 3/104.

\* You can order this quantity or a multiple thereof.

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3TF6 vacuum contactors, 3-pole, 335 ... 450 kW

### Selection and ordering data

**Auxiliary and control conductors: screw terminals**  
**Main conductors: busbar connections, size 14**

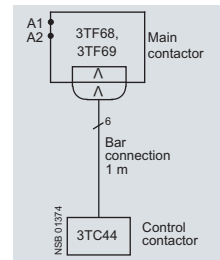
IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102).

The 3TF68/69 contactors are climate-proof.

They are finger-safe according to EN 50274. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices (see [Accessories and Spare Parts on page 3/121](#))



3TF68



3TF6. 33-.Q.7

Rated data		AC-1		Auxiliary contacts		Rated control supply voltage $U_s$		DT		Screw terminals		PU (UNIT, SET, M)		PS*		PG		Weight per PU approx.	
Operational current $I_e$ up to 690 V	Ratings of induction motors at 50 Hz and					Operational current $I_e$ (at 40 °C)	Version				Order No.	Price per PU							
A	kW	kW	kW	kW	kW	A	NO	NC	V										
<b>AC operation<sup>1)2)</sup> - 50/60 Hz</b>																			
630	200	<b>335</b>	434	600	--	700	4	4	110 ... 132 AC A	A	<b>3TF68 44-0CF7</b>		1	1 unit	101	20.000			
									200 ... 240 AC A	A	<b>3TF68 44-0CM7</b>		1	1 unit	101	20.000			
630	200	<b>335</b>	434	600	600	700	4	4	110 ... 132 AC D	D	<b>3TF68 44-8CF7</b>		1	1 unit	101	20.000			
									200 ... 240 AC B	B	<b>3TF68 44-8CM7</b>		1	1 unit	101	20.000			
820	260	<b>450</b>	600	800	--	910	4	4	110 ... 132 AC A	A	<b>3TF69 44-0CF7</b>		1	1 unit	101	22.200			
									200 ... 240 AC A	A	<b>3TF69 44-0CM7</b>		1	1 unit	101	22.200			
820	260	<b>450</b>	600	800	800	910	4	4	110 ... 132 AC D	D	<b>3TF69 44-8CF7</b>		1	1 unit	101	22.200			
									200 ... 240 AC D	D	<b>3TF69 44-8CM7</b>		1	1 unit	101	22.200			
<b>DC operation - DC economy circuit<sup>2)</sup></b>																			
630	200	<b>335</b>	434	600	--	700	3	3	DC 24	D	<b>3TF68 33-1DB4</b>		1	1 unit	101	19.500			
					600					D	<b>3TF68 33-8DB4</b>		1	1 unit	101	19.500			
820	260	<b>450</b>	600	800	--	910	3	3	DC 24	D	<b>3TF69 33-1DB4</b>		1	1 unit	101	22.500			
					800					D	<b>3TF69 33-8DB4</b>		1	1 unit	101	22.500			
<b>AC operation - 50/60 Hz<sup>2)3)</sup> - Version for AC controls which are subject to strong interference</b>																			
630	200	<b>335</b>	434	600	--	700	3	3	110 ... 120 AC C	C	<b>3TF68 33-1QG7</b>		1	1 unit	101	21.000			
									220 ... 240 AC D	D	<b>3TF68 33-1QL7</b>		1	1 unit	101	21.000			
									380 ... 420 AC D	D	<b>3TF68 33-1QV7</b>		1	1 unit	101	21.000			
					600	700	3	3	220 ... 240 AC D	D	<b>3TF68 33-8QL7</b>		1	1 unit	101	21.000			
820	260	<b>450</b>	600	800	--	910	3	3	110 ... 120 AC D	D	<b>3TF69 33-1QG7</b>		1	1 unit	101	23.000			
									220 ... 240 AC D	D	<b>3TF69 33-1QL7</b>		1	1 unit	101	23.000			
									380 ... 420 AC D	D	<b>3TF69 33-1QV7</b>		1	1 unit	101	23.000			
					800	910	3	3	110 ... 120 AC D	D	<b>3TF69 33-8QG7</b>		1	1 unit	101	23.000			
									220 ... 240 AC D	D	<b>3TF69 33-8QL7</b>		1	1 unit	101	23.000			

For accessories, see page 3/120, for spare parts, see page 3/130.

- Built-in surge suppression: varistor circuit.
- For EMC see note on Technical Information on page 3/1. **3TF68/69 vacuum contactors** are supplied with integrated overvoltage damping for the main current paths (see note on Technical Information on page 3/1). The surge suppression circuit is not required for operation in circuits with DC choppers, frequency converters or speed-variable operating mechanisms, for example. It could be damaged by the voltage peaks and harmonics and cause phase-to-phase short-circuits. For this reason, the contactors can also be supplied without integrated overvoltage damping. Without additional price. The order number must include "-Z" and the order code "A02".

- With this version, a solenoid system with DC economy circuit and rectifier unit is used. A 3TC44 17-4A... switchover contactor is included in the scope of supply of the vacuum contactor.

### Rated control supply voltages (the 10th and 11th position of the order number must be changed)

Contactor type	3TF68 ...-C/D, 3TF69 ...-C/D
<b>AC operation</b>	
<b>Solenoid coils for 50/60 Hz</b>	
110 ... 132 V	F7
200 ... 240 V	M7
230 ... 277 V	P7
380 ... 460 V	Q7
500 ... 600 V	S7
<b>DC operation</b>	
24 V DC	B4
110 V DC	F4
125 V DC	G4
220 V DC	M4
230 V DC	P4

\* You can order this quantity or a multiple thereof.

# 3RT, 3TB, 3TF Contactors for Switching Motors

3TB5 contactors with DC solenoid system,  
3-pole, 55 ... 200 kW

## Selection and ordering data

*Auxiliary and control conductors: screw terminals*

*Main conductors: busbar connections*

IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102).

The 3TB5 contactors are suitable for use in any climate.

They are finger-safe according to EN 50274.

Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices (see [Accessories and Spare Parts on page 3/121](#)).



3TB50

Size	Rated data		AC-1		Auxiliary contacts		Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.		
	Operational current $I_e$ up to 690 V	Ratings of induction motors at 50 Hz and up to			Operational current $I_e$ (at 40 °C)	Version			Order No.	Price per PU			kg		
	A	kW	kW	kW	A	NO	NC	V DC							
<b>DC operation · DC solenoid system</b>															
<b>6</b>	110	37	<b>55</b>	75	90	170	2	2	24	A	<b>3TB50 17-0BB4</b>	1	1 unit	101	6.500
<b>8</b>	170	55	<b>90</b>	110	132	230	2	2	24	B	<b>3TB52 17-0BB4</b>	1	1 unit	101	8.500
<b>10</b>	250	75	<b>132</b>	160	200	325	2	2	24	D	<b>3TB54 17-0BB4</b>	1	1 unit	101	16.500
<b>12</b>	400	115	<b>200</b>	255	355	425	2	2	24	D	<b>3TB56 17-0BB4</b>	1	1 unit	101	16.500

For accessories, see page 3/120.

For spare parts, see page 3/128.

*Rated control supply voltages (the 10th and 11th position of the order number must be changed)*

Rated control supply voltage $U_s$	Contactor type	3TB50/3TB52/3TB54	3TB56
<b>DC operation</b>			
24 V DC		B4	B4
110 V DC		F4	--
220 V DC		M4	M4

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3TF2 contactors, 3-pole, 2.2 ... 4 kW

### Overview

#### AC and DC operation

IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102).

The contactors are suitable for use in any climate.

The contactors with screw terminals are finger-safe according to EN 50274.

The contactors are available in versions with screw terminals, 6.3 mm plug-in terminals and solder pin connections for soldering in printed circuit boards.

### Selection and ordering data

#### Size 00

AC-1: operational current  $I_e = 16 A$  (at 55 °C)

#### Screw terminals

Rated data Utilization categories AC-2 and AC-3					Auxiliary contacts		DT	Order No.	Price € per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Operational current $I_e$ At 400/ 380 V	Ratings of induction motors at 50 Hz and				Ident. No.	Version							kg
	230/ 220 V	400/ 380 V	500 V	690/ 660 V									
A	kW	kW	kW	kW									

#### Contactors with screw terminals - for screw and snap-on mounting onto TH 35 standard mounting rail



3TF20 ...-0...  
3TF28 ...-0...

AC operation										Screw terminals			
5	1.3	2.2	2.9	3.8	10E	1	--	B	3TF28 10-0AP0	1	1 unit	101	0.200
					01E	--	1	C	3TF28 01-0AP0	1	1 unit	101	0.200
9	2.4	4	4	4	10E	1	--	A	3TF20 10-0AP0	1	1 unit	101	0.200
					01E	--	1	A	3TF20 01-0AP0	1	1 unit	101	0.200
DC operation - DC solenoid system													
5	1.3	2.2	2.9	3.8	10E	1	--	C	3TF28 10-0BB4	1	1 unit	101	0.220
					01E	--	1	C	3TF28 01-0BB4	1	1 unit	101	0.220
9	2.4	4	4	4	10E	1	--	A	3TF20 10-0BB4	1	1 unit	101	0.220
					01E	--	1	A	3TF20 01-0BB4	1	1 unit	101	0.220

#### Contactors with 6.3 mm x 0.8 mm flat connectors - for screw and snap-on mounting onto TH 35 standard mounting rail



3TF20...-3...

AC operation										Flat connectors			
9	2.4	4	4	--	10E	1	--	C	3TF20 10-3AP0	1	1 unit	101	0.170
					01E	--	1	C	3TF20 01-3AP0	1	1 unit	101	0.170
DC operation - DC solenoid system													
9	2.4	4	4	--	10E	1	--	C	3TF20 10-3BB4	1	1 unit	101	0.190
					01E	--	1	C	3TF20 01-3BB4	1	1 unit	101	0.190

#### Contactors with 6.3 mm x 0.8 mm flat connectors - for screw fixing (diagonal)



3TF20...-7...

AC operation													
9	2.4	4	4	--	10E	1	--	C	3TF20 10-7AP0	1	1 unit	101	0.160
					01E	--	1	C	3TF20 01-7AP0	1	1 unit	101	0.160
DC operation - DC solenoid system													
9	2.4	4	4	--	10E	1	--	C	3TF20 10-7BB4	1	1 unit	101	0.190
					01E	--	1	C	3TF20 01-7BB4	1	1 unit	101	0.190

#### Contactors with solder pin connections for printed circuit boards - for screw fixing (diagonal)






3TF20...-6...

AC operation										Solder pin connections			
9	2.4	4	4	--	10E	1	--	C	3TF20 10-6AP0	1	1 unit	101	0.160
					01E	--	1	C	3TF20 01-6AP0	1	1 unit	101	0.160
DC operation - DC solenoid system													
9	2.4	4	4	--	10E	1	--	C	3TF20 10-6BB4	1	1 unit	101	0.190
					01E	--	1	C	3TF20 01-6BB4	1	1 unit	101	0.190

For accessories see pages 3/122 and 3/123.

# 3RT, 3TB, 3TF Contactors for Switching Motors

## 3TF2 contactors, 3-pole, 2.2 ... 4 kW

Rated data Utilization categories AC-2 and AC-3					Auxiliary contacts		DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Operational current $I_e$ At 400/ 380 V	Ratings of induction motors at 50 Hz and				Ident. No.	Version  	Order No.	Price € per PU				kg
	230/ 220 V	<b>400/ 380 V</b>	500 V	690/ 660 V								
A	kW	<b>kW</b>	kW	kW		NO	NC					

**Contactors with permanently mounted auxiliary switch blocks with screw terminals, width 45 mm for screw and snap-on mounting onto TH 35 standard mounting rail**



### AC operation

5	1.3	<b>2.2</b>	2.9	3.8	<b>11E</b>	1	1	C	<b>3TF29 11-0AP0</b>	1	1 unit	101	0.230
					<b>22E</b>	2	2	C	<b>3TF29 22-0AP0</b>	1	1 unit	101	0.230
9	2.4	<b>4</b>	4	4	<b>11E</b>	1	1	C	<b>3TF22 11-0AP0</b>	1	1 unit	101	0.230
					<b>22E</b>	2	2	C	<b>3TF22 22-0AP0</b>	1	1 unit	101	0.230

### DC operation - DC solenoid system

3TF22 ...-0... 3TF29 ...-0...	5	1.3	<b>2.2</b>	2.9	3.8	<b>11E</b>	1	1	C	<b>3TF29 11-0BB4</b>	1	1 unit	101	0.250
						<b>22E</b>	2	2	C	<b>3TF29 22-0BB4</b>	1	1 unit	101	0.250
	9	2.4	<b>4</b>	4	4	<b>11E</b>	1	1	C	<b>3TF22 11-0BB4</b>	1	1 unit	101	0.250
						<b>22E</b>	2	2	C	<b>3TF22 22-0BB4</b>	1	1 unit	101	0.250

For accessories see pages 3/122 and 3/123.

*Rated control supply voltages (the 10th and 11th position of the order number must be changed)*

Contactor type	3TF20, 3TF28
Rated control supply voltage $U_s$	
<b>AC operation</b>	
<b>Solenoid coils for AC 50 and 60 Hz</b>	
<b>50 Hz</b>	<b>60 Hz</b>
24 V AC	29 V AC
110 V AC	132 V AC
230/220 V AC	276 V AC
	B0 F0 P0 <sup>1)</sup>
<b>AC operation</b>	
<b>Solenoid coils for AC 50/60 Hz</b>	
230 V AC	L2
<b>DC operation</b>	
24 V DC	B4

Contactor type	3TF22, 3TF29
Rated control supply voltage $U_s$	
<b>AC operation</b>	
<b>Solenoid coils for AC 50 and 60 Hz</b>	
<b>50 Hz</b>	<b>60 Hz</b>
230/220 V AC	276 V AC
	P0 <sup>1)</sup>
<b>DC operation</b>	
24 V DC	B4
<sup>1)</sup> Operating range at 220 V: 0.85 to 1.15 × $U_s$ ; lower operating range limit according to IEC 60947.	
Please inquire about other voltages.	

# 3RA13, 3RA14 Contactor Assemblies

## 3RA13 Reversing Contactor Assemblies

### 3RA13 complete units, 3 ... 45 kW

#### Overview

The 3RA13 reversing contactor assemblies can be ordered as follows:

- **Size S00 to S3**  
Fully wired and tested, with mechanical and electrical interlock. For assemblies with AC operation and 50/60 Hz, a dead interval of 50 ms must be provided when used with voltages  $\geq 500$  V; a dead interval of 30 ms is recommended for use with voltages  $\geq 400$  V. These dead times do not apply to assemblies with DC operation.
- **Size S00 to S12**  
As individual parts for customer assembly.

There is also a range of accessories (auxiliary switch blocks, surge suppressors, etc.) that must be ordered separately.

For overload relays for motor protection, see "Protection Equipment" → "Overload Relays".

The 3RA13 contactor assemblies have screw terminals and are suitable for screw and snap-on mounting onto 35 mm standard mounting rails.

#### Complete units

The fully wired reversing contactor assemblies are suitable for use in any climate. They are finger-safe according to EN 50274.

The contactor assemblies consist of 2 contactors with the same power, with one NC contact in the basic unit. The contactors are mechanically and electrically interlocked (NC contact interlock).

For motor protection, either 3RU11 or 3RB2. overload relays for direct mounting or stand-alone installation or thermistor motor protection tripping units must be ordered separately.

#### Components for customer assembly

Assembly kits for all sizes are available for customer assembly of reversing contactor assemblies.

Contactors, overload relays, the mechanical interlock (as of size S0) and – for momentary-contact operation – auxiliary switch blocks for latching must be ordered separately.

Rated data AC-2 and AC-3 for AC 50 Hz 400 V		Size	Order No.				Assembly kit	Fully wired and tested contactor assemblies
Rating kW	Operational current $I_e$ A		Contactor	Mechanical interlock <sup>1)</sup>	Mechanical interlock <sup>2)</sup>	Mechanical interlock <sup>3)</sup>		
3	7	S00	3RT10 15	-- <sup>4)</sup>	--	--	3RA19 13-2A <sup>5)</sup>	3RA13 15-8XB30-1 ..
4	9		3RT10 16					3RA13 16-8XB30-1 ..
5.5	12		3RT10 17					3RA13 17-8XB30-1 ..
5.5	12	S0	3RT10 24	3RA19 24-1A	3RA19 24-2B	--	3RA19 23-2A <sup>6)</sup>	3RA13 24-8XB30-1 ..
7.5	17		3RT10 25					3RA13 25-8XB30-1 ..
11	25		3RT10 26					3RA13 26-8XB30-1 ..
15	32	S2	3RT10 34	3RA19 24-1A	3RA19 24-2B	--	3RA19 33-2A <sup>7)</sup>	3RA13 34-8XB30-1 ..
18.5	40		3RT10 35					3RA13 35-8XB30-1 ..
22	50		3RT10 36					3RA13 36-8XB30-1 ..
30	65	S3	3RT10 44	3RA19 24-1A	3RA19 24-2B	--	3RA19 43-2A <sup>7)</sup>	3RA13 44-8XB30-1 ..
37	80		3RT10 45					3RA13 45-8XB30-1 ..
45	95		3RT10 46					3RA13 46-8XB30-1 ..
55	115	S6	3RT10 54	--	--	3RA19 54-2A	3RA19 53-2M <sup>8)</sup>	--
75	150		3RT10 55					
90	185		3RT10 56					
110	225	S10	3RT10 64	--	--	3RA19 54-2A	3RA19 63-2A <sup>8)</sup>	--
132	265		3RT10 65					
160	300		3RT10 66					
200	400	S12	3RT10 75	--	--	3RA19 54-2A	3RA19 73-2A <sup>8)</sup>	--
250	500		3RT10 76					

<sup>1)</sup> Can be mounted onto the front.

<sup>2)</sup> Laterally mountable with one auxiliary contact.

<sup>3)</sup> Laterally mountable without auxiliary contact.

<sup>4)</sup> Interlock can only be ordered with assembly kit.

<sup>5)</sup> Assembly kit contains: mechanical interlock; connecting clips for 2 contactors; wiring modules on the top and bottom.

<sup>6)</sup> Assembly kit contains: wiring modules on the top and bottom.

<sup>7)</sup> Assembly kit contains: 2 connecting clips for contactors; wiring modules on the top and bottom.

<sup>8)</sup> Assembly kit contains: wiring module on the top and bottom.




# 3RA13, 3RA14 Contactor Assemblies

## 3RA13 Reversing Contactor Assemblies

3RA13 complete units, 3 ... 45 kW

### Selection and ordering data

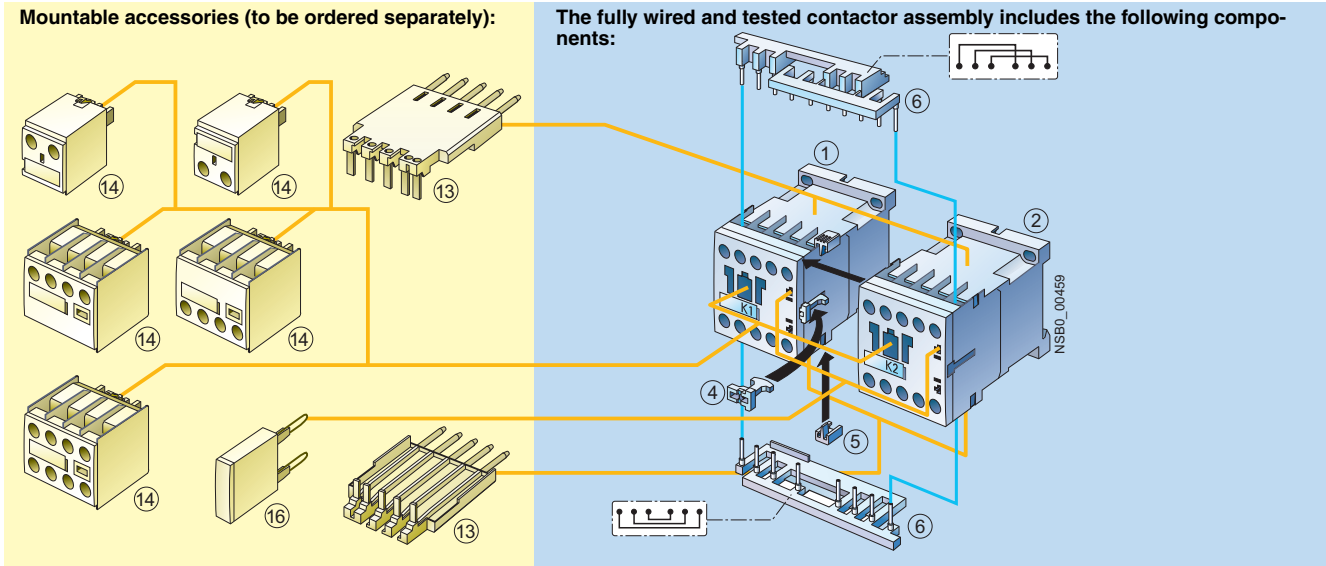
Fully wired and tested contactor assemblies<sup>2)</sup> · Size S00 · up to 5.5 kW

Rated data AC-2 and AC-3		Ratings of induction motors at 50 Hz and up to				Rated control supply voltage $U_s$ <sup>1)</sup>		DT	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Operational current $I_e$ up to	400 V	230 V	400 V	500 V	690 V									
A	kW	kW	kW	kW	V			Order No.		Price per PU				kg
<b>AC operation, 50/60 Hz</b>														
	7	2.2	<b>3</b>	3.5	4	AC 24	A	<b>3RA13 15-8XB30-1AB0</b>		1	1 unit	101	0.430	
						AC 110	A	<b>3RA13 15-8XB30-1AF0</b>		1	1 unit	101	0.430	
						AC 230	A	<b>3RA13 15-8XB30-1AP0</b>		1	1 unit	101	0.430	
	9	3	<b>4</b>	4.5	5.5	AC 24	A	<b>3RA13 16-8XB30-1AB0</b>		1	1 unit	101	0.430	
						AC 110	A	<b>3RA13 16-8XB30-1AF0</b>		1	1 unit	101	0.430	
						AC 230	A	<b>3RA13 16-8XB30-1AP0</b>		1	1 unit	101	0.430	
	12	3	<b>5.5</b>	5.5	5.5	AC 24	A	<b>3RA13 17-8XB30-1AB0</b>		1	1 unit	101	0.430	
						AC 110	A	<b>3RA13 17-8XB30-1AF0</b>		1	1 unit	101	0.430	
						AC 230	A	<b>3RA13 17-8XB30-1AP0</b>		1	1 unit	101	0.430	
<b>DC operation</b>														
	7	2.2	<b>3</b>	3.5	4	DC 24		<b>3RA13 15-8XB30-1BB4</b>		1	1 unit	101	0.550	
	9	3	<b>4</b>	4.5	5.5	DC 24		<b>3RA13 16-8XB30-1BB4</b>		1	1 unit	101	0.550	

3RA13 1.-8XB30-1...

<sup>1)</sup> Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ ; at 60 Hz: 0.85 ... 1.1 x  $U_s$ .

<sup>2)</sup> The contactors integrated in the contactor assemblies have no unassigned auxiliary contacts.



Accessories	Order No.	Page	Individual parts	Order No. K1	K2	Page
13 Solder pin adapters	3RT19 16-4KA1	3/111	1 2	3RT10 15	3RT10 15	3/15
14 Auxiliary switch block, front (auxiliary switch block according to EN 50005 must be used)	3RH19 11-1....	3/102	1 2	3RT10 16	3RT10 16	3/15
16 Surge suppressors	3RT19 16-1....	3/108, 3/109	1 2	3RT10 17	3RT10 17	3/15
			4 5 6	3RA19 13-2A		3/38
The assembly kit contains:						
			4	Mechanical interlock		
			5	2 connecting clips for 2 contactors		
			6	Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included <sup>1)</sup> , interruptible (NC contact interlock)		

<sup>1)</sup> 3RT10 1. contactors with one NC contact in the basic unit are required for the electrical interlock.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA13 Reversing Contactor Assemblies

3RA13 complete units, 3 ... 45 kW

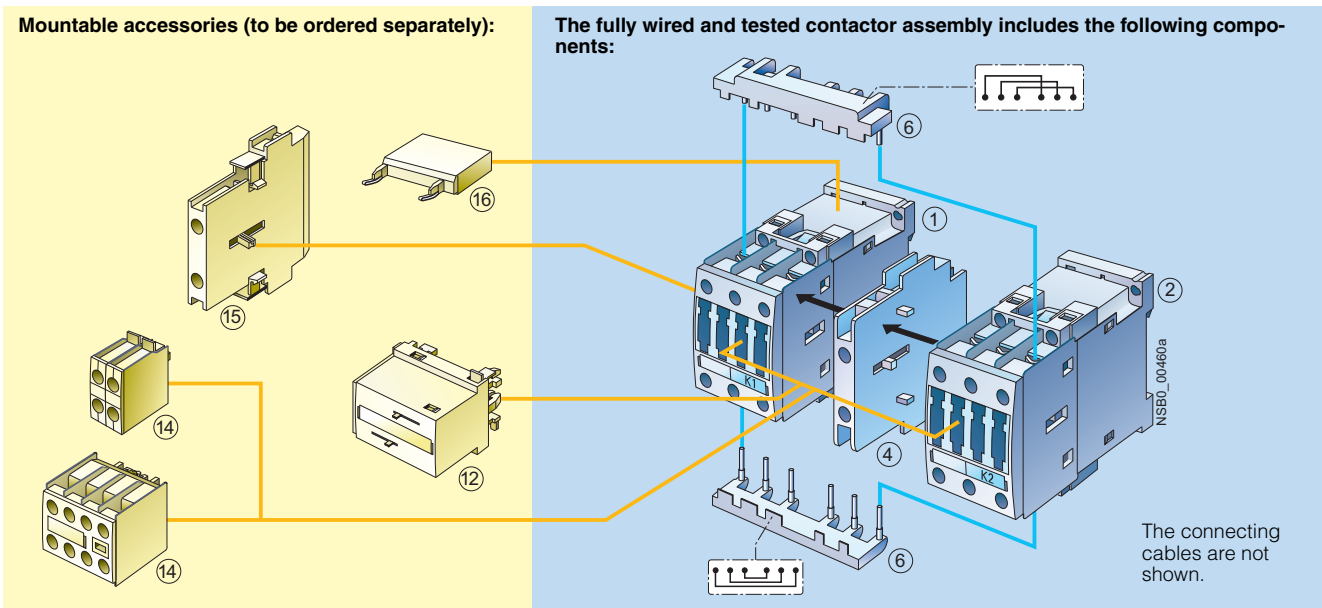
Fully wired and tested contactor assemblies · Size S0 · up to 11 kW



3RA13 2.-8XB30-1...

Rated data AC-2 and AC-3		Rated control supply voltage $U_s$ <sup>1)</sup>		DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.		
Operational current $I_e$ up to	Ratings of induction motors at 50 Hz and up to					Order No.	Price per PU		kg		
400 V	230 V	400 V	500 V	690 V							
A	kW	kW	kW	kW	V						
<b>AC operation, 50/60 Hz</b>											
12	3	5.5	7.5	7.5	AC 24	A	3RA13 24-8XB30-1AC2	1	1 unit	101	0.770
					AC 110	A	3RA13 24-8XB30-1AG2	1	1 unit	101	0.770
					AC 230	▶	3RA13 24-8XB30-1AL2	1	1 unit	101	0.770
17	4	7.5	10	11	AC 24	A	3RA13 25-8XB30-1AC2	1	1 unit	101	0.770
					AC 110	A	3RA13 25-8XB30-1AG2	1	1 unit	101	0.770
					AC 230	▶	3RA13 25-8XB30-1AL2	1	1 unit	101	0.770
25	5.5	11	11	11	AC 24	A	3RA13 26-8XB30-1AC2	1	1 unit	101	0.770
					AC 110	A	3RA13 26-8XB30-1AG2	1	1 unit	101	0.770
					AC 230	A	3RA13 26-8XB30-1AL2	1	1 unit	101	0.770
<b>DC operation</b>											
12	3	5.5	7.5	7.5	DC 24	▶	3RA13 24-8XB30-1BB4	1	1 unit	101	1.230
17	4	7.5	10	11	DC 24	A	3RA13 25-8XB30-1BB4	1	1 unit	101	1.230
25	5.5	11	11	11	DC 24	A	3RA13 26-8XB30-1BB4	1	1 unit	101	1.230

<sup>1)</sup> Coil operating range at 50 Hz: 0.8 ... 1.1 ×  $U_s$ ; at 60 Hz: 0.85 ... 1.1 ×  $U_s$ .



Accessories	Order No.	Page	Individual parts	Order No.		Page
				K1	K2	
12 Mechanical interlock, front	3RA19 24-1A	3/37	1 2 Contactor, 5.5 kW	3RT10 24	3RT10 24	3/16
14 Auxiliary switch block, front	3RH19 21-1CA..	3/103	1 2 Contactor, 7.5 kW	3RT10 25	3RT10 25	3/16
15 Auxiliary switch block, lateral	3RH19 21-1EA..	3/104	1 2 Contactor, 11 kW	3RT10 26	3RT10 26	3/16
16 Surge suppressor	3RT19 26-1....	3/108	4 Mechanical interlock, lateral	3RA19 24-2B		3/37
			6 Assembly kit	3RA19 23-2A		3/38

The assembly kit contains wiring modules on the top and bottom (they also form the mechanical connection between the contactors).

\* You can order this quantity or a multiple thereof.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA13 Reversing Contactor Assemblies

**3RA13 complete units, 3 ... 45 kW**

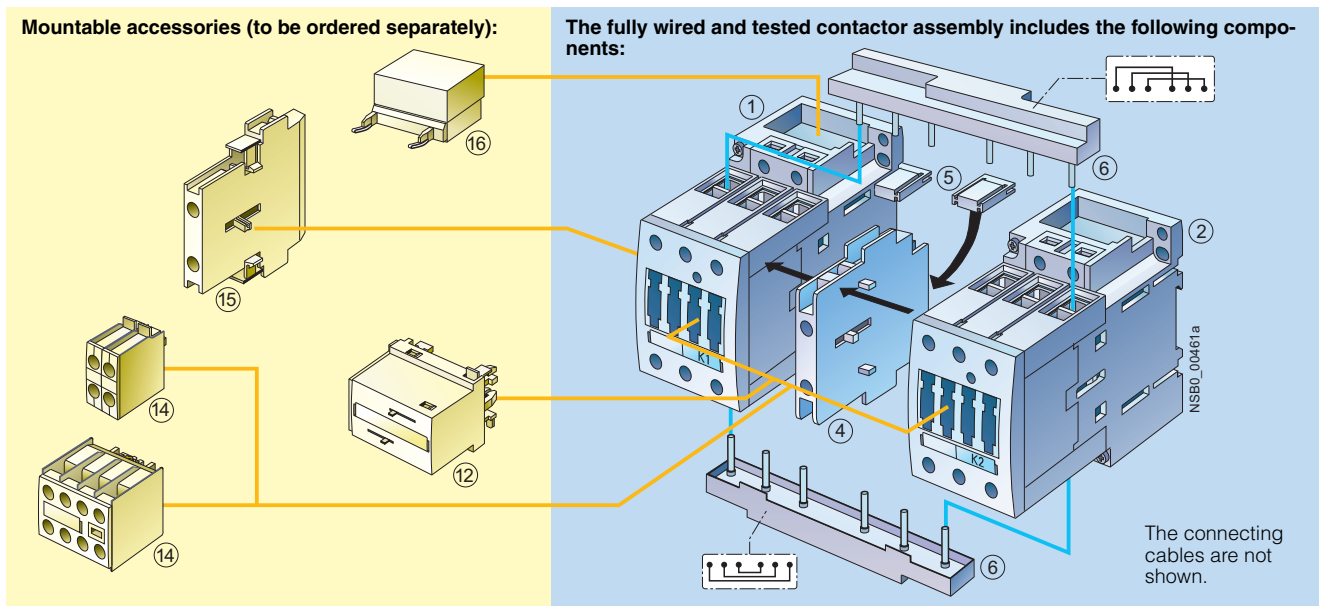
Fully wired and tested contactor assemblies · Size S2 · up to 22 kW



3RA13 3...8XB30-1...

Rated data AC-2 and AC-3		Rated control supply voltage $U_s$ <sup>1)</sup>		DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.		
Operational current $I_e$ up to	Ratings of induction motors at 50 Hz and				Order No.	Price per PU			kg		
500 V	230 V	400 V	500 V	690 V							
A	kW	kW	kW	V							
<b>AC operation, 50/60 Hz</b>											
32	7.5	15	18.5	18.5	AC 24	A	3RA13 34-8XB30-1AC2	1	1 unit	101	2.300
					AC 110	A	3RA13 34-8XB30-1AG2	1	1 unit	101	2.300
					AC 230	A	3RA13 34-8XB30-1AL2	1	1 unit	101	2.300
40	11	18.5	22	22	AC 24	A	3RA13 35-8XB30-1AC2	1	1 unit	101	2.300
					AC 110	A	3RA13 35-8XB30-1AG2	1	1 unit	101	2.300
					AC 230	A	3RA13 35-8XB30-1AL2	1	1 unit	101	2.300
50	15	22	30	22	AC 24	B	3RA13 36-8XB30-1AC2	1	1 unit	101	2.300
					AC 110	B	3RA13 36-8XB30-1AG2	1	1 unit	101	2.300
					AC 230	A	3RA13 36-8XB30-1AL2	1	1 unit	101	2.300
<b>DC operation</b>											
32	7.5	15	18.5	18.5	DC 24	A	3RA13 34-8XB30-1BB4	1	1 unit	101	3.450
40	11	18.5	22	22	DC 24	A	3RA13 35-8XB30-1BB4	1	1 unit	101	3.450
50	15	22	30	22	DC 24	A	3RA13 36-8XB30-1BB4	1	1 unit	101	3.450

<sup>1)</sup> Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ ; at 60 Hz: 0.85 ... 1.1 x  $U_s$ .



Accessories	Order No.	Page	Individual parts	Order No.		Page
				K1	K2	
12	3RA19 24-1A	3/37	1 2 Contactor, 15 kW	3RT10 34	3RT10 34	3/17
14	3RH19 21-1CA..	3/103	1 2 Contactor, 18.5 kW	3RT10 35	3RT10 35	3/17
15	3RH19 21-1EA..	3/104	1 2 Contactor, 22 kW	3RT10 36	3RT10 36	3/17
16	3RT19 26-1.... 3RT19 36-1....	3/108	4 Mechanical interlock, lateral	3RA19 24-2B		3/37
			5 6 Assembly kit	3RA19 33-2A		3/38

The assembly kit contains:

- 5 2 connecting clips for 2 contactors with 10 mm distance
- 6 Wiring modules on the top and bottom for connecting the main current paths

# 3RA13, 3RA14 Contactor Assemblies

## 3RA13 Reversing Contactor Assemblies

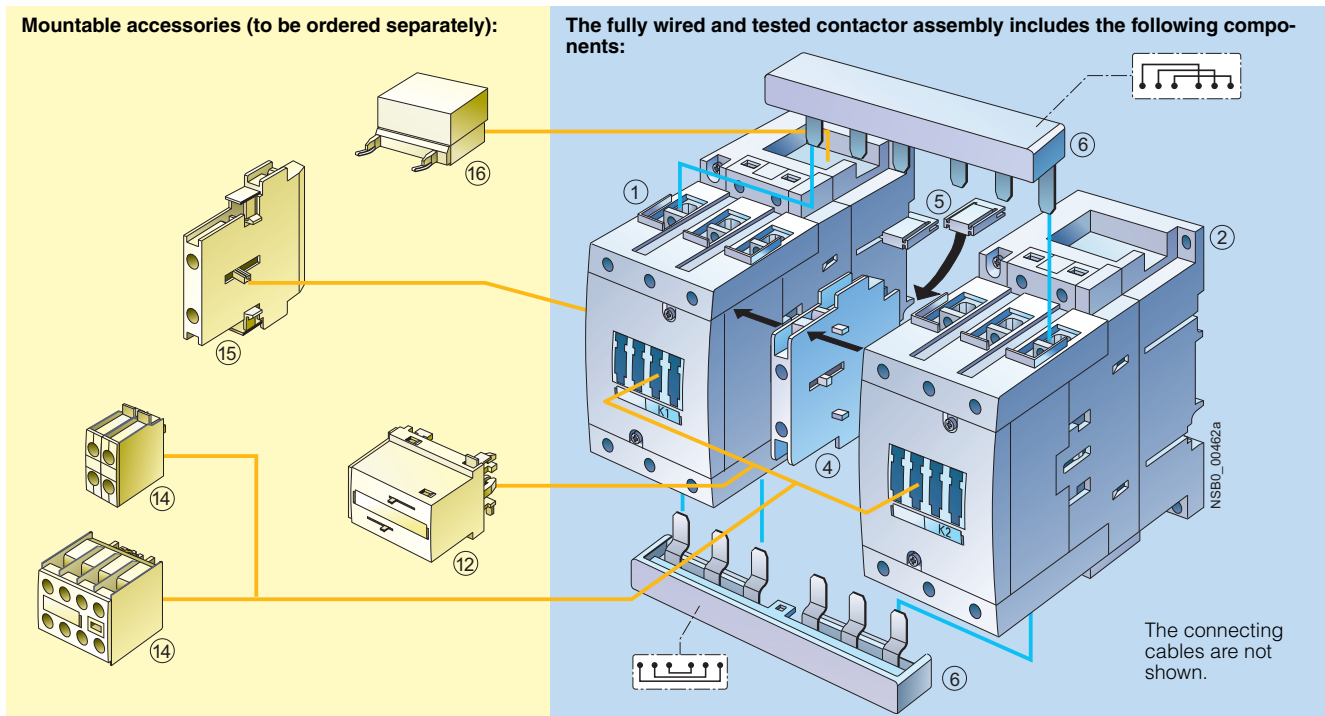
3RA13 complete units, 3 ... 45 kW

Fully wired and tested contactor assemblies · Size S3 · up to 45 kW

Rated data AC-2 and AC-3		Rated control supply voltage $U_s$ <sup>1)</sup>		DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.		
Operational current $I_e$ up to	500 V	230 V	400 V	500 V	690 V	Order No.	Price per PU				
A	kW	kW	kW	kW	V				kg		
<b>AC operation at 50/60 Hz</b>											
65	18.5	<b>30</b>	37	45	AC 24	B	<b>3RA13 44-8XB30-1AC2</b>	1	1 unit	101	4.500
					AC 110	B	<b>3RA13 44-8XB30-1AG2</b>	1	1 unit	101	4.500
					AC 230	B	<b>3RA13 44-8XB30-1AL2</b>	1	1 unit	101	4.500
80	22	<b>37</b>	45	55	AC 24	B	<b>3RA13 45-8XB30-1AC2</b>	1	1 unit	101	4.500
					AC 110	B	<b>3RA13 45-8XB30-1AG2</b>	1	1 unit	101	4.500
					AC 230	B	<b>3RA13 45-8XB30-1AL2</b>	1	1 unit	101	4.500
95	22	<b>45</b>	55	55	AC 24	B	<b>3RA13 46-8XB30-1AC2</b>	1	1 unit	101	4.500
					AC 110	B	<b>3RA13 46-8XB30-1AG2</b>	1	1 unit	101	4.500
					AC 230	B	<b>3RA13 46-8XB30-1AL2</b>	1	1 unit	101	4.500
<b>DC operation</b>											
65	18.5	<b>30</b>	37	45	DC 24	B	<b>3RA13 44-8XB30-1BB4</b>	1	1 unit	101	6.500
80	22	<b>37</b>	45	55	DC 24	B	<b>3RA13 45-8XB30-1BB4</b>	1	1 unit	101	6.500
95	22	<b>45</b>	55	55	DC 24	B	<b>3RA13 46-8XB30-1BB4</b>	1	1 unit	101	6.500

3RA13 4...8XB30-1...

<sup>1)</sup> Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ ; at 60 Hz: 0.85 ... 1.1 x  $U_s$ .



Accessories	Order No.	Page	Individual parts	Order No. K1	Order No. K2	Page
12	3RA19 24-1A	3/37	1 2	3RT10 44	3RT10 44	3/18
14	3RH19 21-1CA...	3/103	1 2	3RT10 45	3RT10 45	3/18
15	3RH19 21-1EA...	3/104	1 2	3RT10 46	3RT10 46	3/18
16	3RT19 26-1... 3RT19 36-1...	3/108	4	3RA19 24-2B		3/37
			5 6	3RA19 43-2A		3/38

The assembly kit contains:

- 5 2 connecting clips for 2 contactors with 10 mm distance
- 6 Wiring modules on the top and bottom for connecting the main current paths





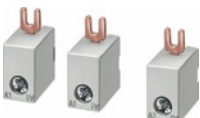
\* You can order this quantity or a multiple thereof.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA13 Reversing Contactor Assemblies

### Components for customer assembly

#### Selection and ordering data

For contactors	Size	Version	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type								kg
<b>Mechanical interlocks</b>								
 <p>3RA19 24-1A mounted onto 2 contactors</p>	3RT10 2	<b>S0</b>	<b>For lateral mounting<sup>1)</sup></b> ▶ Each with one auxiliary contact (1 NC contact) per contactor (can only be used to connect contactors which are not more than 1 size larger or smaller. The mounting depth of the smaller contactor has to be adapted.)	▶	▶	▶	▶	▶
	3RT10 3	<b>S2</b>						
	3RT10 4	<b>S3</b>						
	3RT13 2							
	3RT13 3							
	3RT13 4							
	3RT14 4							
3RT15 2								
3RT15 3								
 <p>3RA19 54-2A</p>	3RT10 2	<b>S0</b>	<b>For mounting to the front<sup>2)</sup></b> ▶ Onto contactors with sizes S0 to S3 (for contactors of the same size)  <i>Note:</i> <i>Size S0:</i> <i>Wiring modules must be mounted first.</i> <i>Sizes S2 and S3:</i> <i>Use 3RA19 32-2C mechanical connectors.</i>	▶	▶	▶	▶	▶
	3RT10 3	<b>S2</b>						
	3RT10 4	<b>S3</b>						
	3RT13 2	<b>S0</b>						
	3RT15 2	<b>S0</b>						
 <p>3RA19 54-2A</p>	3RT1 . 5	<b>S6</b>	<b>For lateral mounting,</b> ▶ without auxiliary contacts; size S6, S10 and S12 contactors can be interlocked with each other as required; no adaptation of mounting depth is necessary. Contactor clearance 10 mm.	▶	▶	▶	▶	▶
	to	<b>S10</b>						
	3RT1 . 7	<b>S12</b>						
 <p>3RA19 54-2C</p>	3RT10 4.-A	<b>S3</b>	<b>Adapters, laterally mountable;</b> for mechanical interlocking of contactor S3 (only for AC operation) with contactor S6 using 3RA19 54-2A locking device (must be ordered separately) incl. connecting clips	▶	▶	▶	▶	▶
	with	<b>S6</b>						
3RT10 5	<b>S6</b>							
<b>Coil repeat terminals</b>								
 <p>3RA19 23-3B</p>	3RT10 3	<b>S2, S3</b>	For the coil terminals A1 and A2 for reversing starters (contactor sizes S2 and S3). 2 x A1 and 1 x A2 required per assembly (one set contains 10 x A1 and 5 x A2)	▶	▶	▶	▶	▶
	3RT10 4							
<b>Base plates</b>								
	3RT10 5	<b>S6</b>	For customer assembly of reversing contactor assemblies	▶	▶	▶	▶	▶
	3RT1 . 6	<b>S10</b>						▶
	3RT1 . 7	<b>S12</b>						▶


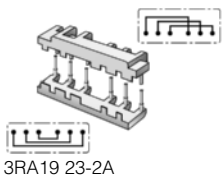
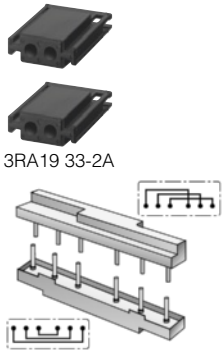
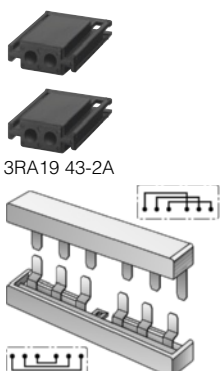
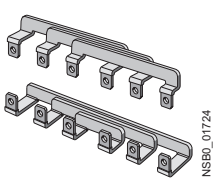
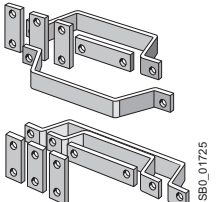
<sup>1)</sup> Can also be used for 4-pole contactors with sizes S2 and S3.

<sup>2)</sup> Can also be used for size S0 4-pole contactors.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA13 Reversing Contactor Assemblies

### Components for customer assembly

For contactors	Size	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
Type										
<b>Assembly kits for making 3-pole contactor assemblies</b>										
 3RA19 13-2A	3RT10 1	<b>S00</b>	The assembly kit contains: mechanical interlock; 2 connecting clips for 2 contactors; wiring modules on the top and bottom	▶	<b>3RA19 13-2A</b>		1	1 unit	101	0.040
	 3RA19 23-2A	3RT10 2	<b>S0</b>	The assembly kit contains: wiring modules on the top and bottom	▶	<b>3RA19 23-2A</b>		1	1 unit	101
 3RA19 33-2A		3RT10 3	<b>S2</b>	The assembly kit contains: 2 connecting clips for 2 contactors; wiring modules on the top and bottom	▶	<b>3RA19 33-2A</b>		1	1 unit	101
	 3RA19 43-2A	3RT10 4	<b>S3</b>	The assembly kit contains: 2 connecting clips for 2 contactors; wiring modules on the top and bottom	▶	<b>3RA19 43-2A</b>		1	1 unit	101
 3RA19 53-2A		3RT10 5	<b>S6</b>	The assembly kit contains: Wiring modules on the top and bottom (for connection with box terminal)	A	<b>3RA19 53-2A</b>		1	1 unit	101
	 3RA19 63-2A 3RA19 73-2A	3RT10 5	<b>S6</b>	The assembly kit contains: Wiring modules on the top and bottom (for connection without box terminal)	A	<b>3RA19 53-2M</b>		1	1 unit	101
3RT1. 6		<b>S10</b>	A		<b>3RA19 63-2A</b>		1	1 unit	101	2.400
3RT1. 7		<b>S12</b>	A		<b>3RA19 73-2A</b>		1	1 unit	101	3.000

\* You can order this quantity or a multiple thereof.

# 3RA13, 3RA14 Contactor Assemblies

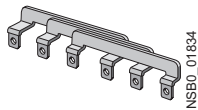
## 3RA13 Reversing Contactor Assemblies

### Components for customer assembly

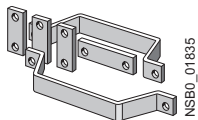
For contactors	Size	Contact- tor clear- ance	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type		mm								kg

#### Wiring modules, single

3RT10 1	<b>S00-S00</b>	0	Top (in-phase)	▶	<b>3RA19 13-3D</b>		1	5 units	101	0.015
			Bottom (with phase reversal)	▶	<b>3RA19 13-3E</b>		1	5 units	101	0.015
3RT10 2	<b>S0-S0 and S0-S0</b>	0 and 10	Top (in-phase)	▶	<b>3RA19 23-3D</b>		1	5 units	101	0.020
			Bottom (with phase reversal)	▶	<b>3RA19 23-3E</b>		1	5 units	101	0.020
3RT10 3	<b>S2-S2</b>	10	Top (in-phase)	▶	<b>3RA19 33-3D</b>		1	1 unit	101	0.065
			Bottom (with phase reversal)	▶	<b>3RA19 33-3E</b>		1	1 unit	101	0.065
3RT10 4	<b>S3-S3</b>	10	Top (in-phase)	▶	<b>3RA19 43-3D</b>		1	1 unit	101	0.160
			Bottom (with phase reversal)	▶	<b>3RA19 43-3E</b>		1	1 unit	101	0.160
3RT10 5	<b>S6-S6</b>	10	Top (in-phase, for connection with box terminal)	A	<b>3RA19 53-3D</b>		1	1 unit	101	0.620
			Top (with phase reversal, for connection without box terminal)	A	<b>3RA19 53-3P</b>		1	1 unit	101	0.440



3RA19 53-3D



3RA19 53-3P

For contactors	Size	Contact- tor clear- ance	Inter- locking	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type		mm									kg

#### Mechanical connectors

3RT1. 1 <sup>1)</sup>	<b>S00-S00</b>	0	Lateral	For 3- and 4-pole contactors	▶	<b>3RA19 12-2H</b>		1	10 units	101	0.010
3RT1. 2	<b>S0-S0</b>	0 10 <sup>2)</sup>	On front	For 3- and 4-pole contactors	A	<b>3RA19 22-2C</b>		1	10 units	101	0.025
			Lateral		▶	<b>3RT19 22-2D</b>		100	20 units	101	11.000
3RT1. 3	<b>S2-S2</b>	0	On front	For 3-pole contactors	▶	<b>3RA19 32-2C</b>		1	10 units	101	0.010
3RT1. 4	<b>S3-S3</b>	10	Lateral	For 3-pole contactors	▶	<b>3RA19 32-2D</b>		1	10 units	101	0.010
3RT1. 5	<b>S6-S6</b>										
3RT1. 3	<b>S2-S2</b>										
3RT1. 3	<b>S2-S2</b>	10	Lateral	For 4-pole contactors	A	<b>3RA19 32-2G</b>		1	10 units	101	0.010
3RT1. 4	<b>S3-S3</b>	10	Lateral	For 4-pole contactors	B	<b>3RA19 42-2G</b>		1	10 units	101	0.010



3RA19 12-2H



3RA19 22-2C



3RA19 32-2C



3RA19 32-2D



3RA19 32-2G



3RA19 42-2G

<sup>1)</sup> This pack contains 10 additional interlocks.

<sup>2)</sup> The connector function can be fulfilled with the wiring modules for size S0, a contactor clearance of 10 mm and a lateral interlock.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

### 3RA14 complete units, 3 ... 75 kW

#### Overview

These 3RA14 contactor assemblies for wye-delta starting are designed for standard applications.

#### Note:

Contactor assemblies for wye-delta starting in special applications such as very heavy starting<sup>1)</sup> or wye-delta starting of special motors must be customized. Help with designing such special applications is available from Technical Assistance.

The 3RA14 contactor assemblies for wye-delta starting can be ordered as follows:

- **Sizes S00 to S3:**  
Fully wired and tested, with electrical interlock, dead interval of up to 10 s on reversing (size S00 with electrical and mechanical interlocks).
- **Sizes S00 to S12:**  
As individual parts for customer assembly.

A dead interval of 50 ms on reversing is already integrated in the time relay function.

There is also a range of accessories (auxiliary switch blocks, surge suppressors, etc.) that must be ordered separately.

For overload relays for motor protection see "Protection Equipment" → "Overload Relays" → "3RB2 Solid-State Overload Relays".

The 3RA14 contactor assemblies have screw terminals and are suitable for screw and snap-on mounting onto 35 mm standard mounting rails.

Fully wired and tested 3RA14 contactor assemblies have one unassigned NO contact which is mounted onto the front of the K3 delta contactor.

A solid-state time-delay auxiliary switch block is snapped onto the front of the complete contactor assemblies, size S00 up to 7.5 kW, while a timing relay is mounted onto the side of sizes S0 to S3, 11 kW to 75 kW.

Rated data at AC 50 Hz 400 V			Size			Accessories for customer assembly		
Rating kW	Operational current $I_e$ A	Motor current A		Line/delta contactor	Star contactor	Order No. complete	Timing relays	Assembly kit A, for double infeed
5.5	12	9.5 ... 13.8	<b>S00-S00-S00</b>	3RT10 15	3RT10 15	<b>3RA14 15-8XB31-1...</b>	3RT19 16-2G.51	--
7.5	17	12.1 ... 17		3RT10 17		<b>3RA14 16-8XB31-1...</b>	3RP15 74-1N.30	
11	25	19 ... 25	<b>S0-S0-S0</b>	3RT10 24	3RT10 24	<b>3RA14 23-8XC21-1...</b>	3RP15 74-1N.30	--
15	32	24.1 ... 34		3RT10 26		<b>3RA14 25-8XC21-1...</b>		
18.5	40	34.5 ... 40						
22	50	31 ... 43	<b>S2-S2-S0</b>	3RT10 34	3RT10 26	<b>3RA14 34-8XC21-1...</b>	3RP15 74-1N.30	3RA19 33-2C <sup>3)</sup>
30	50	48.3 ... 65		3RT10 34		--		
37	80	62.1 ... 77.8	<b>S2-S2-S2</b>		3RT10 34	<b>3RA14 35-8XC21-1...</b>		3RA19 33-2B <sup>3)</sup>
45	86	69 ... 86		3RT10 36		<b>3RA14 36-8XC21-1...</b>		
55	115	77.6 ... 108.6	<b>S3-S3-S2</b>	3RT10 44	3RT10 35	<b>3RA14 44-8XC21-1...</b>	3RP15 74-1N.30	3RA19 43-2C <sup>3)</sup>
75	150	120.7 ... 150		3RT10 45	3RT10 36	<b>3RA14 45-8XC21-1...</b>		
90	160	86 ... 160	<b>S6-S6-S3</b>	3RT10 54	3RT10 44	--	3RP15 74-1N.30	--
110	195	86 ... 195						
132	230	86 ... 230		3RT10 55	3RT10 45			
160	280	86 ... 280		3RT10 56	3RT10 46			
200	350	95 ... 350	<b>S10-S10-S6</b>	3RT10 64	3RT10 54	--	3RP15 74-1N.30	--
250	430	95 ... 430		3RT10 65	3RT10 55			
315	540	277 ... 540	<b>S12-S12-S10</b>	3RT10 75	3RT10 64	--	3RP15 74-1N.30	--
355	610	277 ... 610						
400	690	277 ... 690			3RT10 65			
500	850	277 ... 850		3RT10 76	3RT10 66			

<sup>1)</sup> For effective support from Technical Assistance you must provide the following details:

- Rated motor voltage
- Rated motor current
- Service factor, operating values
- Motor starting current factor
- Starting time
- Ambient temperature

#### Footnotes for page 3/41:

- <sup>1)</sup> Assembly kit contains mechanical interlock, 3 connecting clips; wiring modules on the top (connection between line and delta contactor) and on the bottom (connection between delta and star contactor); star jumper.
- <sup>2)</sup> Assembly kit contains 5 connecting clips; wiring modules on the top (connection between line and delta contactor) and on the bottom (connection between delta and star contactor); star jumper.
- <sup>3)</sup> Assembly kit contains wiring module on the bottom (connection between delta and star contactor) and star jumper.
- <sup>4)</sup> Wiring module on top from reversing contactor assembly (note conductor cross-sections).



# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

3RA14 complete units, 3 ... 75 kW

### Components for customer assembly

Assembly kits with wiring modules and, if necessary, mechanical connectors are available for contactor assemblies for wye-delta starting. Contactors, overload relays, wye-delta timing relays, auxiliary switches for electrical interlock – if required also feeder terminals, mechanical interlocks (exception: In the case of the assembly kit for size S00 contactor assemblies the mechanical interlock between the delta contactor and the star contactor is included in the kit) and base plates – must be ordered separately.

The wiring kits for sizes S00 and S0 contain the top and bottom main conducting path connections between the line and delta contactors (top) and between the delta and star contactors (bottom).

In the case of sizes S2 to S12 only the bottom main conducting path connection between the delta and star contactors is included in the wiring module, owing to the larger conductor cross-section at the infeed.

### Motor protection

Overload relays or thermistor motor protection tripping units can be used for overload protection.

The overload relay can be either mounted onto the line contactor or separately fitted. It must be set to 0.58 times the rated motor current.

### Note:

The selection of contactor types refers to fused configurations (see note on Technical Information on page 3/1).

	Assembly kit B, for single infeed	Star jumper	Base plates	Overload relay, thermal (trip class CLASS 10)		Overload relay, solid-state (CLASS 10 trip class)	
				Setting range	Order No.	Setting range	Order No.
				A		A	
	3RA19 13-2B <sup>1)</sup>	3RT19 16-4BA31	--	5.5 ... 8	3RU11 16-1HB0	3 ... 12	3RB20 16-1SB0
				7 ... 10	3RU11 16-1JB0		
	3RA19 23-2B <sup>2)</sup>	3RT19 26-4BA31	--	11 ... 16	3RU11 26-4AB0	6 ... 25	3RB20 26-1QB0
				14 ... 20	3RU11 26-4BB0		
				20 ... 25	3RU11 26-4DB0		
	3RV19 35-1A	3RT19 26-4BA31	3RA19 32-2E	18 ... 25	3RU11 36-4DB0	12.5 ... 50	3RB20 36-1UB0
				28 ... 40	3RU11 36-4FB0		
		3RT19 36-4BA31	3RA19 32-2F	36 ... 45	3RU11 36-4GB0		
				40 ... 50	3RU11 36-4HB0		
	--	3RT19 36-4BA31	3RA19 42-2E	45 ... 63	3RU11 46-4JB0	25 ... 100	3RB20 46-1EB0
				70 ... 90	3RU11 46-4LB0		
	3RA19 53-3D <sup>4)</sup>	3RT19 46-4BA31	3RA19 52-2E	--	--	50 ... 200	3RB20 56-1FC2
	--	3RT19 56-4BA31	3RA19 62-2E	--	--	55 ... 250	3RB20 66-1GC2
	--	3RT19 66-4BA31	3RA19 72-2E	--	--	160 ... 630	3RB20 66-1MC2

# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

### 3RA14 complete units, 3 ... 75 kW

#### Selection and ordering data

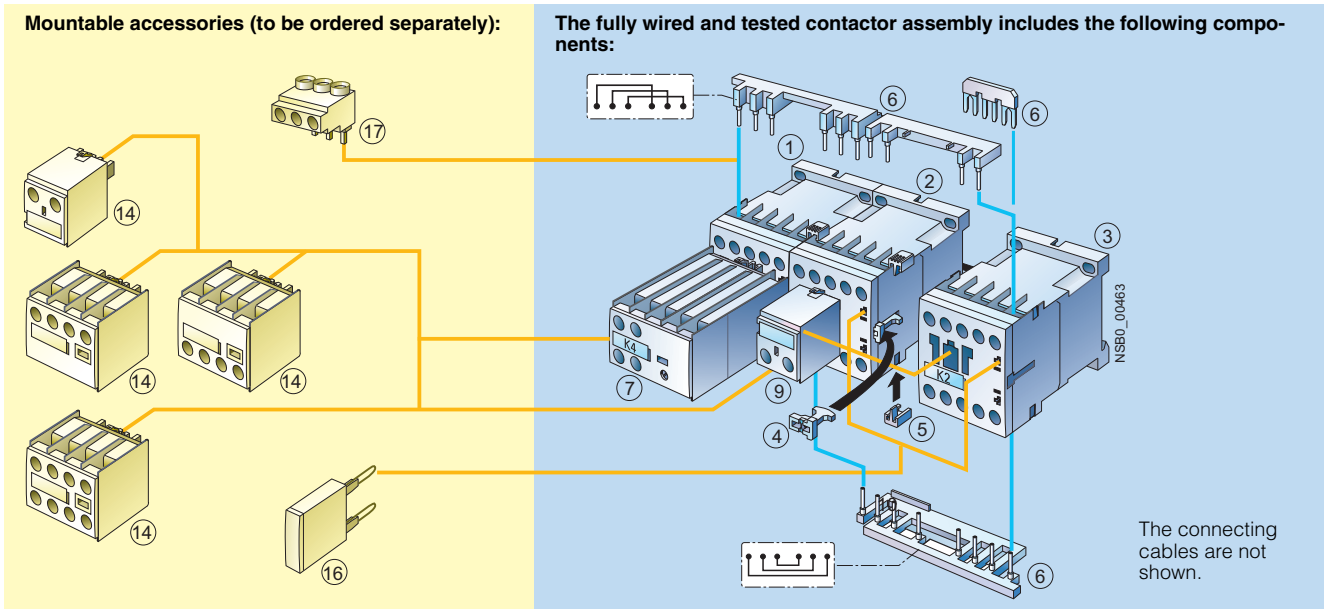
Fully wired and tested contactor assemblies · Size S00-S00-S00 · up to 7.5 kW



3RA14 1.-8XB31-1...

Rated data AC-3		Rated control supply voltage $U_s$ <sup>1)</sup>		DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.		
Operational current $I_e$ up to	Ratings of induction motors at 50 Hz and				Order No.	Price per PU			kg		
400 V	230 V	400 V	500 V	690 V							
A	kW	kW	kW	kW							
<b>AC operation, 50/60 Hz</b>											
12	3.3	5.5	7.2	9.2	AC 24	C	3RA14 15-8XB31-1AB0	1	1 unit	101	0.950
					AC 110	C	3RA14 15-8XB31-1AF0	1	1 unit	101	0.950
					AC 230	▶	3RA14 15-8XB31-1AP0	1	1 unit	101	0.950
17	4.7	7.5	10.3	9.2	AC 24	B	3RA14 16-8XB31-1AB0	1	1 unit	101	0.990
					AC 110	B	3RA14 16-8XB31-1AF0	1	1 unit	101	0.990
					AC 230	▶	3RA14 16-8XB31-1AP0	1	1 unit	101	0.990
<b>DC operation</b>											
12	3.3	5.5	7.2	9.2	DC 24	B	3RA14 15-8XB31-1BB4	1	1 unit	101	1.120
17	4.7	7.5	10.3	9.2	DC 24	▶	3RA14 16-8XB31-1BB4	1	1 unit	101	1.120

<sup>1)</sup> Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ ; at 60 Hz: 0.85 ... 1.1 x  $U_s$ .



Accessories	Order No.	Page	Individual parts	Order No.			Page
				K1 <sup>1)</sup>	K3 <sup>2)</sup>	K2 <sup>2)</sup>	
14 Auxiliary switch block, front	3RH19 11-1...	3/102	1 2 3 Contactor, 5.5 kW	3RT10 15	3RT10 15	3RT10 15	3/15
16 Surge suppressors	3RT19 16-1...	3/108, 3/109	1 2 3 Contactor, 7.5 kW	3RT10 17	3RT10 17	3RT10 15	3/15
17 Three-phase feeder terminals	3RA19 13-3K	3/47	7 Solid-state time-delay auxiliary switch block, front	3RT19 16-2G.51			3/106
			9 Auxiliary switch block with 1 unassigned NO contact	3RH19 11-1BA10			3/102
			4 5 6 Assembly kit	3RA19 13-2B			3/47
The assembly kit contains:							
4 Mechanical interlock							
5 3 connecting clips							
6 Wiring modules on the top and bottom for connecting the main and control conducting paths							

<sup>1)</sup> Use version with 1 NO.

<sup>2)</sup> Use version with 1 NC.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

3RA14 complete units, 3 ... 75 kW

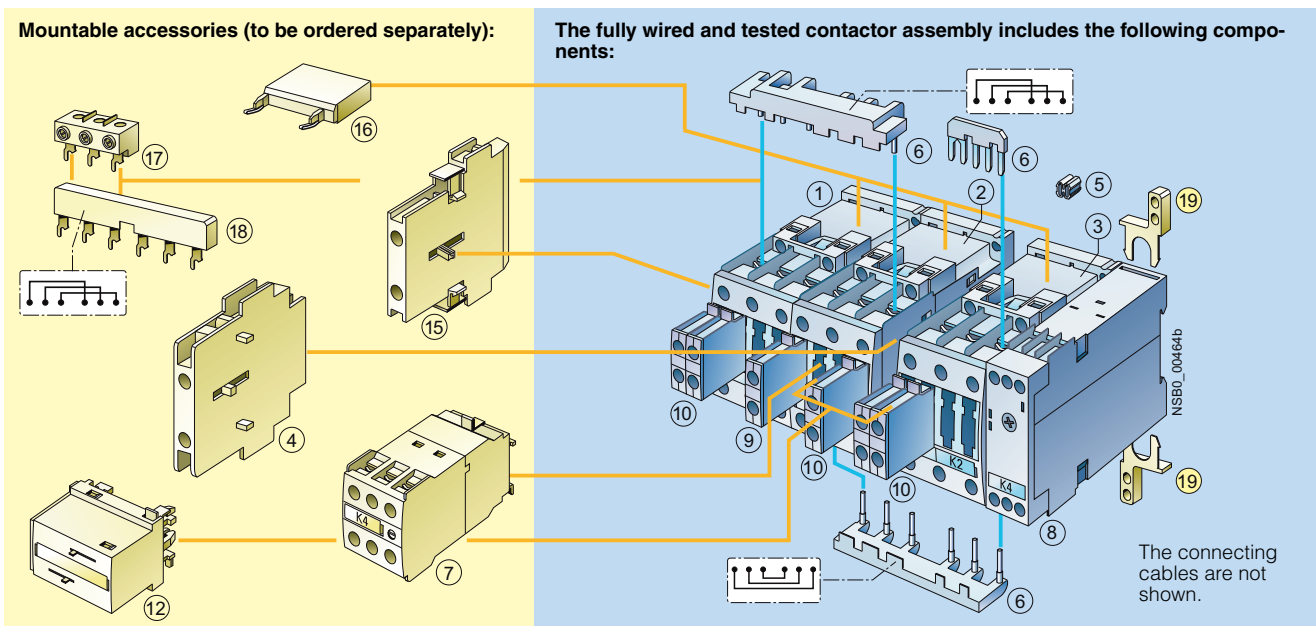
Fully wired and tested contactor assemblies · Size S0-S0-S0 · up to 18.5 kW



3RA14 2.-8XC21-1...

Rated data AC-3		Ratings of induction motors at 50 Hz and up to				Rated control supply voltage $U_s$ <sup>1)</sup>		DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.			
Operational current $I_e$ up to	400 V	230 V	400 V	500 V	690 V	A	kW	kW	kW	kW	V	Order No.	Price per PU			kg
<b>AC operation, 50/60 Hz</b>																
25	7.1	11	15.6	19	AC 24	C	<b>3RA14 23-8XC21-1AC2</b>		1	1 unit	101	1.800				
					AC 110	C	<b>3RA14 23-8XC21-1AG2</b>		1	1 unit	101	1.800				
					AC 230	▶	<b>3RA14 23-8XC21-1AL2</b>		1	1 unit	101	1.800				
32 / 40	11.4	15 / 18.5	19	19	AC 24	C	<b>3RA14 25-8XC21-1AC2</b>		1	1 unit	101	1.800				
					AC 110	C	<b>3RA14 25-8XC21-1AG2</b>		1	1 unit	101	1.800				
					AC 230	▶	<b>3RA14 25-8XC21-1AL2</b>		1	1 unit	101	1.800				
<b>DC operation</b>																
25	7.1	11	15.6	19	DC 24	▶	<b>3RA14 23-8XC21-1BB4</b>		1	1 unit	101	2.450				
32 / 40	11.4	15 / 18.5	19	19	DC 24	▶	<b>3RA14 25-8XC21-1BB4</b>		1	1 unit	101	2.450				

<sup>1)</sup> Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ ; at 60 Hz: 0.85 ... 1.1 x  $U_s$ .



Accessories	Order No.	Page	Individual parts	Order No.			Page
				K1	K3	K2	
4) Mechanical interlock, lateral	3RA19 24-2B	3/37	1 2 3	3RT10 24	3RT10 24	3RT10 24	3/16
7) Solid-state time-delay auxiliary switch block, front <sup>1)</sup>	3RT19 26-2G...	3/106	1 2 3	3RT10 26	3RT10 26	3RT10 24	3/16
12) Mechanical interlock, front	3RA19 24-1A	3/37	8	3RP15 74-1N.30			4)
15) Auxiliary switch block, lateral	3RH19 21-1EA...	3/104	9	3RH19 21-1CA10			3/103
16) Surge suppressor	3RT19 26-1...	3/108	10	3RH19 21-1CA01			
17) Three-phase feeder terminal <sup>2)</sup>	3RV19 15-5A	3/47	10	3RH19 21-1CA10			3/103
18) Three-phase busbar <sup>2)</sup>	3RT19 26-4CC20	3/47	5 6	3RA19 23-2B			3/47
19) Push-in lug <sup>3)</sup> for timing relay screw fixing	3RP19 03	4)					

The assembly kit contains:

- 5) Connecting clips
- 6) Wiring modules on the top and bottom for connecting the main and control conducting paths

<sup>1)</sup> Generally possible. If a solid-state time-delay auxiliary switch block is mounted onto the front of K3, a standard auxiliary switch block can only be mounted onto the side.

<sup>2)</sup> 17) and 18) can only be mounted with contactors with screw terminal (coil).

<sup>3)</sup> Not included in the scope of supply of the preassembled contactor assemblies; can be ordered as an accessory.

<sup>4)</sup> See "Monitoring and Control Devices: 3RP, 7PV Timing Relays" → "3RP15 Timing Relays in Industrial Enclosure, 22.5 mm".

# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

**3RA14 complete units, 3 ... 75 kW**

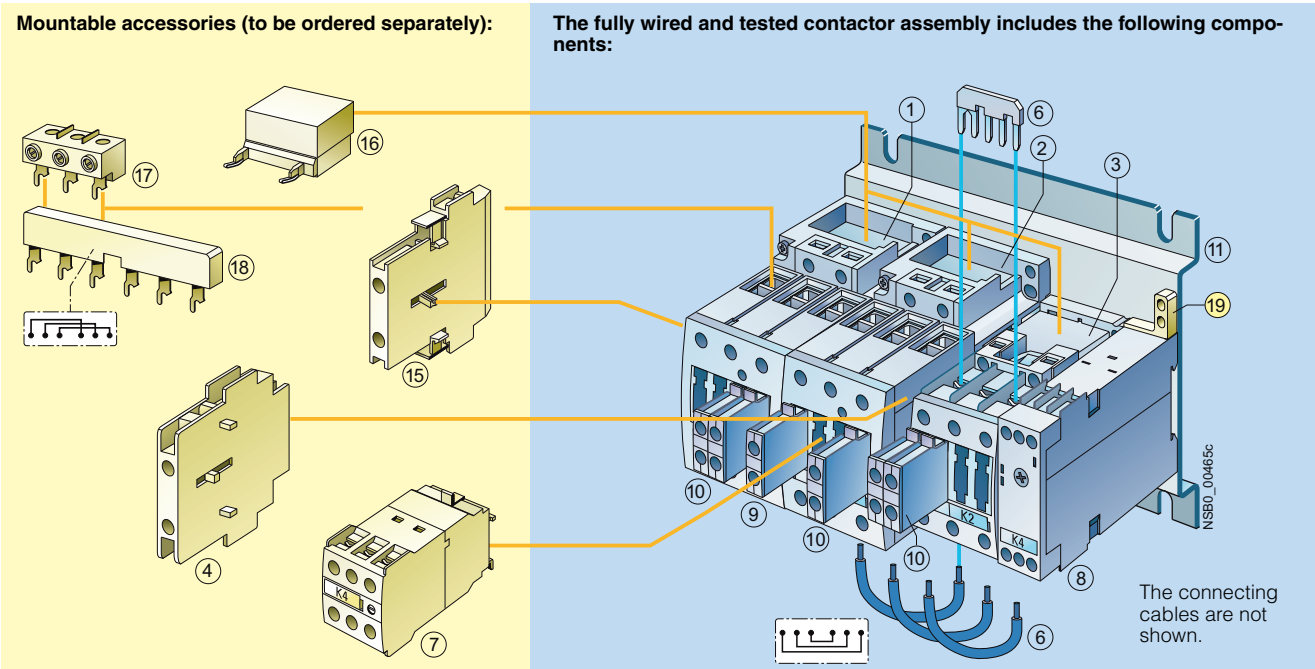
Fully wired and tested contactor assemblies · Size S2-S2-S0 · up to 30 kW



3RA14 34-8XC21-1...

1) Coil operating range at 50 Hz: 0.8 ... 1.1 x U<sub>s</sub>; at 60 Hz: 0.85 ... 1.1 x U<sub>s</sub>.

Rated data AC-3		Rated control supply voltage U <sub>s</sub> <sup>1)</sup>			DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
Operational current I <sub>e</sub> up to	Ratings of induction motors at 50 Hz and	400 V	500 V	690 V		Order No.	Price per PU			kg	
A	kW	kW	kW	kW	V						
<b>AC operation, 50/60 Hz</b>											
50 / 65	19.6	22 / 30	35	34	AC 24	C	<b>3RA14 34-8XC21-1AC2</b>	1	1 unit	101	3.100
					AC 110	C	<b>3RA14 34-8XC21-1AG2</b>	1	1 unit	101	3.100
					AC 230	▶	<b>3RA14 34-8XC21-1AL2</b>	1	1 unit	101	3.100
<b>DC operation</b>											
50 / 65	19.6	22 / 30	35	34	DC 24	▶	<b>3RA14 34-8XC21-1BB4</b>	1	1 unit	101	4.500



Accessories	Order No.	Page	Individual parts	Order No.			Page
				K1	K3	K2	
4) Mechanical interlock, lateral Depth compensation required K3: 1.5 mm; K2: 0 mm <sup>1)</sup>	3RA19 24-2B	3/37	1) 2) 3) Contactors, 22/30 kW	3RT10 34	3RT10 34	3RT10 26	3/16
7) Solid-state time-delay auxiliary switch block, front <sup>2)</sup>	3RT19 26-2G...	3/106	8) Timing relay, lateral	3RP15 74-1N.30			4)
15) Auxiliary switch block, lateral	3RH19 21-1EA...	3/104	9) Auxiliary switch block with 1 unassigned NO contact	3RH19 21-1CA10			3/103
16) Surge suppressors	3RT19 26-1.... 3RT19 36-1....	3/108, 3/109	10) Auxiliary switch block for local control	- 2 units 3RH19 21-1CA01 - 3 units 3RH19 21-1CA10			3/103
17) Three-phase feeder terminals	3RV19 35-5A	3/47	11) Base plate	3RA19 32-2E			3/47
18) Three-phase busbars	3RV19 35-1A	3/47	6) Assembly kit	3RA19 33-2C			3/47
19) Push-in lug <sup>3)</sup> for timing relay screw fixing	3RP19 03	4)	The assembly kit contains the star jumper on the top and the wiring module on the bottom for connecting the main current paths.				

1) Use the 3RA19 32-2B base plate for this configuration.  
 2) Generally possible. If a solid-state time-delay auxiliary switch block is mounted onto the front of K3, a standard auxiliary switch block can only be mounted onto the side.  
 3) Not included in the scope of supply of the preassembled contactor assemblies; can be ordered as an accessory.  
 4) See "Monitoring and Control Devices: 3RP, 7PV Timing Relays" → "3RP15 Timing Relays in Industrial Enclosure, 22.5 mm".

\* You can order this quantity or a multiple thereof.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

3RA14 complete units, 3 ... 75 kW

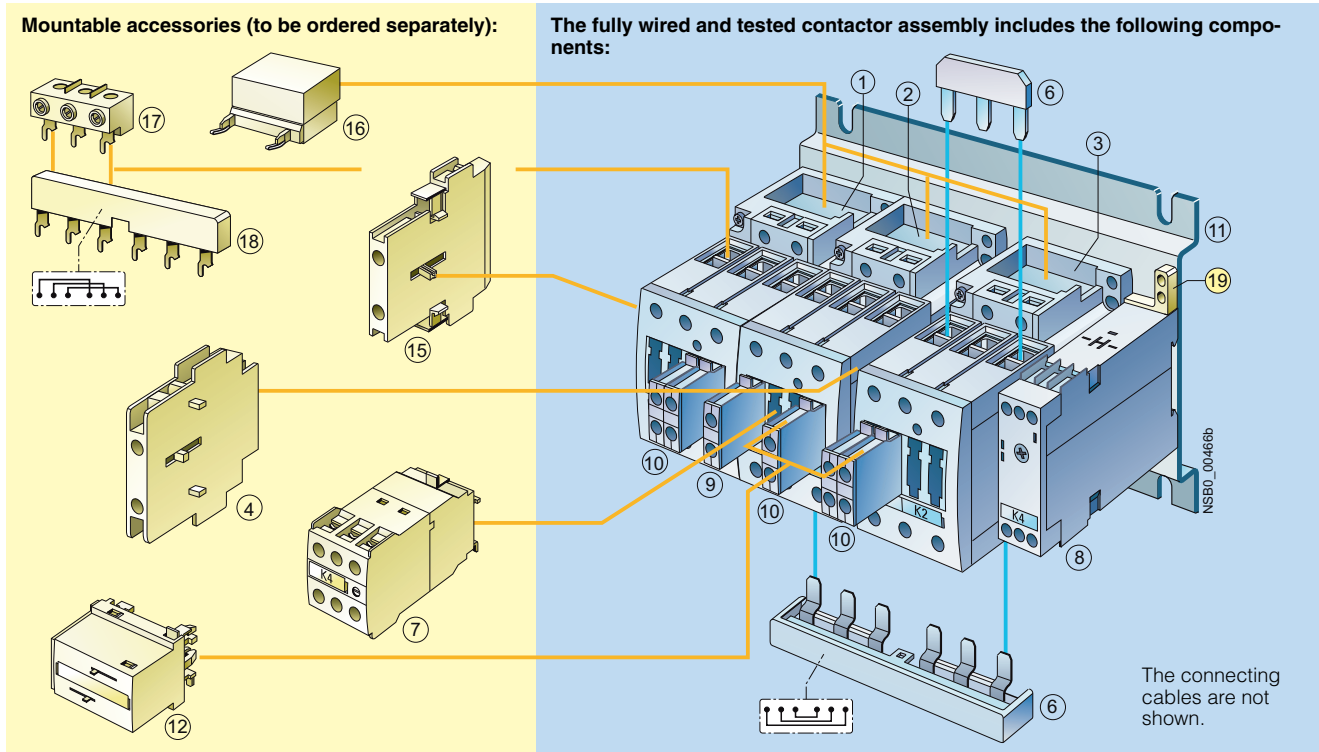
Fully wired and tested contactor assemblies · Size S2-S2-S2 · up to 45 kW



3RA14 3.-8XC21-1...

Rated data AC-3		Rated control supply voltage $U_s$ <sup>1)</sup>				DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
Operational current $I_e$ up to	Rated data AC-3	230 V	400 V	500 V	690 V		Order No.	Price per PU			kg	
A	kW	kW	kW	kW	V							
<b>AC operation, 50/60 Hz</b>												
80	25	<b>37</b>	51	63	AC 24	C	<b>3RA14 35-8XC21-1AC2</b>		1	1 unit	101	3.700
					AC 110	C	<b>3RA14 35-8XC21-1AG2</b>		1	1 unit	101	3.700
					AC 230	▶	<b>3RA14 35-8XC21-1AL2</b>		1	1 unit	101	3.700
86	27	<b>45</b>	55	63	AC 24	C	<b>3RA14 36-8XC21-1AC2</b>		1	1 unit	101	3.700
					AC 110	C	<b>3RA14 36-8XC21-1AG2</b>		1	1 unit	101	3.700
					AC 230	▶	<b>3RA14 36-8XC21-1AL2</b>		1	1 unit	101	3.700
<b>DC operation</b>												
80	25	<b>37</b>	51	63	DC 24	B	<b>3RA14 35-8XC21-1BB4</b>		1	1 unit	101	5.500
86	27	<b>45</b>	55	63	DC 24	B	<b>3RA14 36-8XC21-1BB4</b>		1	1 unit	101	5.500

<sup>1)</sup> Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ ; at 60 Hz: 0.85 ... 1.1 x  $U_s$ .



Accessories	Order No.	Page	Individual parts	Order No.			Page
				K1	K3	K2	
<b>4</b> Mechanical interlock, lateral	3RA19 24-2B	3/37	<b>1 2 3</b> Contactor, 37 kW	3RT10 35	3RT10 35	3RT10 34	3/17
<b>7</b> Solid-state time-delay auxiliary switch block, front <sup>1)</sup>	3RT19 26-2G...	3/106	<b>1 2 3</b> Contactor, 45 kW	3RT10 36	3RT10 36	3RT10 34	3/17
<b>12</b> Mechanical interlock, front	3RA19 24-1A	3/37	<b>8</b> Timing relay, lateral	3RP15 74-1N.30			3)
<b>15</b> Auxiliary switch block, lateral	3RH19 21-1EA...	3/104	<b>9</b> Auxiliary switch block with 1 unassigned NO contact	3RH19 21-1CA10			3/103
<b>16</b> Surge suppressor	3RT19 26-1... 3RT19 36-1...	3/108, 3/109	<b>10</b> Auxiliary switch block for local control	- 2 units: 3RH19 21-1CA01 - 3 units: 3RH19 21-1CA10			3/103
<b>17</b> Three-phase feeder terminal	3RV19 35-5A	3/47	<b>11</b> Base plate	3RA19 32-2F			3/47
<b>18</b> Three-phase busbars	3RV19 35-1A	3/47	<b>6</b> Assembly kit	3RA19 33-2B			3/47
<b>19</b> Push-in lug <sup>2)</sup> for timing relay screw fixing	3RP19 03	3)					

The assembly kit contains the star jumper on the top and the wiring module on the bottom for connecting the main current paths.

<sup>1)</sup> Generally possible. If a solid-state time-delay auxiliary switch block is mounted onto the front of K3, a standard auxiliary switch block can only be mounted onto the side.

<sup>2)</sup> Not included in the scope of supply of the preassembled contactor assemblies; can be ordered as an accessory.

<sup>3)</sup> See "Monitoring and Control Devices: 3RP, 7PV Timing Relays" → "3RP15 Timing Relays in Industrial Enclosure, 22.5 mm".

\* You can order this quantity or a multiple thereof.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

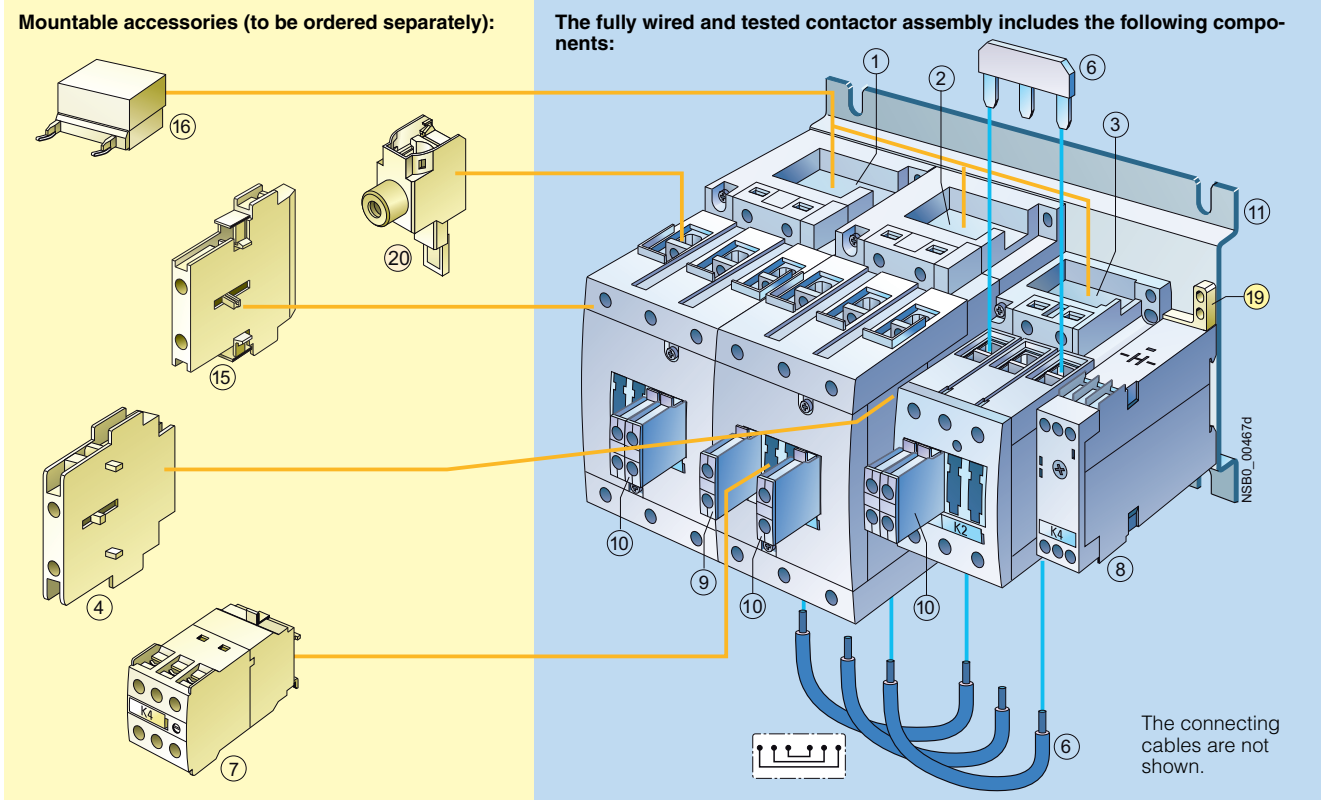
3RA14 complete units, 3 ... 75 kW

Fully wired and tested contactor assemblies · Size S3-S3-S2 · up to 75 kW

Rated data AC-3		Rated control supply voltage $U_s$ <sup>1)</sup>				DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Operational current $I_e$ up to	Ratings of induction motors at 50 Hz and				V	Screw terminals	Price per PU			kg	
	400 V	230 V	400 V	500 V							690 V
A	kW	kW	kW	kW							
<b>AC operation, 50/60 Hz</b>											
115	37	<b>55</b>	81	93	AC 24 AC 110 AC 230	B	<b>3RA14 44-8XC21-1AC2</b> <b>3RA14 44-8XC21-1AG2</b> ▶ <b>3RA14 44-8XC21-1AL2</b>	1 1 1	1 unit 1 unit 1 unit	101 101 101	6.000 6.000 6.000
150	47	<b>75</b>	103	110	AC 24 AC 110 AC 230	B	<b>3RA14 45-8XC21-1AC2</b> <b>3RA14 45-8XC21-1AG2</b> ▶ <b>3RA14 45-8XC21-1AL2</b>	1 1 1	1 unit 1 unit 1 unit	101 101 101	6.000 6.000 6.000
<b>DC operation</b>											
115	37	<b>55</b>	81	93	DC 24	B	<b>3RA14 44-8XC21-1BB4</b>	1	1 unit	101	8.600
150	47	<b>75</b>	103	110	DC 24	B	<b>3RA14 45-8XC21-1BB4</b>	1	1 unit	101	8.600

3RA14 4.-8XC21-1...

1) Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ ; at 60 Hz: 0.85 ... 1.1 x  $U_s$ .



Accessories	Order No.	Page	Individual parts	Order No.			Page
				K1	K3	K2	
4 Mechanical interlock, lateral Depth compensation required K3: 0 mm; K2: 27.5 mm <sup>1)</sup>	3RA19 24-2B	3/37	1 2 3	3RT10 44	3RT10 44	3RT10 35	3/17
			1 2 3	3RT10 45	3RT10 45	3RT10 36	3/17
7 Solid-state time-delay auxiliary switch block, front <sup>2)</sup>	3RT19 26-2G...	3/106	8	3RP15 74-1N.30			4)
15 Auxiliary switch block, lateral	3RH19 21-1EA...	3/104	9	3RH19 21-1CA10			3/103
16 Surge suppressor	3RT19.6-1...	3/108	10				
19 Push-in lug <sup>3)</sup> for timing relay screw fixing	3RP19 03	4)	11	3RH19 21-1CA01			3/103
20 Single-phase feeder terminals	3RA19 43-3L	3/47	11	3RA19 42-2E			3/47
			6	3RA19 43-2C			3/47

1) Use the 3RA19 42-2B base plate for this configuration.  
2) Generally possible. If a solid-state time-delay auxiliary switch block is mounted onto the front of K3, a standard auxiliary switch block can only be mounted onto the side.

3) Not included in the scope of supply of the preassembled contactor assemblies; can be ordered as an accessory.  
4) See "Monitoring and Control Devices: 3RP, 7PV Timing Relays" → "3RP15 Timing Relays in Industrial Enclosure, 22.5 mm".

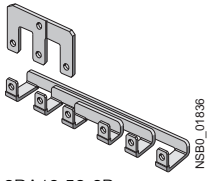
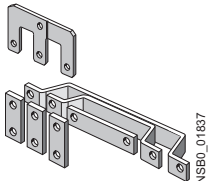
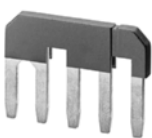
\* You can order this quantity or a multiple thereof.

# 3RA13, 3RA14 Contactor Assemblies

## 3RA14 Contactor Assemblies for Wye-Delta Starting

### Components for customer assembly

#### Selection and ordering data

Version	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
<b>Assembly kits</b>								
The assembly kit contains: mechanical interlock; 3 connecting clips star jumper, wiring modules on the top and bottom	<b>S00-S00-S00</b>	▶	<b>3RA19 13-2B</b>		1	1 unit	101	0.050
The assembly kit contains: 5 connecting clips star jumper, wiring modules on the top and bottom	<b>S0-S0-S0</b>	▶	<b>3RA19 23-2B</b>		1	1 unit	101	0.060
The assembly kit contains: star jumper, wiring module on the bottom	<b>S2-S2-S0</b>	▶	<b>3RA19 33-2C</b>		1	1 unit	101	0.060
	<b>S2-S2-S2</b>	▶	<b>3RA19 33-2B</b>		1	1 unit	101	0.070
	<b>S3-S3-S2</b>	▶	<b>3RA19 43-2C</b>		1	1 unit	101	0.140
	<b>S3-S3-S3</b>	▶	<b>3RA19 43-2B</b>		1	1 unit	101	0.160
(Wiring module on the top is not included in the scope of supply. A double infeed between the line contactor and the delta contactor is recommended.)	<b>S6-S6-S6</b>	A	<b>3RA19 53-2B</b>		1	1 unit	101	0.850
	<b>S6-S6-S6</b>	A	<b>3RA19 53-2N</b>		1	1 unit	101	0.600
	<b>S10-S10-S10</b>	A	<b>3RA19 63-2B</b>		1	1 unit	101	1.800
	<b>S12-S12-S12</b>	B	<b>3RA19 73-2B</b>		1	1 unit	101	2.200
 NSBU_01836 3RA19 53-2B								
 NSBU_01837 3RA19 53-2N, 3RA19 63-2B, 3RA19 73-2B								
<b>Single-phase feeder terminals</b>								
Conductor cross-section: 95 mm <sup>2</sup>	<b>S3</b>	A	<b>3RA19 43-3L</b>		1	1 unit	101	0.280
<b>Three-phase feeder terminal</b>								
Feeder terminal block for the line contactor for large conductor cross-sections								
Conductor cross-section: 6 mm <sup>2</sup>	<b>S00</b>	▶	<b>3RA19 13-3K</b>		1	1 unit	101	0.020
Conductor cross-section: 25 mm <sup>2</sup>	<b>S0</b>	▶	<b>3RV19 25-5AB</b>		1	1 unit	101	0.041
Conductor cross-section: 50 mm <sup>2</sup>	<b>S2</b>	▶	<b>3RV19 35-5A</b>		1	1 unit	101	0.110
<b>Three-phase busbars</b>								
Bridging phase-by-phase of all input terminals of								
the line contactor (K1) and the delta contactor (K3)	<b>S0</b>	D	<b>3RT19 26-4CC20</b>		1	1 unit	101	0.030
	<b>S2</b>	▶	<b>3RV19 35-1A</b>		1	1 unit	101	0.150
<b>Links for paralleling, 3-pole (star jumpers)</b>								
Without connection terminal (the links for paralleling can be reduced by one pole)	<b>S00</b>	▶	<b>3RT19 16-4BA31</b>		1	1 unit	101	0.010
	<b>S0</b>	▶	<b>3RT19 26-4BA31</b>		1	1 unit	101	0.010
	<b>S2</b>	▶	<b>3RT19 36-4BA31</b>		1	1 unit	101	0.020
	<b>S3</b>	▶	<b>3RT19 46-4BA31</b>		1	1 unit	101	0.030
	<b>S6<sup>1)</sup></b>	▶	<b>3RT19 56-4BA31</b>		1	1 unit	101	0.160
	<b>S10, S12<sup>1)</sup></b>	▶	<b>3RT19 66-4BA31</b>		1	1 unit	101	0.500
 3RT19 26-4BA31								
<b>Base plates</b>								
For customer assembly of contactor assemblies for wye-delta starting with a <b>laterally mounted</b> timing relay								
Side-by-side mounting	<b>S2, S2, S0</b>	B	<b>3RA19 32-2E</b>		1	1 unit	101	0.450
10 mm distance between K3 and K2	<b>S2, S2, S2</b>	B	<b>3RA19 32-2F</b>		1	1 unit	101	0.480
Side-by-side mounting	<b>S3, S3, S2</b>	B	<b>3RA19 42-2E</b>		1	1 unit	101	0.870
10 mm distance between K1, K3 and K2	<b>S6, S6, S3</b>	B	<b>3RA19 52-2E</b>		1	1 unit	101	1.800
	<b>S6, S6, S6</b>	B	<b>3RA19 52-2F</b>		1	1 unit	101	1.950
	<b>S10, S10, S6</b>	B	<b>3RA19 62-2E</b>		1	1 unit	101	3.180
	<b>S10, S10, S10</b>	B	<b>3RA19 62-2F</b>		1	1 unit	101	3.400
	<b>S12, S12, S10</b>	B	<b>3RA19 72-2E</b>		1	1 unit	101	3.600
	<b>S12, S12, S12</b>	B	<b>3RA19 72-2F</b>		1	1 unit	101	3.700
For customer assembly of contactor assemblies for wye-delta starting with a <b>front-mounted</b> timing relay, 10 mm distance between K1, K3 and K2	<b>S2, S2, S0</b>	B	<b>3RA19 32-2B</b>		1	1 unit	101	0.450
	<b>S2, S2, S2</b>	B	<b>3RA19 32-2B</b>		1	1 unit	101	0.450
	<b>S3, S3, S2</b>	B	<b>3RA19 42-2B</b>		1	1 unit	101	0.700

<sup>1)</sup> The 3RT19 56-4EA1 (S6) or 3RT19 66-4EA1 (S10, S12) cover can be used for touch protection.

\* You can order this quantity or a multiple thereof.

# 3TD, 3TE Contactor Assemblies

## 3TD6 reversing contactor assemblies, 335 kW

### Overview

The contactor assemblies are suitable for use in any climate and the contactors are mechanically interlocked. They are finger-safe according to EN 50274.

Complete units and components for customer assembly are available. For motor protection, either overload relays for stand-alone installation or thermistor motor protection releases must be ordered separately.

#### Complete units




3TD68 contactor assemblies each consist of two mechanically interlocked 3TF68 contactors. Electrical interlocking is wired. The main and control circuits are wired according to the schematics.

An internal circuit diagram, a type designation and an unit labeling plate are provided on a common cover.

#### Auxiliary contacts

The contactor assemblies each have 2 NO + 2 NC contacts per contactor. 1 NO + 1 NC contacts with momentary-contact operation and 2 NO + 1 NC contacts with continuous operation are unassigned.

### Selection and ordering data

Size	Rated data AC-3					Auxiliary contacts per direction of rotation		Rated control supply voltage $U_s$	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$ up to	Ratings of induction motors at 50 Hz and				Version								
	690 V	230 V	<b>400 V</b>	500 V	690 V			V AC		Order No.	Price per PU			kg
A		kW	<b>kW</b>	kW	kW	NO	NC							

#### Complete units

##### AC operation, 50/60 Hz

<b>14</b>	630	200	<b>335</b>	434	600	4	4	110 ... 132	C	<b>3TD68 04-2CF7</b>	1	1 unit	101	56.000
								200 ... 240	C	<b>3TD68 04-2CM7</b>	1	1 unit	101	56.000



# 3TD, 3TE Contactor Assemblies

3TE6 contactor assemblies for wye-delta starting,  
630 kW

## Overview

The contactor assemblies are suitable for use in any climate. They are finger-safe according to EN 50274.

3TE contactor assemblies are available as complete units and components for customer assembly.


The complete unit combinations are optionally supplied without a main conducting path connection between the line contactor and the delta contactor.

## Motor protection

3TE68 contactor assemblies are supplied without overload protection. Overload relays or thermistor motor protection releases must be ordered separately.

The overload relay can be either mounted onto the line contactor or separately fitted. It must be set to 0.58 times the rated motor current.

## Selection and ordering data

Size	Rated data AC-3				Rated control supply voltage $U_s$	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$ up to	Ratings of induction motors at 50 Hz and									
	690 V	230 V	<b>400 V</b>	500 V	690 V		Order No.	Price per PU			
A		kW	<b>kW</b>	kW	kW	V AC					kg

### Complete units, reversing time up to 10 s

#### AC operation, 50 Hz

#### Without main conducting path connection between line and delta contactor

<b>14</b>	1090	315	<b>630</b>	800	1000	110	C	<b>3TE68 04-5CF0</b>	1	1 unit	101	58.000
						230/220 <sup>1)</sup>	D	<b>3TE68 04-5CP0</b>	1	1 unit	101	58.000

For motor protection, overload relays for stand-alone installation must be ordered separately, see "Protection Equipment" → "Overload Relays" → "3RB2 Solid-State Overload Relays".

<sup>1)</sup> Operating range at 220 V:  
0.85 ... 1.15 x  $U_s$ ;  
lower operating range limit according to IEC 60947.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

### Overview

**AC and DC operation (size S3)**

**UC operation (AC/DC) (sizes S6 to S12)**

IEC 60947, EN 60947 (VDE 0660)

The contactors are suitable for use in any climate. They are finger-safe according to EN 50274.

3RT14 contactors are used for switching resistive loads (AC-1) or as contactors, for example for variable-speed operating mechanisms that normally only have to carry the current.

The accessories for the 3RT10 contactors can also be used here.

For more detailed descriptions about the sizes S3 to S12, see "3RT10 Contactors, 3-pole, 3 to 250 kW."

### Selection and ordering data

Size	Rated data AC-1, $T_u: 40\text{ °C}$	Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$ <b>Up to 690 V A</b>	Ratings of AC loads (p.f. = 0.95) at 230 V 400 V 500 V 690 V kW kW kW kW V		Order No.	Price per PU			kg

For screw and snap-on mounting onto TH 35 and TH 75 standard mounting rail



3RT14 46-1A..0

#### AC operation

S3	140	53	92	115	159	AC 24, 50 Hz	B	3RT14 46-1AB00	1	1 unit	101	1.850
						AC 110, 50 Hz <td>B <td>3RT14 46-1AF00</td> <td>1</td> <td>1 unit</td> <td>101</td> <td>1.850</td> </td>	B <td>3RT14 46-1AF00</td> <td>1</td> <td>1 unit</td> <td>101</td> <td>1.850</td>	3RT14 46-1AF00	1	1 unit	101	1.850
						AC 230, 50 Hz <td>▶ <td>3RT14 46-1AP00</td> <td>1</td> <td>1 unit</td> <td>101</td> <td>1.850</td> </td>	▶ <td>3RT14 46-1AP00</td> <td>1</td> <td>1 unit</td> <td>101</td> <td>1.850</td>	3RT14 46-1AP00	1	1 unit	101	1.850

#### DC operation · DC solenoid system


S3	140	53	92	115	159	DC 24	▶	3RT14 46-1BB40	1	1 unit	101	2.800
						DC 220	B	3RT14 46-1BM40	1	1 unit	101	2.800

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT14 Contactors for Switching Resistive Loads (AC-1)

3-pole, 140 ... 690 A

AC/DC operation (40 Hz to 60 Hz, DC)  
 Auxiliary and control conductors: screw terminals  
 Withdrawable coils  
 Integrated coil circuit (Varistor)  
 Main conductors: busbar connections

Size	Rated data AC-1, $T_U: 40^\circ\text{C}$				Auxiliary contacts		Rated control supply voltage $U_s$	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$	Ratings of AC loads (p.f. = 0.95) at				Version							
Up to <b>690 V</b> <b>A</b>	230 V	400 V	500 V	690 V	NO	NC	V	Order No.	Price per PU				kg
	kW	kW	kW	kW									

### Conventional operating mechanisms



<b>S6</b>	<b>275</b>	105	180	225	310	2	2	110 ... 127 220 ... 240	▶	<b>3RT14 56-6AF36</b> <b>3RT14 56-6AP36</b>	1 1	1 unit 1 unit	101 101	3.360 3.360
<b>S10</b>	<b>400</b>	151	263	329	454	2	2	110 ... 127 220 ... 240	▶	<b>3RT14 66-6AF36</b> <b>3RT14 66-6AP36</b>	1 1	1 unit 1 unit	101 101	6.600 6.600
<b>S12</b>	<b>690</b>	261	454	568	783	2	2	110 ... 127 220 ... 240	A ▶	<b>3RT14 76-6AF36</b> <b>3RT14 76-6AP36</b>	1 1	1 unit 1 unit	101 101	10.500 10.500

3RT14 6.

### Solid-state operating mechanisms - for 24 V DC PLC output

<b>S6</b>	<b>275</b>	105	180	225	310	2	2	96 ... 127 200 ... 277	B A	<b>3RT14 56-6NF36</b> <b>3RT14 56-6NP36</b>	1 1	1 unit 1 unit	101 101	3.400 3.400
<b>S10</b>	<b>400</b>	151	263	329	454	2	2	96 ... 127 200 ... 277	B A	<b>3RT14 66-6NF36</b> <b>3RT14 66-6NP36</b>	1 1	1 unit 1 unit	101 101	6.600 6.600
<b>S12</b>	<b>690</b>	261	454	568	783	2	2	96 ... 127 200 ... 277	B A	<b>3RT14 76-6NF36</b> <b>3RT14 76-6NP36</b>	1 1	1 unit 1 unit	101 101	10.500 10.500

### Solid-state operating mechanisms - for 24 V DC PLC output/PLC relay output, with remaining lifetime indicator (RLT)

<b>S6</b>	<b>275</b>	105	180	225	310	1	1	96 ... 127 200 ... 277	B B	<b>3RT14 56-6PF35</b> <b>3RT14 56-6PP35</b>	1 1	1 unit 1 unit	101 101	4.200 4.200
<b>S10</b>	<b>400</b>	151	263	329	454	1	1	200 ... 277	B	<b>3RT14 66-6PP35</b>	1	1 unit	101	5.700
<b>S12</b>	<b>690</b>	261	454	568	783	1	1	200 ... 277	B	<b>3RT14 76-6PP35</b>	1	1 unit	101	10.500

### Solid-state operating mechanisms - with AS-Interface and remaining lifetime indicator (RLT)

<b>S6</b>	<b>275</b>	105	180	225	310	1	1	96 ... 127 200 ... 277	B B	<b>3RT14 56-6QF35</b> <b>3RT14 56-6QP35</b>	1 1	1 unit 1 unit	101 101	3.100 3.100
<b>S10</b>	<b>400</b>	151	263	329	454	1	1	200 ... 277	B	<b>3RT14 66-6QP35</b>	1	1 unit	101	5.700
<b>S12</b>	<b>690</b>	261	454	568	783	1	1	200 ... 277	B	<b>3RT14 76-6QP35</b>	1	1 unit	101	10.500

For other voltages see page 3/26.  
 For accessories, see page 3/102.  
 For spare parts, see page 3/115.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT13 Contactors for Switching Resistive Loads (AC-1)

4-pole, 4 NO, 18 ... 140 A

### Overview

#### AC and DC operation

EN 60947-4-1 (VDE 0660 Part 102).

The contactors are suitable for use in any climate. They are finger-safe according to EN 50274.

The accessories for the 3-pole SIRIUS contactors can also be used for the 4-pole versions.

The contactors are also suitable for switching mixed loads in distribution systems (e. g. for supplying heaters, lamps, motors, PC power supply units) with p.f. > 0.8 according to IEC 60947-4-1, test conditions for utilization category AC-1.

### Selection and ordering data

#### AC operation, 4 NO contacts

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RT13 1.-1A.00



3RT13 2.-1A.00

Rated data AC-1, $T_U$ : 40/60 °C	Operational current $I_e$	Ratings of AC loads (p.f. = 0.95) at 50 Hz and <b>400 V</b>	Rated control supply voltage $U_s$	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
					Order No.	Price per PU			Order No.	Price per PU	
A	kW	V AC					kg			kg	

#### For screw and snap-on mounting onto TH 35 standard mounting rail

##### Size S00<sup>1)</sup>

18 / 16	12 / 11	24, 50/60 Hz	▶	3RT13 16-1AB00	0.200 B	3RT13 16-2AB00	0.200
		110, 50/60 Hz	▶	3RT13 16-1AF00	0.200 B	3RT13 16-2AF00	0.200
		230, 50/60 Hz	▶	3RT13 16-1AP00	0.200 B	3RT13 16-2AP00	0.200
22 / 20	14.5 / 13	24, 50/60 Hz	▶	3RT13 17-1AB00	0.200 B	3RT13 17-2AB00	0.200
		110, 50/60 Hz	▶	3RT13 17-1AF00	0.200 B	3RT13 17-2AF00	0.200
		230, 50/60 Hz	▶	3RT13 17-1AP00	0.200 B	3RT13 17-2AP00	0.200

##### Size S0

35 / 30 <sup>2)</sup>	22 / 20	24, 50 Hz	▶	3RT13 25-1AB00	0.400	--	--
		110, 50 Hz	▶	3RT13 25-1AF00	0.400	--	--
		230, 50 Hz	▶	3RT13 25-1AP00	0.400	--	--
40 / 35 <sup>2)</sup>	26 / 23	24, 50 Hz	▶	3RT13 26-1AB00	0.400	--	--
		110, 50 Hz	▶	3RT13 26-1AF00	0.400	--	--
		230, 50 Hz	▶	3RT13 26-1AP00	0.400	--	--

##### Size S2

60 / 55	39 / 36	24, 50 Hz	B	3RT13 36-1AB00	0.990	--	--
		110, 50 Hz	B	3RT13 36-1AF00	0.990	--	--
		230, 50 Hz	▶	3RT13 36-1AP00	0.990	--	--

##### Size S3

110 / 100	72 / 66	24, 50 Hz	B	3RT13 44-1AB00	2.200	--	--
		110, 50 Hz	B	3RT13 44-1AF00	2.200	--	--
		230, 50 Hz	▶	3RT13 44-1AP00	2.200	--	--
140 / 120	92 / 79	24, 50 Hz	B	3RT13 46-1AB00	2.200	--	--
		110, 50 Hz	B	3RT13 46-1AF00	2.200	--	--
		230, 50 Hz	▶	3RT13 46-1AP00	2.200	--	--

Size S00:

Snap-on auxiliary switch blocks according to EN 50005.

Sizes S0 to S3:

Snap-on auxiliary switch blocks according to EN 50012 and EN 50005 (for S0 max. 2 auxiliary contacts) (for more information see Accessories on page 3/97).

For other voltages see page 3/26.

For accessories, see page 3/102.

For spare parts, see page 3/115.

<sup>1)</sup> For size S00: Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$ , at 60 Hz: 0.85 ... 1.1 x  $U_s$ .

<sup>2)</sup> Minimum conductor cross-section 10 mm<sup>2</sup>.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT13 Contactors for Switching Resistive Loads (AC-1)

4-pole, 4 NO, 18 ... 140 A

### DC operation - DC solenoid system, 4 NO contacts

PU (UNIT, SET, M) = 1  
 PS\* = 1 unit  
 PG = 101



3RT13 1.-2B..0



3RT13 36-1...0



3RT13 4.-1...0

Rated data AC-1, $T_U$ : 40/60 °C Operational current $I_e$	Ratings of AC loads (p.f. = 0.95) at 50 Hz and <b>400 V</b>	Rated control supply voltage $U_s$	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
				Order No.	Price per PU			Order No.	Price per PU	
A	kW	V DC				kg			kg	

### For screw and snap-on mounting onto TH 35 standard mounting rail

#### Size S00

18 / 16	<b>12 / 11</b>	24 220	▶ B	<b>3RT13 16-1BB40</b> <b>3RT13 16-1BM40</b>	0.250 0.250 B	▶ B	<b>3RT13 16-2BB40</b> <b>3RT13 16-2BM40</b>	0.250 0.250
22 / 20	<b>14.5 / 13</b>	24 220	▶ B	<b>3RT13 17-1BB40</b> <b>3RT13 17-1BM40</b>	0.250 A 0.250 B	▶ B	<b>3RT13 17-2BB40</b> <b>3RT13 17-2BM40</b>	0.250 0.250

#### Size S0

35 / 30 <sup>1)</sup>	<b>22 / 20</b>	24 220	▶ B	<b>3RT13 25-1BB40</b> <b>3RT13 25-1BM40</b>	0.630 0.630	--		
40 / 35 <sup>1)</sup>	<b>26 / 23</b>	24 220	▶ B	<b>3RT13 26-1BB40</b> <b>3RT13 26-1BM40</b>	0.630 0.630	--		

#### Size S2

60 / 55	<b>39 / 36</b>	24 220	▶ B	<b>3RT13 36-1BB40</b> <b>3RT13 36-1BM40</b>	1.600 1.600	--		
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#### Size S3

110 / 100	<b>72 / 66</b>	24 220	B	<b>3RT13 44-1BB40</b> <b>3RT13 44-1BM40</b>	3.200 3.200	--		
140 / 120	<b>92 / 79</b>	24 220	B	<b>3RT13 46-1BB40</b> <b>3RT13 46-1BM40</b>	3.200 3.200	--		

Size S00:

Snap-on auxiliary switch blocks according to EN 50005.

Sizes S0 to S3:

Snap-on auxiliary switch blocks according to EN 50012 and EN 50005  
(for S0 max. 2 auxiliary contacts) (for more information see [Accessories on page 3/97](#)).For other voltages see [page 3/26](#).For accessories, see [page 3/102](#).For spare parts, see [page 3/115](#).1) Minimum conductor cross-section 10 mm<sup>2</sup>.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3TK1 Contactors for Switching Resistive Loads (AC-1)

4-pole, 4 NO, 200 ... 1000 A

### Overview

EN 60947-4-1 (VDE 0660 Part 102).

The contactors also comply with the requirements of NFC 63-110 and NFC 20-040.

The contactors are suitable for use in any climate. They are finger-safe according to EN 50274. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

The contactors are also suitable for switching mixed loads in distribution systems (e. g. for supplying heaters, lamps, motors, PC power supply units) with p.f. > 0.8 according to IEC 60947-4-1, test conditions for utilization category AC-1.

Solenoid coils for 3TK10 to 3TK13 contactors: as withdrawable coils.

### Surge suppression

### Control circuit

Solenoid coils for 3TK1 contactors: can be retrofitted with RC elements.

### Selection and ordering data

#### Screw terminals

#### Screw fixing



3TK13

Rated data AC-1		Auxiliary contacts		Rated control supply voltage $U_s$		DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.		
Operational current $I_e$ up to 690 V (at 40 °C)	Ratings of AC loads (p.f. = 0.95) at				Version		Order No.	Price per PU			kg		
	230 V	400 V	690 V	1000 V	NO	NC						V AC	
A	kW	kW	kW	kW									
<b>AC operation</b>													
200	75	130	225	205	2	2	220 ... 230, 50 Hz 230 ... 240, 50 Hz 110/120, 50/60 Hz 24, 50 Hz	B D D D	<b>3TK10 42-0AP0</b> <b>3TK10 42-0AU0</b> <b>3TK10 42-0AF0</b> <b>3TK10 42-0AB0</b>	1 1 1 1	1 unit 1 unit 1 unit 1 unit	101 101 101 101	4.400 4.400 4.400 4.400
250	90	165	280	200	2	2	220 ... 230, 50 Hz 230 ... 240, 50 Hz 110/120, 50/60 Hz 24, 50 Hz	B D D D	<b>3TK11 42-0AP0</b> <b>3TK11 42-0AU0</b> <b>3TK11 42-0AF0</b> <b>3TK11 42-0AB0</b>	1 1 1 1	1 unit 1 unit 1 unit 1 unit	101 101 101 101	4.700 4.700 4.700 4.700
300	110	195	340	325	2	2	220 ... 230, 50 Hz 230 ... 240, 50 Hz 110/120, 50/60 Hz 24, 50 Hz	B D D D	<b>3TK12 42-0AP0</b> <b>3TK12 42-0AU0</b> <b>3TK12 42-0AF0</b> <b>3TK12 42-0AB0</b>	1 1 1 1	1 unit 1 unit 1 unit 1 unit	101 101 101 101	7.200 7.200 7.200 7.200
350	130	230	395	370	2	2	220 ... 230, 50 Hz 230 ... 240, 50 Hz 110/120, 50/60 Hz 24, 50 Hz	B D D D	<b>3TK13 42-0AP0</b> <b>3TK13 42-0AU0</b> <b>3TK13 42-0AF0</b> <b>3TK13 42-0AB0</b>	1 1 1 1	1 unit 1 unit 1 unit 1 unit	101 101 101 101	7.200 7.200 7.200 7.200
550	205	360	620	510	2	2	220 ... 230, 50 Hz <sup>1)</sup> 230 ... 240, 50 Hz 110/120, 50/60 Hz	B D D	<b>3TK14 42-0AP0</b> <b>3TK14 42-0AU0</b> <b>3TK14 42-0AF0</b>	1 1 1	1 unit 1 unit 1 unit	101 101 101	19.000 19.000 19.000
800	300	525	905	575	2	2	220 ... 230, 50 Hz <sup>1)</sup> 230 ... 240, 50 Hz 110/120, 50/60 Hz	B D D	<b>3TK15 42-0AP0</b> <b>3TK15 42-0AU0</b> <b>3TK15 42-0AF0</b>	1 1 1	1 unit 1 unit 1 unit	101 101 101	19.000 19.000 19.000
1000	375	655	1135	--	2	2	220 ... 230, 50 Hz <sup>1)</sup> 230 ... 240, 50 Hz 110/120 50/60 Hz	B D D	<b>3TK17 42-0AP0</b> <b>3TK17 42-0AU0</b> <b>3TK17 42-0AF0</b>	1 1 1	1 unit 1 unit 1 unit	101 101 101	20.100 20.100 20.100

For accessories see page 3/120 onwards.  
For spare parts, see page 3/128 onwards.

<sup>1)</sup> At 60 Hz: 240 V.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3TK20 Contactors

4-pole, 4 kW

### Overview

#### AC and DC operation

IEC 60947 (VDE 0660).

The contactors are suitable for use in any climate.

The contactors with screw terminals are finger-safe according to EN 50274.

The contactors are available in versions with screw terminals, 6.3 mm plug-in terminals and solder pin connections for soldering in printed circuit boards.

### Application

The main area of application for the 3TK2 contactors with flat connectors is in household equipment. These contactors are also suitable for simple electric controllers. No auxiliary switch blocks can be retrofitted.

### Selection and ordering data

#### Size 00

AC-1: operational current  $I_e = 16 A$  (at 55 °C)

Rated data		Utilization categories AC-2 and AC-3				Main contacts		DT	Order No.	Price € per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Operational current $I_e$	Ratings of induction motors at 50 Hz and				Version		NO	NC						
	At 400/380 V	230/220 V	400/380 V	500 V	690/660 V									
A	kW	kW	kW	kW									kg	

#### Contactors with screw terminals for screw and snap-on mounting onto TH 35 standard mounting rail



3TK20...-0...

AC operation										Screw terminals				
9	2.4	4	4	4	4	--	C			3TK20 40-0AP0	1	1 unit	101	0.190
					3	1	C			3TK20 31-0AP0	1	1 unit	101	0.190
					2	2	C			3TK20 22-0AP0	1	1 unit	101	0.190
DC operation · DC solenoid system														
9	2.4	4	4	4	4	--	C			3TK20 40-0BB4	1	1 unit	101	0.210
					3	1	C			3TK20 31-0BB4	1	1 unit	101	0.210
					2	2	C			3TK20 22-0BB4	1	1 unit	101	0.210

#### Contactors with 6.3 mm x 0.8 mm flat connectors for screw and snap-on mounting onto TH 35 standard mounting rail



3TK20...-3...

AC operation										Flat connectors				
9	2.4	4	4	--	4	--	C			3TK20 40-3AP0	1	1 unit	101	0.170
					3	1	C			3TK20 31-3AP0	1	1 unit	101	0.170
					2	2	C			3TK20 22-3AP0	1	1 unit	101	0.170
DC operation · DC solenoid system														
9	2.4	4	4	--	4	--	C			3TK20 40-3BB4	1	1 unit	101	0.190
					3	1	C			3TK20 31-3BB4	1	1 unit	101	0.190
					2	2	C			3TK20 22-3BB4	1	1 unit	101	0.190

#### Contactors with 6.3 mm x 0.8 mm flat connectors for screw fixing (diagonal)



3TK20...-7...

AC operation														
9	2.4	4	4	--	4	--	C			3TK20 40-7AP0	1	1 unit	101	0.170
					3	1	C			3TK20 31-7AP0	1	1 unit	101	0.170
					2	2	C			3TK20 22-7AP0	1	1 unit	101	0.170
DC operation · DC solenoid system														
9	2.4	4	4	--	4	--	C			3TK20 40-7BB4	1	1 unit	101	0.190
					3	1	C			3TK20 31-7BB4	1	1 unit	101	0.190
					2	2	C			3TK20 22-7BB4	1	1 unit	101	0.190

#### Contactors with solder pin connections for printed circuit boards<sup>1)</sup> for screw fixing (diagonal)



3TK20...-6...

AC operation										Solder pin connections				
9	2.4	4	4	--	4	--	C			3TK20 40-6AP0	1	1 unit	101	0.170
					3	1	C			3TK20 31-6AP0	1	1 unit	101	0.170
					2	2	C			3TK20 22-6AP0	1	1 unit	101	0.170
DC operation · DC solenoid system														
9	2.4	4	4	--	4	--	C			3TK20 40-6BB4	1	1 unit	101	0.190
					3	1	C			3TK20 31-6BB4	1	1 unit	101	0.190
					2	2	C			3TK20 22-6BB4	1	1 unit	101	0.190

For accessories, see page 3/123.

<sup>1)</sup> Operating range at AC-1  
220 V: 0.85 to 1.15 x  $U_g$ ; lower operating range limit according to IEC 60947.

\* You can order this quantity or a multiple thereof.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3TK20 Contactors

4-pole, 4 kW

*Rated control supply voltages  
(the 10th and 11th position of the order number must be  
changed)*

Contactor type		3TK20
Rated control supply voltage $U_s$		
<b>AC operation</b>		
<b>Solenoid coils for AC 50 and 60 Hz</b>		
<b>50 Hz</b>	<b>60 Hz</b>	
230/220 V AC	276 V AC	P0 <sup>1)</sup>
<b>DC operation</b>		
24 V DC		B4

<sup>1)</sup> Operating range at 220 V:  
0.85 to 1.15 x  $U_s$ ; lower operating range limit according to IEC 60947.

[Please inquire about other voltages.](#)



# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT15 Contactors

4-pole, 2 NO + 2 NC, 4 ... 18.5 kW

### Overview

#### AC and DC operation

EN 60947-4-1 (VDE 0660 Part 102).

The contactors are suitable for use in any climate. They are finger-safe according to EN 50274.

The accessories for the 3-pole SIRIUS contactors can also be used for the 4-pole versions.

### Selection and ordering data

#### AC and DC operation, 2 NO contacts + 2 NC contacts<sup>1)</sup>

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT15 1.-1...



3RT15 1.-2...



3RT15 26-1...

Rated data			Rated control supply voltage $U_s$	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals	Weight per PU approx.
AC-2/AC-3, $T_U$ : Up to 60 °C	AC-1, $T_U$ : 40/60 °C				⊕			⊕	
Operational current $I_e$ At 400 V	Ratings of induction motors at 50 Hz and	Operational current $I_e$			Order No.	Price per PU		Order No.	Price per PU
A	<b>400 V</b>	A	V			kg			kg

#### For screw and snap-on mounting onto TH 35 standard mounting rail

#### AC operation

##### Size S00<sup>2)</sup>

9	4	18 / 16	24, 50/60 Hz 110, 50/60 Hz 230, 50/60 Hz	B B B	<b>3RT15 16-1AB00</b> <b>3RT15 16-1AF00</b> <b>3RT15 16-1AP00</b>	0.200 B 0.200 B 0.200 B	<b>3RT15 16-2AB00</b> <b>3RT15 16-2AF00</b> <b>3RT15 16-2AP00</b>	0.200 0.200 0.200
12	5.5	22 / 20	24, 50/60 Hz 110, 50/60 Hz 230, 50/60 Hz	A B B	<b>3RT15 17-1AB00</b> <b>3RT15 17-1AF00</b> <b>3RT15 17-1AP00</b>	0.200 B 0.200 B 0.200 B	<b>3RT15 17-2AB00</b> <b>3RT15 17-2AF00</b> <b>3RT15 17-2AP00</b>	0.200 0.200 0.200

##### Size S0

25	11	40 / 35 <sup>3)</sup>	24, 50 Hz 110, 50 Hz 230, 50 Hz	B B B	<b>3RT15 26-1AB00</b> <b>3RT15 26-1AF00</b> <b>3RT15 26-1AP00</b>	0.400 0.400 0.400	-- -- --	
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##### Size S2

40	18.5	55 / 50	24, 50 Hz 110, 50 Hz 230, 50 Hz	B B B	<b>3RT15 35-1AB00</b> <b>3RT15 35-1AF00</b> <b>3RT15 35-1AP00</b>	1.000 1.000 1.000	-- -- --	
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#### DC operation · DC solenoid system

##### Size S00

9	4	18 / 16	DC 24 DC 220	B B	<b>3RT15 16-1BB40</b> <b>3RT15 16-1BM40</b>	0.260 B 0.260 B	<b>3RT15 16-2BB40</b> <b>3RT15 16-2BM40</b>	0.260 0.260
12	5.5	22 / 20	DC 24 DC 220	B B	<b>3RT15 17-1BB40</b> <b>3RT15 17-1BM40</b>	0.260 B 0.260 B	<b>3RT15 17-2BB40</b> <b>3RT15 17-2BM40</b>	0.260 0.260

##### Size S0

20	11	40 / 35 <sup>3)</sup>	DC 24 DC 220	B B	<b>3RT15 26-1BB40</b> <b>3RT15 26-1BM40</b>	0.630 0.630	-- --	
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##### Size S2

40	18.5	55 / 50	DC 24 DC 220	B B	<b>3RT15 35-1BB40</b> <b>3RT15 35-1BM40</b>	1.590 1.590	-- --	
----	------	---------	-----------------	--------	--	----------------	----------	--

Size S00: Snap-on auxiliary switch blocks according to EN 50005.

Sizes S0 to S3: Snap-on auxiliary switch blocks according to EN 50012 and EN 50005 (for S0 max. 2 auxiliary contacts) (for more information see Accessories on page 3/97).

For other voltages see page 3/26.  
 For accessories, see page 3/102.  
 For spare parts, see page 3/115.

1) Single device for pole reversal; not suitable for reversing duty.

2) For size S00: Coil operating range at 50 Hz: 0.8 ... 1.1 x  $U_s$  at 60 Hz: 0.85 ... 1.1 x  $U_s$ .3) Required conductor cross-section: 10 mm<sup>2</sup>.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3RT16 Capacitor Contactors

12.5 ... 50 kvar

### Overview

#### AC operation

IEC 60947, EN 60947 (VDE 0660).

The contactors are suitable for use in any climate. They are finger-safe according to EN 50274.

The 3RT16 capacitor contactors are special version of the size S00 to S3 SIRIUS contactors. The capacitors are precharged by means of the mounted leading NO contacts and resistors; only then do the main contacts close.

This prevents disturbances in the network and welding of the contactors.

Only discharged capacitors are permitted to be switched on with capacitor contactors.

The auxiliary switch block which is snapped onto the capacitor contactor contains the three leading NO contacts and in the case of S00 one standard NC contact and in the case of S0 and S3 one standard NO contact, which is unassigned. Size S00 also contains another unassigned NO contact in the basic unit.

In addition, a 2-pole auxiliary switch block can be mounted laterally on the 3RT16 47 capacitor contactors (2 NO, 2 NC or 1 NO + 1 NC versions); type 3RH19 21-1EA... The fitting of auxiliary switches for 3RT16 17 and 3RT16 27 is not expandable.

Capacitor switching capacity of the basic 3RT10 contactor version (see note on [Technical Information on page 3/1](#)).

### Selection and ordering data

#### AC operation Screw terminals



3RT16 17-1A.03



3RT16 27-1A.01



3RT16 47-1A.01

Utilization category AC-6b				Auxiliary contacts, unassigned		Rated control supply voltage $U_s^{2)}$		DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Switching of AC capacitors for an ambient temperature of 60 °C <sup>1)</sup>				Version					⊕				
Capacitor rating at operational voltage 50/60 Hz									Order No.	Price per PU			
At 230 V	At 400 V	At 525 V	At 690 V	NO	NC	V AC	Hz						kg
kvar	kvar	kvar	kvar										
3 ... 7.5	5 ... 12.5	7.5 ... 15	10 ... 21	1	1	24 110 230	50 / 60	B	<b>3RT16 17-1AB03</b>	1	1 unit	101	0.280
								B	<b>3RT16 17-1AF03</b>	1	1 unit	101	0.280
								▶	<b>3RT16 17-1AP03</b>	1	1 unit	101	0.280
<b>Size S0<sup>3)</sup></b>													
3.5 ... 15	6 ... 25	7.8 ... 30	10 ... 42	1	--	24 110 230	50	B	<b>3RT16 27-1AB01</b>	1	1 unit	101	0.440
								B	<b>3RT16 27-1AF01</b>	1	1 unit	101	0.440
								▶	<b>3RT16 27-1AP01</b>	1	1 unit	101	0.440
<b>Size S3</b>													
3.5 ... 30	5 ... 50	7.5 ... 60	10 ... 84	1	--	24 110 230	50	B	<b>3RT16 47-1AB01</b>	1	1 unit	101	2.040
								B	<b>3RT16 47-1AF01</b>	1	1 unit	101	2.040
								▶	<b>3RT16 47-1AP01</b>	1	1 unit	101	2.040

#### For screw and snap-on mounting onto TH 35 standard mounting rail

##### Size S00

3 ... 7.5	5 ... 12.5	7.5 ... 15	10 ... 21	1	1	24 110 230	50 / 60	B	<b>3RT16 17-1AB03</b>	1	1 unit	101	0.280
								B	<b>3RT16 17-1AF03</b>	1	1 unit	101	0.280
								▶	<b>3RT16 17-1AP03</b>	1	1 unit	101	0.280

##### Size S0<sup>3)</sup>

3.5 ... 15	6 ... 25	7.8 ... 30	10 ... 42	1	--	24 110 230	50	B	<b>3RT16 27-1AB01</b>	1	1 unit	101	0.440
								B	<b>3RT16 27-1AF01</b>	1	1 unit	101	0.440
								▶	<b>3RT16 27-1AP01</b>	1	1 unit	101	0.440

##### Size S3

3.5 ... 30	5 ... 50	7.5 ... 60	10 ... 84	1	--	24 110 230	50	B	<b>3RT16 47-1AB01</b>	1	1 unit	101	2.040
								B	<b>3RT16 47-1AF01</b>	1	1 unit	101	2.040
								▶	<b>3RT16 47-1AP01</b>	1	1 unit	101	2.040

For other voltages see page 3/26.

For accessories, see page 3/104.

<sup>1)</sup> For size S3: 55 °C.

<sup>2)</sup> Operating range: 0.85 ... 1.1 ×  $U_s$ .

<sup>3)</sup> For conductor cross-sections > 6 mm<sup>2</sup> use 3RV19 25-5AB terminals (2 units).

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## Contactors with Extended Operating Range 0.7 ... 1.25 x U<sub>s</sub>, for Railway Applications

### 3RH11 contactor relays

#### Overview

##### DC operation

IEC 60947-4-1, EN 60947-4-1 (VDE 0660, Part 102), for requirements according to IEC 60077-1 and IEC 60077-2.

The contactor relays are finger-safe according to EN 50274. The size S00 contactor relays have Cage Clamp connections for all terminals.

##### Ambient temperature

The permissible ambient temperature for operation of the contactor relays (across the full coil operating range) is -40 °C to +70 °C.

Uninterrupted duty at temperatures > +60 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

#### Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. railway applications under extreme climatic conditions, rolling mills, etc.

##### Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 x U<sub>s</sub> and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

#### 3RH11 22-2K.40-0LA0

The DC solenoid systems of the contactor relays are modified (to holding excitation) by means of a series resistor.

The size S00 contactor relays are supplied prewired with a plug-on module containing the series resistor. The varistor is integrated. A 4-pole auxiliary switch block (according to EN 50005) can be fitted additionally.

##### Mounting

At ambient temperatures up to 70°C, the size S00 contactor relays are allowed to be mounted side by side.

#### 3RH11 22-2K.40:

These contactor relays have an extended operating range from 0.7 to 1.25 x U<sub>s</sub>; the coils are fitted with varistors as standard. An additional series resistor is not required. Please note:

No auxiliary switch block can be mounted on size S00.

##### Mounting

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C ≤ 70 °C.

#### Selection and ordering data

##### DC operation - DC solenoid system

##### Cage Clamp terminals

For screw and snap-on mounting onto standard mounting rail

##### Solenoid coil fitted with varistor



3RH11 22-2K.40



3RH11 22-2K.40-0LA0

Rated operational current I <sub>N</sub> /AC-15/AC-14 T <sub>U</sub> : 70 °C at				Contacts		Rated control supply voltage U <sub>s</sub>	DT	Cage Clamp terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
230 V	400 V	500 V	690 V	Version				Order No.	Price per PU			kg
A	A	A	A	NO	NC	V DC						

#### 3RH11 contactor relays

##### Size S00

Cage Clamp terminals for all connections

6	3	2	1	2	2 <sup>1)</sup>	24 <sup>2)</sup> 110 <sup>2)</sup>	DT	3RH11 22-2KB40 3RH11 22-2KF40	1 1	1 unit 1 unit	101 101	0.260 0.260
6	3	2	1	2	1 <sup>3)</sup>	24 110	A A	3RH11 22-2KB40-0LA0 3RH11 22-2KF40-0LA0	1 1	1 unit 1 unit	101 101	0.290 0.290

<sup>1)</sup> It is not possible to mount an auxiliary switch block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

<sup>2)</sup> Version without series resistor.

<sup>3)</sup> One 4-pole auxiliary switch block according to EN 50005 can be mounted; no distance required up to 70 °C.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## Contactors with Extended Operating Range 0.7 ... 1.25 x $U_s$ , for Railway Applications

### 3TH4 contactor relays

#### Overview

##### DC operation

EN 60947-4-1.

For requirements according to IEC 60077-1 and IEC 60077-2.

The contactors are finger-safe according to EN 50274. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

##### Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full operating range of the solenoid coil) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current-carrying capacity of the conducting paths and the switching frequency.

At ambient temperatures > 55 °C, a distance of 10 mm must be observed if contactor relays and size 1 and 2 contactors are mounted side by side. There is no need to reduce the technical specifications.

#### Application

For operation in plants which are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. in railway applications.

##### Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to 1.25 x  $U_s$  and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

#### Selection and ordering data

For screw and snap-on mounting onto 35 mm standard mounting rail  
Solenoid coil fitted with varistor



3TH4

Contacts	Rated operational current $I_e/AC-15/AC-14$				Contacts <sup>1)</sup>		Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
	230 V	400 V	500 V	690 V	Ident. No. acc. to EN 50011	Version								
Number	A	A	A	A	NO	NC	V DC		Order No.	Price per PU			kg	
<b>3TH42 contactor relays - DC operation - DC solenoid system</b>														
<b>8</b>	<b>10</b>	6	4	2	<b>44E</b>	4	4	24 110	▶	<b>3TH42 44-0LB4</b>	1	1 unit	101	0.670
										<b>3TH42 44-OLF4</b>	1	1 unit	101	0.670
					<b>53E</b>	5	3	24 110	▶	<b>3TH42 53-0LB4</b>	1	1 unit	101	0.670
										<b>3TH42 53-OLF4</b>	1	1 unit	101	0.670
					<b>62E</b>	6	2	24 110	▶	<b>3TH42 62-0LB4</b>	1	1 unit	101	0.670
										<b>3TH42 62-OLF4</b>	1	1 unit	101	0.670

For accessories, see page 3/125.

<sup>1)</sup> Contacts not extendable.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## Contactors with Extended Operating Range 0.7 ... 1.25 x $U_s$ , for Railway Applications

3RT10 motor contactors, 5.5 ... 45 kW

### Overview

#### DC operation

IEC 60947-4-1, EN 60947-4-1, for requirements according to IEC 60077-1 and IEC 60077-2.

The contactors are finger-safe according to EN 50274 (exception: series resistors S0 to S3). The contactors are available with both Cage Clamp and screw connection. The size S00 contactors have Cage Clamp terminals for all connections. The auxiliary conductor and coil terminals of sizes S0 to S3 are all Cage Clamp terminals.

#### Control and auxiliary circuits

Contactors are available with:

- Conventional coils (sizes S00 and S0 only)
- Coils with series resistor
- Coils with solid-state control unit

#### Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full coil operating range) is -40 °C to +70 °C.

Uninterrupted duty at temperatures > +60 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

### Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. railway applications under extreme climatic conditions, rolling mills, etc.

### More information

#### Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to 1.25 x  $U_s$  and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

[3RT10 ...-2K.42-OLA0](#),  
[3RT10 ...-3K.44-OLA0](#)

The DC solenoid systems of the contactors are modified (to holding excitation) by means of a series resistor.

#### Auxiliary switches

The size S00 contactors are supplied prewired with a plug-on module containing the series resistor. The varistor is integrated. A 4-pole auxiliary switch block (according to EN 50005) can be fitted additionally.

The size S0 to S3 contactors are equipped on the front with an auxiliary switch block with 2 NO + 2 NC contacts. The separate series resistor, which is attached laterally next to the contactor on the 35 mm standard mounting rail, is fitted with connecting cables for mounting onto contactors. A circuit diagram showing the terminals is stuck onto each contactor. One NC of the auxiliary contacts is required for the series resistor function. The selection and ordering data shows the number of additional, unassigned auxiliary contacts. It is only possible to extend the number of auxiliary contacts with size S00.

#### Mounting

At ambient temperatures up to 70 °C, the size S00 contactors and contactor relays are allowed to be mounted side by side. The resistor module of the size S0 to S3 contactors must be mounted to the left of the contactor owing to the prefabricated connecting cables.

#### Dimensions

Attaching resistors increases the width of contactor sizes S0 to S3 (see note on [Dimensional Drawings, page 3/1](#)).

[3RT10 17-2K.4.](#),  
[3RT10 2.-3K.40](#)

These contactor relays have an extended operating range from 0.7 to 1.25 x  $U_s$ ; the coils are fitted with varistors as standard. An additional series resistor is not required.

Please note:

- Size S00: It is not possible to mount an auxiliary switch block.
- Size S0: Up to two single-pole auxiliary switch blocks can be mounted.

#### Mounting

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C ≤ 70 °C.

#### 3RT10 contactors with contactor control unit, extended operating range

[3RT10 ...-X.40-OLA2](#)

They are supplied as complete units with a built-on contactor control unit.

#### Control and auxiliary circuits

The contactors are energized via upstream control electronics which ensure the coil operating range of 0.7 to 1.25 x  $U_s$  at an ambient temperature of 70 °C.

A varistor is integrated for damping opening surges in the coil. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

The possibility of mounting auxiliary switches is the same as that for equivalent standard contactors.

#### Mounting

At ambient temperatures up to 70 °C, sizes S0 to S3 of these contactor versions are allowed to be mounted side by side.

#### Dimensions

Because of the built-on contactor control unit, the height of the size S0 to S3 contactors increases by up to 34 mm (see note on [Dimensional Drawings, page 3/1](#)).

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## Contactors with Extended Operating Range 0.7 ... 1.25 x $U_s$ , for Railway Applications

### 3RT10 motor contactors, 5.5 ... 45 kW

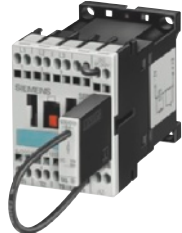
#### Selection and ordering data

DC operation · DC solenoid system

Cage Clamp terminals

For screw and snap-on mounting onto standard mounting rail

Solenoid coil fitted with varistor



3RT10 17-2K.4.-0LA0



3RT10 2.-3K.40



3RT10 3.-3K.44-0LA0

Rated data AC-2 and AC-3 $T_U$ : 70 °C		Auxiliary contacts		Rated control supply voltage $U_s$	DT	Cage Clamp terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Operational current $I_e$ at	Ratings of induction motors at				Version		Order No.	Price per PU		kg
	400 V	230 V	400 V	500 V	690 V	NO				
A	kW	kW	kW	kW						

#### 3RT10 contactors for switching motors

##### Size S00

Cage Clamp terminals for all connections

12	3	5.5	5.5	5.5	1 <sup>1)</sup>	--	24 <sup>3)</sup> 110 <sup>3)</sup>	▶	<b>3RT10 17-2KB41</b>	1	1 unit	101	0.260
								B	<b>3RT10 17-2KF41</b>	1	1 unit	101	0.260
12	3	5.5	5.5	5.5	--	1 <sup>1)</sup>	24 <sup>3)</sup> 110 <sup>3)</sup>	▶	<b>3RT10 17-2KB42</b>	1	1 unit	101	0.260
								B	<b>3RT10 17-2KF42</b>	1	1 unit	101	0.260
12	3	5.5	5.5	5.5	--	1 <sup>2)</sup>	24 110	A	<b>3RT10 17-2KB42-0LA0</b>	1	1 unit	101	0.280
								B	<b>3RT10 17-2KF42-0LA0</b>	1	1 unit	101	0.280

##### Size S0

Cage Clamp terminals for coil terminals and auxiliary contacts

17	4	7.5	10	11	--	-- <sup>4)</sup>	24 <sup>3)</sup> 110 <sup>3)</sup>	▶	<b>3RT10 25-3KB40</b>	1	1 unit	101	0.600
								B	<b>3RT10 25-3KF40</b>	1	1 unit	101	0.600
25	5.5	11	11	11	--	-- <sup>4)</sup>	24 <sup>3)</sup> 110 <sup>3)</sup>	▶	<b>3RT10 26-3KB40</b>	1	1 unit	101	0.600
								B	<b>3RT10 26-3KF40</b>	1	1 unit	101	0.600
17	4	7.5	10	11	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 25-3KB44-0LA0</b>	1	1 unit	101	0.760
								B	<b>3RT10 25-3KF44-0LA0</b>	1	1 unit	101	0.760
25	5.5	11	11	11	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 26-3KB44-0LA0</b>	1	1 unit	101	0.760
								B	<b>3RT10 26-3KF44-0LA0</b>	1	1 unit	101	0.760

##### Size S2

Cage Clamp terminals for coil terminals and auxiliary contacts

32	7.5	15	18.5	18.5	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 34-3KB44-0LA0</b>	1	1 unit	101	1.670
								B	<b>3RT10 34-3KF44-0LA0</b>	1	1 unit	101	1.670
40	11	18.5	22	22	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 35-3KB44-0LA0</b>	1	1 unit	101	1.670
								B	<b>3RT10 35-3KF44-0LA0</b>	1	1 unit	101	1.670
50	15	22	30	22	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 36-3KB44-0LA0</b>	1	1 unit	101	1.670
								B	<b>3RT10 36-3KF44-0LA0</b>	1	1 unit	101	1.670

##### Size S3

Cage Clamp terminals for coil terminals and auxiliary contacts

65	18.5	30	37	43	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 44-3KB44-0LA0</b>	1	1 unit	101	3.100
								B	<b>3RT10 44-3KF44-0LA0</b>	1	1 unit	101	3.100
80	22	37	45	55	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 45-3KB44-0LA0</b>	1	1 unit	101	3.100
								B	<b>3RT10 45-3KF44-0LA0</b>	1	1 unit	101	3.100
95	22	45	55	55	2	1 <sup>5)</sup>	24 110	B	<b>3RT10 46-3KB44-0LA0</b>	1	1 unit	101	3.100
								B	<b>3RT10 46-3KF44-0LA0</b>	1	1 unit	101	3.100

For spare parts, see page 3/103.

- 1) It is not possible to mount an auxiliary switch block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.
- 2) One 4-pole auxiliary switch block according to EN 50005 can be mounted; no distance required up to 70 °C.
- 3) Version without series resistor.
- 4) Up to two single-pole auxiliary switch blocks can be mounted. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.
- 5) The number of auxiliary contacts cannot be increased; no clearance required up to 70 °C.

\* You can order this quantity or a multiple thereof.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## Contactors with Extended Operating Range 0.7 ... 1.25 x $U_s$ , for Railway Applications

3RT10 motor contactors, 5.5 ... 45 kW

**DC operation - DC solenoid system**

For screw and snap-on mounting onto standard mounting rail

Contactor control unit

Solenoid coil fitted with varistor

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 ...-3X.40-0LA2

Rated data AC-2 and AC-3 $T_U$ : Up to 70 °C		Auxiliary contacts <sup>1)</sup>		Rated control supply voltage $U_s$	DT	Screw terminals	⊕	Weight per PU approx.	DT	Cage Clamp terminals for coil terminals	⊕	Weight per PU approx.
Rated operational current $I_e$ up to 400 V	Power of induction motors at 50 Hz <b>400 V</b>	Ident. No.	Version			Order No.	Price per PU			Order No.	Price per PU	
A	kW	NO	NC	V DC				kg				kg

**For screw and snap-on mounting onto TH 35 standard mounting rail****Size S0**

17	<b>7.5</b>	--	--	24	C	<b>3RT10 25-1XB40-0LA2</b>		0.640 B		<b>3RT10 25-3XB40-0LA2</b>		0.640
		--	--	110	B	<b>3RT10 25-1XF40-0LA2</b>		0.640 B		<b>3RT10 25-3XF40-0LA2</b>		0.640
25	<b>11</b>	--	--	24	B	<b>3RT10 26-1XB40-0LA2</b>		0.640 B		<b>3RT10 26-3XB40-0LA2</b>		0.640
		--	--	110	B	<b>3RT10 26-1XF40-0LA2</b>		0.640 B		<b>3RT10 26-3XF40-0LA2</b>		0.640

**Size S2**

32	<b>15</b>	--	--	24	B	<b>3RT10 34-1XB40-0LA2</b>		1.500 C		<b>3RT10 34-3XB40-0LA2</b>		1.500
		--	--	110	B	<b>3RT10 34-1XF40-0LA2</b>		1.500 B		<b>3RT10 34-3XF40-0LA2</b>		1.500
40	<b>18.5</b>	--	--	24	B	<b>3RT10 35-1XB40-0LA2</b>		1.500 C		<b>3RT10 35-3XB40-0LA2</b>		1.500
		--	--	110	B	<b>3RT10 35-1XF40-0LA2</b>		1.500 B		<b>3RT10 35-3XF40-0LA2</b>		1.500
50	<b>22</b>	--	--	24	B	<b>3RT10 36-1XB40-0LA2</b>		1.500 B		<b>3RT10 36-3XB40-0LA2</b>		1.500
		--	--	110	B	<b>3RT10 36-1XF40-0LA2</b>		1.500 B		<b>3RT10 36-3XF40-0LA2</b>		1.500

**For screw and snap-on mounting onto TH 35 and TH 75 standard mounting rail****Size S3**

65	<b>30</b>	--	--	24	B	<b>3RT10 44-1XB40-0LA2</b>		2.900 B		<b>3RT10 44-3XB40-0LA2</b>		2.900
		--	--	110	B	<b>3RT10 44-1XF40-0LA2</b>		2.900 B		<b>3RT10 44-3XF40-0LA2</b>		2.900
80	<b>37</b>	--	--	24	B	<b>3RT10 45-1XB40-0LA2</b>		2.900 B		<b>3RT10 45-3XB40-0LA2</b>		2.900
		--	--	110	B	<b>3RT10 45-1XF40-0LA2</b>		2.900 B		<b>3RT10 45-3XF40-0LA2</b>		2.900
95	<b>45</b>	--	--	24	B	<b>3RT10 46-1XB40-0LA2</b>		2.900 B		<b>3RT10 46-3XB40-0LA2</b>		2.900
		--	--	110	B	<b>3RT10 46-1XF40-0LA2</b>		2.900 B		<b>3RT10 46-3XF40-0LA2</b>		2.900

<sup>1)</sup> Auxiliary switch blocks mountable as standard contactors.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## Contactors with Extended Operating Range $0.7 \dots 1.25 \times U_s$ , for Railway Applications

### 3TB5 motor contactors, 55 ... 200 kW

#### Overview

EN 60947-4-1.

For requirements according to IEC 60077-1 and IEC 60077-2.

The contactors are finger-safe according to EN 50274. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

All specifications and technical specifications not mentioned here are identical to those of the standard 3TB contactors.

#### Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full operating range of the solenoid coil) is  $-50$  to  $+70$  °C. Uninterrupted duty at temperatures  $< -25$  °C and  $> +55$  °C reduces the mechanical endurance, the current-carrying capacity of the conducting paths and the switching frequency.

At ambient temperatures  $> 55$  °C, a distance of 10 mm must be observed if contactor relays and size 1 and 2 contactors are mounted side by side. There is no need to reduce the technical specifications.

#### Series resistor

The DC solenoid systems of the 3TB contactors must be modified (to hold-in coil) by means of a series resistor. This series resistor is supplied separately packed with the contactors.

With types 3TB50, the series resistor must be attached onto the right-hand side of the auxiliary switch block by means of the enclosed mounting parts and sets of links provided. With types

3TB52 to 3TB56, the series resistor must be attached separately next to the contactors.

One NC of the auxiliary contacts is required for the series resistor function. The selection and ordering data show the number of additional, unassigned auxiliary contacts. It is not possible to extend the number of auxiliary contacts.

#### Reversing contactors

With the 3TB52 to 3TB56 contactors, the series resistor must be connected using an additional K2 reversing contactor (3RT13 17-1F.40). This contactor is automatically included in the scope of supply in the same packaging as the contactor.

#### Dimensions

Attaching resistors and varistors increases the width of the contactors (see note on Dimensional Drawings, page 3/1).

#### Application


For operation in plants which are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. in railway applications.

#### Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from  $0.7$  to  $1.25 \times U_s$  and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

#### Selection and ordering data

##### 3TB50 to 3TB56 contactors For screw fixing Solenoid coil fitted with varistor

Size	Rated data AC-2 and AC-3					Auxiliary contacts <sup>1)</sup>		Rated control supply voltage $U_s$	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$ at	Ratings of induction motors at				Version								
A	400 V	230 V	400 V	500 V	690 V	NO	NC	V DC						kg
<b>Contactors for switching AC voltage DC operation · DC solenoid system</b>														
<b>6</b>	110	37	<b>55</b>	75	90	2	1	24 110	D	<b>3TB50 17-0LB4</b> <b>3TB50 17-0LF4</b>	1 1	1 unit 1 unit	101 101	6.600 6.600
<b>8</b>	170	55	<b>90</b>	110	132	2	1	24 110	D	<b>3TB52 17-0LB4</b> <b>3TB52 17-0LF4</b>	1 1	1 unit 1 unit	101 101	9.300 9.300
<b>10</b>	250	75	<b>132</b>	160	200	2	1	24 110	D	<b>3TB54 17-0LB4</b> <b>3TB54 17-0LF4</b>	1 1	1 unit 1 unit	101 101	16.800 16.800
<b>12</b>	400	115	<b>200</b>	255	355	2	1	110	D	<b>3TB56 17-0LF4</b>	1	1 unit	101	19.800

<sup>1)</sup> The number of auxiliary contacts cannot be increased.



# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## Contactors with Extended Operating Range 0.7 ... 1.25 x $U_s$ , for Railway Applications

3TC contactors for switching DC voltage, 2-pole

### Overview

EN 60947-4-1.

For requirements according to IEC 60077-1 and IEC 60077-2.

The contactors are finger-safe according to EN 50274 (exception: series resistor). Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

All specifications and technical specifications not mentioned here are identical to those of the standard 3TC contactors.

### Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full operating range of the solenoid coil) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current-carrying capacity of the conducting paths and the switching frequency.

At ambient temperatures > 55 °C, a distance of 10 mm must be observed if contactor relays and size 1 and 2 contactors are mounted side by side. There is no need to reduce the technical specifications.

### Series resistor

The DC solenoid systems of the 3TC contactors must be modified (to hold-in coil) by means of a series resistor. This series resistor is supplied separately packed with the contactors.

With types 3TC48, the series resistor must be attached onto the right-hand side of the auxiliary switch block by means of the en-

closed mounting parts and sets of links provided, while in the case of the 3TC44 it must be mounted and wired between the contactor poles. With types 3TC52 and 3TC56, the series resistor must be attached separately next to the contactors.

One NC of the auxiliary contacts is required for the series resistor function. The selection and ordering data show the number of additional, unassigned auxiliary contacts. It is not possible to extend the number of auxiliary contacts.

### Reversing contactors

With the 3TC52 and 3TC56 contactors, the series resistor must be connected using an additional K2 reversing contactor (3RT13 17-1F.40). This contactor is automatically included in the scope of supply in the same packaging as the contactor.

### Dimensions

Attaching resistors and varistors increases the width of the contactors (see note on Dimensional Drawings, page 3/1).

### Application

For operation in plants which are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. in railway applications.

### Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to 1.25 x  $U_s$  and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

### Selection and ordering data

3TC44: for screw and snap-on mounting onto 35 mm standard mounting rail  
3TC48 to 3TC56: For screw fixing  
Solenoid coil fitted with varistor



3TC48

Size	Utilization categories	Rated operational current $I_e$ at	Rated power of loads at					Auxiliary contacts <sup>1)</sup>		Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			750 V	220 V	440 V	600 V	750 V	Version	NO							
		A	kW	kW	kW	kW										kg
<b>2</b>	DC-1 DC-3/DC-5	32 7.5	7 5	14 9	19.2 9	24 4	2	1	24 110	B C	<b>3TC44 17-0LB4</b> <b>3TC44 17-0LF4</b>	1 1	1 unit 1 unit	101 101	1.380 1.380	
<b>4</b>	DC-1 DC-3/DC-5	75 75	16.5 13	33 27	45 38	56 45	2	1	24 110	C C	<b>3TC48 17-0LB4</b> <b>3TC48 17-0LF4</b>	1 1	1 unit 1 unit	101 101	4.900 4.900	
<b>8</b>	DC-1 DC-3/DC-5	170 170	48 41	97 82	132 110	165 110	2	1	24 110	C C	<b>3TC52 17-0LB4</b> <b>3TC52 17-0LF4</b>	1 1	1 unit 1 unit	101 101	10.800 10.800	
<b>12</b>	DC-1 DC-3/DC-5	400 400	88 70	176 140	240 200	300 250	2	1	24 110	C D	<b>3TC56 17-0LB4</b> <b>3TC56 17-0LF4</b>	1 1	1 unit 1 unit	101 101	19.500 19.500	

<sup>1)</sup> The number of auxiliary contacts cannot be increased.

# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3TC Contactors for Switching DC Voltage

1- and 2-pole, 32 ... 400 A

### Overview

#### **3TC4 and 3TC5**

EN 60947-4-1 (VDE 0660 Part 102).

The contactors are finger-safe according to EN 50274.

Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

The DC motor ratings given in the tables are applicable to the DC-3 and DC-5 utilization categories with two-pole switching of the load or with the two conducting paths of the contactor connected in series.

One contactor conducting path can switch full power up to 220 V. The ratings for higher voltages are available on request.

#### **3TC7**

EN 60947-4-1 (VDE 0660 Part 102).

The contactors are suitable for use in any climate. They are suitable for switching and controlling DC motors as well as all other DC loads. The electromagnetic excitation is designed for a particularly wide coil operating range.

It is between 0.7 or 0.8 to  $1.2 \times U_s$ .

3TC74 contactors can be used at up to 750 V/400 A and 50 Hz in AC-1 operation.

### Application

The contactors are suitable for switching and controlling DC motors as well as all other DC circuits.

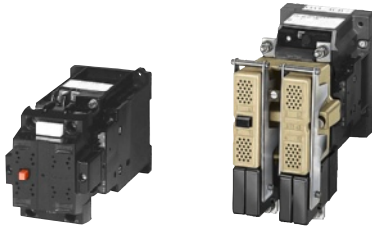
A version with an especially large coil operating range is available for operation in electrically driven vehicles and in switchgear with significant fluctuations in the actuating voltage ([see page 3/65](#)).

## 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3TC Contactors for Switching DC Voltage


1- and 2-pole, 32 ... 400 A

## Selection and ordering data



3TC44

3TC48

Size	Rated data DC-3 and DC-5 <sup>1)</sup>	Ratings of DC motors at					Auxiliary contacts <sup>2)</sup>		Rated control supply voltage $U_s$	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		110 V	220 V	440 V	600 V	750 V	Version	NO							
A		kW	kW	kW	kW	kW			V						kg

## 3TC44 to 3TC56 two-pole contactors

## DC operation

## Screw and snap-on mounting onto TH 35 standard mounting rail

2	32	2.5	5	9	9	4	2	2	24 DC 110 DC 220 DC		▶ 3TC44 17-0AB4 ▶ 3TC44 17-0AF4 ▶ 3TC44 17-0AM4	1 1 1	1 unit 1 unit 1 unit	101 101 101	1.100 1.100 1.100
<b>Screw fixing</b>															
4	75	6.5	13	27	38	45	2	2	24 DC 110 DC 220 DC	A A A	3TC48 17-0AB4 3TC48 17-0AF4 3TC48 17-0AM4	1 1 1	1 unit 1 unit 1 unit	101 101 101	4.700 4.700 4.700
8	220 <sup>4)</sup>	20	41	82	110	110	2	2	24 DC 110 DC 220 DC	C C C	3TC52 17-0AB4 3TC52 17-0AF4 3TC52 17-0AM4	1 1 1	1 unit 1 unit 1 unit	101 101 101	10.800 10.800 10.800
12	400	35	70	140	200	250	2	2	24 DC 110 DC 220 DC	C C C	3TC56 17-0AB4 3TC56 17-0AF4 3TC56 17-0AM4	1 1 1	1 unit 1 unit 1 unit	101 101 101	19.500 19.500 19.500

## AC operation, 50 Hz

## Screw and snap-on mounting onto TH 35 standard mounting rail

2	32	2.5	5	9	9	4	2	2	220/230 AC <sup>5)</sup> 110/110 AC		▶ 3TC44 17-0BP0 ▶ 3TC44 17-0BF0	1 1	1 unit 1 unit	101 101	0.700 0.700
<b>Screw fixing</b>															
4	75	6.5	13	27	38	45	2	2	220/230 AC <sup>5)</sup> 110 AC	A C	3TC48 17-0BP0 3TC48 17-0BF0	1 1	1 unit 1 unit	101 101	3.500 3.500
8	220 <sup>4)</sup>	20	41	82	110	110	2	2	220/230 AC <sup>5)</sup> 110 AC	A C	3TC52 17-0BP0 3TC52 17-0BF0	1 1	1 unit 1 unit	101 101	7.200 7.200
12	400	35	70	140	200	250	2	2	220/230 AC <sup>5)</sup> 110 AC	C C	3TC56 17-0BP0 3TC56 17-0BF0	1 1	1 unit 1 unit	101 101	14.500 14.500

For more rated control supply voltages  $U_s$ , see page 3/68.

<sup>1)</sup> For the permissible load for utilization category DC-1, see note on Technical Information on page 3/1.

<sup>2)</sup> The fitting of auxiliary switches cannot be altered on DC-operated contactors.

<sup>3)</sup> The following rated operational currents are permitted for reversing duty with 3TC44 to 3TC56 contactors:

Contactor Type	Rated operational voltage 110 V, 220 V	Rated operational voltage 440 V
3TC44	32 A	7 A
3TC48	75 A	75 A
3TC52	170 A	170 A
3TC56	400 A	400 A

<sup>4)</sup> At > 600 V:  $I_e = 170$  A.

<sup>5)</sup> Operating range at 220 V: 0.85 to 1.15 x  $U_s$ .

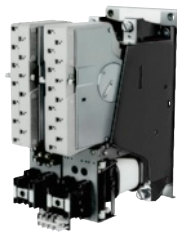
# 3RT, 3RH, 3TB, 3TC, 3TH, 3TK Contactors for Special Applications

## 3TC Contactors for Switching DC Voltage

1- and 2-pole, 32 ... 400 A



3TC74



3TC78

Size	Rated data DC-3 and DC-5 <sup>1)</sup>							Auxiliary contacts <sup>2)</sup>		Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Operational current $I_e$	Ratings of DC motors at							Version							
	110 V	220 V	440 V	600 V	750 V	1200 V	1500 V	NO	NC	V	Order No.	Price per PU				
A	kW	kW	kW	kW	kW	kW	kW						kg			

### 3TC74 1-pole contactors · Operational voltage up to 750 V

#### DC operation

12	400	35	70	140	200	250	--	--	4	4	24 DC	C	<b>3TC74 14-0EB</b>	1	1 unit	101	10.800
											110 DC	C	<b>3TC74 14-0EF</b>	1	1 unit	101	10.800

#### AC operation, 50 Hz

12	400	35	70	140	200	250	--	--	4	4	230/220 AC <sup>3)</sup>	C	<b>3TC74 14-1CM</b>	1	1 unit	101	10.800
----	-----	----	----	-----	-----	-----	----	----	---	---	--------------------------	---	---------------------	---	--------	-----	--------

### 3TC78 2-pole contactors · Operational voltage up to 1500 V

#### DC operation

12	400	35	70	140	200	250	400	500	4	4	24 DC	C	<b>3TC78 14-0EB</b>	1	1 unit	101	22.500
											110 DC	C	<b>3TC78 14-0EF</b>	1	1 unit	101	22.500

#### AC operation, 50 Hz

12	400	35	70	140	200	250	400	500	4	4	230/220 AC <sup>3)</sup>	C	<b>3TC78 14-1CM</b>	1	1 unit	101	23.800
----	-----	----	----	-----	-----	-----	-----	-----	---	---	--------------------------	---	---------------------	---	--------	-----	--------

For more rated control supply voltages  $U_s$  see below.  
For spare parts, see page 3/130.

<sup>1)</sup> For the permissible load for utilization category DC-1, see note on Technical Information on page 3/1.

<sup>2)</sup> The fitting of auxiliary switches cannot be altered on DC-operated contactors.

<sup>3)</sup> Upper operating range limit at 230 V:  $1.14 \times U_s$ .

### Rated control supply voltages (the 10th and 11th position of the order number must be changed)

Rated control supply voltage $U_s$	Contactor type	3TC44	3TC48	3TC52/56	3TC74/78
<b>AC operation</b>					
<b>Solenoid coils for 50 Hz</b>					
24 V AC		B0	B0	--	--
110 V AC		F0	F0	F0	--
230/220 V AC		P0 <sup>1)</sup>	P0 <sup>1)</sup>	P0 <sup>1)</sup>	M <sup>2)</sup>
240 V AC		U0	U0	--	--
<b>AC operation</b>					
<b>Solenoid coils for 50/60 Hz</b>					
24 V AC		C2	--	--	--
110 V AC		G2	--	--	--
120 V AC		K2	--	--	--
220 V AC		N2	--	--	--
230 V AC		L2	--	--	--
<b>DC operation</b>					
24 V DC		B4	B4	B4	B
48 V DC		W4	W4	--	--
60 V DC		E4	E4	--	--
110 V DC		F4	F4	F4	F
125 V DC		G4	G4	--	--
220 V DC		M4	M4	M4	M
230 V DC		P4	P4	--	--

<sup>1)</sup> Operating range at 220 V or 380 V:  $0.85$  to  $1.15 \times U_s$ ; lower operating range limit according to IEC 60947.

<sup>2)</sup> Upper operating range limit at 230 V:  $1.14 \times U_s$ .

**Overview****AC and DC operation**

IEC 60947, EN 60947.

The 3RH1 contactor relays are suitable for use in any climate.

They are finger-safe according to EN 50274.

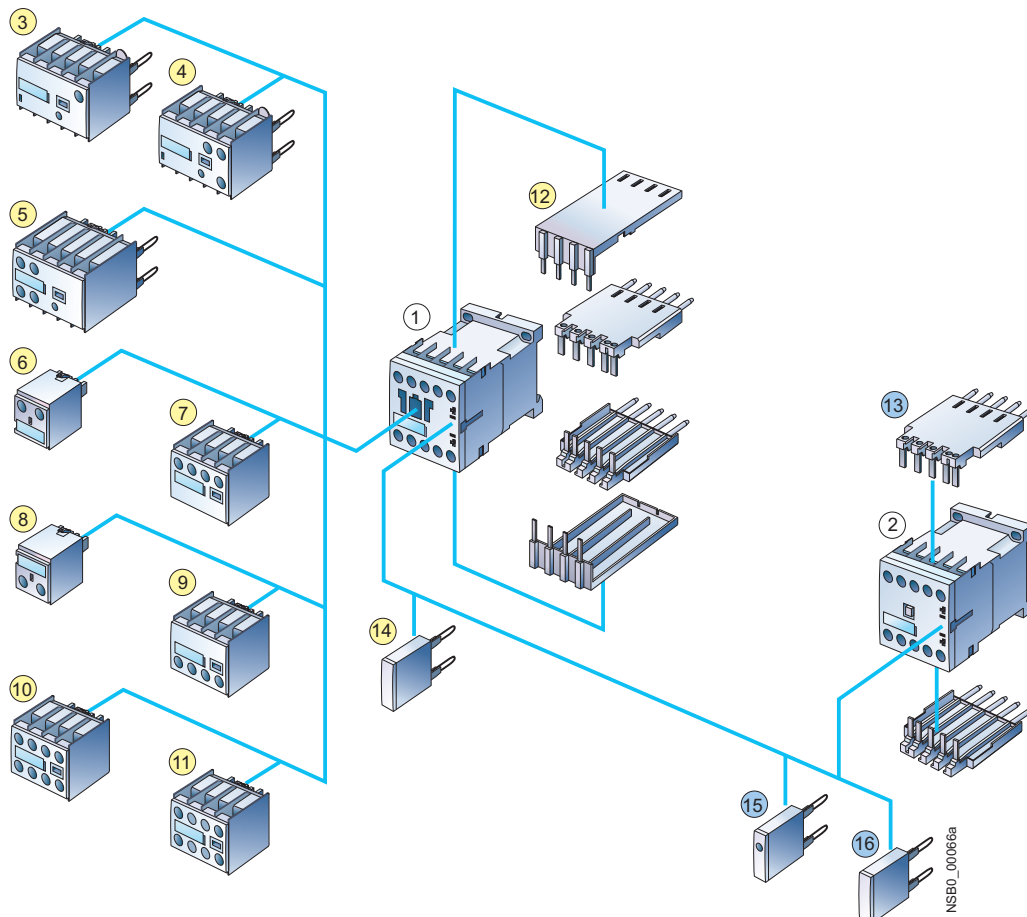
The 3RH1 contactor relays have screw or Cage Clamp terminals. Four contacts are available in the basic unit. For expansions see Accessories on page 3/97.

**Contact reliability**

High contact stability at low voltages and currents, suitable for solid-state circuits with currents &gt; 1 mA at a voltage of 17 V.

**Surge suppression**

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) can be plugged onto all contactor relays from the front for damping opening surges in the coil. The plug-in direction is determined by a coding device.

**Note:***The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assemblies 2 to 6 times, varistor +2 to 5 ms).***Contactor relays and coupling relays size S00 with accessories**

- ① Contactor relay, see page 3/70
- ② Coupling relay for auxiliary circuits, see page 3/78
- ③ Solid-state timing relay block, ON-delay, see page 3/107
- ④ Solid-state timing relay block, OFF-delay, see page 3/107
- ⑤ Auxiliary switch block, solid-state time delay, see page 3/106 (versions: ON or OFF-delay)
- ⑥ 1-pole auxiliary switch block, cable entry from above, see page 3/102
- ⑦ 2-pole auxiliary switch block, cable entry from above, see page 3/102
- ⑧ 1-pole auxiliary switch block, cable entry from below, see page 3/102
- ⑨ 2-pole auxiliary switch block, cable entry from below, see page 3/102
- ⑩ 4-pole auxiliary switch block, see page 3/102, 3/104 (terminal designations according to EN 50011 or EN 50005)
- ⑪ 2-pole auxiliary switch block, standard version or solid-state compatible version, see page 3/102 (terminal designations according to EN 50005)
- ⑫ Solder pin adapter for contactor relays with 4-pole auxiliary switch block, see page 3/112
- ⑬ Solder pin adapter for contactor relays and coupling relays, see page 3/111
- ⑭ Additional load module for increasing the permissible residual current, see page 3/110
- ⑮ Surge suppressor with LED, see page 3/109
- ⑯ Surge suppressor without LED, see page 3/109

# 3RH, 3TH Contactor Relays

## 3RH1 contactor relays, 4- and 8-pole

### Selection and ordering data

#### AC and DC operation

PU (UNIT, SET, M) = 1  
 PS\* = 1 unit  
 PG = 101

#### Size S00



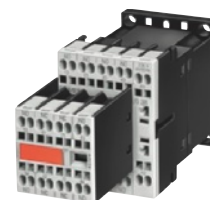
3RH11 ...-1...



3RH11 ...-2...

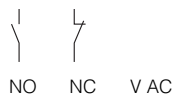


3RH12 ...-1...



3RH12 ...-2...

Rated operational current $I_e$ /AC-15/AC-14 at 230 V	Contacts		Rated control supply voltage $U_s$	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
	Ident. No.	Version			⊕	⊖			⊕	⊖	
					Order No.	Price per PU			Order No.	Price per PU	
							kg				kg



### For screw and snap-on mounting onto TH 35 standard mounting rail

Terminal designations according to EN 50011

#### AC operation

				50/60 Hz <sup>1)</sup>					
6	40 E	4	--	24	▶ 3RH11 40-1AB00	0.200	▶ 3RH11 40-2AB00	0.200	
				110	▶ 3RH11 40-1AF00	0.200	▶ 3RH11 40-2AF00	0.200	
				230	▶ 3RH11 40-1AP00	0.200	▶ 3RH11 40-2AP00	0.200	
31 E	3	1	24	▶ 3RH11 31-1AB00	0.200	▶ 3RH11 31-2AB00	0.200		
			110	▶ 3RH11 31-1AF00	0.200	▶ 3RH11 31-2AF00	0.200		
			230	▶ 3RH11 31-1AP00	0.200	▶ 3RH11 31-2AP00	0.200		
22 E	2	2	24	▶ 3RH11 22-1AB00	0.200	▶ 3RH11 22-2AB00	0.200		
			110	▶ 3RH11 22-1AF00	0.200	▶ 3RH11 22-2AF00	0.200		
			230	▶ 3RH11 22-1AP00	0.200	▶ 3RH11 22-2AP00	0.200		

#### • With permanently mounted auxiliary switch block for safety applications according to SUVA

6	44 E	4	4	230	▶ 3RH12 44-1AP00	0.250	B	▶ 3RH12 44-2AP00	0.250
	62 E	6	2	230	▶ 3RH12 62-1AP00	0.250	B	▶ 3RH12 62-2AP00	0.250

#### DC operation · DC solenoid system

				DC					
6	40 E	4	--	24	▶ 3RH11 40-1BB40	0.260	▶ 3RH11 40-2BB40	0.260	
				220	▶ 3RH11 40-1BM40	0.260	B	▶ 3RH11 40-2BM40	0.260
31 E	3	1	24	▶ 3RH11 31-1BB40	0.260	▶ 3RH11 31-2BB40	0.260		
			220	▶ 3RH11 31-1BM40	0.260	B	▶ 3RH11 31-2BM40	0.260	
22 E	2	2	24	▶ 3RH11 22-1BB40	0.260	▶ 3RH11 22-2BB40	0.260		
			220	▶ 3RH11 22-1BM40	0.260	B	▶ 3RH11 22-2BM40	0.260	

#### • With permanently mounted auxiliary switch block for safety applications according to SUVA

6	44 E	4	4	24	▶ 3RH12 44-1BB40	0.310	A	▶ 3RH12 44-2BB40	0.310
	62 E	6	2	24	▶ 3RH12 62-1BB40	0.310	A	▶ 3RH12 62-2BB40	0.310

For other voltages see page 3/71, for contactors with permanently mounted auxiliary switch block please inquire.  
 For accessories, see page 3/102 and 3/104.

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> Coil operating range  
 at 50 Hz: 0.8 to 1.1 ×  $U_s$   
 at 60 Hz: 0.85 to 1.1 ×  $U_s$ .

**Rated control supply voltages**  
(the 10th and 11th position of the order number must be changed)

	Contactor type	3RH11
Rated control supply voltage $U_s$	Control supply voltage at	

#### AC operation

##### Solenoid coils for AC 50/60 and 60 Hz

50/60 Hz <sup>1)</sup>	60 Hz	
24 V AC	--	B0
42 V AC	--	D0
48 V AC	--	H0
110 V AC	--	F0
220 V AC	--	N2
230 V AC	--	P0
400 V AC	--	V0

##### Solenoid coils for AC 50/60 and 60 Hz (for Japan<sup>2)</sup>)

100 V AC	110 V AC	G6
200 V AC	220 V AC	N6
400 V AC	440 V AC	R6

##### Solenoid coils for AC 50 and 60 Hz (for USA and Canada<sup>3)</sup>)

50 Hz	60 Hz	
110 V AC	120 V AC	K6
220 V AC	240 V AC	P6

#### DC operation

12 V DC	A4
24 V DC	B4
42 V DC	D4
48 V DC	W4
60 V DC	E4
110 V DC	F4
125 V DC	G4
220 V DC	M4
230 V DC	P4

1) Coil operating range  
at 50 Hz: 0.8 to 1.1 x  $U_s$   
at 60 Hz: 0.85 to 1.1 x  $U_s$ .

2) Coil operating range  
at 50/60 Hz: 0.85 to 1.1 x  $U_s$   
at 60 Hz: 0.8 to 1.1 x  $U_s$ .

3) Coil operating range  
at 50 Hz: 0.85 to 1.1 x  $U_s$   
at 60 Hz: 0.8 to 1.1 x  $U_s$ .

# 3RH, 3TH Contactor Relays

## 3RH14 latched contactor relays, 4-pole

### Overview

#### AC and DC operation

IEC 60947, EN 60947.

The terminal designations comply with EN 50011.

The contactor coil and the coil of the release solenoid are both designed for uninterrupted duty.

The number of auxiliary contacts can be extended by means of auxiliary switch blocks (up to 4 poles) (see [Accessories on page 3/97](#)).

RC elements, varistors diodes or diode assemblies can be fitted to both coils from the front for damping opening surges in the coil.

The contactor relay can also be switched on and released manually (see [note on Technical Information on page 3/1](#)).

### Selection and ordering data



3RH14.-1....

Rated operational current $I_e$ /AC-15/AC-14 at 230 V	Contacts Ident. No. acc. to EN 50011	Version	Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
A		NO     NC	V						kg

#### For screw and snap-on mounting onto TH 35 standard mounting rail

##### AC operation

6	40 E	4	--	AC 50/60 Hz <sup>1)</sup>		DT	Order No.	PU	PS*	PG	Weight per PU approx.
				U <sub>s</sub>	DT						
				24	B	<b>3RH14 40-1AB00</b>	1	1 unit	101	0.380	
				42	B	<b>3RH14 40-1AD00</b>	1	1 unit	101	0.380	
				110	B	<b>3RH14 40-1AF00</b>	1	1 unit	101	0.380	
				230	A	<b>3RH14 40-1AP00</b>	1	1 unit	101	0.380	
	31 E	3	1	24	B	<b>3RH14 31-1AB00</b>	1	1 unit	101	0.380	
				42	B	<b>3RH14 31-1AD00</b>	1	1 unit	101	0.380	
				110	B	<b>3RH14 31-1AF00</b>	1	1 unit	101	0.380	
				230	B	<b>3RH14 31-1AP00</b>	1	1 unit	101	0.380	
	22 E	2	2	24	B	<b>3RH14 22-1AB00</b>	1	1 unit	101	0.380	
				42	B	<b>3RH14 22-1AD00</b>	1	1 unit	101	0.380	
				110	B	<b>3RH14 22-1AF00</b>	1	1 unit	101	0.380	
				230	▶	<b>3RH14 22-1AP00</b>	1	1 unit	101	0.380	

##### DC operation · DC solenoid system

6	40 E	4	--	DC		DT	Order No.	PU	PS*	PG	Weight per PU approx.
				U <sub>s</sub>	DT						
				24	▶	<b>3RH14 40-1BB40</b>	1	1 unit	101	0.500	
				110	B	<b>3RH14 40-1BF40</b>	1	1 unit	101	0.500	
				220	B	<b>3RH14 40-1BM40</b>	1	1 unit	101	0.500	
	31 E	3	1	24	B	<b>3RH14 31-1BB40</b>	1	1 unit	101	0.500	
				110	B	<b>3RH14 31-1BF40</b>	1	1 unit	101	0.500	
				220	B	<b>3RH14 31-1BM40</b>	1	1 unit	101	0.500	
	22 E	2	2	24	▶	<b>3RH14 22-1BB40</b>	1	1 unit	101	0.500	
				110	B	<b>3RH14 22-1BF40</b>	1	1 unit	101	0.500	
				220	B	<b>3RH14 22-1BM40</b>	1	1 unit	101	0.500	

For accessories, see page 3/102 and 3/104.

<sup>1)</sup> Coil operating range  
at 50 Hz: 0.8 to 1.1 ×  $U_s$   
at 60 Hz: 0.85 to 1.1 ×  $U_s$ .



## 3TH4 contactor relays, 8- and 10-pole

## Overview

## AC and DC operation

IEC 60947, EN 60947.

The 3TH42 and 3TH43 contactor relays are suitable for use in any climate. They are finger-safe according to EN 50274.

## Terminal designations acc. to EN 50011

In terms of their terminal designations, identification numbers and identification letters, the 3TH42/3TH43 contactor relays conform to the standard EN 50011 for "Specific contactor relays".

## Selection and ordering data



3TH42 ...-0...

Contacts	Rated operational current $I_e$ /AC-15/AC-14 at				Contacts	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	230/ 220 V	400/ 380 V	500 V	690/ 660 V							
Number	A	A	A	A							kg

## For screw and snap-on mounting onto TH 35 standard mounting rail

AC operation, rated control supply voltage  $U_s = AC 50 \text{ Hz } 230/220 \text{ V}^1)$ 

8	10	6	4	2	80 E	8	--	--	--	▶	3TH42 80-0AP0	1	1 unit	101	0.420
					71 E	7	1	--	--	▶	3TH42 71-0AP0	1	1 unit	101	0.420
					62 E	6	2	--	--	D	3TH42 62-0AP0	1	1 unit	101	0.420
					53 E	5	3	--	--	▶	3TH42 53-0AP0	1	1 unit	101	0.420
					44 E	4	4	--	--	▶	3TH42 44-0AP0	1	1 unit	101	0.420
					44 E, U	3	3	1	1	▶	3TH42 93-0AP0	1	1 unit	101	0.420

DC operation · DC solenoid system, rated control supply voltage  $U_s = 24 \text{ V DC}$ 

8	10	6	4	2	80 E	8	--	--	--	▶	3TH42 80-0BB4	1	1 unit	101	0.670
					71 E	7	1	--	--	▶	3TH42 71-0BB4	1	1 unit	101	0.670
					62 E	6	2	--	--	▶	3TH42 62-0BB4	1	1 unit	101	0.670
					53 E	5	3	--	--	▶	3TH42 53-0BB4	1	1 unit	101	0.670
					44 E	4	4	--	--	▶	3TH42 44-0BB4	1	1 unit	101	0.670
					44 E, U	3	3	1	1	▶	3TH42 93-0BB4	1	1 unit	101	0.670

For accessories, see page 3/125.

## Spare parts

## Solenoid coils:

AC operation: 3TY7 403-0A.

DC operation: 3TY4 803-0B.

(voltages on request)

## Contacts:

The contacts cannot be replaced on 3TH42 contactor relays.

<sup>1)</sup> Operating range at 220 V: 0.85 to 1.1 ×  $U_s$ ;  
lower operating range limit according to IEC 60947.

# 3RH, 3TH Contactor Relays

## 3TH4 contactor relays, 8- and 10-pole



3TH43 ...-0A..

3TH43 ...-0B..

Contacts	Rated operational current $I_{th}/AC-15/AC-14$ at				Contacts	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	230 V	400 V	500 V	690 V							
					Ident. No. acc. to EN 50011	Version	Order No.	Price per PU			
Number	A	A	A	A		NO NC NO NC					kg

**for screw and snap-on mounting onto TH 35 standard mounting rail**

*AC operation, rated control supply voltage  $U_s = AC\ 50\ Hz\ 230/220\ V^{1)}$*

10	10	6	4	2											
					<b>100 E</b>	10	--	--	--	▶	<b>3TH43 10-0AP0</b>	1	1 unit	101	0.480
					<b>91 E</b>	9	1	--	--	▶	<b>3TH43 91-0AP0</b>	1	1 unit	101	0.480
					<b>82 E</b>	8	2	--	--	▶	<b>3TH43 82-0AP0</b>	1	1 unit	101	0.480
					<b>73 E</b>	7	3	--	--	▶	<b>3TH43 73-0AP0</b>	1	1 unit	101	0.480
					<b>73 E, U</b>	6	2	1	1	▶	<b>3TH43 46-0AP0</b>	1	1 unit	101	0.480
					<b>64 E</b>	6	4	--	--	▶	<b>3TH43 64-0AP0</b>	1	1 unit	101	0.480
					<b>55 E</b>	5	5	--	--	▶	<b>3TH43 55-0AP0</b>	1	1 unit	101	0.480
					<b>55 E, U</b>	4	4	1	1	▶	<b>3TH43 94-0AP0</b>	1	1 unit	101	0.480

*DC operation · DC solenoid system, rated control supply voltage  $U_s = 24\ V\ DC$*

10	10	6	4	2											
					<b>100 E</b>	10	--	--	--	▶	<b>3TH43 10-0BB4</b>	1	1 unit	101	0.710
					<b>91 E</b>	9	1	--	--	▶	<b>3TH43 91-0BB4</b>	1	1 unit	101	0.710
					<b>82 E</b>	8	2	--	--	▶	<b>3TH43 82-0BB4</b>	1	1 unit	101	0.710
					<b>73 E</b>	7	3	--	--	▶	<b>3TH43 73-0BB4</b>	1	1 unit	101	0.710
					<b>73 E, U</b>	6	2	1	1	▶	<b>3TH43 46-0BB4</b>	1	1 unit	101	0.710
					<b>64 E</b>	6	4	--	--	▶	<b>3TH43 64-0BB4</b>	1	1 unit	101	0.710
					<b>55 E</b>	5	5	--	--	▶	<b>3TH43 55-0BB4</b>	1	1 unit	101	0.710
					<b>55 E, U</b>	4	4	1	1	▶	<b>3TH43 94-0BB4</b>	1	1 unit	101	0.710

For accessories, see page 3/125.

<sup>1)</sup> Operating range at 220 V: 0.85 to 1.1 x  $U_s$ , lower operating range limit according to IEC 60947.

Spare parts  
Solenoid coils:  
AC operation: 3TY7 403-0A..  
DC operation: 3TY4 803-0B..  
Contacts:

*The contacts cannot be replaced on 3TH43 contactor relays.*

**Rated control supply voltages (the 10th and 11th position of the order number must be changed)**

Rated control supply voltage $U_s$	Contactor type	3TH42/3TH43
Control supply voltage at		
<b>AC operation</b>		
<b>Solenoid coils for AC 50 Hz</b>		
<b>50 Hz</b>	<b>60 Hz</b>	
24 V AC	29 V AC	B0
36 V AC	42 V AC	G0
42 V AC	50 V AC	D0
48 V AC	58 V AC	H0
60 V AC	72 V AC	E0
110 V AC	132 V AC	F0
125/127 V AC	150/152 V AC	L0
230/220 V AC	276 V AC	P0 <sup>1)</sup>
240 V AC	288 V AC	U0
400/380 V AC	480/460 V AC	V0 <sup>1)</sup>
415 V AC	500 V AC	R0
500 V AC	600 V AC	S0
<b>For Japan</b>		
100 V AC	100-110 V AC	G6 <sup>2)</sup>
200 V AC	200-220 V AC	N6 <sup>2)</sup>
<b>For USA and Canada</b>		
110 V AC	120 V AC	K6 <sup>2)</sup>
220 V AC	240 V AC	P6 <sup>2)</sup>

<sup>1)</sup> Operating range at 220 V or 380 V: 0.85 to 1.1 x  $U_s$ .

<sup>2)</sup> Operating range at 60 Hz: 0.85 to 1.1 x  $U_s$ .

Rated control supply voltage $U_s$	Contactor type	3TH42/3TH43
<b>Solenoid coils for AC 50 and 60 Hz</b>		
<b>50/60 Hz</b>		
24 V AC		C2
42 V AC		D2
110 V AC		G2
115 V AC		J2
120 V AC		K2
220 V AC		N2
230 V AC		L2
240 V AC		P2
440 V AC		R2
<b>DC operation</b>		
12 V DC		A4
24 V DC		B4
30 V DC		C4
36 V DC		V4
42 V DC		D4
48 V DC		W4
60 V DC		E4
110 V DC		F4
125 V DC		G4
220 V DC		M4
230 V DC		P4
240 V DC		Q4

\* You can order this quantity or a multiple thereof.

**Overview****AC and DC operation**

IEC 60947, EN 60947.

The terminal designations comply with EN 50011.

**3TH2 contactor relays**

The 3TH2 contactor relays are suitable for use in any climate.

The contactor relays with screw terminal are finger-safe according to EN 50274.

**Terminals**

The 3TH20 contactors with 4 auxiliary contacts are available with SIGUT screw terminals, 6.3 mm x 0.8 mm flat connectors and solder pin connections.

The contactors with 6.3 mm x 0.8 mm flat connectors can be used in the plug-in base with solder pin connections for printed circuit boards. The contactor relays are coded and the plug-in base is codable in order to ensure non-interchangeability.

The 3TH22 contactor relays with 8 integrated contacts are available with screw terminals. The terminal designations are according to EN 50011.

**Contact reliability**

High contact stability at low voltages and currents, suitable for solid-state circuits with currents > 1 mA at a voltage of 17 V and higher.

**3TH27 latched contactor relays**

The contactor coil and the coil of the release solenoid are both designed for uninterrupted duty.

RC elements, varistors diodes or diode assemblies can be fitted to both coils from the front for damping opening surges in the coil.

The contactor relay can also be switched on and released manually.

**Accessories****Auxiliary switch blocks**

The contactor relays with 4 contacts with screw terminals relays can be expanded by up to four contacts by the addition of snap-on auxiliary switch blocks.

A cover (with unit labeling plate) must be removed from the front of the contactor for this purpose. The auxiliary switch block is then easy to mount. The auxiliary switch blocks can be removed again by unlocking them with a laterally arranged slide.

The contactor relays with screw terminals with 4 contacts according to EN 50011, with the identification number 40E, can be extended with 80E, 71E, 62E, 53E or 44E auxiliary switch blocks to obtain contactor relays with 8 contacts according to EN 50011. The identification numbers 80E, 71E, 62E, 53E or 44E on the coded auxiliary switch blocks apply to the complete contactors. These auxiliary switch blocks cannot be combined with contactor relays with identification number 31E and 33E.

All contactor relays with screw terminals with 4 contacts according to EN 50011, identification number 40E, 31E or 22E, can be extended with auxiliary switch blocks with identification number 40, 31, 22, 20, 11 or 02 to obtain contactor relays with 6 or 8 contacts according to EN 50005. The identification numbers on the auxiliary switch blocks apply only to the attached auxiliary switch blocks.

[For a schematic representation of the expansion possibilities see figure for 3RH1 contactor relays on page 3/98.](#)

**Surge suppression**

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode for short break times) can be plugged onto all contactors and auxiliary switch blocks with screw terminals from the front in order to damp opening surges in the coil. The unit labeling plate must be removed for this purpose.

It can be snapped onto the attached surge suppressor.

**Additional load module**

The 3TX4 490-1J additional load module (see Accessories) can be used by programmable logic controllers to increase the permissible residual current and to limit the residual voltage of semiconductor outputs.

This module ensures the safe opening of 3TH2 and 3TF2 contactors with direct control through 230 V AC semiconductor outputs. It is accommodated in the same enclosure as the 3TX4 490-3. surge suppressors and can be plugged into the contactor.

# 3RH, 3TH Contactor Relays

## 3TH2 contactor relays, 4- and 8-pole

### Selection and ordering data

Contacts	Rated operational current $I_N$ /AC-15/AC-14 at				Contacts		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	230/ 220 V	400/ 380 V	500 V	690/ 660 V	Ident. No. acc. to EN 50011	Version							
	A	A	A	A									

#### Contactor relays with screw terminals For screw and snap-on mounting onto TH 35 standard mounting rail



<i>AC operation</i>								Screw terminals					
4	4	3	2	1	40E	4	--	A	3TH20 40-0AP0	1	1 unit	101	0.200
					31E	3	1	A	3TH20 31-0AP0	1	1 unit	101	0.200
					22E	2	2	A	3TH20 22-0AP0	1	1 unit	101	0.200
<i>DC operation · DC solenoid system</i>													
4	4	3	2	1	40E	4	--	A	3TH20 40-0BB4	1	1 unit	101	0.220
					31E	3	1	A	3TH20 31-0BB4	1	1 unit	101	0.220
					22E	2	2	A	3TH20 22-0BB4	1	1 unit	101	0.220

#### Contactor relays with 6.3 mm x 0.8 mm flat connectors



<i>AC operation</i>								Flat connectors					
For screw and snap-on mounting onto TH 35 standard mounting rail													
4	4	3	2	--	40E	4	--	C	3TH20 40-3AP0	1	1 unit	101	0.170
					31E	3	1	C	3TH20 31-3AP0	1	1 unit	101	0.170
					22E	2	2	C	3TH20 22-3AP0	1	1 unit	101	0.170
For screw fixing (diagonal)													
4	4	3	2	--	40E	4	--	C	3TH20 40-7AP0	1	1 unit	101	0.170
					31E	3	1	C	3TH20 31-7AP0	1	1 unit	101	0.170
					22E	2	2	C	3TH20 22-7AP0	1	1 unit	101	0.170
<i>DC operation · DC solenoid system</i>													
For screw and snap-on mounting onto TH 35 standard mounting rail													
4	4	3	2	--	40E	4	--	C	3TH20 40-3BB4	1	1 unit	101	0.190
					31E	3	1	C	3TH20 31-3BB4	1	1 unit	101	0.190
					22E	2	2	C	3TH20 22-3BB4	1	1 unit	101	0.190
For screw fixing (diagonal)													
4	4	3	2	--	40E	4	--	C	3TH20 40-7BB4	1	1 unit	101	0.190
					31E	3	1	C	3TH20 31-7BB4	1	1 unit	101	0.190
					22E	2	2	C	3TH20 22-7BB4	1	1 unit	101	0.190

#### Contactor relays with solder pin connections for printed circuit boards



<i>AC operation</i>								Solder pin connections					
For screw fixing (diagonal)													
4	4	3	2	--	40E	4	--	C	3TH20 40-6AP0	1	1 unit	101	0.170
					31E	3	1	C	3TH20 31-6AP0	1	1 unit	101	0.170
					22E	2	2	C	3TH20 22-6AP0	1	1 unit	101	0.170
<i>DC operation · DC solenoid system</i>													
For screw fixing (diagonal)													
4	4	3	2	--	40E	4	--	C	3TH20 40-6BB4	1	1 unit	101	0.190
					31E	3	1	C	3TH20 31-6BB4	1	1 unit	101	0.190
					22E	2	2	C	3TH20 22-6BB4	1	1 unit	101	0.190

#### Contactor relays with permanently mounted auxiliary switch blocks with screw terminals, width 45 mm For screw and snap-on mounting onto TH 35 standard mounting rail




<i>AC operation</i>								Screw terminals					
8	4	3	2	--	80E	8	0	C	3TH22 80-0AP0	1	1 unit	101	0.240
					71E	7	1	C	3TH22 71-0AP0	1	1 unit	101	0.240
					62E	6	2	C	3TH22 62-0AP0	1	1 unit	101	0.240
					53E	5	3	C	3TH22 53-0AP0	1	1 unit	101	0.240
					44E	4	4	C	3TH22 44-0AP0	1	1 unit	101	0.240
<i>DC operation · DC solenoid system</i>													
8	4	3	2	--	80E	8	0	C	3TH22 80-0BB4	1	1 unit	101	0.260
					71E	7	1	C	3TH22 71-0BB4	1	1 unit	101	0.260
					62E	6	2	C	3TH22 62-0BB4	1	1 unit	101	0.260
					53E	5	3	C	3TH22 53-0BB4	1	1 unit	101	0.260
					44E	4	4	C	3TH22 44-0BB4	1	1 unit	101	0.260

For accessories, see page 3/126.

## 3RH, 3TH Contactor Relays

## 3TH2 contactor relays, 4- and 8-pole

Con- tacts	Rated operational current $I_e$ /AC-15/AC-14 at				Contacts		DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	230/ 220 V	400/ 380 V	500 V	690/ 660 V	Ident. No. acc. to EN 50011	Version						
Number	A	A	A	A				Order No.	Price per PU			kg

**Latched contactor relays with screw terminals ·  
For screw and snap-on mounting onto TH 35 standard mounting rail**
**AC operation**

4	4	3	2	1	40E	4	--	C	3TH27 40-0AP0	1	1 unit	101	0.350
					31E	3	1	C	3TH27 31-0AP0	1	1 unit	101	0.350
					22E	2	2	C	3TH27 22-0AP0	1	1 unit	101	0.350

**DC operation · DC solenoid system**

3TH27 ..	4	4	3	2	1	40E	4	--	C	3TH27 40-0BB4	1	1 unit	101	0.400
						31E	3	1	C	3TH27 31-0BB4	1	1 unit	101	0.400
						22E	2	2	C	3TH27 22-0BB4	1	1 unit	101	0.400

For accessories, see page 3/126.

**Rated control supply voltages**  
(the 10th and 11th position of the order number must be changed)

Contactor type	3TH20 ..-0...	3TH20 ..-3..., 3TH20 ..-6..., 3TH20 ..-7..., 3TH22, 3TH27
Rated control supply voltage $U_s$		

**AC operation****Solenoid coils for AC 50 and 60 Hz**

50 Hz		60 Hz	
24 V AC	29 V AC	B0	--
110 V AC	132 V AC	F0	--
230/220 V AC	276 V AC	P0 <sup>1)</sup>	P0 <sup>1)</sup>

**DC operation**

24 V DC	B4	B4
110 V DC	F4	--
220 V DC	M4	--

<sup>1)</sup> Operating range at 220 V or 380 V:  
0.85 to 1.15 x  $U_s$ ; lower operating range limit according to IEC 60947.

Please inquire about further voltages.

# 3RH, 3TH Contactor Relays

## 3RH11 coupling relays (interface) for switching auxiliary circuits, 4-pole

### Overview

#### DC operation

IEC 60947, EN 60947.

The 3RH11 coupling relays for switching auxiliary circuits are tailored to the special requirements of working with electronic controls.

The 3RH11 coupling relays cannot be extended with auxiliary switch blocks.

The coupling relays have a low power consumption, an extended operating range of the solenoid coil and an integrated surge suppressor for damping opening surges (exceptions: 3RH11 ...HB40 and 3RH11 ...MB4-0KT0).

### Selection and ordering data

#### DC operation

##### Low power consumption

##### Extended operating range of the solenoid coils

##### Integrated coil circuit

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RH11 ...-1.B40



3RH11 ...-2.B40

Surge suppressor	Rated operational current $I_{\text{e}}$ /AC-15/AC-14 at <b>230 V</b>	Auxiliary contacts		DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
		Ident. No. acc. to EN 50011	Version		Order No.	Price per PU			Order No.	Price per PU	
							kg				kg



A

NO NC

### For screw and snap-on mounting onto TH 35 standard mounting rail

#### Size S00

Terminal designations according to EN 50011

Rated control supply voltage  $U_s = 24 \text{ V DC}$ , operating range **0.7 to 1.25 x  $U_s$** Power consumption of the solenoid coils **2.3 W** at 24 V (no auxiliary switch blocks can be mounted)

Diode, varistor or RC element, attachable	<b>6</b>	<b>40 E</b>	4	--	▶	<b>3RH11 40-1HB40</b>	0.260 B	<b>3RH11 40-2HB40</b>	0.260
		<b>31 E</b>	3	1	▶	<b>3RH11 31-1HB40</b>	0.260 B	<b>3RH11 31-2HB40</b>	0.260
		<b>22 E</b>	2	2	▶	<b>3RH11 22-1HB40</b>	0.260 B	<b>3RH11 22-2HB40</b>	0.260
Built-in diode	<b>6</b>	<b>40 E</b>	4	--	▶	<b>3RH11 40-1JB40</b>	0.260 B	<b>3RH11 40-2JB40</b>	0.260
		<b>31 E</b>	3	1	▶	<b>3RH11 31-1JB40</b>	0.260 B	<b>3RH11 31-2JB40</b>	0.260
		<b>22 E</b>	2	2	▶	<b>3RH11 22-1JB40</b>	0.260 B	<b>3RH11 22-2JB40</b>	0.260
Built-in varistor	<b>6</b>	<b>40 E</b>	4	--	▶	<b>3RH11 40-1KB40</b>	0.260 B	<b>3RH11 40-2KB40</b>	0.260
		<b>31 E</b>	3	1	▶	<b>3RH11 31-1KB40</b>	0.260 B	<b>3RH11 31-2KB40</b>	0.260
		<b>22 E</b>	2	2	▶	<b>3RH11 22-1KB40</b>	0.260 B	<b>3RH11 22-2KB40</b>	0.260

Rated control supply voltage  $U_s = 24 \text{ V DC}$ , operating range **0.85 to 1.85 x  $U_s$** Power consumption of the solenoid coils **1.4 W** at 24 V (no auxiliary switch blocks can be mounted)

Diode, varistor or RC element, attachable	<b>6</b>	<b>40 E</b>	4	--	B	<b>3RH11 40-1MB40-0KT0</b>	0.260 B	<b>3RH11 40-2MB40-0KT0</b>	0.260
		<b>31 E</b>	3	1	B	<b>3RH11 31-1MB40-0KT0</b>	0.260 B	<b>3RH11 31-2MB40-0KT0</b>	0.260
		<b>22 E</b>	2	2	A	<b>3RH11 22-1MB40-0KT0</b>	0.260 B	<b>3RH11 22-2MB40-0KT0</b>	0.260
Built-in diode	<b>6</b>	<b>40 E</b>	4	--	B	<b>3RH11 40-1VB40</b>	0.260 B	<b>3RH11 40-2VB40</b>	0.260
		<b>31 E</b>	3	1	A	<b>3RH11 31-1VB40</b>	0.260 B	<b>3RH11 31-2VB40</b>	0.260
		<b>22 E</b>	2	2	B	<b>3RH11 22-1VB40</b>	0.260 B	<b>3RH11 22-2VB40</b>	0.260
Built-in varistor	<b>6</b>	<b>40 E</b>	4	--	B	<b>3RH11 40-1WB40</b>	0.260 B	<b>3RH11 40-2WB40</b>	0.260
		<b>31 E</b>	3	1	A	<b>3RH11 31-1WB40</b>	0.260 B	<b>3RH11 31-2WB40</b>	0.260
		<b>22 E</b>	2	2	A	<b>3RH11 22-1WB40</b>	0.260 B	<b>3RH11 22-2WB40</b>	0.260

For accessories, see page 3/102 and 3/104.

3RT10 coupling relays (interface),  
for switching motors, 3-pole, 3 ... 11 kW

## Overview

## DC operation

IEC 60947, EN 60947.

The 3RT10 coupling relays for switching motors are tailored to the special requirements of working with electronic controls.

The 3RT10 1 coupling relays cannot be extended with auxiliary switch blocks.

Two single-pole auxiliary switch blocks can be fitted to the 3RT10 2 coupling relays (see [Accessories on page 3/97](#)).

The coupling relays have a low power consumption, an extended operating range of the solenoid coil and an integrated surge suppressor for damping opening surges (exceptions: 3RT10 1.-1HB4. and 3RT10 1.-MB4.-0KT0).

## Selection and ordering data

## DC operation

## Low power consumption

## Extended operating range of the solenoid coils

## Integrated coil circuit

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 1.-1.B4.



3RT10 1.-2.B4.

Surge suppressor	Rated data		Auxiliary contacts		DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
	AC-2 and AC-3, $T_u$ : Up to 60 °C	Operational current $I_e$ up to 400 V	Rating of induction motors at 50 Hz and 400 V	Ident. No.		Version	Order No.			Price per PU	Order No.	
A			400 V					kg				kg

## For screw and snap-on mounting onto TH 35 standard mounting rail

## Size S00

Terminal designations according to EN 50012

Rated control supply voltage  $U_s = 24$  V DC, coil operating range **0.7 to 1.25** ×  $U_s$ Power consumption of the solenoid coils **2.3 W** at 24 V (no auxiliary switch blocks can be mounted)

Diode, varistor or RC element, attachable	7	3	10	1	--	▶	3RT10 15-1HB41	0.260	B	3RT10 15-2HB41	0.260
			01	--	1	▶	3RT10 15-1HB42	0.260	B	3RT10 15-2HB42	0.260
Built-in diode	7	3	10	1	--	▶	3RT10 15-1JB41	0.260	▶	3RT10 15-2JB41	0.260
			01	--	1	▶	3RT10 15-1JB42	0.260	▶	3RT10 15-2JB42	0.260
Built-in varistor	7	3	10	1	--	▶	3RT10 15-1KB41	0.260	▶	3RT10 15-2KB41	0.260
			01	--	1	▶	3RT10 15-1KB42	0.260	▶	3RT10 15-2KB42	0.260
Diode, varistor or RC element, attachable	9	4	10	1	--	▶	3RT10 16-1HB41	0.260	B	3RT10 16-2HB41	0.260
			01	--	1	▶	3RT10 16-1HB42	0.260	B	3RT10 16-2HB42	0.260
Built-in diode	9	4	10	1	--	▶	3RT10 16-1JB41	0.260	▶	3RT10 16-2JB41	0.260
			01	--	1	▶	3RT10 16-1JB42	0.260	▶	3RT10 16-2JB42	0.260
Built-in varistor	9	4	10	1	--	▶	3RT10 16-1KB41	0.260	▶	3RT10 16-2KB41	0.260
			01	--	1	▶	3RT10 16-1KB42	0.260	▶	3RT10 16-2KB42	0.260
Diode, varistor or RC element, attachable	12	5.5	10	1	--	▶	3RT10 17-1HB41	0.260	B	3RT10 17-2HB41	0.260
			01	--	1	▶	3RT10 17-1HB42	0.260	B	3RT10 17-2HB42	0.260
Built-in diode	12	5.5	10	1	--	▶	3RT10 17-1JB41	0.260	▶	3RT10 17-2JB41	0.260
			01	--	1	▶	3RT10 17-1JB42	0.260	A	3RT10 17-2JB42	0.260
Built-in varistor	12	5.5	10	1	--	▶	3RT10 17-1KB41	0.260	▶	3RT10 17-2KB41	0.260
			01	--	1	▶	3RT10 17-1KB42	0.260	▶	3RT10 17-2KB42	0.260

For accessories, see page 3/108.

# 3RT Coupling Relays

**3RT10 coupling relays (interface),  
for switching motors, 3-pole, 3 ... 11 kW**

## DC operation

### Low power consumption

### Extended operating range of the solenoid coils

### Integrated coil circuit

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RT10 1.-1.B4.



3RT10 1.-2.B4.

Surge suppressor	Rated data AC-2 and AC-3, $T_U$ : Up to 60 °C		Auxiliary contacts		DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
	Operational current $I_e$ up to	Rating of induction motors at 50 Hz and	Ident. No.	Version		Order No.	Price per PU			Order No.	Price per PU	
A	400 V	<b>400 V</b>						kg				kg

## For screw and snap-on mounting onto TH 35 standard mounting rail

### Size S00

Terminal designations according to EN 50012

Rated control supply voltage  $U_s = 24$  V DC, operating range **0.85 to 1.85 x  $U_s$**

Power consumption of the solenoid coils **1.4 W** at 24 V (no auxiliary switch blocks can be mounted)

Diode, varistor or RC element, attachable	7	<b>3</b>	10 01	1 --	-- 1	B B	<b>3RT10 15-1MB41-0KT0</b> <b>3RT10 15-1MB42-0KT0</b>	0.260 B 0.260 B	<b>3RT10 15-2MB41-0KT0</b> <b>3RT10 15-2MB42-0KT0</b>	0.260 0.260
Built-in diode	7	<b>3</b>	10 01	1 --	-- 1	B B	<b>3RT10 15-1VB41</b> <b>3RT10 15-1VB42</b>	0.260 B 0.260 B	<b>3RT10 15-2VB41</b> <b>3RT10 15-2VB42</b>	0.260 0.260
Built-in varistor	7	<b>3</b>	10 01	1 --	-- 1	A B	<b>3RT10 15-1WB41</b> <b>3RT10 15-1WB42</b>	0.260 B 0.260 B	<b>3RT10 15-2WB41</b> <b>3RT10 15-2WB42</b>	0.260 0.260
Diode, varistor or RC element, attachable	9	<b>4</b>	10 01	1 --	-- 1	B B	<b>3RT10 16-1MB41-0KT0</b> <b>3RT10 16-1MB42-0KT0</b>	0.260 B 0.260 B	<b>3RT10 16-2MB41-0KT0</b> <b>3RT10 16-2MB42-0KT0</b>	0.260 0.260
Built-in diode	9	<b>4</b>	10 01	1 --	-- 1	B B	<b>3RT10 16-1VB41</b> <b>3RT10 16-1VB42</b>	0.260 B 0.260 B	<b>3RT10 16-2VB41</b> <b>3RT10 16-2VB42</b>	0.260 0.260
Built-in varistor	9	<b>4</b>	10 01	1 --	-- 1	B B	<b>3RT10 16-1WB41</b> <b>3RT10 16-1WB42</b>	0.260 B 0.260 B	<b>3RT10 16-2WB41</b> <b>3RT10 16-2WB42</b>	0.260 0.260
Diode, varistor or RC element, attachable	12	<b>5.5</b>	10 01	1 --	-- 1	B B	<b>3RT10 17-1MB41-0KT0</b> <b>3RT10 17-1MB42-0KT0</b>	0.260 B 0.260 B	<b>3RT10 17-2MB41-0KT0</b> <b>3RT10 17-2MB42-0KT0</b>	0.260 0.260
Built-in diode	12	<b>5.5</b>	10 01	1 --	-- 1	B B	<b>3RT10 17-1VB41</b> <b>3RT10 17-1VB42</b>	0.260 B 0.260 B	<b>3RT10 17-2VB41</b> <b>3RT10 17-2VB42</b>	0.260 0.260
Built-in varistor	12	<b>5.5</b>	10 01	1 --	-- 1	B B	<b>3RT10 17-1WB41</b> <b>3RT10 17-1WB42</b>	0.260 B 0.260 B	<b>3RT10 17-2WB41</b> <b>3RT10 17-2WB42</b>	0.260 0.260

For accessories, see page 3/108.



# 3RT Coupling Relays

**3RT10 coupling relays (interface),  
for switching motors, 3-pole, 3 ... 11 kW**

- DC operation*
- Low power consumption*
- Extended operating range of the solenoid coils*
- Integrated coil circuit*

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RT10 2.-1KB40



3RT10 2.-3KB40

Surge suppressor	Rated data		Auxiliary contacts		DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals for coil terminals		Weight per PU approx.
	AC-2 and AC-3, $T_U$ : Up to 60 °C	Operational current $I_e$ up to 400 V	Rating of induction motors at 50 Hz and <b>400 V</b>	Ident. No.		Version	Order No.			Price per PU	Order No.	
A		<b>kW</b>		NO NC			kg				kg	

**For screw and snap-on mounting onto TH 35 standard mounting rail**

*Size S0*

Rated control supply voltage  $U_s = 24$  V DC, coil operating range **0.7 to 1.25 x  $U_s$**   
 Power consumption of the solenoid coils **4.2 W** at 24 V (**2 single-pole auxiliary switch blocks can be mounted**)

Varistor mounted	12	<b>5.5</b>	--	--	--	▶	<b>3RT10 24-1KB40</b>	0.600	B	<b>3RT10 24-3KB40</b>	0.600
	17	<b>7.5</b>	--	--	--	▶	<b>3RT10 25-1KB40</b>	0.600	▶	<b>3RT10 25-3KB40</b>	0.600
	25	<b>11</b>	--	--	--	▶	<b>3RT10 26-1KB40</b>	0.600	▶	<b>3RT10 26-3KB40</b>	0.600

For accessories, see page 3/103.

# 3TX7, 3RS18 Coupling Relays

## 3TX7 Coupling Relays, Narrow Design

### Relay couplers

#### Application

##### AC and DC operation

EN 60947, EN 60664-1 and EN 50005.






In the coupling links in double-decker design, the connections are arranged on two levels; the units are extremely compact. Connection method: screw or spring-type terminals. For test purposes, versions are available with manual-0-automatic switches.

The input and output coupling links differ with regard to the positioning of the terminals and the LEDs. For equipment identification purposes, each coupling link has a blank labeling plate.

In accordance with the technical specifications of electronic systems, the coupling links have a lower power consumption.

#### Selection and ordering data

##### AC and DC operation · for snap-on mounting onto TH 35 standard mounting rail

	Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts Version		Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	V	NO	CO	mm							kg
<b>3TX7 002 relay coupling links with screw terminals</b>											
	<b>Output coupling links</b>					<b>Screw terminals</b> 					
	24 AC/DC	1	--	11,5	▶	<b>3TX7 002-1AB00</b>		1	1 unit	101	0,035
	24 AC/DC	1 <sup>1)</sup>	--	11,5	▶	<b>3TX7 002-1AB02</b>		1	1 unit	101	0,035
	24 AC/DC	--	1	17,5	▶	<b>3TX7 002-1BB00</b>		1	1 unit	101	0,045
	230 AC/DC	--	1	17,5	▶	<b>3TX7 002-1BF00</b>		1	1 unit	101	0,045
	24 AC/DC	2 <sup>2)</sup>	--	22,5	▶	<b>3TX7 002-1CB00</b>		1	1 unit	101	0,061
	24 AC/DC	--	2 <sup>1) 2)</sup>	22,5	▶	<b>3TX7 002-1FB02</b>		1	1 unit	101	0,061
	<b>Input coupling links</b>										
	24 AC/DC	1	--	11,5	▶	<b>3TX7 002-2AB00</b>		1	1 unit	101	0,035
	110 AC/DC	1	--	11,5	▶	<b>3TX7 002-2AE00</b>		1	1 unit	101	0,035
	230 AC/DC <sup>2)</sup>	1	--	11,5	▶	<b>3TX7 002-2AF00</b>		1	1 unit	101	0,035
	230 AC/DC <sup>2)</sup>	1	--	11,5	▶	<b>3TX7 002-2AF05</b>		1	1 unit	101	0,035
	230 AC/DC	--	1 <sup>1) 3)</sup>	17,5	▶	<b>3TX7 002-2BF02</b>		1	1 unit	101	0,045
<b>3TX7 003 relay coupling links with spring-type terminals</b>											
	<b>Output coupling links</b>					<b>Spring-type terminals</b> 					
	24 AC/DC	1	--	11,5	▶	<b>3TX7 003-1AB00</b>		1	1 unit	101	0,035
	24 AC/DC	--	1	17,5	▶	<b>3TX7 003-1BB00</b>		1	1 unit	101	0,045
	24 AC/DC	2 <sup>2)</sup>	--	22,5	▶	<b>3TX7 003-1CB00</b>		1	1 unit	101	0,055
	<b>Input coupling links</b>										
230 AC/DC	1	--	11,5	A	<b>3TX7 003-2AF00</b>		1	1 unit	101	0,035	

#### Note:

For coil voltages which are not listed, see SITOP power DC Power Supplies, e. g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in "Power Supplies".

<sup>1)</sup> Hard gold-plated contacts.



<sup>2)</sup> The same potential must be applied to the output contacts of the 2 NO/2 CO relays.



<sup>3)</sup> Observe max. permissible cable length, (see Technical specifications, page 3/1).

# 3TX7, 3RS18 Coupling Relays

## 3TX7 Coupling Relays, Narrow Design

### Relay couplers

Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts Version	Manual-0-automatic switch for testing purposes	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
V	NO	CO	mm							kg	
<b>3TX7 004 relay couplers with screw terminals</b>											
<b>Output coupling links</b>						<b>Screw terminals</b> 					
 3TX7 004-1LB0.	24 AC/DC	--	1	Without	6,2	▶	<b>3TX7 004-1LB00</b>	1	1 unit	101	0,035
	24 AC/DC	--	1 <sup>2)</sup>	Without	6,2	▶	<b>3TX7 004-1LB02</b>	1	1 unit	101	0,035
	24 AC/DC	--	1	with	12,5	▶	<b>3TX7 004-1BB10</b>	1	1 unit	101	0,052
	230 AC/DC	--	1	Without	6,2	▶	<b>3TX7 004-1LF00</b>	1	1 unit	101	0,035
	230 AC/DC	--	1	Without	12,5 <sup>1)</sup>	▶	<b>3TX7 004-1BF05</b>	1	1 unit	101	0,051
	24 AC/DC	1	--	Without	6,2	▶	<b>3TX7 004-1MB00</b>	1	1 unit	101	0,035
	230 AC/DC	1	--	Without	6,2	▶	<b>3TX7 004-1MF00</b>	1	1 unit	101	0,035
	<b>Input coupling links</b>										
	24 AC/DC	1 <sup>2)</sup>	--	Without	6,2	▶	<b>3TX7 004-2MB02</b>	1	1 unit	101	0,035
	110 AC/DC	1 <sup>2)</sup>	--	Without	6,2	▶	<b>3TX7 004-2ME02</b>	1	1 unit	101	0,035
230 AC/DC	1 <sup>2)</sup>	--	Without	6,2	▶	<b>3TX7 004-2MF02</b>	1	1 unit	101	0,035	

<b>3TX7 005 relay couplers with spring-type terminals</b>											
<b>Output coupling links</b>						<b>Spring-type terminals</b> 					
 3TX7 005-2MB02	24 AC/DC	--	1	Without	6,2	▶	<b>3TX7 005-1LB00</b>	1	1 unit	101	0,035
	24 AC/DC	--	1 <sup>2)</sup>	Without	6,2	▶	<b>3TX7 005-1LB02</b>	1	1 unit	101	0,035
	24 AC/DC <sup>3)</sup>	--	1	Without	6,2	B	<b>3TX7 005-1LN00</b>	1	1 unit	101	0,035
	230 AC/DC	--	1	Without	6,2	▶	<b>3TX7 005-1LF00</b>	1	1 unit	101	0,035
	24 AC/DC	1	--	Without	6,2	▶	<b>3TX7 005-1MB00</b>	1	1 unit	101	0,035
	230 AC/DC	1	--	Without	6,2	▶	<b>3TX7 005-1MF00</b>	1	1 unit	101	0,035
	<b>Input coupling links</b>										
24 AC/DC	1 <sup>2)</sup>	--	Without	6,2	C	<b>3TX7 005-2MB02</b>	1	1 unit	101	0,035	
230 AC/DC	1 <sup>2)</sup>	--	Without	6,2	B	<b>3TX7 005-2MF02</b>	1	1 unit	101	0,035	

#### Note:

For replacement products, see 3RS18 coupling links with industrial housing or other 3TX7 0 products.

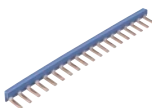

For coil voltages which are not listed, see SITOP power DC Power Supplies, e. g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in "Power Supplies".

<sup>1)</sup> For long cables.

<sup>2)</sup> Hard gold-plated contacts.

<sup>3)</sup> Extended operating range 0.7 ... 1.25 x  $U_s$ .

### Accessories

For coupling links	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type								kg
<b>Connecting comb, blue</b>								
 3TX7 004-8AA00	3TX7 004	For linking the same potentials 24 terminals, current carrying capacity for infeed max. 26 A Width 6,2 mm	▶	<b>3TX7 004-8AA00</b>	1	1 unit	101	0,017
	<b>Connecting cable, blue</b>							
 3TX7 004-8BA00	3TX7 002 and 3TX7 004 with screw terminals	with infeed, blue	A	<b>3TX7 004-8BA00</b>	1	1 unit	101	0,040
	3TX7 003 and 3TX7 005 with spring-type terminals	24 terminals, current carrying capacity for infeed max. 12 A length of cable between 2 terminals approx. 11 cm in each case						

\* You can order this quantity or a multiple thereof.

# 3TX7, 3RS18 Coupling Relays

## 3TX7 Coupling Relays, Narrow Design



### Relay couplers with plug-in connection

#### Benefits

##### Advantages

- Plug-in base couplers with spring-type terminals and 6.2 mm width
- Fast exchange with permanent wiring (plug-in relay)
- The wire inlet and terminals can be reached from the front. This results in faster wiring time and wiring errors are prevented.
- Tested complete units → short mounting time
- Single relays available as components
- Linking of control supply voltage and control signals with 16-pole connecting comb
- Galvanic isolation plate for isolating different voltages for neighboring units
- Device variants with hard gold-plated contacts, hence high contact reliability
- 24 V DC version also available as variant with NO contact
- Integrated reverse polarity protection and EMC arc-suppression diode
- Clearly visible functional state of the relay coupler by yellow LED
- Protective separation according to EN 50178
- 230 V AC/DC versions available

#### Selection and ordering data

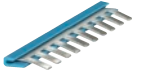

Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	NO CO							kg
<b>Plug-in base couplers, 6.2 mm, complete with relay</b>								
			<b>Screw terminals</b> 					
24 DC	1 --	A	<b>3TX7 014-1AM00</b>		1	5 units	101	0,035
24 DC	-- 1	A	<b>3TX7 014-1BM00</b>		1	5 units	101	0,035
24 AC/DC	-- 1	A	<b>3TX7 014-1BB00</b>		1	5 units	101	0,035
115 AC/DC	-- 1	A	<b>3TX7 014-1BE00</b>		1	5 units	101	0,045
230 AC/DC	-- 1	A	<b>3TX7 014-1BF00</b>		1	5 units	101	0,041
<b>Plug-in base couplers, 6.2 mm, complete with relay and hard gold-plating<sup>1)</sup></b>								
24 DC	-- 1	A	<b>3TX7 014-1BM02</b>		1	5 units	101	0,035
24 AC/DC	-- 1	A	<b>3TX7 014-1BB02</b>		1	5 units	101	0,035
115 AC/DC	-- 1	A	<b>3TX7 014-1BE02</b>		1	5 units	101	0,041
230 AC/DC	-- 1	A	<b>3TX7 014-1BF02</b>		1	5 units	101	0,035
<b>Plug-in base couplers, 6.2 mm, complete with relay</b>								
			<b>Spring-type terminals</b> 					
24 DC	1 --	A	<b>3TX7 015-1AM00</b>		1	5 units	101	0,045
24 DC	-- 1	A	<b>3TX7 015-1BM00</b>		1	5 units	101	0,045
24 AC/DC	-- 1	A	<b>3TX7 015-1BB00</b>		1	5 units	101	0,045
115 AC/DC	-- 1	A	<b>3TX7 015-1BE00</b>		1	5 units	101	0,045
230 AC/DC	-- 1	A	<b>3TX7 015-1BF00</b>		1	5 units	101	0,045
<b>Plug-in base couplers, 6.2 mm, complete with relay and hard gold-plating<sup>1)</sup></b>								
24 DC	-- 1	A	<b>3TX7 015-1BM02</b>		1	5 units	101	0,045
24 AC/DC	-- 1	A	<b>3TX7 015-1BB02</b>		1	5 units	101	0,040
115 AC/DC	-- 1	A	<b>3TX7 015-1BE02</b>		1	5 units	101	0,045
230 AC/DC	-- 1	A	<b>3TX7 015-1BF02</b>		1	5 units	101	0,045

<sup>1)</sup> The versions with hard gold-plated contacts feature high contact reliability (also for low currents) and are therefore especially suitable for steady-state inputs of programmable logic controllers.

# 3TX7, 3RS18 Coupling Relays


## 3TX7 Coupling Relays, Narrow Design


Relay couplers with plug-in connection

For coupling links	Rated control supply voltage $U_s$ AC 50/60 Hz V	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
<b>Replacement relay modules<sup>1)</sup>, 6.2 mm, 1 changeover contact</b>									
3TX7 014	12 DC	<b>For complete unit</b>		A	<b>3TX7 014-7BQ00</b>		1 20 units	101	0,035
		• 24 V AC/DC • 24 V DC, hard gold-plating	A	<b>3TX7 014-7BQ02</b>	1 20 units		101	0,035	
3TX7 014	24 DC			A	<b>3TX7 014-7BM00</b>		1 20 units	101	0,035
		• 24 V DC • 24 V DC, hard gold-plating	A	<b>3TX7 014-7BM02</b>	1 20 units		101	0,035	
3TX7 014	60 DC			A	<b>3TX7 014-7BP00</b>		1 20 units	101	0,035
		• 115 V or 230 V AC/DC • 115 V or 230 V AC/DC, hard gold-plated	A	<b>3TX7 014-7BP02</b>	1 20 units		101	0,035	
<b>Connecting comb, blue</b>									
 3TX7 014-7AA00	3TX7 014	--		For linking the same potentials 16 terminals, current carrying capacity for infeed max. 6 A	A	<b>3TX7 014-7AA00</b>	1 5 units	101	0,035
<b>Galvanic isolation plates</b>									
 3TX7 014-7CE00	3TX7 014 and 3TX7 015	--	--		A	<b>3TX7 014-7CE00</b>	1 10 units	101	0,035

<sup>1)</sup> The versions with hard gold-plated contacts feature high contact reliability (also for low currents) and are therefore especially suitable for steady-state inputs of programmable logic controllers.

3TX7 014-..	3TX7 015-..	NO (13/14)	CO (11/12/14)	3TX7 014-..	FTR-LY..	APE..	V23092-..
..-1AM00 <sup>1)</sup>	(+)A1/(-)A2	NO	CO	..-7BM00 <sup>1)</sup>	..CA024Y	..30024	..A1024-A301
..-1BM00 <sup>1)</sup>		CO		..-7BM00 <sup>1)</sup>	..CA024Y	..30024	..A1024-A301
..-1BB00 <sup>1)</sup>		CO		..-7BQ00 <sup>1)</sup>	..CA012Y	..30012	..A1012-A301
..-1BE00 <sup>1)</sup>		CO		..-7BP00 <sup>1)</sup>	--	..30060	..A1060-A301
..-1BF00 <sup>1)</sup>		CO		..-7BP00 <sup>1)</sup>	--	..30060	..A1060-A301
..-1BM02 <sup>2)</sup>		CO		..-7BM02 <sup>2)</sup>	..CA024V	..30124	..A1024-A201
..-1BB02 <sup>2)</sup>		CO		..-7BQ02 <sup>2)</sup>	..CA012V	..30112	..A1012-A201
..-1BE02 <sup>2)</sup>		CO		..-7BP02 <sup>2)</sup>	--	..30160	..A1060-A201
..-1BF02 <sup>2)</sup>		CO		..-7BP02 <sup>2)</sup>	--	..30160	..A1060-A201

<sup>1)</sup>  = AgSn0

<sup>2)</sup>  = AgSn0+Au

# 3TX7, 3RS18 Coupling Relays

## 3TX7 Coupling Relays, Narrow Design

### Semiconductor couplers

#### Overview

##### AC and DC operation

EN 60664-1, EN 60947 and EN 50005; optocouplers: EN 60747-5, IEC 61131-2 (programmable controllers).


In the coupling links in double-decker design, the connections are arranged on two levels; the units are extremely compact. Connection method: screw or spring-type terminals. For test purposes, versions are available with manual-0-automatic switches.

The input and output coupling links differ with regard to the positioning of the terminals and the LEDs. For equipment identification purposes, each coupling link has a blank labeling plate.

In accordance with the technical specifications of electronic systems, the coupling links have a lower power consumption.

#### Selection and ordering data

##### AC and DC operation · for snap-on mounting onto TH 35 standard mounting rail

Rated control supply voltage $U_s$ at AC 50/60 Hz	Switching voltage	Switching current	Width	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	Contacts V	A	mm		Order No.	Price per PU			kg
<b>3TX7 002 semiconductor couplers with screw terminals, 1 transistor</b>									
<b>Output coupling links</b>									
24 DC	48 ... 264 AC	1,8	12,5	▶	<b>3TX7 002-3AB00</b>	1	1 unit	101	0,033
	< 60 DC	1,5	11,5	▶	<b>3TX7 002-3AB01</b>	1	1 unit	101	0,035
<b>Input coupling links</b>									
24 AC/DC	< 30 DC	0,1	12,5	▶	<b>3TX7 002-4AB00</b>	1	1 unit	101	0,031
110 ... 240 AC	< 30 DC	0,1	12,5	▶	<b>3TX7 002-4AG00</b>	1	1 unit	101	0,035



3TX7 002

Rated control supply voltage $U_s$ at AC 50/60 Hz	Switching voltage	Switching current	Manual-0-automatic switch for testing purposes	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	V	A		mm							kg
<b>3TX7 004 semiconductor couplers with screw terminals</b>											
<b>Output coupling links</b>											
24 DC	≤ 48 DC	0,5	Without	6,2	▶	<b>3TX7 004-3AB04</b>		1	1 unit	101	0,034
24 DC	11 ... 30 DC	1,5	Without	6,2	▶	<b>3TX7 004-3PB54</b>		1	1 unit	101	0,029
24 DC	≤ 30 DC	3	Without	6,2	▶	<b>3TX7 004-3PB74</b>		1	1 unit	101	0,032
110 ... 230 AC/DC	≤ 30 DC	3	Without	6,2	A	<b>3TX7 004-3PG74</b>		1	1 unit	101	0,033
24 DC	≤ 30 DC	5	Without	12,5	▶	<b>3TX7 004-3AC04</b>		1	1 unit	101	0,052
24 DC	≤ 30 DC	5	With	12,5	B	<b>3TX7 004-3AC14</b>		1	1 unit	101	0,061
24 DC	24 ... 250 AC	2	Without	12,5	▶	<b>3TX7 004-3AC03</b>		1	1 unit	101	0,060
<b>Input coupling links</b>											
110 ... 230 AC/DC	≤ 30 DC	0,1	Without	6,2	▶	<b>3TX7 004-4PG24</b>		1	1 unit	101	0,034



3TX7 004-3AB04

Rated control supply voltage $U_s$ at AC 50/60 Hz	Switching voltage	Switching current	Manual-0-automatic switch for testing purposes	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V	V	A		mm							kg
<b>3TX7 005 semiconductor couplers with spring-type terminals</b>											
<b>Output coupling links</b>											
24 DC	≤ 48 DC	0,5	Without	6,2	▶	<b>3TX7 005-3AB04</b>		1	1 unit	101	0,031
24 DC	11 ... 30 DC	1,5	Without	6,2	▶	<b>3TX7 005-3PB54</b>		1	1 unit	101	0,025
24 DC	≤ 30 DC	3	Without	6,2	A	<b>3TX7 005-3PB74</b>		1	1 unit	101	0,027
110 ... 230 AC/DC	≤ 30 DC	3	Without	6,2	A	<b>3TX7 005-3PG74</b>		1	1 unit	101	0,027
24 DC	≤ 30 DC	5	Without	12,5	▶	<b>3TX7 005-3AC04</b>		1	1 unit	101	0,047
24 DC	≤ 30 DC	5	With	12,5	C	<b>3TX7 005-3AC14</b>		1	1 unit	101	0,051
24 DC	24 ... 250 AC	2	Without	12,5	C	<b>3TX7 005-3AC03</b>		1	1 unit	101	0,056
<b>Input coupling links</b>											
110 ... 230 AC/DC	≤ 30 DC	0,1	Without	6,2	▶	<b>3TX7 005-4PG24</b>		1	1 unit	101	0,031

#### Note:

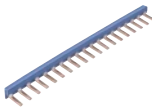

For replacement products, see 3RS18 coupling links with industrial housing or other 3TX7 0 products. For coil voltages which are not listed, see SITOP power DC Power Supplies, e. g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in "Power Supplies".

# 3TX7, 3RS18 Coupling Relays

## 3TX7 Coupling Relays, Narrow Design

Semiconductor couplers

### Accessories

For coupling links	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg	
Type									
<b>Connecting comb, blue</b>									
 3TX7 004-8AA00	3TX7 004		For linking the same potentials ▶ 24 terminals, current carrying capacity for infeed max. 26 A Width 6,2 mm	<b>3TX7 004-8AA00</b>		1	1 unit	101	0,017
<b>Connecting cable, blue</b>									
 3TX7 004-8BA00	3TX7 002 and 3TX7 004 with screw terminals 3TX7 003 and 3TX7 005 with spring-type terminals	A	With infeed, blue 24 terminals, current carrying capacity for infeed max. 12 A length of cable between 2 terminals approx. 11 cm in each case	<b>3TX7 004-8BA00</b>		1	1 unit	101	0,040

\* You can order this quantity or a multiple thereof.

# 3TX7, 3RS18 Coupling Relays

## 3RS18 Coupling Relays with Industrial Housing

### Relay couplers

#### Overview




The new 3RS18 coupling relays are couplers in the well-proven standard 22.5 mm timing relay enclosure. The series comprises relays with 1, 2 and 3 changeover contacts with screw and spring-type connections for combined voltages and wide voltage ranges.

The relay coils are protected internally with noise suppression diodes.

#### Benefits

- Wide voltage range: One product for all voltages
- The industrial housing supports the same connection methods as the timing relay including spring-type connections, 2 wires can be clamped
- Versions with solid-state compatible outputs (hard gold-plating)
- Up to 3 changeover contacts with only 22.5 mm width.

#### Selection and ordering data

	Rated control supply voltage $U_c$ at AC 50/60 Hz	Contacts Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg	
	V	CO								
<b>Coupling relays with industrial housing with screw terminals, 22.5 mm</b>										
	<b>Wide voltage range</b>			<b>Screw terminals</b> 						
	24 ... 240 AC/DC	2	A	<b>3RS18 00-1BW00</b>		1	1 unit	101	0,143	
		3	A	<b>3RS18 00-1HW00</b>		1	1 unit	101	0,168	
		3 <sup>1)</sup>	A	<b>3RS18 00-1HW01</b>		1	1 unit	101	0,168	
	<b>Combination voltage</b>									
	24 AC/DC and 110 ... 120 AC	1	A	<b>3RS18 00-1AQ00</b>		1	1 unit	101	0,116	
		2	A	<b>3RS18 00-1BQ00</b>		1	1 unit	101	0,142	
		3	C	<b>3RS18 00-1HQ00</b>		1	1 unit	101	0,173	
		3 <sup>1)</sup>	C	<b>3RS18 00-1HQ01</b>		1	1 unit	101	0,173	
	24 AC/DC and 220 ... 240 AC	1	A	<b>3RS18 00-1AP00</b>		1	1 unit	101	0,112	
		2	A	<b>3RS18 00-1BP00</b>		1	1 unit	101	0,142	
		3	A	<b>3RS18 00-1HP00</b>		1	1 unit	101	0,166	
		3 <sup>1)</sup>	A	<b>3RS18 00-1HP01</b>		1	1 unit	101	0,170	
	<b>Coupling relays with industrial housing with spring-type terminals, 22.5 mm</b>									
		<b>Wide voltage range</b>			<b>Spring-type terminals</b> 					
24 ... 240 AC/DC		2	A	<b>3RS18 00-2BW00</b>		1	1 unit	101	0,128	
		3	A	<b>3RS18 00-2HW00</b>		1	1 unit	101	0,144	
		3 <sup>1)</sup>	C	<b>3RS18 00-2HW01</b>		1	1 unit	101	0,145	
<b>Combination voltage</b>										
24 AC/DC and 110 ... 120 AC		1	C	<b>3RS18 00-2AQ00</b>		1	1 unit	101	0,104	
		2	C	<b>3RS18 00-2BQ00</b>		1	1 unit	101	0,120	
		3	C	<b>3RS18 00-2HQ00</b>		1	1 unit	101	0,147	
		3 <sup>1)</sup>	C	<b>3RS18 00-2HQ01</b>		1	1 unit	101	0,147	
24 AC/DC and 220 ... 240 AC		1	A	<b>3RS18 00-2AP00</b>		1	1 unit	101	0,104	
		2	A	<b>3RS18 00-2BP00</b>		1	1 unit	101	0,122	
		3	A	<b>3RS18 00-2HP00</b>		1	1 unit	101	0,143	
		3 <sup>1)</sup>	C	<b>3RS18 00-2HP01</b>		1	1 unit	101	0,147	

<sup>1)</sup> Hard gold-plated contacts.



## Overview

The LZX complete units and accessory parts previously available are no longer listed in this catalog. In their place you will now find the new LZS types. LZS complete units are fully compatible with their predecessors, the LZX complete units. The LZX plug-in relays have not been changed and are used accordingly in both the LZS and the LZX series.

*Due to differences in geometry the LED modules, plug-in bases, retaining brackets and labels can be combined and/or used in only the respective series, LZS or LZX.*

List for converting from LZX to LZS plug-in relay couplers:

Complete units	
Previous Order No.	New Order No.
LZX:PT3A5L24	LZS:PT3A5L24
LZX:PT3A5R24	LZS:PT3A5R24
LZX:PT3A5S15	LZS:PT3A5S15
LZX:PT3A5T30	LZS:PT3A5T30
LZX:PT5A5L24	LZS:PT5A5L24
LZX:PT5A5R24	LZS:PT5A5R24
LZX:PT5A5S15	LZS:PT5A5S15
LZX:PT5A5T30	LZS:PT5A5T30
LZX:PT5B5L24	LZS:PT5B5L24
LZX:PT5B5R24	LZS:PT5B5R24
LZX:PT5B5S15	LZS:PT5B5S15
LZX:PT5B5T30	LZS:PT5B5T30
LZX:RT3A4L24	LZS:RT3A4L24
LZX:RT3A4R24	LZS:RT3A4R24
LZX:RT3A4S15	LZS:RT3A4S15
LZX:RT3A4T30	LZS:RT3A4T30
LZX:RT3B4L24	LZS:RT3B4L24
LZX:RT3B4R24	LZS:RT3B4R24
LZX:RT3B4S15	LZS:RT3B4S15
LZX:RT3B4T30	LZS:RT3B4T30
LZX:RT4A4L24	LZS:RT4A4L24
LZX:RT4A4R24	LZS:RT4A4R24
LZX:RT4A4S15	LZS:RT4A4S15
LZX:RT4A4T30	LZS:RT4A4T30
LZX:RT4B4L24	LZS:RT4B4L24
LZX:RT4B4R24	LZS:RT4B4R24
LZX:RT4B4S15	LZS:RT4B4S15
LZX:RT4B4T30	LZS:RT4B4T30

Prices for the new LZS series are lower than for the previous LZX series.

*Note:*  
*In addition the LZS series offers not only service-proven screw connections but also versions with plug-in terminals.*

The following conversion list will help you to change over from the LZX types previously sold to the new LZS types. Please contact your regional adviser if you have any questions.

List for converting from LZX to LZS accessories for individual modules:

Accessories for individual modules	
Previous Order No.	New Order No.
LZX:MT28800	LZS:MT28800
LZX:MT78750	LZS:MT78750
LZX:PT16016	LZS:PT17024 <sup>1)</sup> LZS:PT17021 <sup>2)</sup>
LZX:PT16040	LZS:PT17040
LZX:PT78702	LZS:PT78720
LZX:PT78703	LZS:PT78730
LZX:PT78704	LZS:PT78740
LZX:PT78802	LZS:PT78722
LZX:PT78804	LZS:PT78742
LZX:RPMG0024	LZS:PTMG0024
LZX:RPMG0524	LZS:PTMG0524
LZX:RPMG0730	LZS:PTMG0730
LZX:RPML0024	LZS:PTML0024
LZX:RPML0524	LZS:PTML0524
LZX:RPML0730	LZS:PTML0730
LZX:RPMT00A0	LZS:PTMT00A0
LZX:RPMU0548	LZS:PTMU0524
LZX:RPMU0730	LZS:PTMU0730
LZX:RT16016	LZS:RT17016
LZX:RT78625	LZS:RT78725
LZX:RT78626	LZS:RT78726
LZX:RY16040	LZS:RT17040





<sup>1)</sup> LZS:PT17024 for PT standard base: Without logical separation, screw terminals.

<sup>2)</sup> LZS:PT17021 for PT base with logical separation, screw terminals and plug-in terminals.

# Coupling Relays with LZS, LZX Plug-in Relays

## Plug-in relay couplers

### Selection and ordering data

Version	Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
	V		mm							kg	
<b>Complete units, 11- and 14-pole, PT series</b>											
 LZS:PT3A5L24	<b>Complete units with plug-in base</b> for snap-on mounting onto TH 35 standard mounting rail comprising:				<b>Screw terminals</b> 						
	<ul style="list-style-type: none"> <li>Coupling relays with plug-in relays</li> <li>Standard plug-in base with screw terminals</li> <li>LED module (version 24 V DC: LED module with freewheel diode)</li> <li>Fixing/ejection brackets</li> <li>Labels</li> </ul>										
	3 CO	24 DC	3	28	A	<b>LZS:PT3A5L24</b>		1 5 units	101	0.085	
		24 AC			A	<b>LZS:PT3A5R24</b>		1 5 units	101	0.085	
		115 AC			A	<b>LZS:PT3A5S15</b>		1 5 units	101	0.085	
		230 AC			A	<b>LZS:PT3A5T30</b>		1 5 units	101	0.085	
	4 CO	24 DC	4	28	A	<b>LZS:PT5A5L24</b>		1 5 units	101	0.090	
		24 AC			A	<b>LZS:PT5A5R24</b>		1 5 units	101	0.090	
		115 AC			A	<b>LZS:PT5A5S15</b>		1 5 units	101	0.090	
		230 AC			A	<b>LZS:PT5A5T30</b>		1 5 units	101	0.090	
<b>Complete units with plug-in base with logical separation<sup>1)</sup></b> for snap-on mounting onto TH 35 standard mounting rail comprising:											
<ul style="list-style-type: none"> <li>Coupling relays with plug-in relays</li> <li>Plug-in base with logical separation and screw terminals</li> <li>LED module (version 24 V DC: LED module with freewheel diode)</li> <li>Fixing/ejection brackets</li> <li>Labels</li> </ul>											
4 CO	24 DC	4	28	A	<b>LZS:PT5B5L24</b>		1 5 units	101	0.095		
	24 AC			A	<b>LZS:PT5B5R24</b>		1 5 units	101	0.095		
	115 AC			A	<b>LZS:PT5B5S15</b>		1 5 units	101	0.095		
	230 AC			A	<b>LZS:PT5B5T30</b>		1 5 units	101	0.095		
<b>Complete units, 11- and 14-pole, PT series</b>											
 LZS:PT5D5L24	<b>Complete units with plug-in base with logical separation<sup>1)</sup></b> for snap-on mounting onto TH 35 standard mounting rail comprising:				<b>Plug-in terminals</b> 						
	<ul style="list-style-type: none"> <li>Coupling relays with plug-in relays</li> <li>Plug-in base with logical separation and plug-in terminals</li> <li>LED module (version 24 V DC: LED module with freewheel diode)</li> <li>Fixing/ejection brackets</li> <li>Labels</li> </ul>										
	4 CO	24 DC	4	28	A	<b>LZS:PT5D5L24</b>		1 5 units	101	0.098	
		24 AC			A	<b>LZS:PT5D5R24</b>		1 5 units	101	0.098	
		115 AC			A	<b>LZS:PT5D5S15</b>		1 5 units	101	0.098	
		230 AC			A	<b>LZS:PT5D5T30</b>		1 5 units	101	0.098	


<sup>1)</sup> **Note:**

**Logical separation:** The terminals for the contacts and the terminals for the coil are arranged on separate levels, e. g. above for contacts and below for the coil. Logical separation is not necessarily protective separation (see note on Technical Information on page 3/1).

**Protective separation:** Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (EN 61140).

## Coupling Relays with LZS, LZX Plug-in Relays

## Plug-in relay couplers

Version	Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	V		mm							kg
<b>Individual modules for customer assembly, PT series</b>										
<i>Industrial relays, 8-, 11-, and 14-pole</i>										
<b>Mini industrial relays</b>										
• With test bracket and mechanical switch position indicator, without LED <sup>1)</sup>										
 LZX:PT370024	24 DC	2	22.5	▶	LZX:PT270024		1	1 unit	101	0.030
		3		▶	LZX:PT370024		1	1 unit	101	0.031
		4		▶	LZX:PT570024		1	1 unit	101	0.031
	24 AC	2	22.5	C	LZX:PT270524		1	1 unit	101	0.030
		3		A	LZX:PT370524		1	1 unit	101	0.031
		4		▶	LZX:PT570524		1	1 unit	101	0.031
	115 AC	2	22.5	C	LZX:PT270615		1	1 unit	101	0.028
		3		A	LZX:PT370615		1	1 unit	101	0.030
		4		▶	LZX:PT570615		1	1 unit	101	0.030
	230 AC	2	22.5	▶	LZX:PT270730		1	1 unit	101	0.029
		3		▶	LZX:PT370730		1	1 unit	101	0.030
		4		▶	LZX:PT570730		1	1 unit	101	0.030
• With hard gold-plating										
	24 DC	4	22.5	▶	LZX:PT580024		1	1 unit	101	0.031
	230 AC			▶	LZX:PT580730		1	1 unit	101	0.031
• Without test bracket										
	24 DC	4	22.5	C	LZX:PT520024		1	1 unit	101	0.031
	230 AC			C	LZX:PT520730		1	1 unit	101	0.031

**Plug-in bases for PT relays****Standard plug-in bases**

for mounting onto TH 35 standard mounting rail

--	2	28	▶
	3		▶
	4		▶

**Screw terminals**

LZS:PT78720	1	1 unit	101	0.045
LZS:PT78730	1	1 unit	101	0.048
LZS:PT78740	1	1 unit	101	0.050

**Plug-in bases with logical separation<sup>2)</sup>**

for mounting onto TH 35 standard mounting rail

--	2	28	▶
	4		▶

LZS:PT78722	1	1 unit	101	0.048
LZS:PT78742	1	1 unit	101	0.050

**Plug-in bases with logical separation<sup>2)</sup>**

for mounting onto TH 35 standard mounting rail

--	2	28	▶
	4		▶

**Plug-in terminals**

LZS:PT7872P	1	1 unit	101	0.045
LZS:PT7874P	1	1 unit	101	0.050



LZS:PT78740



LZS:PT78722



LZS:PT7874P

<sup>1)</sup> The test bracket is designed to be non-latching. If the test bracket is pressed further until 90° has been reached, two small lugs break off and the test bracket can be latched in position.

<sup>2)</sup> **Note:**  
**Logical separation:** The terminals for the contacts and the terminals for the coil are arranged on separate levels, e. g. above for contacts and below for the coil. Logical separation is not necessarily protective separation (see note on Technical Information on page 3/1).  
**Protective separation:** Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (EN 61140).

## Coupling Relays with LZS, LZX Plug-in Relays

## Plug-in relay couplers

Version	Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	V		mm							kg
<b>Individual modules for customer assembly, PT series</b>										
<i>More individual modules</i>										
<b>LED modules</b>										
• Red										
 LZS:PTML0024	With freewheel diode	24 DC	--	12.5	▶	LZS:PTML0024	1	1 unit	101	0.004
	Without freewheel diode	24 AC/DC			▶	LZS:PTML0524	1	1 unit	101	0.004
		110 ... 230 AC/DC			▶	LZS:PTML0730	1	1 unit	101	0.004
• Green										
 LZS:PTMG0024	With freewheel diode	24 DC	--	12.5	▶	LZS:PTMG0024	1	1 unit	101	0.004
	Without freewheel diode	24 AC			▶	LZS:PTMG0524	1	1 unit	101	0.004
		110 ... 230 AC/DC			▶	LZS:PTMG0730	1	1 unit	101	0.004
<b>Fixing/ejection brackets for PT base with logical separation<sup>1)</sup></b>										
 LZS:PT17021	Screw terminals and plug-in terminals		--	26	▶	LZS:PT17021	100	10 units	101	0.300
<b>Fixing/ejection brackets for standard plug-in base without logical separation</b>										
 LZS:PT17024	Screw terminals		--	26	▶	LZS:PT17024	100	10 units	101	0.300
<b>Labels</b>										
 LZS:PT17040		--	--	26	▶	LZS:PT17040	100	10 units	101	0.200
<b>RC elements</b>										
 LZS:PTMU0730		6 ... 60 AC	--	26	▶	LZS:PTMU0524	1	1 unit	101	0.004
		110 ... 230 AC			▶	LZS:PTMU0730	1	1 unit	101	0.004
<b>Freewheel diodes with connection to A1</b>										
		6 ... 230 DC	--	26	▶	LZS:PTMT00A0	1	1 unit	101	0.004
<b>Connecting cable, 24-pole</b>										
	Current carrying capacity 12 A, with supply, blue				A	3TX7 004-8BA00	1	1 unit	101	0.040
<b>Connecting combs for PT screw base</b>										
	6-pole, 10 A current carrying capacity, natural-colored				▶	LZS:PT170R6	1	10 units	101	0.002
<b>Connecting brackets for PT push-in base</b>										
	2-pole, 10 A current carrying capacity, natural-colored				▶	LZS:PT170P1	1	10 units	101	0.002
<b>Individual modules for customer assembly, MT series</b>										
<i>Industrial relays, 11-pole</i>										
<b>Industrial relays with test bracket</b>										
 LZX:MT326024	Without LED	24 DC	3	35.5	A	LZX:MT321024	1	1 unit	101	0.088
	With LED				▶	LZX:MT323024	1	1 unit	101	0.088
	Without LED	24 AC	3	35.5	A	LZX:MT326024	1	1 unit	101	0.089
	With LED				C	LZX:MT328024	1	1 unit	101	0.089
	Without LED	115 AC	3	35.5	C	LZX:MT326115	1	1 unit	101	0.087
	With LED				C	LZX:MT328115	1	1 unit	101	0.088
	Without LED	230 AC	3	35.5	A	LZX:MT326230	1	1 unit	101	0.089
	With LED				A	LZX:MT328230	1	1 unit	101	0.089
<b>Plug-in bases</b>										
for mounting onto TH 35 standard mounting rail										
<b>Screw terminals</b> 										
 LZS:MT78750			--	38	▶	LZS:MT78750	1	1 unit	101	0.050
<b>Retaining brackets</b>										
		--	--	38	▶	LZS:MT28800	1	1 unit	101	0.003

**Note:**





For coil voltages which are not listed, see SITOP power DC Power Supplies, e. g. 6EP1 331-2AB10 and 6EP1 731-2AB00, in "Power Supplies".

**1) Note:**

*Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e. g. above for contacts and below for the coil. Logical separation is not necessarily protective separation (see note on Technical Information on page 3/1).  
Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (EN 61140).*

## Coupling Relays with LZS, LZX Plug-in Relays

## Plug-in relay couplers

Version	Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
	V		mm							kg	
<b>Complete units, 8-pole, 5 mm pinning, RT series</b>											
 LZS:RT4A4T30	<b>Complete units with standard plug-in base</b> for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Standard plug-in base with screw terminals • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels				<b>Screw terminals</b> 						
	1 CO	24 DC 24 AC 115 AC 230 AC	1	15.5	A	<b>LZS:RT3A4L24</b> <b>LZS:RT3A4R24</b> <b>LZS:RT3A4S15</b> <b>LZS:RT3A4T30</b>	1	5 units	101	0.052	
	2 CO	24 DC 24 AC 115 AC 230 AC	2	15.5	A	<b>LZS:RT4A4L24</b> <b>LZS:RT4A4R24</b> <b>LZS:RT4A4S15</b> <b>LZS:RT4A4T30</b>	1	5 units	101	0.052	
	<b>Complete units with plug-in base with logical separation</b> for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Plug-in base with logical separation and screw terminals • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels										
	1 CO	24 DC 24 AC 115 AC 230 AC	1	15.5	A	<b>LZS:RT3B4L24</b> <b>LZS:RT3B4R24</b> <b>LZS:RT3B4S15</b> <b>LZS:RT3B4T30</b>	1	5 units	101	0.055	
	2 CO	24 DC 24 AC 115 AC 230 AC	2	15.5	A	<b>LZS:RT4B4L24</b> <b>LZS:RT4B4R24</b> <b>LZS:RT4B4S15</b> <b>LZS:RT4B4T30</b>	1	5 units	101	0.055	
	<b>Complete units, 8-pole, 5 mm pinning, RT series</b>										
	 LZS:RT3D4L24	<b>Complete units with plug-in base with logical separation</b> for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Plug-in base with logical separation and plug-in terminals • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels				<b>Plug-in terminals</b> 					
		1 CO	24 DC 24 AC 115 AC 230 AC	1	15.5	A	<b>LZS:RT3D4L24</b> <b>LZS:RT3D4R24</b> <b>LZS:RT3D4S15</b> <b>LZS:RT3D4T30</b>	1	5 units	101	0.065
		2 CO	24 DC 24 AC 115 AC 230 AC	2	15.5	A	<b>LZS:RT4D4L24</b> <b>LZS:RT4D4R24</b> <b>LZS:RT4D4S15</b> <b>LZS:RT4D4T30</b>	1	5 units	101	0.065

**Note:**

*Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e. g. above for contacts and below for the coil. Logical separation is not necessarily protective separation (see note on Technical Information on page 3/1).*

*Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (EN 61140).*

## Coupling Relays with LZS, LZX Plug-in Relays

## Plug-in relay couplers

Version	Rated control supply voltage $U_s$ at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	V		mm							kg
<b>Individual modules for customer assembly, RT series</b>										
<i>Print relays, 8-pole, 5 mm pinning</i>										
	<b>Print relays</b> with hard gold-plating Version with 1 CO contact									
LZX:RT314024	24 DC	1	12.7	C	<b>LZX:RT315024</b>		1	1 unit	101	0.016
	230 AC			C	<b>LZX:RT315730</b>		1	1 unit	101	0.015
	<b>Print relays</b> Version with 1 CO contact									
	24 DC	1	12.7	▶	<b>LZX:RT314024</b>		1	1 unit	101	0.016
	24 AC			C	<b>LZX:RT314524</b>		1	1 unit	101	0.007
	115 AC			C	<b>LZX:RT314615</b>		1	1 unit	101	0.013
	230 AC			▶	<b>LZX:RT314730</b>		1	1 unit	101	0.007
	<b>Print relays</b> Version with 2 CO contacts									
LZS:RT78725	12 DC	2	12.7	C	<b>LZX:RT424012</b>		1	1 unit	101	0.015
	24 DC			▶	<b>LZX:RT424024</b>		1	1 unit	101	0.015
	24 AC			▶	<b>LZX:RT424524</b>		1	1 unit	101	0.014
	115 AC			▶	<b>LZX:RT424615</b>		1	1 unit	101	0.012
	230 AC			▶	<b>LZX:RT424730</b>		1	1 unit	101	0.010
	<b>Standard plug-in bases</b> for mounting onto TH 35 standard mounting rail									
LZS:RT78726	--	--	15.5	▶	<b>Screw terminals</b>					
					<b>LZS:RT78725</b>		1	1 unit	101	0.035
	<b>Plug-in bases with logical separation</b> for mounting onto TH 35 standard mounting rail									
LZS:RT78726	--	--	15.5	▶	<b>LZS:RT78726</b>		1	1 unit	101	0.037
	<b>Plug-in bases with logical separation</b> for mounting onto TH 35 standard mounting rail									
LZS:RT78726P	--	--	15.5	▶	<b>Plug-in terminals</b>					
					<b>LZS:RT7872P</b>		1	1 unit	101	0.035
	<b>LED modules</b>									
LZS:PTML0024	• Red									
	With freewheel diode	24 DC	--	▶	<b>LZS:PTML0024</b>		1	1 unit	101	0.004
	Without freewheel diode	24 AC/DC	--	▶	<b>LZS:PTML0524</b>		1	1 unit	101	0.004
		110 ... 230	--	▶	<b>LZS:PTML0730</b>		1	1 unit	101	0.004
	• Green									
	With freewheel diode	24 DC	--	▶	<b>LZS:PTMG0024</b>		1	1 unit	101	0.004
	Without freewheel diode	24 AC/DC	--	▶	<b>LZS:PTMG0524</b>		1	1 unit	101	0.004
		110 ... 230	--	▶	<b>LZS:PTMG0730</b>		1	1 unit	101	0.004
	<b>Fixing/ejection brackets</b> for RT base									
LZS:RT17016	--	--	15.5	▶	<b>LZS:RT17016</b>		100	10 units	101	0.300
	<b>Labels</b>									
LZS:RT17040	--	--	15.5	▶	<b>LZS:RT17040</b>		100	10 units	101	0.200
	<b>RC elements</b>									
LZS:PTMU0524	6 ... 60 AC	--	15.5	▶	<b>LZS:PTMU0524</b>		1	1 unit	101	0.004
	110 ... 230 AC			▶	<b>LZS:PTMU0730</b>		1	1 unit	101	0.004
	<b>Freewheel diodes with connection to A1</b>									
LZS:PTMT0730	6 ... 230	--	15.5	▶	<b>LZS:PTMT00A0</b>		1	1 unit	101	0.004
	<b>Connecting cable, 24-pole</b> Current carrying capacity 12 A, with supply, blue									
3TX7 004-8BA00				A	<b>3TX7 004-8BA00</b>		1	1 unit	101	0.040
	<b>Connecting combs for RT screw base</b>									
LZS:RT170R8	8-pole, 10 A current carrying capacity, natural-colored			▶	<b>LZS:RT170R8</b>		1	10 units	101	0.002
	<b>Connecting brackets for PT push-in base</b>									
LZS:RT170P1	2-pole, 10 A current carrying capacity, natural-colored			▶	<b>LZS:RT170P1</b>		100	10 units	101	0.200

**Note:**

For coil voltages which are not listed, see SITOP power DC Power Supplies, e. g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in "Power Supplies".

\* You can order this quantity or a multiple thereof.

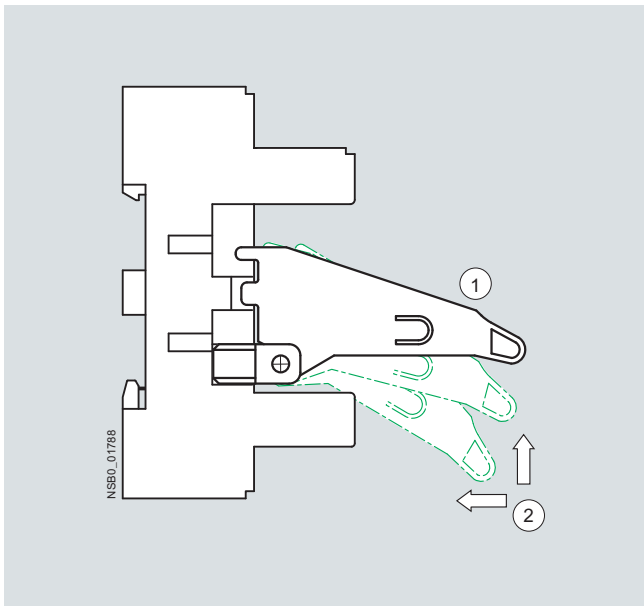
## Plug-in relay couplers

### More information

#### Notes on configuration

##### PT series

Mounting the LZS:PT17024 fixing/ejection bracket on the LZS:PT787.0 standard plug-in base with screw terminals

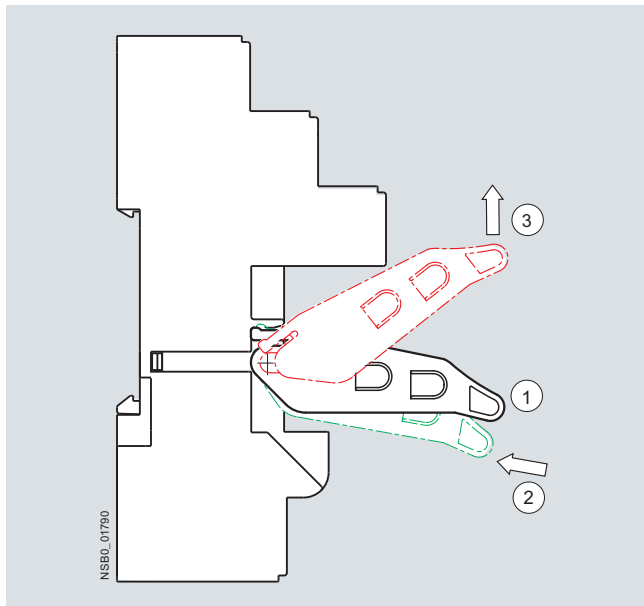


**Legend:**

- ① Locking position
- ② Mounting direction

##### RT series

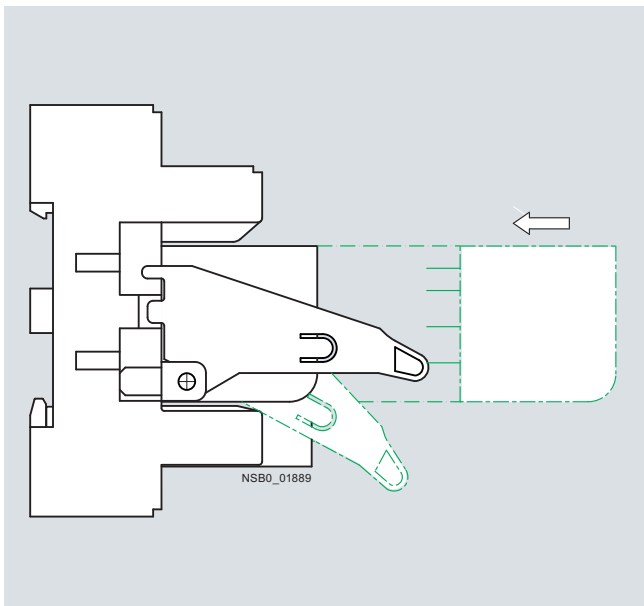
Mounting the LZS:RT17016 fixing/ejection bracket on the LZS:RT787.2 plug-in base



**Legend:**

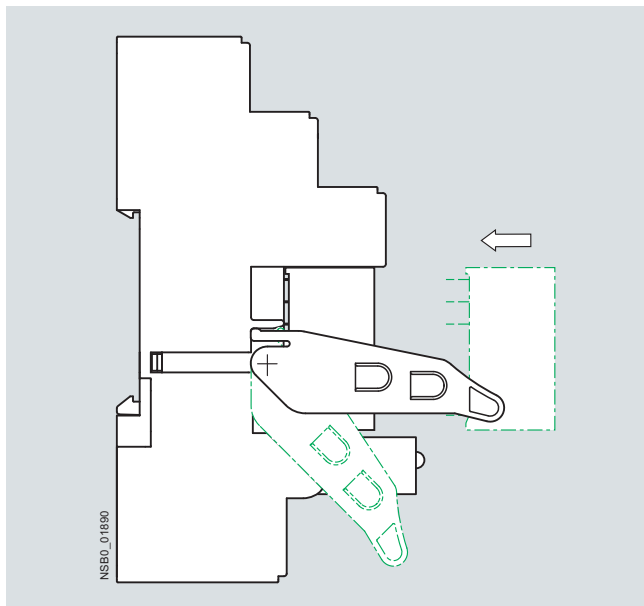
- ① Locking position
- ② Mounting direction
- ③ Demounting direction

#### Mounting the coupling relay with plug-in relay



**Important:**  
The LZS:PT17021 and LZS:PT17024 ejection brackets of the coupling relays with plug-in relay are not status displays!

#### Mounting the coupling relay with plug-in relay



**Important:**  
The LZS:RT17016 ejection brackets of the coupling relays with plug-in relay are not status displays!

# 3TG10 Power Relays/Miniature Contactors

## 4-pole, 4 kW

### Overview

#### Version

The 3TG10 power relays/miniature contactors with 4 main contacts are available with screw terminals or 6.3 mm x 0.8 mm flat connectors. The versions with screw terminals are climate-proof and finger-safe according to EN 61140.

The 3TG10 power relays/miniature contactors are small. Their width is 36 mm.

### Application

Because they are hum-free they are suitable for use in household appliances and distribution boards in office and residential areas. They can also be used for applications where there is little space such as air conditioners, heating systems, pumps and fans, i. e. for simple electrical controls.

#### AC and DC operation

EN 60947-1, EN 60947-4-1

#### Surge suppression

The 3TG10 power relays/miniature contactors have an integrated protective circuit against opening surges.

#### Overload and short-circuit protection

The 3UA7 overload relay can be used for overload protection. This applies to mounting onto contactors and to stand-alone installation.

Information about short-circuit protection for the contactors can be found in the "Technical specifications" (see note on Technical Information on page 3/1).

### Selection and ordering data

Rated data		Utilization category		Main contacts		Rated control supply voltage $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Operational current $I_e$ up to 400 V	Power of AC loads at 50 Hz and 400 V	Operational current $I_e$ up to 400 V <sup>1)</sup>	Power of AC loads at 50 Hz and 400 V	NO	NC	V	Version						kg
A	kW	A	kW										

#### 4-pole · Hum-free · With screw terminals For screw and snap-on mounting onto TH 35 standard mounting rail



##### AC operation, 45 ... 450 Hz

Operational current $I_e$ up to 400 V	Power of AC loads at 50 Hz and 400 V	Operational current $I_e$ up to 400 V <sup>1)</sup>	Power of AC loads at 50 Hz and 400 V	NO	NC	V	Version	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
20	13	8.4	4	4	--	24 AC		▶ <b>3TG10 10-0AC2</b>		1	1 unit	101	0.157
						110 AC		▶ <b>3TG10 10-0AG2</b>		1	1 unit	101	0.158
						230 AC		▶ <b>3TG10 10-0AL2</b>		1	1 unit	101	0.156
				3	1	24 AC		▶ <b>3TG10 01-0AC2</b>		1	1 unit	101	0.157
						110 AC		▶ <b>3TG10 01-0AG2</b>		1	1 unit	101	0.158
						230 AC		▶ <b>3TG10 01-0AL2</b>		1	1 unit	101	0.157

##### DC operation

3TG10 ...-0...

20	13	8.4	4	4	--	24 DC		▶ <b>3TG10 10-0BB4</b>		1	1 unit	101	0.157
				3	1	24 DC		▶ <b>3TG10 01-0BB4</b>		1	1 unit	101	0.157

#### 4-pole · Hum-free · With 6.3 mm x 0.8 mm flat connectors For screw and snap-on mounting onto TH 35 standard mounting rail



##### AC operation, 45 ... 450 Hz

Operational current $I_e$ up to 400 V	Power of AC loads at 50 Hz and 400 V	Operational current $I_e$ up to 400 V <sup>1)</sup>	Power of AC loads at 50 Hz and 400 V	NO	NC	V	Version	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
16	10	8.4	4	4	--	24 AC		▶ <b>3TG10 10-1AC2</b>		1	1 unit	101	0.146
						110 AC		D ▶ <b>3TG10 10-1AG2</b>		1	1 unit	101	0.146
						230 AC		D ▶ <b>3TG10 10-1AL2</b>		1	1 unit	101	0.145
				3	1	24 AC		D ▶ <b>3TG10 01-1AC2</b>		1	1 unit	101	0.147
						110 AC		D ▶ <b>3TG10 01-1AG2</b>		1	1 unit	101	0.146
						230 AC		D ▶ <b>3TG10 01-1AL2</b>		1	1 unit	101	0.144

##### DC operation

3TG10 ...-1...

16	10	8.4	4	4	--	24 DC		C ▶ <b>3TG10 10-1BB4</b>		1	1 unit	101	0.146
		8.4	4	3	1	24 DC		D ▶ <b>3TG10 01-1BB4</b>		1	1 unit	101	0.146

For accessories see page 3/123.



# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

#### Overview

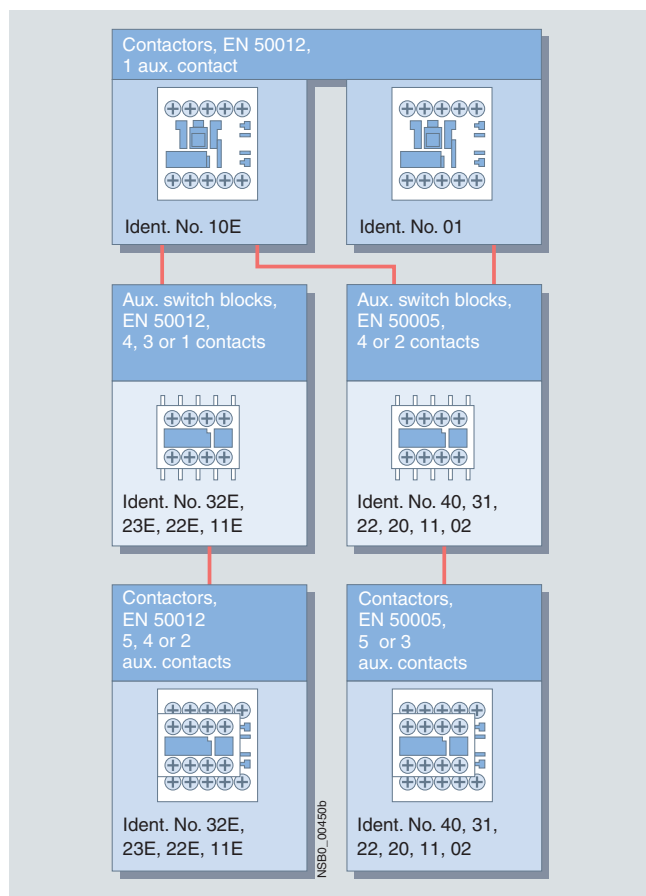
##### Snap-on auxiliary switch blocks

Various auxiliary switch blocks can be added to the 3RT1 basic units depending on the application:

[Size S00: Contactors 3RT1. 1.](#)

Terminal designations according to EN 50005 or EN 50012

Size S00 contactors have an auxiliary contact integrated in the basic unit.



4-pole auxiliary switch blocks 3RT1 (S00).

Contactors with a NO contact as auxiliary contact (screw or Cage Clamp terminals), identification number 10E, can be expanded into contactors with 2, 4 or 5 auxiliary contacts according to EN 50012 using auxiliary switch blocks. The identification numbers 11E, 22E, 23E and 32E on the auxiliary switch blocks apply to the complete contactors. These auxiliary switch blocks cannot be combined with contactors which have a NC contact in the basic unit (identification number 01) as they are coded.

All contactors of size S00 with one auxiliary contact (identification numbers 10E or 01) and the contactors with 4 main contacts can be expanded into contactors with 3 or 5 auxiliary contacts using auxiliary switch blocks with the identification numbers 40 to 02 (in the case of contactors with 4 main contacts: 2 or 4 auxiliary contacts) according to EN 50005.

The identification numbers on the auxiliary switch blocks apply only to the attached auxiliary switches.

Single- or 2-pole auxiliary switch blocks with only one connection option from above or below are provided for easy and clearly arranged wiring especially for the installation of network access junctions. These auxiliary switch blocks are offered only with screw terminals.

The solid-state compatible 3RH19 11-1NF. . auxiliary switch blocks for contactors of size S00 include 2 enclosed contacts. They are suitable in particular for switching small voltages and currents (hard gold-plated contacts) and for operation in dusty atmospheres. The NC auxiliary contacts are not mirror contacts.

All the previously mentioned auxiliary switch variants can be snap-fitted onto the front of the contactor. The auxiliary switch block has a centrally positioned release lever for disassembly.

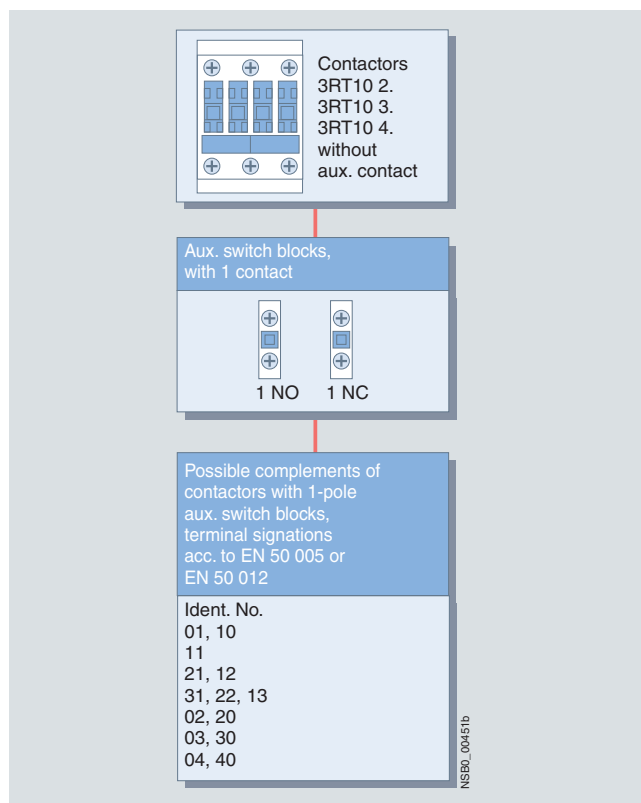
[Sizes S0 to S12: Contactors 3RT1. 2. to 3RT1. 7.](#)

Terminal designations according to EN 50005 or EN 50012

One 4-pole or up to four single-pole auxiliary switch blocks (screw or Cage Clamp terminals) can be snapped on. When the contactors are switched on, the NC contacts are opened first and then the NO contacts are closed.

Also available are 2-pole auxiliary switch blocks (screw terminals) for cable entry from above or below in the design of a quad block (feeder auxiliary switch).

If the installation space is limited in depth, 2-pole auxiliary switch blocks (screw or Cage Clamp terminals) can be attached laterally (on the left or on the right).

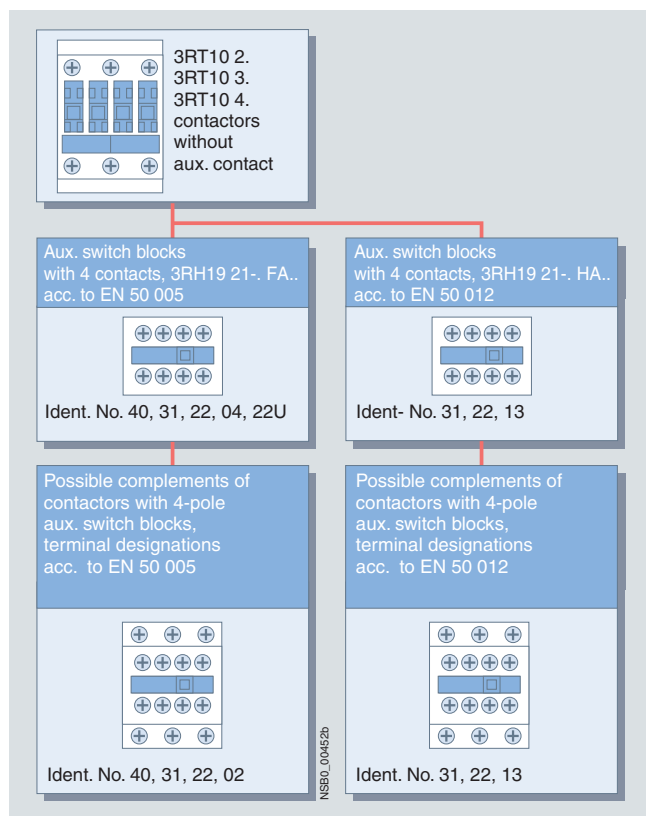


1-pole auxiliary switch blocks for 3RT1 contactors

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays



4-pole auxiliary switch blocks for 3RT1 contactors

The terminal designations of the single-pole auxiliary switch blocks are comprised of identification numbers (location identifiers) on the basic unit and of function digits on the auxiliary switch blocks.

The terminal designation of the individual auxiliary switch blocks corresponds to EN 50005 or EN 50012, that of the complete contactor with auxiliary switch block 2 NO + 2 NC corresponds to EN 50012.

The auxiliary switch blocks attached to the front can be disassembled with the help of a centrally arranged release lever; the laterally attached auxiliary switch blocks are easy to remove by pressing on the checkered surfaces.

The laterally mountable auxiliary switch blocks according to EN 50012 can be used only when no 4-pole auxiliary switch blocks are snapped onto the front. If single-pole auxiliary switch blocks are used in addition, the location identifiers on the contactor must be noted.

Two enclosed and 2 standard contacts are available with the 3RH19 21- FE22 solid-state compatible auxiliary switch block, which can be attached to the front. The 3RH19 21-2DE11 laterally mountable switch block contains 2 enclosed contacts (1 NO + 1 NC). The enclosed contacts are suitable in particular for switching small voltages and currents (hard gold-plated contacts) and for operation in dusty atmospheres. The NC auxiliary contacts are mirror contacts.

#### Sizes S0 and S2

A maximum of 4 auxiliary contacts can be attached; the auxiliary switch blocks used can be of any version. For reasons of symmetry, when two 2-pole laterally mountable auxiliary switch blocks are used, one block must be attached on the right and one on the left.

More auxiliary contacts are permissible with size S2 under certain conditions (please ask).

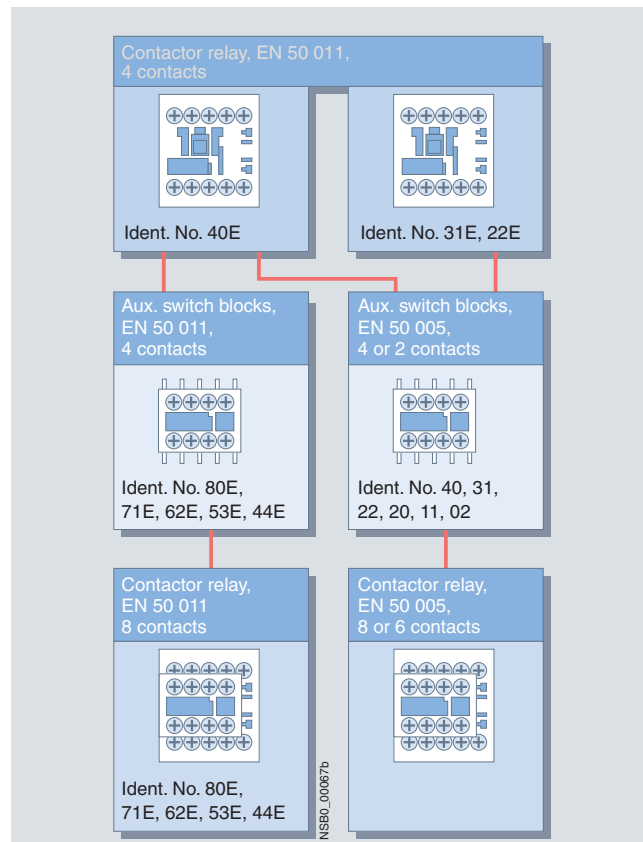
#### Size S3 to S12

A maximum of 8 auxiliary contacts can be attached; please note the following:

- Of these 8 auxiliary contacts, there must be no more than 4 NC contacts
- Ensure the symmetry of laterally mounted auxiliary switch blocks

#### 3RH1 contactor relays

The 3RH1 contactor relays can be expanded by up to four contacts by the addition of snap-on auxiliary switch blocks.



4-pole auxiliary switch blocks for 3RH1 contactor relays

The contactor relays with 4 contacts according to EN 50011, with the identification number 40E, can be extended with 80E to 44E auxiliary switch blocks to obtain contactor relays with 8 contacts according to EN 50011. The identification numbers 80E to 44E on the auxiliary switch blocks apply to the complete contactors. These auxiliary switch blocks (3RH19 11-1GA..) cannot be combined with contactor relays with identification numbers 31E and 22E; they are coded.

All contactor relays with 4 contacts according to EN 50011, identification numbers 40E to 22E, can be extended with auxiliary switch blocks 40 to 02 to obtain contactor relays with 6 or 8 contacts in accordance with EN 50005. The identification numbers on the auxiliary switch blocks apply only to the attached auxiliary switch blocks.

In addition, fully mounted 3RH12 8-pole contactor relays are available; the mounted 4-pole auxiliary switch block in the 2nd tier is not removable. The terminal designations are according to EN 50011.

These 8-pole versions are built according to special Swiss regulations "SUVA" and are distinguished externally by a red labeling plate.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

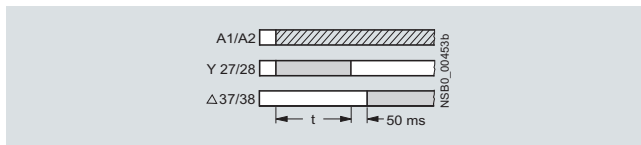
#### Solid-state time-delay auxiliary switch blocks

The timer module, which is available in the "ON-DELAY" and "OFF-DELAY" versions, allows time-delayed functions up to 100 s (3 distinct delay ranges).

It contains a relay with one NO contact and one NC contact; depending on the version, the relay is switched either after an ON-delay or after an OFF-delay.

The timer module with "WYE-DELTA FUNCTION" is equipped with one delayed and one instantaneous NO contact, with a dead time of 50 ms between the two. The delay time of the NO contact can be adjusted between 1.5 s and 30 s.

#### Wye-delta function:



The contactor on which the solid-state time-delay auxiliary switch block is mounted operates without a delay.

#### Size S00

The solid-state time-delay auxiliary switch block is fitted onto the front side of the contactor. The timer module is supplied with power directly by plug-in contacts through the coil terminals of the contactor, in parallel with A1/A2. The timing function is activated by closing the contactor on which the auxiliary switch block is mounted. The OFF-delay version operates without an auxiliary voltage; minimum ON period: 200 ms.

A varistor is integrated in the timer module in order to damp opening surges in the contactor coil.

The solid-state time-delay auxiliary switch block cannot be mounted on size S00 coupling relays.

#### Sizes S0 to S12

The solid-state time-delay auxiliary switch block is fitted onto the front side of the contactor.

The timer module is supplied with power through two terminals (A1/A2); the time delay of the auxiliary switch block can be activated either by a parallel link to any contactor coil or by any power source.

The OFF-delay version operates without an auxiliary voltage; minimum ON period: 200 ms.

A single-pole auxiliary switch block can be snapped onto the front of the contactor in addition to the timer module.

The timer module has no integrated components for overvoltage damping.

#### Solid-state time-delay blocks with semiconductor output

The timer module in the "ON-DELAY" and "OFF-DELAY with auxiliary voltage" versions allows time-delayed functions up to 100 s (3 distinct delay ranges). Contactors fitted with a timing relay block close or open after a delay according to the set time.

The ON-delay variant of the timing relay is connected in series with the contactor coil; terminal A1 of this coil must not be connected.

With the OFF-delay variant of the timing relay, the contactor coil is contacted directly through the relay; terminals A1 and A2 of the contactor coil must not be connected.

The timing relays are suitable for both AC and DC operation.

#### Size S00

The version for size S00 contactors is fitted onto the front of the contactor (with the control supply voltage switched off) and then slid into its latched position; at the same time, the timing relay is connected by means of plug-in contacts to coil terminals A1 and A2 of the contactor. Any contactor coil terminals which are not required are sealed off by means of covers on the enclosure of the timing relay block, to prevent them from being connected inadvertently.

A varistor is integrated in the timer module in order to damp opening surges in the contactor coil.

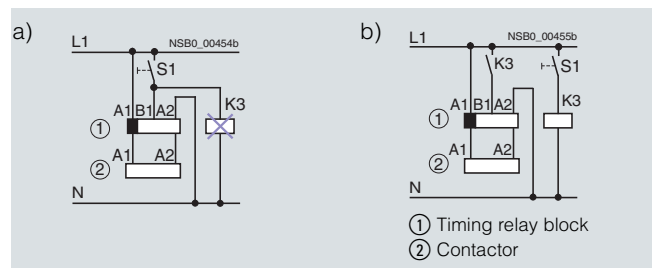
The solid-state, timing relay block cannot be mounted on size S00 coupling relays.

#### Sizes S0 to S3

The timing relay block for size S0 to S3 contactors is plugged into coil terminals A1 and A2 on top of each contactor; the timing relay is connected both electrically and mechanically by means of pins.

A varistor is integrated in the timer module in order to damp opening surges in the contactor coil.

#### Configuring note:



The activation of loads parallel to the start input is not permissible when using AC control voltage (see (a) in the circuit diagram).

The OFF-delay timing relay blocks 3RT19 16-2D... / 3RT19 26-2D... have a zero potential start input B1. This means that if there is a parallel load on terminal B1, activation can be simulated with AC voltage. In this case, the additional load (e. g. contactor K3) must be wired according to (b).

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

#### OFF-delay device for size S00 to S3 contactors

##### AC and DC operation

IEC 60947, EN 60947.

For screw and snap-on mounting onto 35 mm standard mounting rail. The OFF-delay devices have screw terminals.

The OFF-delay device prevents a contactor from dropping out unintentionally when there is a short-time voltage dip or voltage failure. It supplies a downstream, DC-operated contactor with the necessary energy during a voltage dip, ensuring that the contactor does not trip. The 3RT19 16 OFF-delay devices are specifically designed for operation with the 3RT contactors and 3RH contactor relays of the SIRIUS series.

The OFF-delay device operates without external voltage on a capacitive basis, and can be energized with either AC or DC (24 V version only for DC operation). Voltage matching, which is only necessary with AC operation, is performed using a rectifier bridge.

A contactor opens after a delay when the capacitors of the solenoid coil, built into the OFF-delay device, are switched in parallel. In the event of voltage failures, the capacitors are discharged via the solenoid coil and thereby delay the opening of the contactor.

If the command devices are upstream of the OFF-delay device in the circuit, the OFF-delay takes effect with every opening operation. If the opening operation is downstream of the OFF-delay device, an OFF-delay only applies in the event of failure of the mains voltage.

##### Operation

In the case of the versions for rated control supply voltages of 110 V and 230 V, either AC voltage or DC voltage can be applied on the line side, whereas the variant for 24 V is designed for DC operation only.

A DC-operated contactor is connected to the output in accordance with the input voltage that is applied.

The mean value of the OFF-delay is approximately 1.5 times the specified minimum time.

#### Surge suppressors

- Without LED (also for Cage Clamp terminals) size S00, S0, S2, S3, S6 to S12
- With LED (also for Cage Clamp terminals) size S00

All 3RT1 contactors and 3RH1 contactor relays can be retrofitted with RC elements or varistors for damping opening surges in the coil. Diodes or diode assemblies (comprising noise suppression diodes and Zener diodes for short break times) can be used.

The surge suppressors are plugged onto the front of size S00 contactors. Space is provided for them next to a snap-on auxiliary switch block.

With all size S0 to S3 contactors, varistors, RC elements and diode assemblies can be plugged on directly at the coil terminals, either on the top or underneath.

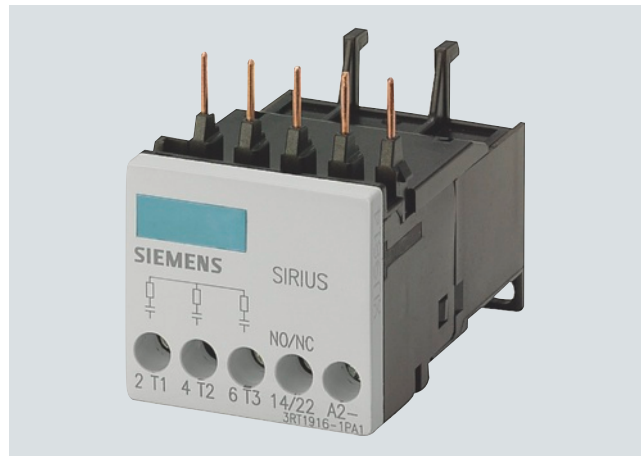
The plug-in direction of the diodes and diode assemblies is determined by a coding device.

Coupling relays are supplied either without overvoltage damping or with a varistor or diode connected as standard, according to the version.

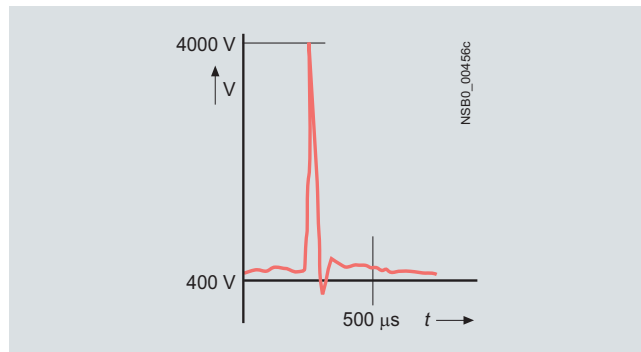
##### Note:

*The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assemblies 2 to 6 times, varistor +2 to 5 ms).*

#### Electromagnetic interference suppression module, three-phase for size S00 contactors



A so-called counter-e.m.f. (electromotive force) is produced when motors or various inductive loads are turned off. Voltage peaks of up to 4000 V may occur as a result, with a frequency spectrum from 1 kHz to 10 MHz and a rate of voltage variation from 0.1 to 20 V/ns.



Capacitive input to various analog and digital signals makes it necessary to suppress interference in the load circuit.

#### Reducing contact arcing

The connection between the main current path and the EMC interference suppression module enables contact arcing, which is responsible for contact erosion and the majority of clicking noises, to be reduced; this in turn is conducive to an electromagnetically compatible design.

#### Higher operational reliability

Since the EMC suppression module achieves a significant reduction in radio-frequency components and the voltage level in three phases, the contact endurance is also improved considerably. This makes an important contribution towards enhancing the reliability and availability of the system as a whole.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

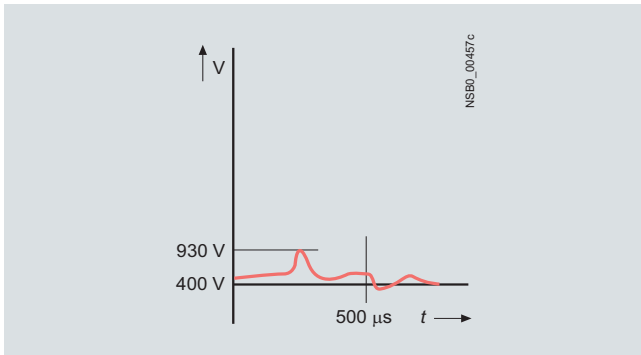
### Accessories for 3RT contactors and 3RH contactor relays

#### Dispensing with fine graduations

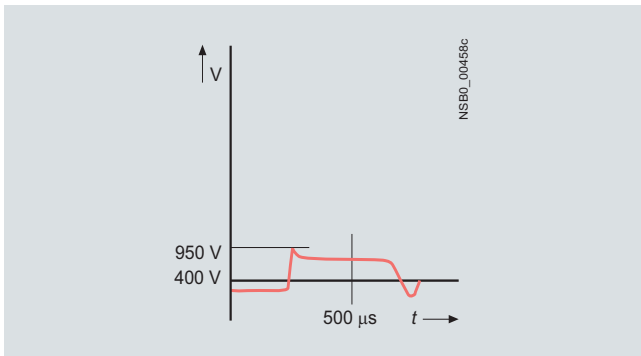
There is no need for fine graduations within each performance class, as smaller motors inherently have a higher inductance, so that one solution for all fixed-speed operating mechanisms up to 5.5 kW is adequate.

Two electrical versions are available:

- The advantages of the RC circuit lie mainly in the reduction in the rate of rise and in its RF damping ability. The selected values ensure effective interference suppression over a wide range.



- The varistor circuit can absorb a high energy level and can also be used for frequencies ranging from 10 to 400 Hz (closed-loop controlled operating mechanisms). There is no limiting below the knee-point voltage, however.



#### Additional load module

Size S00 for plugging onto the front of the contactors with and without auxiliary switch block

#### Coupling links for mounting on contactors of sizes S0 to S3

##### DC operation

IEC 60947 and EN 60947.

The coupling link is suitable for use in any climate. It is finger-safe according to EN 50274. The terminal designations comply with EN 50005.

System-compatible operation with 24 V DC, operating range 17 to 30 V.

Low power consumption in conformity with the technical specifications of the solid-state systems. An LED indicates the switching state.

##### Surge suppression

The 3RH19 24-1GP11 coupling link has an integrated surge suppressor (varistor) for the contactor coil being switched.

##### Mounting

The 3RH19 24-1GP11 coupling link is mounted directly on the contactor coil.

##### Solder pin adapters

The solder pin adapters for the size S00 contactors are available in two versions:

- Solder pin adapter for contactors with one integrated auxiliary contact
- Solder pin adapter for contactors with mounted 4-pole auxiliary switch block

##### Screw adapters

Plug-on adapters improve the accessibility of the screw connection for size S0 contactors. As a result it is possible to position the screwdriver vertically even when using insulated screwdrivers or power screwdrivers.

Optionally the adapters can be rotated through 90° before mounting.

##### Sealable covers for sizes S00 to S12

When contactors and contactor relays are used in safety-oriented applications, it must be ensured that it is impossible to operate the contactors manually.

For SIRIUS contactors there are sealable covers available for this purpose as accessories; these prevent accidental manual operation. These are transparent molded-plastic caps with a bracket that enables the contactor to be sealed.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

#### Selection and ordering data

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



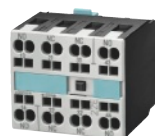
3RH19 11-1HA..  
3RH19 11-1FA..



3RH19 11-2HA..



3RH19 21-1HA..



3RH19 21-2HA..  
3RH19 21-2FA..



3RH19 11-1AA..



3RH19 11-1LA..

For contactors	Auxiliary contacts	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals	Weight per PU approx.
	Ident. No.	Version	Order No.	Price per PU		Order No.	Price per PU
Type	 NO NC NO NC			kg			kg

#### Auxiliary switch blocks for snapping onto the front according to EN 50012

##### Size S00

#### For assembling contactors with 2, 4 or 5 auxiliary contacts

3RT10 1.-1...1, 3RT10 1.-2...1	<b>11 E</b>	-- 1 -- --	▶	<b>3RH19 11-1HA01</b>	0.060	▶	<b>3RH19 11-2HA01</b>	0.060
Ident. No. 10 E	<b>22 E</b>	1 2 -- --	▶	<b>3RH19 11-1HA12</b>	0.060	▶	<b>3RH19 11-2HA12</b>	0.060
	<b>23 E</b>	1 3 -- --	▶	<b>3RH19 11-1HA13</b>	0.060	▶	<b>3RH19 11-2HA13</b>	0.060
	<b>32 E</b>	2 2 -- --	▶	<b>3RH19 11-1HA22</b>	0.060	▶	<b>3RH19 11-2HA22</b>	0.060

##### Sizes S0 ... S12<sup>1)</sup>

#### 4-pole

3RT10 2, 3RT1. 3... 3RT1. 7	<b>31</b>	3 1 -- --	▶	<b>3RH19 21-1HA31</b>	0.075	▶	<b>3RH19 21-2HA31</b>	0.075
	<b>22</b>	2 2 -- --	▶	<b>3RH19 21-1HA22</b>	0.075	▶	<b>3RH19 21-2HA22</b>	0.075
	<b>13</b>	1 3 -- --	▶	<b>3RH19 21-1HA13</b>	0.075	▶	<b>3RH19 21-2HA13</b>	0.075
	<b>22<sup>2)</sup></b>	2 2 -- --	▶	<b>3RH19 21-1XA22-0MA0</b>	0.075	D	<b>3RH19 21-2XA22-0MA0</b>	0.075

#### Auxiliary switch blocks for snapping onto the front according to EN 50005

##### Size S00

#### 2 or 4-pole auxiliary switch blocks for assembling contactors with 3 or 5 auxiliary contacts

3RT1. 1, 3RH11, 3RH14	<b>20</b>	2 -- -- --	▶	<b>3RH19 11-1FA20</b>	0.050	▶	<b>3RH19 11-2FA20</b>	0.050
	<b>11</b>	1 1 -- --	▶	<b>3RH19 11-1FA11</b>	0.050	▶	<b>3RH19 11-2FA11</b>	0.050
	<b>02</b>	-- 2 -- --	▶	<b>3RH19 11-1FA02</b>	0.050	▶	<b>3RH19 11-2FA02</b>	0.050
	<b>11 U</b>	-- -- 1 1	▶	<b>3RH19 11-1FB11</b>	0.050	A	<b>3RH19 11-2FB11</b>	0.050
	<b>40</b>	4 -- -- --	▶	<b>3RH19 11-1FA40</b>	0.060	▶	<b>3RH19 11-2FA40</b>	0.060
	<b>31</b>	3 1 -- --	▶	<b>3RH19 11-1FA31</b>	0.060	▶	<b>3RH19 11-2FA31</b>	0.060
	<b>22</b>	2 2 -- --	▶	<b>3RH19 11-1FA22</b>	0.060	▶	<b>3RH19 11-2FA22</b>	0.060
	<b>22 U</b>	-- -- 2 2	▶	<b>3RH19 11-1FC22</b>	0.060	▶	<b>3RH19 11-2FC22</b>	0.060
	<b>11, 11 U</b>	1 1 1 1	▶	<b>3RH19 11-1FB22</b>	0.060	B	<b>3RH19 11-2FB22</b>	0.060

#### 1- and 2-pole auxiliary switch blocks with cable entry from one side

##### • Cable entry from above

3RT1. 1, 3RH11, 3RH14	--	1 -- -- --	▶	<b>3RH19 11-1AA10</b>	0.015	--		
	--	-- 1 -- --	▶	<b>3RH19 11-1AA01</b>	0.015	--		
	--	1 1 -- --	▶	<b>3RH19 11-1LA11</b>	0.045	--		
	--	2 -- -- --	▶	<b>3RH19 11-1LA20</b>	0.045	--		

##### • Cable entry from below

3RT1. 1, 3RH11, 3RH14	--	1 -- -- --	▶	<b>3RH19 11-1BA10</b>	0.015	--		
	--	-- 1 -- --	▶	<b>3RH19 11-1BA01</b>	0.015	--		
	--	1 1 -- --	▶	<b>3RH19 11-1MA11</b>	0.045	--		
	--	2 -- -- --	▶	<b>3RH19 11-1MA20</b>	0.045	--		

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

<sup>1)</sup> Exception: 3RT12, 3RT16.

<sup>2)</sup> With identification numbers 5, 6, 7, 8.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



3RH19 21-1F..



2RH19 21-2F..



3RH19 21-1C..



3RH19 21-2C..



3RH19 21-1LA..



3RH19 21-1MA..

For contactors	Auxiliary contacts	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals	Weight per PU approx.
Ident. No.	Version		Order No.	Price per PU		Order No.	Price per PU
Type	 NO NC NO NC			kg			kg

#### Auxiliary switch blocks for snapping onto the front according to EN 50005

Sizes S0 to S12<sup>1)</sup>

4-pole auxiliary switch blocks									
3RT10 2,	40	4	--	--	▶	3RH19 21-1FA40	0.075 ▶	3RH19 21-2FA40	0.075
3RT1. 3	31	3	1	--	▶	3RH19 21-1FA31	0.075 ▶	3RH19 21-2FA31	0.075
...	22	2	2	--	▶	3RH19 21-1FA22	0.075 ▶	3RH19 21-2FA22	0.075
3RT1. 7	04	--	4	--	▶	3RH19 21-1FA04	0.075 A	3RH19 21-2FA04	0.075
	22 U	--	--	2	▶	3RH19 21-1FC22	0.075 A	3RH19 21-2FC22	0.075
1-pole auxiliary switch blocks to EN 50005 and EN 50012									
3RT1. 2	--	1	--	--	▶	3RH19 21-1CA10	0.020 ▶	3RH19 21-2CA10	0.020
...	--	--	1	--	▶	3RH19 21-1CA01	0.020 ▶	3RH19 21-2CA01	0.020
3RT1. 7	--	--	--	1	▶	3RH19 21-1CD10	0.020	--	--
	--	--	--	--	▶	3RH19 21-1CD01	0.020	--	--
2-pole auxiliary switch blocks with cable entry from one side									
• Cable entry from above									
3RT1. 2,	--	1	1	--	▶	3RH19 21-1LA11	0.075	--	--
3RT1. 3	--	2	--	--	▶	3RH19 21-1LA20	0.075	--	--
...	--	--	2	--	▶	3RH19 21-1LA02	0.075	--	--
3RT1. 7	--	--	--	--	▶				
• Cable entry from below									
3RT1. 2,	--	1	1	--	▶	3RH19 21-1MA11	0.075	--	--
3RT1. 3	--	2	--	--	▶	3RH19 21-1MA20	0.075	--	--
...	--	--	2	--	▶	3RH19 21-1MA02	0.075	--	--
3RT1. 7	--	--	--	--	▶				

<sup>1)</sup> Exception: 3RT16.

# Accessories and Spare Parts

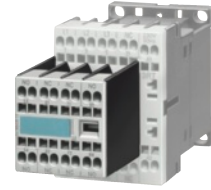
## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RH19 11-1GA..



3RH19 11-2GA..

For contactor relays	Contacts		DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
	Ident. No.	Version								
						kg				kg
		NO								
		NC								

#### Auxiliary switch blocks for snapping onto the front according to EN 50011

##### For assembling contactor relays with 8 contacts

3RH11 40, 3RH14 40 (Ident. No. 40E)	80E	4	--	▶	3RH19 11-1GA40	0.060	▶	3RH19 11-2GA40	0.060
	71E	3	1	▶	3RH19 11-1GA31	0.060	▶	3RH19 11-2GA31	0.060
	62E	2	2	▶	3RH19 11-1GA22	0.060	▶	3RH19 11-2GA22	0.060
	53E	1	3	▶	3RH19 11-1GA13	0.060	▶	3RH19 11-2GA13	0.060
	44E	--	4	▶	3RH19 11-1GA04	0.060	▶	3RH19 11-2GA04	0.060

For multi-unit packing and reusable packaging, see "Appendix" → "Ordering notes".

3RH19 21-1DA11  
3RH19 21-1JA113RH19 21-1EA..  
3RH19 21-1KA..3RH19 21-2DA11  
3RH19 21-2JA113RH19 21-2EA..  
3RH19 21-2KA..

For contactors	Auxiliary contacts		DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
	Version	Type								
						kg				kg
		NO								
		NC								

#### Laterally mountable auxiliary switch blocks according to EN 50012

##### Sizes S0 ... S12

##### First laterally mountable auxiliary switch block (right or left), 2-pole

3RT1. 2 ... 3RT1. 7	1	1	▶	3RH19 21-1DA11	0.050	▶	3RH19 21-2DA11	0.050
---------------------	---	---	---	----------------	-------	---	----------------	-------

##### Sizes S3 ... S12

##### Second laterally mountable auxiliary switch block (right or left), 2-pole

3RT1. 4 ... 3RT1. 7	1	1	▶	3RH19 21-1JA11	0.050	▶	3RH19 21-2JA11	0.050
---------------------	---	---	---	----------------	-------	---	----------------	-------

#### Laterally mountable auxiliary switch blocks according to EN 50005

##### Sizes S0 ... S12

##### First laterally mountable auxiliary switch block (right or left), 2-pole

3RT1. 2 ... 3RT1. 7	2	--	▶	3RH19 21-1EA20	0.050	▶	3RH19 21-2EA20	0.050
	1	1	▶	3RH19 21-1EA11	0.050	▶	--	
	--	2	▶	3RH19 21-1EA02	0.050	▶	3RH19 21-2EA02	0.050

##### Sizes S3 ... S12

##### Second laterally mountable auxiliary switch block (right or left), 2-pole

3RT1. 4 ... 3RT1. 7	2	--	▶	3RH19 21-1KA20	0.050	D	3RH19 21-2KA20	0.050
	1	1	▶	3RH19 21-1KA11	0.050		--	
	--	2	▶	3RH19 21-1KA02	0.050	D	3RH19 21-2KA02	0.050



# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

PU (UNIT, SET, M)= 1  
 PS\* = 1 unit  
 PG = 101



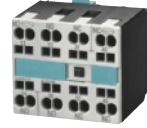
3RH19 11-1NF. .



3RH19 11-2NF. .



3RH19 21-1FE22



3RH19 21-2JE22



3RH19 21-2DE11  
 3RH19 21-2JE11

For contactors	Version	Contacts	DT	Screw terminals	Weight per PU approx.	DT	Cage Clamp terminals	Weight per PU approx.
		Version		Order No.	Price per PU		Order No.	Price per PU
Type					kg			kg

**Solid-state compatible auxiliary switch blocks for snapping onto the front, according to EN 50005**

**Size S00**

3RT1. 1, 3RH11, 3RH14	For operation in dusty atmosphere and solid-state circuits with rated operational currents $I_e/AC-14$ and DC-13 from 1 mA to 300 mA at 3 V to 60 V. Hard gold-plated contacts. No mirror contacts.	1 -- -- 1	▶	<b>3RH19 11-1NF11</b> <b>3RH19 11-1NF20</b> <b>3RH19 11-1NF02</b>	0.045 A 0.045 A 0.045 A		<b>3RH19 11-2NF11</b> <b>3RH19 11-2NF20</b> <b>3RH19 11-2NF02</b>	0.045 0.045 0.045
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**Sizes S0 ... S12**

3RT1. 2 ... 3RT1. 7	For operation in dusty atmosphere and solid-state circuits with rated operational currents $I_e/AC-14$ and DC-13 from 1 mA to 300 mA at 3 V to 60 V. Hard gold-plated contacts. Mirror contacts acc. to EN 60947-4-1, Appendix F	1 1 1 1	▶	<b>3RH19 21-1FE22</b>	0.070 B		<b>3RH19 21-2FE22</b>	0.070
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**Solid-state compatible auxiliary switch blocks, laterally mountable, according to EN 50012**

**Sizes S0 ... S12**

**First laterally mountable auxiliary switch block (right or left), 2-pole**

3RT1. 2 ... 3RT1. 7	1 NO + 1 NC solid-state compatible auxiliary switches For operation in dusty atmosphere and solid-state circuits with rated operational currents $I_e/AC-14$ and DC-13 from 1 mA to 300 mA at 3 V to 60 V. Hard gold-plated contacts. Mirror contacts acc. to EN 60947-4-1, Appendix F	1 -- -- 1	▶				<b>3RH19 21-2DE11</b>	0.050
---------------------	---	-----------	---	--	--	--	-----------------------	-------

**Sizes S3 ... S12**

**Second laterally mountable auxiliary switch block (right or left), 2-pole**

3RT1. 4 ... 3RT1. 7	1 NO + 1 NC solid-state compatible auxiliary switches For operation in dusty atmosphere and solid-state circuits with rated operational currents $I_e/AC-14$ and DC-13 from 1 mA to 300 mA at 3 V to 60 V. Hard gold-plated contacts. Mirror contacts acc. to EN 60947-4-1, Appendix F	1 -- -- 1	▶				<b>3RH19 21-2JE11</b>	0.050
---------------------	---	-----------	---	--	--	--	-----------------------	-------

1) 1 NO + 1 NC standard auxiliary switches:  
 see explanations on pages 3/97 and 3/98.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Auxiliary contacts	Rated control supply voltage $U_s^{1)}$	Time setting range $t$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type	V		s							kg

#### Solid-state time-delay auxiliary switch blocks for snapping onto the front, terminal designations according to DIN 46199-5

##### Size S00



3RT19 16-2...

##### With ON-delay

3RT1. 1, 3RH11 <sup>2)</sup> 3RH14	1 NO + 1 NC	24 AC/DC <sup>3)</sup>	0.05 ... 1	►	<b>3RT19 16-2EJ11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 16-2EJ21</b>	1	1 unit	101	0.090
			5 ... 100	B	<b>3RT19 16-2EJ31</b>	1	1 unit	101	0.090
		100 ... 127 AC <sup>3)</sup>	0.05 ... 1	►	<b>3RT19 16-2EC11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 16-2EC21</b>	1	1 unit	101	0.090
			5 ... 100	►	<b>3RT19 16-2EC31</b>	1	1 unit	101	0.090
		200 ... 240 AC <sup>3)</sup>	0.05 ... 1	►	<b>3RT19 16-2ED11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 16-2ED21</b>	1	1 unit	101	0.090
			5 ... 100	►	<b>3RT19 16-2ED31</b>	1	1 unit	101	0.090

##### OFF-delay without auxiliary voltage<sup>4)</sup>

3RT1. 1, 3RH11 <sup>2)</sup> 3RH14	1 NO + 1 NC	24 AC/DC <sup>3)</sup>	0.05 ... 1	►	<b>3RT19 16-2FJ11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 16-2FJ21</b>	1	1 unit	101	0.090
			5 ... 100	►	<b>3RT19 16-2FJ31</b>	1	1 unit	101	0.090
		100 ... 127 <sup>3)</sup>	0.05 ... 1	C	<b>3RT19 16-2FK11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 16-2FK21</b>	1	1 unit	101	0.090
			5 ... 100	B	<b>3RT19 16-2FK31</b>	1	1 unit	101	0.090
		200 ... 240 <sup>3)</sup>	0.05 ... 1	D	<b>3RT19 16-2FL11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 16-2FL21</b>	1	1 unit	101	0.090
			5 ... 100	►	<b>3RT19 16-2FL31</b>	1	1 unit	101	0.090

##### OFF-delay with auxiliary voltage (varistor integrated)

3RT10 1 3RH11	1 CO	24 AC/DC	0.5 ... 10	B	<b>3RT19 16-2LJ21</b>	1	1 unit	101	0.090
		100 ... 127 AC	0.5 ... 10	B	<b>3RT19 16-2LC21</b>	1	1 unit	101	0.090
		200 ... 240 AC	0.5 ... 10	C	<b>3RT19 16-2LD21</b>	1	1 unit	101	0.090

##### Wye-delta function (varistor integrated)

3RT10 1 <sup>2)</sup>	1 NO, delayed + 1 NO, instan- taneous, dead time 50 ms	24 AC/DC <sup>3)</sup>	1.5 ... 30	►	<b>3RT19 16-2GJ51</b>	1	1 unit	101	0.090	
			100 ... 127 AC <sup>3)</sup>	1.5 ... 30	D	<b>3RT19 16-2GC51</b>	1	1 unit	101	0.090
			200 ... 240 AC <sup>3)</sup>	1.5 ... 30	►	<b>3RT19 16-2GD51</b>	1	1 unit	101	0.090

##### Sizes S0 ... S12



3RT19 26-2...

##### With ON-delay

3RT10, 3RT13, 3RT14, 3RT15	1 NO + 1 NC	24 AC/DC <sup>5)</sup>	0.05 ... 1	D	<b>3RT19 26-2EJ11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 26-2EJ21</b>	1	1 unit	101	0.090
			5 ... 100	A	<b>3RT19 26-2EJ31</b>	1	1 unit	101	0.090
		100 ... 127 AC <sup>5)</sup>	0.05 ... 1	C	<b>3RT19 26-2EC11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 26-2EC21</b>	1	1 unit	101	0.090
			5 ... 100	D	<b>3RT19 26-2EC31</b>	1	1 unit	101	0.090
		200 ... 240 AC <sup>5)</sup>	0.05 ... 1	D	<b>3RT19 26-2ED11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 26-2ED21</b>	1	1 unit	101	0.090
			5 ... 100	B	<b>3RT19 26-2ED31</b>	1	1 unit	101	0.090

##### OFF-delay without auxiliary voltage<sup>4)</sup>

3RT10, 3RT13, 3RT14, 3RT15	1 NO + 1 NC	24 AC/DC <sup>5)</sup>	0.05 ... 1	►	<b>3RT19 26-2FJ11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 26-2FJ21</b>	1	1 unit	101	0.090
			5 ... 100	►	<b>3RT19 26-2FJ31</b>	1	1 unit	101	0.090
		100 ... 127 <sup>5)</sup>	0.05 ... 1	D	<b>3RT19 26-2FK11</b>	1	1 unit	101	0.090
			0.5 ... 10	►	<b>3RT19 26-2FK21</b>	1	1 unit	101	0.090
			5 ... 100	C	<b>3RT19 26-2FK31</b>	1	1 unit	101	0.090
		200 ... 240 <sup>5)</sup>	0.05 ... 1	D	<b>3RT19 26-2FL11</b>	1	1 unit	101	0.090
			0.5 ... 10	A	<b>3RT19 26-2FL21</b>	1	1 unit	101	0.090
			5 ... 100	A	<b>3RT19 26-2FL31</b>	1	1 unit	101	0.090

##### Wye-delta function (varistor integrated)

3RT10, 3RT13, 3RT14, 3RT15	1 NO, delayed + 1 NO, instan- taneous, dead time 50 ms	24 AC/DC <sup>5)</sup>	1.5 ... 30	►	<b>3RT19 26-2GJ51</b>	1	1 unit	101	0.090	
			100 ... 127 AC <sup>5)</sup>	1.5 ... 30	►	<b>3RT19 26-2GC51</b>	1	1 unit	101	0.090
			200 ... 240 AC <sup>5)</sup>	1.5 ... 30	►	<b>3RT19 26-2GD51</b>	1	1 unit	101	0.090

1) The AC voltages are valid for 50 Hz and 60 Hz.

2) Cannot be fitted onto coupling relays.

3) The terminals for the control supply voltage are connected to the contactor by the integrated spring contacts of the solid-state time-delay auxiliary switch above it when this switch is mounted.

4) Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

5) Terminals A1 and A2 for the control supply voltage of the solid-state time-delay auxiliary switch must be connected to the associated contactor by means of connecting cables.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Rated control supply voltage $U_s$	Time setting range $t$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type	V	s							kg

#### Solid-state time-delay blocks with semiconductor output

##### Size S00



3RT19 16-2C...

#### For mounting onto the front of contactors

##### • ON-delay (varistor integrated)

3RT1. 1, 3RH11 <sup>1)</sup> 3RH14	24 ... 66	0.05 ... 1	B	3RT19 16-2CG11	1	1 unit	101	0.050
		0.5 ... 10	▶	3RT19 16-2CG21	1	1 unit	101	0.050
		5 ... 100	B	3RT19 16-2CG31	1	1 unit	101	0.050
90 ... 240	0.05 ... 1	0.5 ... 10	D	3RT19 16-2CH11	1	1 unit	101	0.050
		0.5 ... 10	▶	3RT19 16-2CH21	1	1 unit	101	0.050
		5 ... 100	▶	3RT19 16-2CH31	1	1 unit	101	0.050

##### • OFF-delay with auxiliary voltage (varistor integrated)

3RT1. 1, 3RH11 <sup>1)</sup> 3RH14	24 ... 66	0.05 ... 1	C	3RT19 16-2DG11	1	1 unit	101	0.060
		0.5 ... 10	B	3RT19 16-2DG21	1	1 unit	101	0.060
		5 ... 100	B	3RT19 16-2DG31	1	1 unit	101	0.060
90 ... 240	0.05 ... 1	0.5 ... 10	D	3RT19 16-2DH11	1	1 unit	101	0.060
		0.5 ... 10	▶	3RT19 16-2DH21	1	1 unit	101	0.060
		5 ... 100	B	3RT19 16-2DH31	1	1 unit	101	0.060

##### Sizes S0 ... S3

#### For mounting onto coil terminals on top of the contactors, only for devices with screw terminals

##### • ON-delay (varistor integrated)



3RT19 26-2C...

3RT10 2, 3RT10 3, 3RT10 4, 3RT13 <sup>2)</sup> 3RT15	24 ... 66	0.05 ... 1	D	3RT19 26-2CG11	1	1 unit	101	0.050
		0.5 ... 10	B	3RT19 26-2CG21	1	1 unit	101	0.050
		5 ... 100	D	3RT19 26-2CG31	1	1 unit	101	0.050
90 ... 240	0.05 ... 1	0.5 ... 10	▶	3RT19 26-2CH11	1	1 unit	101	0.050
		0.5 ... 10	▶	3RT19 26-2CH21	1	1 unit	101	0.050
		5 ... 100	▶	3RT19 26-2CH31	1	1 unit	101	0.050

##### • OFF-delay with auxiliary voltage (varistor integrated)



3RT19 26-2D...

3RT10 2, 3RT10 3, 3RT10 4, 3RT13 <sup>2)</sup> 3RT15	24 ... 66	0.05 ... 1	D	3RT19 26-2DG11	1	1 unit	101	0.050
		0.5 ... 10	D	3RT19 26-2DG21	1	1 unit	101	0.050
		5 ... 100	D	3RT19 26-2DG31	1	1 unit	101	0.050
90 ... 240	0.05 ... 1	0.5 ... 10	C	3RT19 26-2DH11	1	1 unit	101	0.050
		0.5 ... 10	D	3RT19 26-2DH21	1	1 unit	101	0.050
		5 ... 100	C	3RT19 26-2DH31	1	1 unit	101	0.050

#### OFF-delay devices



3RT19 16-2B.01

3RT1. 1, 3RT1. 2, 3RH1. ...-1BF40	110 AC/DC		D	3RT19 16-2BK01	1	1 unit	101	0.150		
		3RT1. 1, 3RT1. 2, 3RH1. ...-1BM40	220/230 AC/DC		D	3RT19 16-2BL01	1	1 unit	101	0.150
				3RT1. 1 ... 3RT1. 4, 3RH1. ...-1BB40	24 DC	▶	3RT19 16-2BE01	1	1 unit	101

#### Pneumatic delay block, terminal designation according to EN 50005



3RT19 26-2P...

#### 3RT1. 2 For mounting onto the front side of size S0 contactors<sup>3)4)</sup>

##### Auxiliary contacts 1 NO and 1 NC

##### • With ON-delay

0.1 ... 30	C	3RT19 26-2PA01	1	1 unit	101	0.080
1 ... 60	C	3RT19 26-2PA11	1	1 unit	101	0.080

##### • OFF-delay

0.1 ... 30	C	3RT19 26-2PR01	1	1 unit	101	0.080
1 ... 60	C	3RT19 26-2PR11	1	1 unit	101	0.080

#### Mechanical latching blocks

##### Sizes S0 and S2



3RT19 26-3A.31

#### For mounting on 1 contactor<sup>5)</sup>, contactor remains in the energized state even after a voltage failure

3RT1. 2, 3RT1. 3	24 AC/DC 110 AC/DC 230 AC/DC	A	3RT19 26-3AB31	1	1 unit	101	0.130
		B	3RT19 26-3AF31	1	1 unit	101	0.130
		B	3RT19 26-3AP31	1	1 unit	101	0.130

1) Cannot be fitted onto coupling relays.

2) Not to be used for 3RT10 4. and 3RT13 4. contactors with  $U_s \leq 42$  V.

3) In addition to these, no other auxiliary contacts are permitted.

4) Versions according to DIN VDE 0116 on request.

5) Two front-mounted auxiliary switch blocks can be mounted in addition.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Version	Rated control supply voltage $U_s^{1)}$		DT	Order No. <sup>2)</sup>	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		AC operation	DC operation							
Type		V AC	V DC							kg

#### Surge suppressors without LED (also for Cage Clamp terminals)

##### Size S00



3RT19 16-1DG00

#### For plugging onto the front side of the contactors with and without auxiliary switch blocks

For contactors	Version	Rated control supply voltage $U_s^{1)}$	DT	Order No. <sup>2)</sup>	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
3RT1.. 3RH1	<b>Varistors</b>	24 ... 48	24 ... 70	▶	<b>3RT19 16-1BB00</b>	1	1 unit	101	0.010
		48 ... 127	70 ... 150	▶	<b>3RT19 16-1BC00</b>	1	1 unit	101	0.010
		127 ... 240	150 ... 250	A	<b>3RT19 16-1BD00</b>	1	1 unit	101	0.010
		240 ... 400	--	▶	<b>3RT19 16-1BE00</b>	1	1 unit	101	0.010
		400 ... 600	--	A	<b>3RT19 16-1BF00</b>	1	1 unit	101	0.010
3RT1.. 3RH1	<b>RC elements</b>	24 ... 48	24 ... 70	▶	<b>3RT19 16-1CB00</b>	1	1 unit	101	0.010
		48 ... 127	70 ... 150	▶	<b>3RT19 16-1CC00</b>	1	1 unit	101	0.010
		127 ... 240	150 ... 250	▶	<b>3RT19 16-1CD00</b>	1	1 unit	101	0.010
		240 ... 400	--	▶	<b>3RT19 16-1CE00</b>	1	1 unit	101	0.010
		400 ... 600	--	▶	<b>3RT19 16-1CF00</b>	1	1 unit	101	0.010
3RT1.. 3RH1	<b>Noise suppression diodes</b>	--	12 ... 250	▶	<b>3RT19 16-1DG00</b>	1	1 unit	101	0.010
3RT1.. 3RH1	<b>Diode assemblies</b> (diode and Zener diode) for DC operation	--	12 ... 250	▶	<b>3RT19 16-1EH00</b>	1	1 unit	101	0.010

##### Size S0



3RT19 26-1B.00

#### For fitting onto the coil terminals at top or bottom

For contactors	Version	Rated control supply voltage $U_s^{1)}$	DT	Order No. <sup>2)</sup>	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
3RT1. 2	<b>Varistors</b>	24 ... 48	24 ... 70	▶	<b>3RT19 26-1BB00</b>	1	1 unit	101	0.025
		48 ... 127	70 ... 150	▶	<b>3RT19 26-1BC00</b>	1	1 unit	101	0.025
		127 ... 240	150 ... 250	▶	<b>3RT19 26-1BD00</b>	1	1 unit	101	0.025
		240 ... 400	--	▶	<b>3RT19 26-1BE00</b>	1	1 unit	101	0.025
		400 ... 600	--	B	<b>3RT19 26-1BF00</b>	1	1 unit	101	0.025
3RT1. 2	<b>RC elements</b>	24 ... 48	24 ... 70	▶	<b>3RT19 26-1CB00</b>	1	1 unit	101	0.025
		48 ... 127	70 ... 150	▶	<b>3RT19 26-1CC00</b>	1	1 unit	101	0.025
		127 ... 240	150 ... 250	▶	<b>3RT19 26-1CD00</b>	1	1 unit	101	0.025
		240 ... 400	--	▶	<b>3RT19 26-1CE00</b>	1	1 unit	101	0.025
		400 ... 600	--	B	<b>3RT19 26-1CF00</b>	1	1 unit	101	0.025
3RT1. 2	<b>Diode assembly</b> for DC operation	--							
	• Connectable at the top (e. g. for contactor with overload relay)	--	24	▶	<b>3RT19 26-1ER00</b>	1	1 unit	101	0.025
		--	30 ... 250	▶	<b>3RT19 26-1ES00</b>	1	1 unit	101	0.025
	• Connectable at the bottom (e. g. for fuseless load feeders)	--	24	▶	<b>3RT19 26-1TR00</b>	1	1 unit	101	0.025
		--	30 ... 250	A	<b>3RT19 26-1TS00</b>	1	1 unit	101	0.025

<sup>1)</sup> Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

<sup>2)</sup> For packs of 10 units, the Order No. must be supplemented with "-Z" and the order code "X90".

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays



### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Version	Rated control supply voltage $U_s^{1)}$		DT	Order No. <sup>2)</sup>	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		AC operation	DC operation							
Type		V AC	V DC							kg

#### Surge suppressors without LED (also for Cage Clamp terminals)

##### Sizes S2 and S3


##### For fitting onto the coil terminals at top or bottom

	3RT1. 3,	<b>Varistors</b>	24 ... 48	24 ... 70	▶	<b>3RT19 26-1BB00</b>	1	1 unit	101	0.025
	3RT1. 4		48 ... 127	70 ... 150	▶	<b>3RT19 26-1BC00</b>	1	1 unit	101	0.025
			127 ... 240	150 ... 250	▶	<b>3RT19 26-1BD00</b>	1	1 unit	101	0.025
			240 ... 400	--	▶	<b>3RT19 26-1BE00</b>	1	1 unit	101	0.025
			400 ... 600	--	B	<b>3RT19 26-1BF00</b>	1	1 unit	101	0.025
	3RT1. 3 <sup>3)</sup> ,	<b>RC elements</b>	24 ... 48	24 ... 70	▶	<b>3RT19 36-1CB00</b>	1	1 unit	101	0.040
	3RT1. 4		48 ... 127	70 ... 150	▶	<b>3RT19 36-1CC00</b>	1	1 unit	101	0.040
			127 ... 240	150 ... 250	▶	<b>3RT19 36-1CD00</b>	1	1 unit	101	0.040
			240 ... 400	--	▶	<b>3RT19 36-1CE00</b>	1	1 unit	101	0.040
			400 ... 600	--	B	<b>3RT19 36-1CF00</b>	1	1 unit	101	0.040
3RT1. 3, 3RT1. 4	<b>Diode assembly</b> for DC operation									
		• Connectable at the top (e. g. for contactor with overload relay)	24	30 ... 250	▶	<b>3RT19 36-1ER00</b>	1	1 unit	101	0.025
		• Connectable at the bottom (e. g. for fuseless load feeders)	24	30 ... 250	▶	<b>3RT19 36-1TR00</b>	1	1 unit	101	0.025
					B	<b>3RT19 36-1TS00</b>	1	1 unit	101	0.025

##### Sizes S6 ... S12

##### For connecting to withdrawable coil with screw terminals with contactors with

- 3RT1. ...-A conventional operating mechanism
- 3RT1. ...-N conventional operating mechanism

	3RT1. 5,	<b>RC elements</b>	24 ... 48	24 ... 70	▶	<b>3RT19 56-1CB00</b>	1	1 unit	101	0.035
	3RT1. 6,		48 ... 127	70 ... 150	▶	<b>3RT19 56-1CC00</b>	1	1 unit	101	0.035
	3RT1. 7		127 ... 240	150 ... 250	▶	<b>3RT19 56-1CD00</b>	1	1 unit	101	0.035
			240 ... 400	--	▶	<b>3RT19 56-1CE00</b>	1	1 unit	101	0.035
			400 ... 600	--	C	<b>3RT19 56-1CF00</b>	1	1 unit	101	0.035


- 1) Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.
- 2) For packs of 10 or 5 units "-Z" and order code "X90" must be added to the Order No.
- 3) Mountable only at the top for 3RT1. 3 with AC operation.

For contactors	Version	Rated control supply voltage $U_s^{1)}$		Power consumption of LED at $U_s$	DT	Order No. <sup>2)</sup>	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		AC operation	DC operation								
Type		V AC	V DC								kg

#### Surge suppressors with LED (also for Cage Clamp terminals)

##### Size S00

##### For plugging onto the front side of the contactors with and without auxiliary switch blocks

	3RT1, 3RH1.	<b>Varistors</b>	24 ... 48	12 ... 24	10 ... 120	▶	<b>3RT19 16-1JJ00</b>	1	1 unit	101	0.010
			48 ... 127	24 ... 70	20 ... 470	▶	<b>3RT19 16-1JK00</b>	1	1 unit	101	0.010
			127 ... 240	70 ... 150	50 ... 700	▶	<b>3RT19 16-1JL00</b>	1	1 unit	101	0.010
			--	150 ... 250	160 ... 950	A	<b>3RT19 16-1JP00</b>	1	1 unit	101	0.010
	3RT1, 3RH1.	<b>Noise suppression diodes</b>	--	24 ... 70	20 ... 470	▶	<b>3RT19 16-1LM00</b>	1	1 unit	101	0.010
	--		50 ... 150	50 ... 700	▶	<b>3RT19 16-1LN00</b>	1	1 unit	101	0.010	
	--		150 ... 250	160 ... 950	▶	<b>3RT19 16-1LP00</b>	1	1 unit	101	0.010	

- 1) Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.
- 2) For packs of 10 or 5 units "-Z" and order code "X90" must be added to the Order No.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type								kg

#### EMC suppression modules; three-phase ≤ 5.5 kW

*Size S00 (for contactors with AC or DC operation)<sup>1)</sup>*



3RT19 16-1PA.

3RT10 1 **RC elements** (3 x 220 Ω/0.22 μF)

Up to 400 V

Up to 575 V

Up to 690 V

▶ **3RT19 16-1PA1**

A **3RT19 16-1PA2**

C **3RT19 16-1PA3**

1 1 unit 101 0.080

1 1 unit 101 0.080

1 1 unit 101 0.080

3RT10 1 **Varistors**

Up to 400 V

Up to 575 V

Up to 690 V

A **3RT19 16-1PB1**

B **3RT19 16-1PB2**

D **3RT19 16-1PB3**

1 1 unit 101 0.090

1 1 unit 101 0.090

1 1 unit 101 0.090

#### Main current path surge suppression modules for 3RT12 vacuum contactors

*Size S10 and S12*

3RT12 Rated operational voltage  
 $U_e = 690$  V AC

C **3RT19 66-1PV3**

1 1 unit 101 0.400

Rated operational voltage  
 $U_e = 1000$  V AC

C **3RT19 66-1PV4**

1 1 unit 101 0.780

For damping overvoltages and protecting motor windings against multiple re-ignition when switching off induction motors. For connection on the contactor feeder side (2-T1/4-T2/6-T3). For separate installation.

#### Additional load modules

*Size S00 (also for Cage Clamp terminals)*

**For plugging onto the front side of the contactors with and without auxiliary switch blocks<sup>2)</sup>**



3RT19 16-1GA00

3RT1. 1,  
3RH1.

For increasing the permissible residual current and for limiting the residual voltage. Ensures safe opening of contactors with direct control via 230 V AC semiconductor outputs of SIMATIC controllers. Also performs the function of an overvoltage damping circuit.  
Rated voltage: AC 50/60 Hz, 180 V to 255 V.  
Operating range:  $0.8$  to  $1.1 \times U_s$

▶ **3RT19 16-1GA00**

1 1 unit 101 0.010

#### Control kits

*Size S00*



3RK1 903-0CA00

3RT1. 1,  
3RH1. For manual operation of the contactor con- A tacts for start-up and service<sup>3)</sup>

**3RK1 903-0CA00**

1 1 unit 121 0.015

<sup>1)</sup> See also description on page 3/100.

<sup>2)</sup> For packs of 10 units, the Order No. must be supplemented with "-Z" and the order code "X90".

<sup>3)</sup> See "Load Feeders and Motor Starters" → "ET 200S, 3RK1 903-0CA00 Motor Starters".

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type								kg

#### Coupling links for control by PLC

##### Sizes S0 ... S3



3RH19 24-1GP11

3RT1 . 2,  
3RT1 . 3,  
3RT1 . 4

##### For mounting onto the coil terminals of the contactors

Operating range 17 ... 30 V DC  
Power consumption: 0.5 W at 24 V DC  
Permissible residual current of the electronics (with 0 signal): 2.5 mA

Rated operational current  $I_e$ :  
• AC-15/AC-14 at 230 V: 3 A  
• DC-13 at 230 V: 0.1 A

With LED for indicating switching state.  
With integrated varistor for damping opening surges.

▶ **3RH19 24-1GP11**

1 1 unit 101 0.060

#### LED modules for indicating the contactor function (also for Cage Clamp terminals)

##### Sizes S0 ... S12<sup>1)</sup>

3RT19 26-1QT00  
mounted to contactor

3RT1 . 2,  
3RT1 . 3,  
3RT1 . 4

For snapping into the location hole of an inscription label on the front of a contactor either directly on the contactor or on the front auxiliary switch.

The LED module is connected to coil terminals A1 and A2 of the contactor and indicates its energized state. Yellow LED.

Rated voltage:  
24 ... 240 V AC/DC polarized.  
(1 pack = 5 units)

B **3RT19 26-1QT00**

1 5 units 101 0.010

#### Auxiliary terminals, 3-pole

##### Size S3



3RT19 46-4F

3RT10 4.

For connection of auxiliary and control cables (0.5 to 2.5 mm<sup>2</sup>) to the main conductor connections (for one side)

B **3RT19 46-4F**

1 1 unit 101 0.035

#### Connection modules for contactors with screw terminals

##### Size S00, S0



3RT19 26-4RD01

3RT1 . 1,  
3RT1 . 2,  
3RH1 .

##### Adapters for contactors

Ambient temperature  $T_{U,max} = 60$  °C

Size S00,  
rated operational current  $I_e$   
at AC-3/400 V: 20 A

Size S0,  
rated operational current  $I_e$   
at AC-3/400 V: 25 A

##### Plugs for contactors

Size S00, S0

##### Screw terminals

B **3RT19 16-4RD01**

1 1 unit 101 0.020

B **3RT19 26-4RD01**

1 1 unit 101 0.200

B **3RT19 00-4RE01**

1 1 unit 101 0.025



3RT19 00-4RE01

#### Solder pin adapters for contactors

##### Size S00



3RT19 16-4KA1

3RT1 . 1,  
3RH11

Assembly kit for soldering contactors onto a printed circuit board.  
For 1 contactor, 1 set is required.

A **3RT19 16-4KA1**

1 4 units 101 0.030

<sup>1)</sup> For sizes S6 ... S12 the connecting leads have to be extended.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type								kg

#### Solder pin adapters for contactors with mounted 4-pole auxiliary switch block

##### Size S00

3RT1. 1,  
3RH11

Assembly kit for soldering contactors with an auxiliary switch block onto a printed circuit board.  
For 1 contactor, 1 set is required.

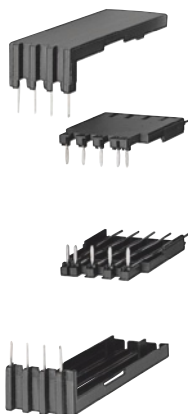
B

**3RT19 16-4KA2**

1 4 units

101

0.070



3RT19 16-4KA2

#### Screw adapters with screw or Cage Clamp terminals

##### Size S0

3RT1. 2

Screw adapters for easy screw fixing  
2 units required per contactor  
(1 pack contains 10 sets for 10 contactors)

C

**3RT19 26-4P**

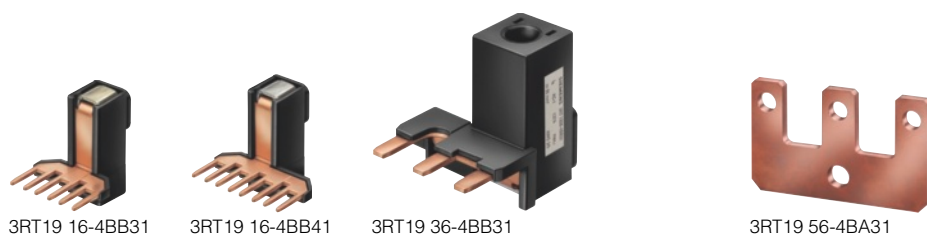
1 10 units

101

0.010



3RT19 26-4P



3RT19 16-4BB31

3RT19 16-4BB41

3RT19 36-4BB31

3RT19 56-4BA31

Size	For contactors	Max. conductor cross-sections	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type								kg	

#### Links for paralleling

##### 3-pole, with connection terminal<sup>1)2)</sup>

<b>S00</b>	3RT10 1	25	▶	<b>3RT19 16-4BB31</b>		1	1 unit	101	0.015
<b>S0</b>	3RT10 2	35, stranded	▶	<b>3RT19 26-4BB31</b>		1	1 unit	101	0.020
<b>S2</b>	3RT10 3	95	▶	<b>3RT19 36-4BB31</b>		1	1 unit	101	0.100

##### 3-pole, with through-hole (star jumpers)<sup>1)2)</sup>

<b>S3</b>	3RT10 4, 3RT14 4	185	▶	<b>3RT19 46-4BB31</b>		1	1 unit	101	0.200
<b>S6</b>	3RT1. 5	--	▶	<b>3RT19 56-4BA31</b>		1	1 unit	101	0.160
<b>S10/S12</b>	3RT1. 6, 3RT1. 7	--	▶	<b>3RT19 66-4BA31</b>		1	1 unit	101	0.500

##### 4-pole, with connection terminal<sup>1)2)</sup>

<b>S00</b>	3RT1. 1	25	C	<b>3RT19 16-4BB41</b>		1	1 unit	101	0.015
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<sup>1)</sup> The links for paralleling can be reduced by one pole.

<sup>2)</sup> Sizes S00 to S2: The links for paralleling are insulated.  
Size S3: A cover plate is included for touch protection. (Can only be used when the box terminal is removed.)  
Sizes S6 to S12: The 3RT19 56-4EA1 (for S6) or 3RT19 66-4EA1 (for S10 and S12) cover can be used for touch protection.



# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

For contactors	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Size	Type							kg

#### Box terminal blocks



3RT19 5.-4G

		For round and ribbon cables <sup>1)</sup>							
<b>S6</b>	3RT1. 5 (3RB20 5)	Up to 70 mm <sup>2</sup> 2)	▶	<b>3RT19 55-4G</b>	1	1 unit	101	0.230	
		Up to 120 mm <sup>2</sup>	▶	<b>3RT19 56-4G</b>	1	1 unit	101	0.260	
		<b>Auxiliary conductor connection for box terminals</b>	B	<b>3TX7 500-0A</b>	1	1 unit	101	0.010	
<b>S10/S12</b>	3RT1. 6, 3RT1. 7 (3RB20 6, 3RB21 6)	Up to 240 mm <sup>2</sup> With auxiliary conductor connection	▶	<b>3RT19 66-4G</b>	1	1 unit	101	0.676	

#### Covers



3RT19 36-4EA2

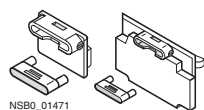
		Terminal covers for box terminals							
		Additional touch protection for fitting to box terminals (2 units per contactor required)							
<b>S2</b>	3RT10 3 3RT13 3, 3RT15 3	--	▶	<b>3RT19 36-4EA2</b>	1	1 unit	101	0.020	
		For 4-pole contactors	B	<b>3RT19 36-4EA4</b>	1	1 unit	101	0.020	
<b>S3</b>	3RT10 4, 3RT14 4	--	▶	<b>3RT19 46-4EA2</b>	1	1 unit	101	0.025	
		For 4-pole contactors	B	<b>3RT19 46-4EA4</b>	1	1 unit	101	0.025	
<b>S6</b>	3RT1. 5	Length: 25 mm	▶	<b>3RT19 56-4EA2</b>	1	1 unit	101	0.030	
<b>S10/S12</b>	3RT1. 6, 3RT1. 7	Length: 30 mm	▶	<b>3RT19 66-4EA2</b>	1	1 unit	101	0.040	



3RT19 46-4EA1

		Terminal covers for cable lugs and busbar connection <sup>3)</sup>							
		For complying with the phase clearances and as touch protection if box terminal is removed <sup>4)</sup> (2 units per contactor required)							
<b>S3</b>	3RT10 4, 3RT14 4	--	▶	<b>3RT19 46-4EA1</b>	1	1 unit	101	0.040	
		Length: 100 mm	▶	<b>3RT19 56-4EA1</b>	1	1 unit	101	0.070	
<b>S6</b>	3RT1. 5	Length: 100 mm	▶	<b>3RT19 56-4EA1</b>	1	1 unit	101	0.070	
<b>S10/S12</b>	3RT1. 6, 3RT1. 7	Length: 120 mm	▶	<b>3RT19 66-4EA1</b>	1	1 unit	101	0.130	
		For busbar cover between contactor and 3RB2. overload relay or wiring module for contactor assemblies							
<b>S6</b>	3RT1. 5	Length: 27 mm	▶	<b>3RT19 56-4EA3</b>	1	1 unit	101	0.020	
<b>S10/S12<sup>5)</sup></b>	3RT1. 6, 3RT1. 7	Length: 42 mm	▶	<b>3RT19 66-4EA3</b>	1	1 unit	101	0.060	
		For busbar cover of the flat line connectors for reversing and wye-delta assemblies							
<b>S6</b>	3RT1. 5	Length: 38 mm	▶	<b>3RT19 56-4EA4</b>	1	1 unit	101	0.030	

#### Sealable covers



3RT19 .6-4MA10

<b>S00</b>	3RT1. 1, 3RH1. 6)	Sealable cover for preventing manual operation	A	<b>3RT19 16-4MA10</b>	1	5 units	101	0.010
<b>S0 ... S12</b>	3RT1. 2 ... 3RT1. 7 <sup>6)</sup>	1 unit required per contactor	B	<b>3RT19 26-4MA10</b>	1	5 units	101	0.010

<sup>1)</sup> Connectable cross-sections of the contactors can be found in the "Technical specifications" (see note on Technical Information on page 3/1).

<sup>2)</sup> As standard for 3RT10 54-1 contactor (55 kW).

<sup>3)</sup> Also fits on contactors S6 ... S12 with box terminals.

<sup>4)</sup> Read the note on connectable cross-sections in the "Technical specifications" (see note on Technical Information on page 3/1).



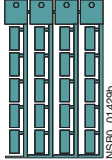
<sup>5)</sup> The 3RT19 66-4EA3 cover is required in addition for use in contactor assemblies (reversing/wye-delta).

<sup>6)</sup> Exception: contactors and contactor relays auxiliary switch block mounted onto the front.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Accessories for 3RT contactors and 3RH contactor relays

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
<b>Insulation stop for securely holding back the conductor insulation on conductors up to 1 mm<sup>2</sup> for contactors with Cage Clamp terminals</b>							
 3RT19 16-4JA02	B	<b>3RT19 16-4JA02</b>		1	20 units	101	0.010
Insulation stop strip can be inserted in cable entry of Cage Clamp terminals (2 strips per contactor required, can be removed in pairs) For all SIRIUS devices with Cage Clamp terminals, up to 2.5 mm <sup>2</sup> conductor cross-section.							
<b>Tools for opening Cage Clamp terminals</b>							
 8WA2 880	C	<b>8WA2 880</b>		1	1 unit	041	0.034
For all SIRIUS devices with Cage Clamp terminals, up to 2.5 mm <sup>2</sup> conductor cross-section. <u>Not suitable for devices with removable terminal</u> Length: approx. 175 mm; 3.5 x 0.5, green; partially insulated							
	C	<b>8WA2 803</b>		1	1 unit	041	0.024
Length: approx. 175 mm; 3.5 x 0.5; green							
<b>Blank labels</b>							
 3RT19 00-1SB10	D	<b>3RT19 00-1SB10</b>		100	816 units	101	0.100
Unit labeling plates for "SIRIUS" • 10 mm x 7 mm, pastel turquoise • 20 mm x 7 mm, pastel turquoise							
	C	<b>3RT19 00-1SB20</b>		100	340 units	101	0.200
Labels for sticking for "SIRIUS" • 19 mm x 6 mm, pastel turquoise • 19 mm x 6 mm, zinc/yellow							
	D	<b>3RT19 00-1SB60</b>		100	3060 units	101	0.100
	C	<b>3RT19 00-1SD60</b>		100	3060 units	101	0.100
<u>Computer labeling system</u> For individual inscription of unit labeling plates							
Obtainable from: <b>murrplastik Systemtechnik GmbH</b>							

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

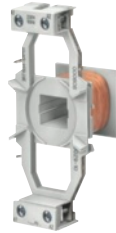
Spare parts for  
3RT contactors and 3RH contactor relays

### Selection and ordering data

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RT19 24-5A.01



3RT19 34-5A.01



3RT19 24-5A.02

For contactors		Rated control supply voltage $U_s$			DT	<b>Screw terminals</b>	$\oplus$	Weight per PU approx.	DT	<b>Cage Clamp terminals</b>	$\odot$	Weight per PU approx.	
		50 Hz	50/60 Hz	60 Hz		Order No.	Price per PU	kg		Order No.	Price per PU	kg	
Size	Type	V	V	V									
<b>Solenoid coils · AC operation</b>													
<b>S0</b>	3RT10 2..	24	--	--	▶	<b>3RT19 24-5AB01</b>		0.100 B		<b>3RT19 24-5AB02</b>		0.100	
	3RT13 2..	42	--	--	B	<b>3RT19 24-5AD01</b>		0.100 C		<b>3RT19 24-5AD02</b>		0.100	
	3RT15 2..	48	--	--	A	<b>3RT19 24-5AH01</b>		0.100 B		<b>3RT19 24-5AH02</b>		0.100	
		110	--	--	▶	<b>3RT19 24-5AF01</b>		0.100 B		<b>3RT19 24-5AF02</b>		0.100	
		230	--	--	▶	<b>3RT19 24-5AP01</b>		0.100 B		<b>3RT19 24-5AP02</b>		0.100	
		400	--	--	▶	<b>3RT19 24-5AV01</b>		0.100 C		<b>3RT19 24-5AV02</b>		0.100	
		--	24	--	▶	<b>3RT19 24-5AC21</b>		0.100 B		<b>3RT19 24-5AC22</b>		0.100	
		--	42	--	B	<b>3RT19 24-5AD21</b>		0.100 C		<b>3RT19 24-5AD22</b>		0.100	
		--	48	--	B	<b>3RT19 24-5AH21</b>		0.100 C		<b>3RT19 24-5AH22</b>		0.100	
		--	110	--	▶	<b>3RT19 24-5AG21</b>		0.100 B		<b>3RT19 24-5AG22</b>		0.100	
		--	220	--	B	<b>3RT19 24-5AN21</b>		0.100 B		<b>3RT19 24-5AN22</b>		0.100	
		--	230	--	B	<b>3RT19 24-5AL21</b>		0.100 B		<b>3RT19 24-5AL22</b>		0.100	
		110	--	120	B	<b>3RT19 24-5AK61</b>		0.100 B		<b>3RT19 24-5AK62</b>		0.100	
		220	--	240	B	<b>3RT19 24-5AP61</b>		0.100 C		<b>3RT19 24-5AP62</b>		0.100	
		--	100	110	B	<b>3RT19 24-5AG61</b>		0.100 C		<b>3RT19 24-5AG62</b>		0.100	
		--	200	220	B	<b>3RT19 24-5AN61</b>		0.100 C		<b>3RT19 24-5AN62</b>		0.100	
		--	400	440	B	<b>3RT19 24-5AR61</b>		0.100 C		<b>3RT19 24-5AR62</b>		0.100	
	<b>S2</b>	3RT10 34	24	--	--	B	<b>3RT19 34-5AB01</b>		0.120 B		<b>3RT19 34-5AB02</b>		0.120
			42	--	--	B	<b>3RT19 34-5AD01</b>		0.120 B		<b>3RT19 34-5AD02</b>		0.120
			48	--	--	B	<b>3RT19 34-5AH01</b>		0.120 B		<b>3RT19 34-5AH02</b>		0.120
			110	--	--	B	<b>3RT19 34-5AF01</b>		0.120 B		<b>3RT19 34-5AF02</b>		0.120
230			--	--	A	<b>3RT19 34-5AP01</b>		0.120 B		<b>3RT19 34-5AP02</b>		0.120	
400			--	--	C	<b>3RT19 34-5AV01</b>		0.120 B		<b>3RT19 34-5AV02</b>		0.120	
--			24	--	B	<b>3RT19 34-5AC21</b>		0.120 B		<b>3RT19 34-5AC22</b>		0.120	
--			42	--	B	<b>3RT19 34-5AD21</b>		0.120 B		<b>3RT19 34-5AD22</b>		0.120	
--			48	--	B	<b>3RT19 34-5AH21</b>		0.120 B		<b>3RT19 34-5AH22</b>		0.120	
--			110	--	C	<b>3RT19 34-5AG21</b>		0.120 B		<b>3RT19 34-5AG22</b>		0.120	
--			220	--	C	<b>3RT19 34-5AN21</b>		0.120 B		<b>3RT19 34-5AN22</b>		0.120	
--			230	--	C	<b>3RT19 34-5AL21</b>		0.120 B		<b>3RT19 34-5AL22</b>		0.120	
		110	--	120	B	<b>3RT19 34-5AK61</b>		0.120 B		<b>3RT19 34-5AK62</b>		0.120	
		220	--	240	B	<b>3RT19 34-5AP61</b>		0.120 B		<b>3RT19 34-5AP62</b>		0.120	
		--	100	110	B	<b>3RT19 34-5AG61</b>		0.120 B		<b>3RT19 34-5AG62</b>		0.120	
		--	200	220	B	<b>3RT19 34-5AN61</b>		0.120 B		<b>3RT19 34-5AN62</b>		0.120	
		--	400	440	B	<b>3RT19 34-5AR61</b>		0.120 B		<b>3RT19 34-5AR62</b>		0.120	
		3RT10 35, 3RT10 36, 3RT13 3., 3RT15 3.	24	--	--	B	<b>3RT19 35-5AB01</b>		0.120 B		<b>3RT19 35-5AB02</b>		0.120
			42	--	--	B	<b>3RT19 35-5AD01</b>		0.120 B		<b>3RT19 35-5AD02</b>		0.120
			48	--	--	B	<b>3RT19 35-5AH01</b>		0.120 B		<b>3RT19 35-5AH02</b>		0.120
			110	--	--	▶	<b>3RT19 35-5AF01</b>		0.120 B		<b>3RT19 35-5AF02</b>		0.120
			230	--	--	▶	<b>3RT19 35-5AP01</b>		0.120 B		<b>3RT19 35-5AP02</b>		0.120
			400	--	--	C	<b>3RT19 35-5AV01</b>		0.120 B		<b>3RT19 35-5AV02</b>		0.120
			--	24	--	B	<b>3RT19 35-5AC21</b>		0.120 B		<b>3RT19 35-5AC22</b>		0.120
			--	42	--	B	<b>3RT19 35-5AD21</b>		0.120 B		<b>3RT19 35-5AD22</b>		0.120
			--	48	--	B	<b>3RT19 35-5AH21</b>		0.120 B		<b>3RT19 35-5AH22</b>		0.120
			--	110	--	B	<b>3RT19 35-5AG21</b>		0.120 B		<b>3RT19 35-5AG22</b>		0.120
			--	220	--	B	<b>3RT19 35-5AN21</b>		0.120 B		<b>3RT19 35-5AN22</b>		0.120
			--	230	--	B	<b>3RT19 35-5AL21</b>		0.120 B		<b>3RT19 35-5AL22</b>		0.120
			110	--	120	B	<b>3RT19 35-5AK61</b>		0.120 B		<b>3RT19 35-5AK62</b>		0.120
	220		--	240	B	<b>3RT19 35-5AP61</b>		0.120 B		<b>3RT19 35-5AP62</b>		0.120	
	--		100	110	B	<b>3RT19 35-5AG61</b>		0.120 B		<b>3RT19 35-5AG62</b>		0.120	
	--		200	220	B	<b>3RT19 35-5AN61</b>		0.120 B		<b>3RT19 35-5AN62</b>		0.120	
	--		400	440	C	<b>3RT19 35-5AR61</b>		0.120 B		<b>3RT19 35-5AR62</b>		0.120	

\* You can order this quantity or a multiple thereof.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Spare parts for 3RT contactors and 3RH contactor relays

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RT19 44-5A.01



3RT19 45-5A.01



3RT19 45-5A.02



3RT19 44-5B.42

For contactors		Rated control supply voltage $U_s$				DT	Screw terminals	⊕	Weight per PU approx.	DT	Cage Clamp terminals	⊖	Weight per PU approx.
Size	Type	AC			DC	Order No.	Price per PU	kg	Order No.	Price per PU	kg		
		50 Hz	50/60 Hz	60 Hz									
<b>Solenoid coils · AC operation</b>													
<b>S3</b>	3RT10 44	24	--	--	--	B	3RT19 44-5AB01	0.190	B	3RT19 44-5AB02	0.190		
		42	--	--	--	B	3RT19 44-5AD01	0.190	B	3RT19 44-5AD02	0.190		
		48	--	--	--	B	3RT19 44-5AH01	0.190	B	3RT19 44-5AH02	0.190		
		110	--	--	--	B	3RT19 44-5AF01	0.190	B	3RT19 44-5AF02	0.190		
		230	--	--	--	B	3RT19 44-5AP01	0.190	B	3RT19 44-5AP02	0.190		
		400	--	--	--	B	3RT19 44-5AV01	0.190	B	3RT19 44-5AV02	0.190		
		--	24	--	--	B	3RT19 44-5AC21	0.190	B	3RT19 44-5AC22	0.190		
		--	42	--	--	B	3RT19 44-5AD21	0.190	B	3RT19 44-5AD22	0.190		
		--	48	--	--	B	3RT19 44-5AH21	0.190	B	3RT19 44-5AH22	0.190		
		--	110	--	--	B	3RT19 44-5AG21	0.190	B	3RT19 44-5AG22	0.190		
		--	220	--	--	B	3RT19 44-5AN21	0.190	B	3RT19 44-5AN22	0.190		
		--	230	--	--	B	3RT19 44-5AL21	0.190	B	3RT19 44-5AL22	0.190		
	--	110	--	120	--	C	3RT19 44-5AK61	0.190	B	3RT19 44-5AK62	0.190		
	--	220	--	240	--	B	3RT19 44-5AP61	0.190	B	3RT19 44-5AP62	0.190		
	--	100	110	--	B	3RT19 44-5AG61	0.190	B	3RT19 44-5AG62	0.190			
	--	200	220	--	B	3RT19 44-5AN61	0.190	B	3RT19 44-5AN62	0.190			
	--	400	440	--	B	3RT19 44-5AR61	0.190	B	3RT19 44-5AR62	0.190			
	3RT10 45, 3RT10 46, 3RT13 4., 3RT14 46, 3RT15 4.	24	--	--	--	B	3RT19 45-5AB01	0.190	B	3RT19 45-5AB02	0.190		
		42	--	--	--	B	3RT19 45-5AD01	0.190	B	3RT19 45-5AD02	0.190		
		48	--	--	--	B	3RT19 45-5AH01	0.190	B	3RT19 45-5AH02	0.190		
		110	--	--	--	B	3RT19 45-5AF01	0.190	B	3RT19 45-5AF02	0.190		
		230	--	--	--	▶	3RT19 45-5AP01	0.190	B	3RT19 45-5AP02	0.190		
		400	--	--	--	C	3RT19 45-5AV01	0.190	B	3RT19 45-5AV02	0.190		
		--	24	--	--	B	3RT19 45-5AC21	0.190	B	3RT19 45-5AC22	0.190		
--		42	--	--	B	3RT19 45-5AD21	0.190	B	3RT19 45-5AD22	0.190			
--		48	--	--	B	3RT19 45-5AH21	0.190	B	3RT19 45-5AH22	0.190			
--		110	--	--	B	3RT19 45-5AG21	0.190	B	3RT19 45-5AG22	0.190			
--		220	--	--	B	3RT19 45-5AN21	0.190	B	3RT19 45-5AN22	0.190			
--		230	--	--	B	3RT19 45-5AL21	0.190	B	3RT19 45-5AL22	0.190			
110 220	--	120	--	B	3RT19 45-5AK61	0.190	B	3RT19 45-5AK62	0.190				
	--	240	--	B	3RT19 45-5AP61	0.190	B	3RT19 45-5AP62	0.190				
	--	100	110	--	B	3RT19 45-5AG61	0.190	B	3RT19 45-5AG62	0.190			
	--	200	220	--	C	3RT19 45-5AN61	0.190	B	3RT19 45-5AN62	0.190			
	--	400	440	--	B	3RT19 45-5AR61	0.190	B	3RT19 45-5AR62	0.190			
	<b>Solenoid coils · DC operation</b>												
<b>S2</b>	3RT10 3., 3RT13 3., 3RT15 3.	--	--	--	24	B	3RT19 34-5BB41	0.650	B	3RT19 34-5BB42	0.650		
		--	--	--	42	B	3RT19 34-5BD41	0.650	C	3RT19 34-5BD42	0.650		
		--	--	--	48	B	3RT19 34-5BW41	0.650	B	3RT19 34-5BW42	0.650		
	--	--	--	60	B	3RT19 34-5BE41	0.650	B	3RT19 34-5BE42	0.650			
	--	--	--	110	B	3RT19 34-5BF41	0.650	B	3RT19 34-5BF42	0.650			
	--	--	--	125	B	3RT19 34-5BG41	0.650	C	3RT19 34-5BG42	0.650			
	--	--	--	220	B	3RT19 34-5BM41	0.650	B	3RT19 34-5BM42	0.650			
	--	--	--	230	B	3RT19 34-5BP41	0.650	B	3RT19 34-5BP42	0.650			
	<b>S3</b>	3RT10 4., 3RT13 4., 3RT14 4., 3RT15 4.	--	--	--	24	B	3RT19 44-5BB41	1.000	B	3RT19 44-5BB42	1.000	
			--	--	--	42	C	3RT19 44-5BD41	1.000	B	3RT19 44-5BD42	1.000	
			--	--	--	48	B	3RT19 44-5BW41	1.000	B	3RT19 44-5BW42	1.000	
		--	--	--	60	B	3RT19 44-5BE41	1.000	B	3RT19 44-5BE42	1.000		
--		--	--	110	B	3RT19 44-5BF41	1.000	B	3RT19 44-5BF42	1.000			
--		--	--	125	B	3RT19 44-5BG41	1.000	B	3RT19 44-5BG42	1.000			
--		--	--	220	B	3RT19 44-5BM41	1.000	B	3RT19 44-5BM42	1.000			
--		--	--	230	B	3RT19 44-5BP41	1.000	B	3RT19 44-5BP42	1.000			

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

Spare parts for  
3RT contactors and 3RH contactor relays

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RT19 55-5A...

For contactors		Rated control supply voltage $U_{s \text{ min}} \dots U_{s \text{ max}}$	DT	Screw terminals	⊕	Weight per PU approx.	DT	Cage Clamp terminals	⊕	Weight per PU approx.		
Size	Type	V AC/DC		Order No.	Price per PU	kg		Order No.	Price per PU	kg		
<b>Withdrawable coils</b>												
<i>Conventional operating mechanisms</i>												
<b>S6</b>	3RT10 5, 3RT14 5	23 ... 26	B	<b>3RT19 55-5AB31</b>		0.650	B	<b>3RT19 55-5AB32</b>		0.650		
		42 ... 48	B	<b>3RT19 55-5AD31</b>		0.650	B	<b>3RT19 55-5AD32</b>		0.650		
		110 ... 127	B	<b>3RT19 55-5AF31</b>		0.650	B	<b>3RT19 55-5AF32</b>		0.650		
		200 ... 220	B	<b>3RT19 55-5AM31</b>		0.650	B	<b>3RT19 55-5AM32</b>		0.650		
		220 ... 240	B	<b>3RT19 55-5AP31</b>		0.650	B	<b>3RT19 55-5AP32</b>		0.650		
		240 ... 277	B	<b>3RT19 55-5AU31</b>		0.650	B	<b>3RT19 55-5AU32</b>		0.650		
		380 ... 420	B	<b>3RT19 55-5AV31</b>		0.650	B	<b>3RT19 55-5AV32</b>		0.650		
		440 ... 480	B	<b>3RT19 55-5AR31</b>		0.650	B	<b>3RT19 55-5AR32</b>		0.650		
		500 ... 550	B	<b>3RT19 55-5AS31</b>		0.650	B	<b>3RT19 55-5AS32</b>		0.650		
		575 ... 600	B	<b>3RT19 55-5AT31</b>		0.650	B	<b>3RT19 55-5AT32</b>		0.650		
	<b>S10</b>	3RT10 6, 3RT14 6	23 ... 26	B	<b>3RT19 65-5AB31</b>		0.850	B	<b>3RT19 65-5AB32</b>		0.850	
			42 ... 48	B	<b>3RT19 65-5AD31</b>		0.850	B	<b>3RT19 65-5AD32</b>		0.850	
		110 ... 127	B	<b>3RT19 65-5AF31</b>		0.850	B	<b>3RT19 65-5AF32</b>		0.850		
		200 ... 220	C	<b>3RT19 65-5AM31</b>		0.850	B	<b>3RT19 65-5AM32</b>		0.850		
		220 ... 240	B	<b>3RT19 65-5AP31</b>		0.850	B	<b>3RT19 65-5AP32</b>		0.850		
		240 ... 277	B	<b>3RT19 65-5AU31</b>		0.850	B	<b>3RT19 65-5AU32</b>		0.850		
		380 ... 420	B	<b>3RT19 65-5AV31</b>		0.850	B	<b>3RT19 65-5AV32</b>		0.850		
		440 ... 480	B	<b>3RT19 65-5AR31</b>		0.850	B	<b>3RT19 65-5AR32</b>		0.850		
		500 ... 550	C	<b>3RT19 65-5AS31</b>		0.850	B	<b>3RT19 65-5AS32</b>		0.850		
		575 ... 600	C	<b>3RT19 65-5AT31</b>		0.850	B	<b>3RT19 65-5AT32</b>		0.850		
<b>S10</b>		3RT12 6 vacuum con- tactors	23 ... 26	B	<b>3RT19 66-5AB31</b>		1.000	--				
			42 ... 48	B	<b>3RT19 66-5AD31</b>		1.000	--				
	110 ... 127		A	<b>3RT19 66-5AF31</b>		1.000	--					
	200 ... 220		C	<b>3RT19 66-5AM31</b>		1.000	--					
	220 ... 240		A	<b>3RT19 66-5AP31</b>		1.000	--					
	240 ... 277		C	<b>3RT19 66-5AU31</b>		1.000	--					
	380 ... 420		B	<b>3RT19 66-5AV31</b>		1.000	--					
	440 ... 480		C	<b>3RT19 66-5AR31</b>		1.000	--					
	500 ... 550		C	<b>3RT19 66-5AS31</b>		1.000	--					
	575 ... 600		C	<b>3RT19 66-5AT31</b>		1.000	--					
	<b>S12</b>		3RT10 7, 3RT14 7, 3RT12 7 vacuum con- tactors	23 ... 26	B	<b>3RT19 75-5AB31</b>		1.300	B	<b>3RT19 75-5AB32</b>		1.300
				42 ... 48	B	<b>3RT19 75-5AD31</b>		1.300	B	<b>3RT19 75-5AD32</b>		1.300
		110 ... 127	B	<b>3RT19 75-5AF31</b>		1.300	B	<b>3RT19 75-5AF32</b>		1.300		
		200 ... 220	C	<b>3RT19 75-5AM31</b>		1.300	B	<b>3RT19 75-5AM32</b>		1.300		
		220 ... 240	B	<b>3RT19 75-5AP31</b>		1.300	B	<b>3RT19 75-5AP32</b>		1.300		
		240 ... 277	B	<b>3RT19 75-5AU31</b>		1.300	B	<b>3RT19 75-5AU32</b>		1.300		
		380 ... 420	B	<b>3RT19 75-5AV31</b>		1.300	B	<b>3RT19 75-5AV32</b>		1.300		
		440 ... 480	B	<b>3RT19 75-5AR31</b>		1.300	B	<b>3RT19 75-5AR32</b>		1.300		
		500 ... 550	C	<b>3RT19 75-5AS31</b>		1.300	B	<b>3RT19 75-5AS32</b>		1.300		
		575 ... 600	C	<b>3RT19 75-5AT31</b>		1.300	B	<b>3RT19 75-5AT32</b>		1.300		

\* You can order this quantity or a multiple thereof.

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

### Spare parts for 3RT contactors and 3RH contactor relays

PU (UNIT, SET, M)= 1  
PS\* = 1 unit  
PG = 101



3RT19 55-5N...

For contactors		Rated control supply voltage $U_s$	DT	Screw terminals		Weight per PU approx.	DT	Cage Clamp terminals		Weight per PU approx.
Size	Type	V AC/DC		Order No.	Price per PU	kg		Order No.	Price per PU	kg

#### Withdrawable coils

##### Solid-state operating mechanism

##### For 24 V DC PLC output

<b>S6</b>	3RT10 5,	21 ... 27.3	C	<b>3RT19 55-5NB31</b>		0.650	B	<b>3RT19 55-5NB32</b>		0.650
	3RT14 5	96 ... 127	B	<b>3RT19 55-5NF31</b>		0.650	B	<b>3RT19 55-5NF32</b>		0.650
		200 ... 277	B	<b>3RT19 55-5NP31</b>		0.650	B	<b>3RT19 55-5NP32</b>		0.650
<b>S10</b>	3RT10 6,	21 ... 27.3	B	<b>3RT19 65-5NB31</b>		0.900	B	<b>3RT19 65-5NB32</b>		0.900
	3RT14 6	96 ... 127	B	<b>3RT19 65-5NF31</b>		0.900	B	<b>3RT19 65-5NF32</b>		0.900
		200 ... 277	B	<b>3RT19 65-5NP31</b>		0.900	B	<b>3RT19 65-5NP32</b>		0.900
<b>S12</b>	3RT12 6	21 ... 27.3	B	<b>3RT19 66-5NB31</b>		0.650		--		
	vacuum con-	96 ... 127	C	<b>3RT19 66-5NF31</b>		0.650		--		
	tactors	200 ... 277	C	<b>3RT19 66-5NP31</b>		0.650		--		
<b>S12</b>	3RT10 7,	21 ... 27.3	B	<b>3RT19 75-5NB31</b>		1.100	B	<b>3RT19 75-5NB32</b>		1.100
	3RT14 7,	96 ... 127	B	<b>3RT19 75-5NF31</b>		1.100	B	<b>3RT19 75-5NF32</b>		1.100
	3RT12 7	200 ... 277	B	<b>3RT19 75-5NP31</b>		1.100	B	<b>3RT19 75-5NP32</b>		1.100
	vacuum con-									
	tactors									

##### For 24 V DC PLC output/PLC relay output, with remaining lifetime indicator (RLT)

(Withdrawable coil with lateral solid-state module)

<b>S6</b>	3RT10 5,	96 ... 127	B	<b>3RT19 55-5PF31</b>		0.650	--			
	3RT14 5	200 ... 277	B	<b>3RT19 55-5PP31</b>		0.650	--			
<b>S10</b>	3RT10 6,	96 ... 127	B	<b>3RT19 65-5PF31</b>		1.300	--			
	3RT14 6	200 ... 277	B	<b>3RT19 65-5PP31</b>		1.300	--			
<b>S12</b>	3RT10 7,	96 ... 127	B	<b>3RT19 75-5PF31</b>		1.300	--			
	3RT14 7	200 ... 277	B	<b>3RT19 75-5PP31</b>		1.300	--			

##### With AS-Interface and remaining lifetime indicator (RLT)

(Withdrawable coil with lateral solid-state module)

<b>S6</b>	3RT10 5,	96 ... 127	B	<b>3RT19 55-5QF31</b>		0.650	--			
	3RT14 5	200 ... 277	B	<b>3RT19 55-5QP31</b>		0.650	--			
<b>S10</b>	3RT10 6,	96 ... 127	B	<b>3RT19 65-5QF31</b>		1.300	--			
	3RT14 6	200 ... 277	B	<b>3RT19 65-5QP31</b>		1.300	--			
<b>S12</b>	3RT10 7,	96 ... 127	B	<b>3RT19 75-5QF31</b>		1.300	--			
	3RT14 7	200 ... 277	B	<b>3RT19 75-5QP31</b>		1.300	--			

# Accessories and Spare Parts

## For 3RT, 3RH Contactors and Contactor Relays

Spare parts for  
3RT contactors and 3RH contactor relays




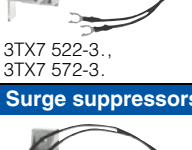


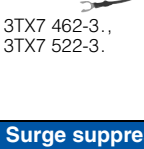

For contactors		Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Size	Type								
<b>Arc chutes</b>									
<b>S2</b>	3RT10 3.	Arc chutes, 3-pole	C	<b>3RT19 36-7A</b>		1	1 unit	101	0.110
<b>S3</b>	3RT10 4., 3RT14 46		C	<b>3RT19 46-7A</b>		1	1 unit	101	0.300
<b>S6</b>	3RT10 54		B	<b>3RT19 54-7A</b>		1	1 unit	101	0.760
	3RT10 55		B	<b>3RT19 55-7A</b>		1	1 unit	101	0.760
	3RT10 56		B	<b>3RT19 56-7A</b>		1	1 unit	101	0.760
<b>S10</b>	3RT10 64		B	<b>3RT19 64-7A</b>		1	1 unit	101	1.350
	3RT10 65		B	<b>3RT19 65-7A</b>		1	1 unit	101	1.350
	3RT10 66		B	<b>3RT19 66-7A</b>		1	1 unit	101	1.350
<b>S12</b>	3RT10 75		B	<b>3RT19 75-7A</b>		1	1 unit	101	1.650
	3RT10 76		B	<b>3RT19 76-7A</b>		1	1 unit	101	1.650
<b>S6</b>	3RT14 56		B	<b>3RT19 56-7B</b>		1	1 unit	101	0.720
<b>S10</b>	3RT14 66		B	<b>3RT19 66-7B</b>		1	1 unit	101	1.350
<b>S12</b>	3RT14 76		B	<b>3RT19 76-7B</b>		1	1 unit	101	1.400
<b>Contacts with fixing parts</b>									
<i>For contactors with 3 main contacts</i>									
<b>S2</b>	3RT10 34	Main contacts (3 NO contacts) for utilization category AC-3 (1 set = 3 movable and 6 fixed switching elements with fixing parts)	▶	<b>3RT19 34-6A</b>		1	1 unit	101	0.050
	3RT10 35		▶	<b>3RT19 35-6A</b>		1	1 unit	101	0.050
	3RT10 36		▶	<b>3RT19 36-6A</b>		1	1 unit	101	0.050
<b>S3</b>	3RT10 44		▶	<b>3RT19 44-6A</b>		1	1 unit	101	0.110
	3RT10 45		▶	<b>3RT19 45-6A</b>		1	1 unit	101	0.110
	3RT10 46		▶	<b>3RT19 46-6A</b>		1	1 unit	101	0.110
<b>S6</b>	3RT10 54		▶	<b>3RT19 54-6A</b>		1	1 unit	101	0.280
	3RT10 55		▶	<b>3RT19 55-6A</b>		1	1 unit	101	0.280
	3RT10 56		▶	<b>3RT19 56-6A</b>		1	1 unit	101	0.280
<b>S10</b>	3RT10 64		▶	<b>3RT19 64-6A</b>		1	1 unit	101	0.550
	3RT10 65		▶	<b>3RT19 65-6A</b>		1	1 unit	101	0.550
	3RT10 66		▶	<b>3RT19 66-6A</b>		1	1 unit	101	0.550
<b>S12</b>	3RT10 75		▶	<b>3RT19 75-6A</b>		1	1 unit	101	0.900
	3RT10 76		A	<b>3RT19 76-6A</b>		1	1 unit	101	0.100
<b>S3</b>	3RT14 46	Main contacts (3 NO contacts) for utilization category AC-1 (1 set = 3 movable and 6 fixed switching elements with fixing parts)	B	<b>3RT19 46-6D</b>		1	1 unit	101	0.900
<b>S6</b>	3RT14 56		B	<b>3RT19 56-6D</b>		1	1 unit	101	0.280
<b>S10</b>	3RT14 66		B	<b>3RT19 66-6D</b>		1	1 unit	101	0.550
<b>S12</b>	3RT14 76		A	<b>3RT19 76-6D</b>		1	1 unit	101	0.900
<i>For 3RT12 vacuum contactors</i>									
<b>S10</b>	3RT12 64	3 vacuum interrupters with fixing parts	B	<b>3RT19 64-6V</b>		1	1 unit	101	1.530
	3RT12 65		B	<b>3RT19 65-6V</b>		1	1 unit	101	1.530
	3RT12 66		B	<b>3RT19 66-6V</b>		1	1 unit	101	1.530
<b>S12</b>	3RT12 75		B	<b>3RT19 75-6V</b>		1	1 unit	101	1.780
	3RT12 76		B	<b>3RT19 76-6V</b>		1	1 unit	101	1.780
<i>For contactors with 4 main contacts</i>									
<b>S2</b>	3RT13 36	Main contacts (4 NO contacts) for utilization category AC-1 (1 set = 4 movable and 8 fixed switching elements with fixing parts)	C	<b>3RT19 36-6E</b>		1	1 unit	101	0.060
<b>S3</b>	3RT13 44		C	<b>3RT19 44-6E</b>		1	1 unit	101	0.150
	3RT13 46		C	<b>3RT19 46-6E</b>		1	1 unit	101	0.150

# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Accessories for 3TB, 3TC, 3TF contactors

#### Selection and ordering data

For contactors		Version	Rated control supply voltage $U_s$		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
Size	Type		V AC	V DC							kg	
<b>Surge suppressors<sup>1)</sup> · Varistors</b>												
	<b>2</b>	3TC44 <sup>2)</sup>	<b>Varistors<sup>3)</sup></b> With line spacer, for mounting onto the coil terminal	24 ... 48	24 ... 70	A	<b>3TX7 402-3G</b>		1	1 unit	101	0.015
				48 ... 127	70 ... 150	A	<b>3TX7 402-3H</b>		1	1 unit	101	0.015
				127 ... 240	150 ... 250	A	<b>3TX7 402-3J</b>		1	1 unit	101	0.015
				240 ... 400	--	C	<b>3TX7 402-3K</b>		1	1 unit	101	0.025
				400 ... 600	--	C	<b>3TX7 402-3L</b>		1	1 unit	101	0.025
	<b>4 and 6</b>	3TB50 and 3TC56	<b>Varistors<sup>3)</sup></b> For sticking onto the contactor base or for mounting separately	24 ... 48	24 ... 70	D	<b>3TX7 462-3G</b>		1	1 unit	101	0.020
				48 ... 127	70 ... 150	C	<b>3TX7 462-3H</b>		1	1 unit	101	0.020
				127 ... 240	150 ... 250	B	<b>3TX7 462-3J</b>		1	1 unit	101	0.020
				240 ... 400	--	A	<b>3TX7 462-3K</b>		1	1 unit	101	0.020
	<b>8 and 12</b>	3TC52 and 3TC56	<b>Varistors</b> For sticking onto the contactor base or for mounting separately	24 ... 48	--	D	<b>3TX7 462-3G</b>		1	1 unit	101	0.020
				48 ... 127	--	C	<b>3TX7 462-3H</b>		1	1 unit	101	0.020
				127 ... 240	--	B	<b>3TX7 462-3J</b>		1	1 unit	101	0.020
				240 ... 400	--	A	<b>3TX7 462-3K</b>		1	1 unit	101	0.020
	<b>8 ... 12</b>	3TB52 ... 3TB56, 3TC52 and 3TC56	<b>Varistors<sup>3)</sup></b> For separate screw connection or snapping onto 35 mm standard mounting rail	--	24 ... 70	B	<b>3TX7 522-3G</b>		1	1 unit	101	0.080
				--	70 ... 150	B	<b>3TX7 522-3H</b>		1	1 unit	101	0.080
				--	150 ... 250	B	<b>3TX7 522-3J</b>		1	1 unit	101	0.080
	<b>14</b>	3TF68 and 3TF69	<b>Varistors<sup>3)</sup></b> for DC economy circuit; for snapping onto the side of auxiliary switches	--	24 ... 48	C	<b>3TX7 572-3G</b>		1	1 unit	101	0.080
				--	48 ... 127	C	<b>3TX7 572-3H</b>		1	1 unit	101	0.080
				--	127 ... 240	C	<b>3TX7 572-3J</b>		1	1 unit	101	0.080
<b>Surge suppressors · RC elements</b>												
	<b>4</b>	3TC48	<b>RC elements</b> For lateral snapping onto auxiliary switch or TH 35 standard mounting rail	24 ... 48	--	C	<b>3TX7 462-3R</b>		1	1 unit	101	0.090
				--	24 ... 70	B	<b>3TX7 522-3R</b>		1	1 unit	101	0.090
				48 ... 127	--	A	<b>3TX7 462-3S</b>		1	1 unit	101	0.090
				--	70 ... 150	B	<b>3TX7 522-3S</b>		1	1 unit	101	0.090
				127 ... 240	--	A	<b>3TX7 462-3T</b>		1	1 unit	101	0.090
				--	150 ... 250	B	<b>3TX7 522-3T</b>		1	1 unit	101	0.090
	<b>6 ... 12</b>	3TB50, 3TC52 and 3TC56	<b>RC elements</b> For lateral snapping onto auxiliary switch or TH 35 standard mounting rail	24 ... 48	--	B	<b>3TX7 522-3R</b>		1	1 unit	101	0.090
				48 ... 127	--	B	<b>3TX7 522-3S</b>		1	1 unit	101	0.090
				127 ... 240	--	B	<b>3TX7 522-3T</b>		1	1 unit	101	0.090
				240 ... 400	--	B	<b>3TX7 522-3U</b>		1	1 unit	101	0.090
				400 ... 600	--	A	<b>3TX7 462-3U</b>		1	1 unit	101	0.090
				--	--	C	<b>3TX7 462-3V</b>		1	1 unit	101	0.090
<b>Surge suppressors<sup>4)</sup> · Diodes</b>												
	<b>6 ... 12</b>	3TB50 ... 3TB56, 3TC48 ... 3TC56	<b>Diode assemblies (diode and Zener diode)</b> For DC solenoid system, for sticking onto the contactor base or for mounting separately	--	24 ... 250	D	<b>3TX7 462-3D</b>		1	1 unit	101	0.015

1) The surge suppressor is included in the scope of supply of the following contactors: 3TF68 and 3TF69 (AC operation): varistor circuit.

2) The connection piece for mounting the surge suppressor must be bent slightly.

3) Includes the peak value of the alternating voltage on the DC side.




4) Not for DC economy circuit.



# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Accessories for 3TB, 3TC, 3TF contactors

For contactors	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.		
Size	Type							kg		
<b>Solid-state compatible auxiliary switch blocks with screw terminals</b>										
 5TY7 561-1.	14	3TF68 and 3TF69	For mounting onto the side of contactors	▶	<b>3TY7 561-1UA00</b>	1	1 unit	101	0.060	
	2 and 4	3TC44 ... 3TC48	For use in dusty atmosphere and solid-state circuits with rated operational currents $I_e$ AC-14 and DC-13 from 1 ... 300 mA at 3 ... 60 V DC With 1 changeover contact. 2nd auxiliary switch block, left or right (replacement for 3TY6 561-1U, 3TY6 561-1V)							
<b>Coupling links for control by PLC</b>										
	14	3TF68 and 3TF69	For snapping onto the side of auxiliary switch, with surge suppression. Operating range: 17 V to 30 V DC. Power consumption: 0.5 W at 24 V DC. Fitted with varistor. <sup>1)</sup>	▶	<b>3TX7 090-0D</b>	1	1 unit	101	0.080	
<b>Terminal covers for protection against inadvertent contact with exposed busbar connections</b>										
 3TX7 6.6-0A	14	3TF68	For screwing onto free screw end on middle connecting bar.	B	<b>3TX7 686-0A</b>	1	1 unit	101	0.410	
		3TF69	2 units required per contactor. (1 set = 2 units)	B	<b>3TX7 696-0A</b>	1	1 unit	101	0.410	
 3TX6 526-3B	6	3TB50, 3TC48	Can be screwed on free screw end. Covers one busbar connection (1 set = 6 units).	M6	B	<b>3TX6 506-3B</b>	1	1 unit	101	0.100
	8	3TB52		M8	B	<b>3TX6 526-3B</b>	1	1 unit	101	0.140
	<b>SIRIUS S6</b>	3RT1. 5					1	1 unit	101	0.260
	<b>10 and 14</b>	3TB54 ... 3TB56, 3TC52, 3TC56		M10	B	<b>3TX6 546-3B</b>	1	1 unit	101	0.260
	<b>SIRIUS S10, S12</b>	3RT1. 6, 3RT1. 7								
<b>Links for paralleling (star jumpers) · 3-pole, without connection terminal<sup>2)</sup></b>										
	14	3TF68		C	<b>3TX7 680-0D</b>	1	1 unit	101	0.250	
<b>Cover plates for links for paralleling</b>										
	14	3TF68	A cover plate must be used in order to protect against inadvertent contact with exposed busbar connections (EN 50274).	C	<b>3TX7 680-0E</b>	1	1 unit	101	0.080	
<b>Box terminals for laminated copper bars</b>										
<b>Without auxiliary conductor connection (1 set = 3 units)</b>										
	14	3TF68	With single covers for protection against inadvertent contact (EN 50274)	C	<b>3TX7 570-1E</b>	1	1 unit	101	0.780	
<b>With auxiliary conductor connection (1 set = 3 units)</b>										
	14	3TF69	Conductor cross-sections for auxiliary conductors: • Solid wire 2 x (0.75 ... 2.5) mm <sup>2</sup> • Finely stranded with end sleeve 2 x (0.5 ... 2.5) mm <sup>2</sup> • Solid or stranded 2 x (18 ... 12) AWG • Tightening torque 0.8 ... 1.4 Nm (7 ... 12 lb.in)	C	<b>3TX7 690-1F</b>	1	1 unit	101	2.000	

<sup>1)</sup> More information can be found in the "Technical specifications" (see note on Technical Information on page 3/1).

<sup>2)</sup> The link for paralleling can be reduced by one pole.


# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Accessories for 3TB, 3TC, 3TF contactors

For contactors	Remarks	Rated control supply voltage $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Size	Type	V DC							kg
<b>Arc chutes</b>									
2	3TC44 17-0L...		B	<b>3TY2 442-0B</b>		1	1 unit	101	0.160
With cutout for mounting resistor									
<b>Solenoid coils</b>									
2	3TC44	24	C	<b>3TY6 443-0LB4</b>		1	1 unit	101	0.400
		110	C	<b>3TY6 443-0LF4</b>		1	1 unit	101	0.400
4	3TC48	24	C	<b>3TY6 483-0LB4</b>		1	1 unit	101	1.100
		110	C	<b>3TY6 483-0LF4</b>		1	1 unit	101	1.100
6	3TB50	24	C	<b>3TY6 503-0LB4</b>		1	1 unit	101	1.100
		110	D	<b>3TY6 503-0LF4</b>		1	1 unit	101	1.100
8	3TB52 and 3TC52	24	D	<b>3TY6 523-0LB4</b>		1	1 unit	101	1.100
		110	D	<b>3TY6 523-0LF4</b>		1	1 unit	101	1.100
10	3TB54	24	C	<b>3TY6 543-0LB4</b>		1	1 unit	101	1.100
		110	C	<b>3TY6 543-0LF4</b>		1	1 unit	101	1.100
12	3TB56 and 3TC56	24	C	<b>3TY6 563-0LB4</b>		1	1 unit	101	1.100
		110	C	<b>3TY6 563-0LF4</b>		1	1 unit	101	1.100

All spare parts not mentioned above are identical to those for the standard contactors.

Auxiliary contacts	Rated operational current $I_e$ /AC-15/AC-14 at	Auxiliary contacts	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Number	A	A	A	Ident. No.	Version				kg
	230/220 V	400/380 V	500 V						
					NO NC NO NC				

### Snap-on auxiliary switch blocks for 3TF2 contactors

#### With screw terminals



3TX4 4...-A

For assembling contactors with several auxiliary contacts with 2, 4 and 5 auxiliary contacts according to DIN 50012 for 3TF2. 10 contactors (auxiliary contact 1 NO = 10E)

1	4	3	2	<b>11E</b>	-- 1 -- --	▶	<b>3TX4 401-1A</b>	1	1 unit	101	0.050
3	4	3	2	<b>22E</b>	1 2 -- --	▶	<b>3TX4 412-1A</b>	1	1 unit	101	0.050
4	4	3	2	<b>23E</b>	1 3 -- --	▶	<b>3TX4 413-1A</b>	1	1 unit	101	0.050
				<b>32E</b>	2 2 -- --	▶	<b>3TX4 422-1A</b>	1	1 unit	101	0.050
With 3 and 5 auxiliary contacts according to DIN 50005 for 3TF2 contactors											
2	4	3	2	<b>20</b>	2 -- -- --	▶	<b>3TX4 420-2A</b>	1	1 unit	101	0.050
				<b>11</b>	1 1 -- --	▶	<b>3TX4 411-2A</b>	1	1 unit	101	0.050
				<b>02</b>	-- 2 -- --	▶	<b>3TX4 402-2A</b>	1	1 unit	101	0.050
				<b>11; U</b>	-- -- 1 1	D	<b>3TX4 411-2G</b>	1	1 unit	101	0.050
4	4	3	2	<b>40</b>	4 -- -- --	▶	<b>3TX4 440-2A</b>	1	1 unit	101	0.050
				<b>31</b>	3 1 -- --	▶	<b>3TX4 431-2A</b>	1	1 unit	101	0.050
				<b>22</b>	2 2 -- --	▶	<b>3TX4 422-2A</b>	1	1 unit	101	0.050
				<b>22; 2 U</b>	-- -- 2 2	D	<b>3TX4 422-2G</b>	1	1 unit	101	0.050

For contactors	Rated control supply voltage $U_s$	Time setting range (minimum times)	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type									kg

### OFF-delay devices for 3TF2 contactors

#### With screw terminals



3TX4 490-1H



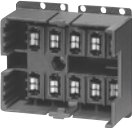
For DC-operated contactors for bridging short-time power failures up to 0.8 s

3TF2...0BB4	24 V DC	0.25 s or 0.5 s	A	<b>3TX4 490-1H</b>		1	1 unit	101	0.085
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# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Accessories for 3TB, 3TC, 3TF contactors

For contactors	Rated control supply voltage		Power consumption of LED at $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
	Type	V AC									V DC
<b>Surge suppressors for 3TF2 contactors for plugging onto contactors with and without auxiliary switch blocks</b>											
<i>Version without LED</i>											
<b>RC elements</b>											
 3TX4 490-3A	3TF2...-0...	24 ... 48	24 ... 70	--	B	<b>3TX4 490-3R</b>	1	1 unit	101	0.010	
	3TF2...-1...	48 ... 127	70 ... 150	--	B	<b>3TX4 490-3S</b>	1	1 unit	101	0.010	
		127 ... 240	150 ... 250	--	B	<b>3TX4 490-3T</b>	1	1 unit	101	0.010	
		240 ... 400	--	--	B	<b>3TX4 490-3U</b>	1	1 unit	101	0.015	
		400 ... 600	--	--	B	<b>3TX4 490-3V</b>	1	1 unit	101	0.015	
<b>Varistors</b>											
	3TF2...-0...	≤ 48	24 ... 70	--	B	<b>3TX4 490-3G</b>	1	1 unit	101	0.010	
	3TF2...-1...	48 ... 127	70 ... 150	--	B	<b>3TX4 490-3H</b>	1	1 unit	101	0.010	
		127 ... 240	150 ... 250	--	B	<b>3TX4 490-3J</b>	1	1 unit	101	0.010	
		240 ... 400	--	--	B	<b>3TX4 490-3K</b>	1	10 units	101	0.015	
		400 ... 600	--	--	B	<b>3TX4 490-3L</b>	1	10 units	101	0.015	
<b>Noise suppression diodes</b>											
	3TF2...-0...	--	12 ... 250	--	B	<b>3TX4 490-3A</b>	1	1 unit	101	0.010	
	3TF2...-1...										
<b>Diode assemblies (diode and Zener diode)</b> For DC operation and short break times											
	3TF2...-0...	--	24 ... 250	--	B	<b>3TX4 490-3B</b>	1	1 unit	101	0.010	
	3TF2...-1...										
<i>Version with LED</i>											
<b>Varistors</b>											
 3TX4 490-4G	3TF2...-0...	24 ... 48	12 ... 24	10 ... 120	B	<b>3TX4 490-4G</b>	1	1 unit	101	0.010	
	3TF2...-1...	48 ... 127	24 ... 70	20 ... 470	B	<b>3TX4 490-4H</b>	1	1 unit	101	0.010	
		127 ... 240	70 ... 150	50 ... 700	B	<b>3TX4 490-4J</b>	1	1 unit	101	0.010	
		--	150 ... 250	160 ... 950	B	<b>3TX4 490-4K</b>	1	1 unit	101	0.010	
<b>Noise suppression diodes</b>											
	3TF2...-0...	--	24 ... 70	20 ... 470	B	<b>3TX4 490-4A</b>	1	1 unit	101	0.010	
	3TF2...-1...	--	70 ... 150	50 ... 700	B	<b>3TX4 490-4B</b>	1	1 unit	101	0.010	
		--	150 ... 250	160 ... 950	B	<b>3TX4 490-4C</b>	1	1 unit	101	0.010	
<b>Additional load modules for 3TF2 contactors for plugging onto contactors with and without auxiliary switch blocks<sup>1)</sup></b>											
For increasing the permissible residual current and for limiting the residual voltage											
	3TF2...-0A...	230/220, 50 Hz		--	B	<b>3TX4 490-1J</b>	1	1 unit	101	0.010	
	3TF2...-1A...	230, 60 Hz									
		230, 50/60 Hz									
		Operating range 0.8 ... 1.1 x $U_s$									
<b>Plug-in bases with solder pin connections for printed circuit boards, width 45 mm for 3TF2 contactors</b>											
 3TX4 491-2A	For 3TF2 and 3TK2 contactors With 6.3 mm x 0.8 mm flat connectors Rated insulation voltage $U_i$ : 400 V (at pollution degree 3); Rated impulse withstand voltage $U_{imp}$ : 6 kV; rated operational current $I_g$ : 6 A; Ⓢ and ⓇA rated data: max. 300 V, 6 A										
	3TF20...-3...					A	<b>3TX4 491-2A</b>	1	5 units	101	0.030
	3TF20...-7...										
<b>Release tools</b>											
	3TF2...-7...	For releasing contactors from 3TX4 491-2A plug-in bases			D	<b>3TX4 491-2K</b>	1	1 unit	101	0.010	

<sup>1)</sup> Dimensions as for 3TX4 490-3 surge suppressor.

# Accessories and Spare Parts

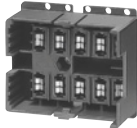
## For 3T Contactors and Contactor Relays

### Accessories for 3TK, 3TG contactors

#### Selection and ordering data

For contactors	Rated control supply voltage $U_s$		Power consumption of LED at $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type	V AC	V DC	mW							kg

#### Plug-in bases with solder pin connections for printed circuit boards, width 45 mm for 3TK2 contactors



3TX4 491-2A

For 3TF2 and 3TK2 contactors  
 With 6.3 mm x 0.8 mm flat connectors  
 Rated insulation voltage  $U_i$ : 400 V  
 (at pollution degree 3);  
 Rated impulse withstand voltage  $U_{imp}$ : 6 kV;  
 rated operational current  $I_{op}$ : 6 A;  
 Ⓢ and Ⓜ rated data: max. 300 V, 6 A

3TK20 ...-3...  
 3TK20 ...-7...

A

**3TX4 491-2A**

1 5 units

101

0.030

#### Release tools

3TK20...-7... For releasing contactors from 3TX4 491-2A plug-in bases

D

**3TX4 491-2K**

1 1 unit

101

0.010

For contactors	Max. rated operational currents $I_{op}/AC-1$ (at 55 °C) of the contactors	Max. conductor cross-sections	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type	A	mm <sup>2</sup>							kg

#### Links for paralleling (star jumpers)

##### 3-pole, without connection terminals<sup>1)2)</sup>

3TG10 16 star jumpers can be reduced by one pole

--

▶

**3RT19 16-4BA31**

1 1 unit

101

0.010

##### 3-pole, with connection terminals<sup>1)3)</sup>

3TG10 40

25

▶

**3RT19 16-4BB31**

1 1 unit

101

0.015

##### 4-pole, with connection terminals<sup>1)4)</sup>

3TG10 50

25

C

**3RT19 16-4BB41**

1 1 unit

101

0.015

<sup>1)</sup> The links for paralleling can be reduced by one pole. The rated operational currents apply to each pole. The links for paralleling are insulated.

<sup>2)</sup> Replacement for 3TX4 490-2C.

<sup>3)</sup> Replacement for 3TX4 490-2A.

<sup>4)</sup> Replacement for 3TX4 490-2B.

# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Accessories for 3TH contactor relays

#### Selection and ordering data

Version	Rated control supply voltage $U_s$		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	AC	DC							
	V	V							kg

#### Surge suppressors<sup>1)</sup> for 3TH4 contactor relays



3TX7 402-3.

<b>Noise suppression diodes</b> With line spacer, for mounting onto the coil terminal	--	24 ... 250	A	<b>3TX7 402-3A</b>		1	1 unit	101	0.015
<b>Diode assemblies (diode and Zener diode)</b> with line spacer, DC operation, for mounting onto the coil terminal	--	24 ... 250	A	<b>3TX7 402-3D</b>		1	1 unit	101	0.015
<b>Varistors<sup>2)</sup></b> With line spacer, for mounting onto the coil terminal	24 ... 48	24 ... 70	A	<b>3TX7 402-3G</b>		1	1 unit	101	0.015
	48 ... 127	70 ... 150	A	<b>3TX7 402-3H</b>		1	1 unit	101	0.015
	127 ... 240	150 ... 250	A	<b>3TX7 402-3J</b>		1	1 unit	101	0.015
	240 ... 400	--	C	<b>3TX7 402-3K</b>		1	1 unit	101	0.025
<b>RC elements</b> With line spacer, for mounting onto the coil terminal	400 ... 600	--	C	<b>3TX7 402-3L</b>		1	1 unit	101	0.025
	24 ... 48	24 ... 70	A	<b>3TX7 402-3R</b>		1	1 unit	101	0.025
	48 ... 127	70 ... 150	A	<b>3TX7 402-3S</b>		1	1 unit	101	0.025
	127 ... 240	150 ... 250	A	<b>3TX7 402-3T</b>		1	1 unit	101	0.025
240 ... 400	--	--	C	<b>3TX7 402-3U</b>		1	1 unit	101	0.025
	400 ... 600	--	C	<b>3TX7 402-3V</b>		1	1 unit	101	0.025
<b>Covers</b> For switch position indicator	--	--	B	<b>3TX4 210-0P</b>		1	1 unit	101	0.010

#### Coupling links for control by PLC for 3TH4 contactor relays

3TX4 090  
mounted to contactor

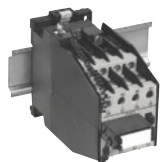
Operating range: 17 to 30 V DC Power consumption: 0.5 W at 24 V DC For mounting directly to contactor coil <b>without</b> surge suppressor			A	<b>3TX4 090-0C</b>		1	1 unit	101	0.060
For mounting directly to contactor coil <b>with</b> surge suppressor			A	<b>3TX4 090-0D</b>		1	1 unit	101	0.060

<sup>1)</sup> The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assemblies 2 to 6 times, varistor +2 to 5 ms).

<sup>2)</sup> Includes the peak value of the alternating voltage on the DC side.

For contactors	Version	Rated control supply voltage $U_s$ AC 50/60 Hz	Time setting range (minimum times)	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type		V	s							kg

#### ON-delay devices




3TX4 180-0A

3TH42/ 3TH43	<b>NTC thermistors</b> Time tolerance +100 %, -50 %	220 ... 230	0.1	B	<b>3TX4 180-0A</b>		1	1 unit	101	0.015
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# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Accessories for 3TH contactor relays

For contactors	Rated control supply voltage $U_s$		OFF-delay (minimum times)	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type	AC 50/60 Hz	DC			Order No.	Price per PU			kg

#### OFF-delay devices for contactors with DC operation For bridging temporary voltage failures

Voltage failures up to 0.8 s

3TH2. ...-0BB4	--	24	0.25 or 0.5	A	<b>3TX4 490-1H</b>	1	1 unit	101	0.085
3TH2. ...-0BF4	110	--	0.1 or 0.2	A	<b>3TX4 490-1A</b>	1	1 unit	101	0.085
3TH2. ...-0BM4, 3TH2. ...-0BP4	220	--	0.4 or 0.8						




3TX4 490-1A

Voltage failures up to 1.2 s

3TH42 ...-0BF4 3TH43 ...-0BF4	110	--	0.15 or 0.3	A	<b>3TX4 701-0AN1</b>	1	1 unit	101	0.170
3TH42 ...-0BM4 3TH43 ...-0BM4	220	--	0.6 or 1.2	A	<b>3TX4 701-0AN1</b>	1	1 unit	101	0.170
3TH42 ...-0BP4 3TH43 ...-0BP4	230	--	0.6 or 1.2	A	<b>3TX4 701-0AN1</b>	1	1 unit	101	0.170
3TH42 ...-0BB4 3TH43 ...-0BB4	--	24	0.4 or 0.8	B	<b>3TX4 701-0BB4</b>	1	1 unit	101	0.170



3TX4 701-0AN1

Contacts	Rated operational current $I_b$ /AC-15/AC-14 at				Contacts	DT	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Number	A	A	A	A	Ident. No. acc. to EN 50011	Version	Order No.	Price per PU			kg

230/220 V	400/380 V	500 V	690/660 V	Ident. No. acc. to EN 50011	Version						
A	A	A	A		NO NC NO NC						

#### Snap-on auxiliary switch blocks for 3TH20 contactor relays

With 8 contacts according to EN 50011, for snapping onto contactor relays with 4 NO, Ident. No. 40E (3TH20 40-0...)

4	4	3	2	--	<b>80E</b>	4 -- -- --	▶	<b>3TX4 440-0A</b>	1	1 unit	101	0.050
					<b>71E</b>	3 1 -- --	▶	<b>3TX4 431-0A</b>	1	1 unit	101	0.050
					<b>62E</b>	2 2 -- --	▶	<b>3TX4 422-0A</b>	1	1 unit	101	0.050
					<b>53E</b>	1 3 -- --	▶	<b>3TX4 413-0A</b>	1	1 unit	101	0.050
					<b>44E</b>	-- 4 -- --	▶	<b>3TX4 404-0A</b>	1	1 unit	101	0.050



3TX4 440-0A

With 6 and 8 contacts according to EN 50005

4	4	3	2	--	<b>40E</b>	4 -- -- --	▶	<b>3TX4 440-2A</b>	1	1 unit	101	0.050
					<b>31E</b>	3 1 -- --	▶	<b>3TX4 431-2A</b>	1	1 unit	101	0.050
					<b>22E</b>	2 2 -- --	▶	<b>3TX4 422-2A</b>	1	1 unit	101	0.050
					<b>22; 2U</b>	-- -- 2 2	D	<b>3TX4 422-2G</b>	1	1 unit	101	0.050
2	4	3	2	--	<b>20E</b>	2 -- -- --	▶	<b>3TX4 420-2A</b>	1	1 unit	101	0.050
					<b>11E</b>	1 1 -- --	▶	<b>3TX4 411-2A</b>	1	1 unit	101	0.050
					<b>02E</b>	-- 2 -- --	▶	<b>3TX4 402-2A</b>	1	1 unit	101	0.050
					<b>11; U</b>	-- -- 1 1	D	<b>3TX4 411-2G</b>	1	1 unit	101	0.050

# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Accessories for 3TH contactor relays

For contactors	Rated control supply voltage $U_s$		Power consumption of LED at $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type	V AC	V DC	mW							kg

#### Surge suppressors<sup>1)</sup> For plugging onto contactors with and without auxiliary switch blocks



3TX4 490-3A

##### Version without LED

###### RC elements

3TH2...-0...	24 ... 48	24 ... 70	--	B	<b>3TX4 490-3R</b>		1	1 unit	101	0.010
	48 ... 127	70 ... 150	--	B	<b>3TX4 490-3S</b>		1	1 unit	101	0.010
	127 ... 240	150 ... 250	--	B	<b>3TX4 490-3T</b>		1	1 unit	101	0.010
	240 ... 400	--	--	B	<b>3TX4 490-3U</b>		1	1 unit	101	0.015
	400 ... 600	--	--	B	<b>3TX4 490-3V</b>		1	1 unit	101	0.015

###### Varistors

3TH2...-0...	≤ 48	24 ... 70	--	B	<b>3TX4 490-3G</b>		1	1 unit	101	0.010
	48 ... 127	70 ... 150	--	B	<b>3TX4 490-3H</b>		1	1 unit	101	0.010
	127 ... 240	150 ... 250	--	B	<b>3TX4 490-3J</b>		1	1 unit	101	0.010
	240 ... 400	--	--	B	<b>3TX4 490-3K</b>		1	10 units	101	0.015
	400 ... 600	--	--	B	<b>3TX4 490-3L</b>		1	10 units	101	0.015

###### Noise suppression diodes

3TH2...-0...	--	12 ... 250	--	B	<b>3TX4 490-3A</b>		1	1 unit	101	0.010
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###### Diode assemblies (diode and Zener diode) For DC operation and short break times

3TH2...-0...	--	24 ... 250	--	B	<b>3TX4 490-3B</b>		1	1 unit	101	0.010
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##### Version with LED

###### Varistors

3TH2...-0...	24 ... 48	12 ... 24	10 ... 12	B	<b>3TX4 490-4G</b>		1	1 unit	101	0.010
	48 ... 27	24 ... 70	20 ... 470	B	<b>3TX4 490-4H</b>		1	1 unit	101	0.010
	127 ... 240	70 ... 150	50 ... 700	B	<b>3TX4 490-4J</b>		1	1 unit	101	0.010
	--	150 ... 250	160 ... 950	B	<b>3TX4 490-4K</b>		1	1 unit	101	0.010

###### Noise suppression diodes

3TH2...-0...	--	24 ... 70	20 ... 470	B	<b>3TX4 490-4A</b>		1	1 unit	101	0.010
	--	70 ... 150	50 ... 700	B	<b>3TX4 490-4B</b>		1	1 unit	101	0.010
	--	150 ... 250	160 ... 950	B	<b>3TX4 490-4C</b>		1	1 unit	101	0.010

#### Additional load modules (residual current) For plugging onto contactors without and with auxiliary switch blocks

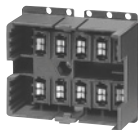


3TX4 490-1J

For increasing the permissible residual current and for limiting the residual voltage of SIMATIC semiconductor outputs

3TH2...-0A...	230/220, 50 Hz	--		B	<b>3TX4 490-1J</b>		1	1 unit	101	0.010
	230, 60 Hz	--								
	230, 50/60 Hz	--								
	Operating range 0.8 ... 1.1 x $U_s$									

#### Plug-in bases with solder pin connections for printed circuit boards, width 45 mm



3TX4 491-2A

For 3TH2 contactor relays;  
with flat connectors 1 x 6.3 mm ... 0.8 mm  
Rated insulation voltage  $U_i$ : 400 V  
(at pollution degree 3);  
Rated impulse withstand voltage  $U_{imp}$ : 6 kV;  
Rated operational current  $I_g$ : 6 A;  
Ⓢ and ⓈA rated data: max. 300 V, 6 A

3TH20...-3...				A	<b>3TX4 491-2A</b>		1	5 units	101	0.030
3TH20...-7...										

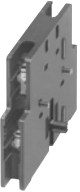



<sup>1)</sup> The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assemblies 2 to 6 times, varistor +2 to 5 ms).

# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Spare parts for 3TB, 3TC, 3TF, 3TK contactors

#### Selection and ordering data

For contactors		Auxiliary con- tacts Version			Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
Size	Type	NO	NC	NC								kg	
<b>Auxiliary switch blocks</b>													
	<b>6</b>	3TB50	1	1	--	Auxiliary switch block, left or right (replacement for 3TY6 501-1A/-1B)	▶	<b>3TY6 501-1AA00</b>		1	1 unit	101	0.055
			1	--	1	Auxiliary switch block, right	▶	<b>3TY6 501-1E</b>		1	1 unit	101	0.055
	<b>8 ... 12</b>	3TB52 ... 3TB56	1	1	--	Auxiliary switch block, left	▶	<b>3TY6 561-1A</b>		1	1 unit	101	0.075
			1	1	--	Auxiliary switch block, right	▶	<b>3TY6 561-1B</b>		1	1 unit	101	0.075
			1	--	1	Auxiliary switch block, right	▶	<b>3TY6 561-1E</b>		1	1 unit	101	0.075
<b>Solenoid coils</b>													
	<b>DC operation</b>												
	<b>6</b>	3TB50											
	<b>8</b>	3TB52											
	<b>10</b>	3TB54											
	<b>12</b>	3TB56											
<b>Arc chutes</b>													
	<b>6</b>	3TB50	1 arc chute, 3-pole			▶	<b>3TY6 502-0A</b>		1	1 unit	101	0.750	
	<b>8</b>	3TB52				▶	<b>3TY6 522-0A</b>		1	1 unit	101	1.200	
	<b>10</b>	3TB54				▶	<b>3TY6 542-0A</b>		1	1 unit	101	1.500	
	<b>12</b>	3TB56				▶	<b>3TY6 562-0A</b>		1	1 unit	101	1.600	
	<b>Contacts with fixing parts</b>												
	In order to ensure reliable operation of the contactors, only <b>original replacement contacts</b> should be used.												
	<b>6</b>	3TB50	(1 set = 3 moving and 6 fixed switching elements)			B	<b>3TY6 500-0A</b>		1	1 unit	101	0.280	
	<b>8</b>	3TB52				B	<b>3TY6 520-0A</b>		1	1 unit	101	0.360	
	<b>10</b>	3TB54				B	<b>3TY6 540-0A</b>		1	1 unit	101	0.530	
	<b>12</b>	3TB56				B	<b>3TY6 560-0A</b>		1	1 unit	101	0.760	

For rated control supply voltages for solenoid coils, see page 3/132.

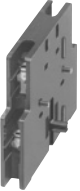


\* You can order this quantity or a multiple thereof.



# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Spare parts for 3TB, 3TC, 3TF, 3TK contactors

For contactors		Auxiliary con- tacts Version		Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
Size	Type	NO	NC								kg	
<b>Auxiliary switch blocks</b>												
 3TY6 561-1A	<b>2 and 4</b>	3TC44, 3TC48	1	1		Auxiliary switch block, left or right (replacement for 3TY6 501-1A/-1B)		<b>3TY6 501-1AA00</b>	1	1 unit	101	0.055
	<b>4</b>	3TC48	1	1		2nd auxiliary switch block, left <sup>1)</sup>	D	<b>3TY6 501-1K</b>	1	1 unit	101	0.055
						2nd auxiliary switch block, right <sup>1)</sup>	D	<b>3TY6 501-1L</b>	1	1 unit	101	0.055
	<b>8 and 12</b>	3TC52, 3TC56	1	1		Auxiliary switch block, left		<b>3TY6 561-1A</b>	1	1 unit	101	0.075
						Auxiliary switch block, right		<b>3TY6 561-1B</b>	1	1 unit	101	0.075
						2nd auxiliary switch block, left <sup>1)</sup>	C	<b>3TY6 561-1K</b>	1	1 unit	101	0.075
					2nd auxiliary switch block, right <sup>1)</sup>	C	<b>3TY6 561-1L</b>	1	1 unit	101	0.075	
<b>Contacts with fixing parts</b>												
 3TY2 520-0A	In order to ensure reliable operation of the contactors, only <b>original replacement contacts</b> should be used.											
	<b>2</b>	3TC44	(1 set = 2 moving and 4 fixed switch- ing elements)			B	<b>3TY2 440-0A</b>		1	1 unit	101	0.070
	<b>4</b>	3TC48				B	<b>3TY2 480-0A</b>		1	1 unit	101	0.100
	<b>8</b>	3TC52				B	<b>3TY2 520-0A</b>		1	1 unit	101	0.250
	<b>12</b>	3TC56				C	<b>3TY2 560-0A</b>		1	1 unit	101	0.450
<b>Arc chutes</b>												
 3TC2 48	<b>2</b>	3TC44	Arc chutes, 2-pole			C	<b>3TY2 442-0A</b>		1	1 unit	101	0.170
	<b>4</b>	3TC48				C	<b>3TY2 482-0A</b>		1	1 unit	101	0.500
	<b>8</b>	3TC52				C	<b>3TY2 522-0A</b>		1	1 unit	101	1.200
	<b>12</b>	3TC56				C	<b>3TY2 562-0A</b>		1	1 unit	101	2.130
	<b>Solenoid coils</b>											
<b>DC operation</b>												
<b>2</b>	3TC44					<b>3TY6 443-0B..</b>						
<b>4</b>	3TC48					<b>3TY6 483-0B..</b>						
<b>8</b>	3TC52					<b>3TY6 523-0B..</b>						
<b>12</b>	3TC56					<b>3TY6 563-0B..</b>						
<b>AC operation</b>												
<b>2</b>	3TC44					<b>3TY7 403-0A..</b>						
<b>4</b>	3TC48					<b>3TY6 483-0A..</b>						
<b>8</b>	3TC52					<b>3TY6 523-0A..</b>						
<b>12</b>	3TC56					<b>3TY6 566-0A..</b>						

For rated control supply voltages for solenoid coils, see page 3/132.

<sup>1)</sup> Can only be mounted on AC-operated contactors.

# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Spare parts for 3TB, 3TC, 3TF, 3TK contactors

For contactors	Version	Rated control supply voltage $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type		V AC/DC							kg

#### Varistors

3TC7	For sticking onto the contactor base	24 110	C C	<b>3TX2 746-2F</b> <b>3TX2 746-2G</b>		1 1	1 unit 1 unit	101 101	0.150 0.150
------	--------------------------------------	-----------	--------	--	--	--------	------------------	------------	----------------

#### Contacts with fixing parts

3TC7	Main contacts (1 set) 2 units required per contactor		C	<b>3TY2 740-0E</b>		1	1 unit	101	0.360
------	---	--	---	--------------------	--	---	--------	-----	-------

#### Auxiliary switch blocks

3TC74	4 NO + 4 NC			▶ <b>3TY2 741-2J</b>		1	1 unit	101	0.270
3TC78	Auxiliary switch block left, with 2 NO + 2 NC			▶ <b>3TY2 781-2C</b>		1	1 unit	101	0.190
	Auxiliary switch block right, with 2 NO + 2 NC		C	<b>3TY2 781-2D</b>		1	1 unit	101	0.190

#### Arc chutes

3TC7	For 3TC78: 2 units required per contactor		C	<b>3TY2 742-0C</b>		1	1 unit	101	3.900
------	---	--	---	--------------------	--	---	--------	-----	-------

For contactors	Auxiliary contacts Version	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Size	Type	NO NC NC							kg

#### Auxiliary switch blocks

##### With screw terminals



3TY7 561-1.A00

14	3TF68 and 3TF69	1 1 --		1st auxiliary switch block, left or right (replacement for: 3TY7 561-1A/ -1B.)	▶ <b>3TY7 561-1AA00</b>	1	1 unit	101	0.050
		1 -- 1		Auxiliary switch blocks, left or right	▶ <b>3TY7 561-1EA00</b>	1	1 unit	101	0.050
		1 1 --		2nd auxiliary switch block, left or right (replacement for: 3TY7 561-1K/ -1L.)	▶ <b>3TY7 561-1KA00</b>	1	1 unit	101	0.050

##### For coil reconnection with DC economy circuit, with screw terminals

14	3TF68 and 3TF69	-- -- 1		Auxiliary switch blocks	▶ <b>3TY7 681-1G</b>	1	1 unit	101	0.050
----	-----------------	---------	--	-------------------------	----------------------	---	--------	-----	-------

For contactors	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Size	Type							kg

#### Solenoid coils

##### AC operation

14	3TF68 3TF69	The solenoid coils are fitted as standard with varistors against overvoltage. The coil is supplied with switch-on electronics.		<b>3TY7 683-0C..</b> <b>3TY7 693-0C..</b>					
----	----------------	--	--	--	--	--	--	--	--

##### DC operation · DC economy circuit

14	3TF68 3TF69	Reversing contactors are required for size 14 contactors: Contactor type 3TF68 and 3TF69 Reversing contactor 3TC44 (70 mm wide, 85 mm high) The solenoid coils are supplied without reversing contactor.		<b>3TY7 683-0D..</b> <b>3TY7 693-0D..</b>					
----	----------------	---	--	--	--	--	--	--	--

3TY7 6.3-0...

#### Vacuum interrupters

In order to ensure reliable operation of the contactors, only **original replacement interrupters** should be used.

14	3TF68 3TF69	3 vacuum interrupters with components	B C	<b>3TY7 680-0B</b> <b>3TY7 690-0B</b>		1 1	1 unit 1 unit	101 101	3.490 3.640
----	----------------	---------------------------------------	--------	--	--	--------	------------------	------------	----------------

For rated control supply voltages for solenoid coils, see page 3/132.

For solid-state compatible auxiliary switch blocks, see page 3/121.

# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Spare parts for 3TB, 3TC, 3TF, 3TK contactors

Version	Rated control supply voltage $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
V AC								kg
<b>Reversing contactors (3TC44)</b>								
Complete with resistor and 1 m connecting cable and plug-in connector for 3TF68 ...-Q, 3TF69 ...-	110 ... 120	D	<b>3TY7 684-0QG7</b>		1	1 unit	101	1.000
	220 ... 240	D	<b>3TY7 684-0QL7</b>		1	1 unit	101	1.000
	380 ... 420	D	<b>3TY7 684-0QV7</b>		1	1 unit	101	1.000
<b>Solenoid coils for main contactor, with rectifier bridge</b>								
For 3TF68 ...-Q	110 ... 120	D	<b>3TY7 683-0QG7</b>		1	1 unit	101	2.700
	220 ... 240	D	<b>3TY7 683-0QL7</b>		1	1 unit	101	1.500
	380 ... 420	D	<b>3TY7 683-0QV7</b>		1	1 unit	101	1.460
For 3TF69 ...-Q	110 ... 120	D	<b>3TY7 693-0QG7</b>		1	1 unit	101	0.650
	220 ... 240	D	<b>3TY7 693-0QL7</b>		1	1 unit	101	1.500
	380 ... 420	D	<b>3TY7 693-0QV7</b>		1	1 unit	101	1.500

For rated control supply voltages for solenoid coils, see page 3/132.

For solid-state compatible auxiliary switch blocks, see page 3/121.

For contactors	Version	Rated control supply voltage $U_s$	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
Type	V AC								kg
<b>Surge suppressors · RC elements</b>									
3TK10 to 3TK13	For mounting onto contactors	24 ... 48	D	<b>3TK19 30-0A</b>		1	1 unit	101	0.050
		110 ... 415	B	<b>3TK19 30-0B</b>		1	1 unit	101	0.050
3TK14 to 3TK17		48 ... 110	C	<b>3TK19 34-0C</b>		1	1 unit	101	0.050
		220 ... 600	B	<b>3TK19 34-0D</b>		1	1 unit	101	0.050
<b>Terminal covers</b>									
3TK10, 3TK11	For mounting onto contactors		B	<b>3TK19 40-0A</b>		1	2 units	101	0.150
3TK12, 3TK13		B	<b>3TK19 42-0A</b>		1	2 units	101	0.150	
3TK14, 3TK15		B	<b>3TK19 44-0A</b>		1	2 units	101	0.200	
3TK17		B	<b>3TK19 46-0A</b>		1	2 units	101	0.200	
<b>Auxiliary switch blocks</b>									
3TK1	1st auxiliary switch block, left or right	1 NO + 1 NC	B	<b>3TK19 10-3A</b>		1	1 unit	101	0.050
	2nd auxiliary switch block, left or right	1 NO + 1 NC	B	<b>3TK19 10-3B</b>		1	1 unit	101	0.050
<b>Locking devices</b>									
3TK10, 3TK11	For mechanical interlocking of 2 identical contactors, auxiliary contacts 2 NC		B	<b>3TK19 20-0A</b>		1	1 unit	101	0.140
3TK12, 3TK13		B	<b>3TK19 22-0A</b>		1	1 unit	101	0.140	
3TK14, 3TK15, 3TK17	Mechanical interlock, including mounting plate		B	<b>3TK19 24-0A</b>		1	1 unit	101	6.750
<b>Arc chutes</b>									
3TK10	1 arc chute, 4-pole		D	<b>3TK19 50-0A</b>		1	1 unit	101	0.650
3TK11		D	<b>3TK19 51-0A</b>		1	1 unit	101	0.650	
3TK12		D	<b>3TK19 52-0A</b>		1	1 unit	101	1.250	
3TK13		D	<b>3TK19 53-0A</b>		1	1 unit	101	1.250	
3TK14		D	<b>3TK19 54-0A</b>		1	1 unit	101	3.700	
3TK15		D	<b>3TK19 55-0A</b>		1	1 unit	101	3.700	
3TK17		D	<b>3TK19 57-0A</b>		1	1 unit	101	3.700	
<b>Solenoid coils</b>									
3TK10, 3TK11				<b>3TK19 70-0A..</b>					
3TK12, 3TK13				<b>3TK19 72-0A..</b>					
3TK14, 3TK15, 3TK17				<b>3TK19 74-0A..</b>					
<b>Contacts with fixing parts</b>									
3TK10	4 moving and 8 fixed contacts		D	<b>3TK19 60-0A</b>		1	1 unit	101	0.270
3TK11		D	<b>3TK19 61-0A</b>		1	1 unit	101	0.270	
3TK12		D	<b>3TK19 62-0A</b>		1	1 unit	101	0.580	
3TK13		D	<b>3TK19 63-0A</b>		1	1 unit	101	0.580	
3TK14		D	<b>3TK19 64-0A</b>		1	1 unit	101	2.400	
3TK15		D	<b>3TK19 65-0A</b>		1	1 unit	101	2.400	
3TK17		D	<b>3TK19 67-0A</b>		1	1 unit	101	2.400	

For rated control supply voltages for solenoid coils, see page 3/132.

# Accessories and Spare Parts

## For 3T Contactors and Contactor Relays

### Spare parts for 3TB, 3TC, 3TF, 3TK contactors

Rated control supply voltages (the 10th and 11th position of the order number must be changed)

For contactor type	3TC44	3TC48	3TC5	3TF68/69	3TK10/11/12/13	3TK14/15/17
<b>Solenoid coil type</b>	3TY7 403-0A..	3TY6 483-0A..	3TY6 523-0A.. 3TY6 566-0A..	3TY7 683-0C.. 3TY7 693-0C..	3TK19 70-0A.. 3TK19 72-0A..	3TK19 74-0A..
Rated control supply voltage $U_s$						

#### AC operation

##### Solenoid coils for 50 Hz

24 V AC	B0	B0	--	--	B0 <sup>3)</sup>	--
110 V AC	F0	F0	F0	--	F0 <sup>3)</sup>	F0 <sup>3)</sup>
230/220 V AC	P0 <sup>1)</sup>	P0 <sup>1)</sup>	P0 <sup>1)</sup>	--	P0 <sup>3)</sup>	P0 <sup>3)</sup>
240 V AC	U0	U0	--	--	U0 <sup>3)</sup>	U0 <sup>3)</sup>

#### AC operation

##### Solenoid coils for 50/60 Hz

24 V AC	C2	--	--	--	--	--
110 V AC	G2	--	--	--	--	--
120 V AC	K2	--	--	--	--	--
220 V AC	N2	--	--	--	--	--
230 V AC	L2	--	--	--	--	--
110 V ... 132 V AC	--	--	--	F7	--	--
200 V ... 240 V AC	--	--	--	M7	--	--
230 V ... 277 V AC	--	--	--	P7 <sup>2)</sup>	--	--
380 V ... 460 V AC	--	--	--	Q7	--	--
500 V ... 600 V AC	--	--	--	S7	--	--

For contactor type	3TC4	3TB5, 3TC5	3TF68/69
<b>Solenoid coil type</b>	3TY6 443-0B.. 3TY6 483-0B..	3TY6 503-0B.. 3TY6 523-0B.. 3TY6 543-0B.. 3TY6 563-0B..	3TY7 683-0D.. 3TY7 693-0D..
Rated control supply voltage $U_s$			

#### DC operation

24 V DC	B4	B4	B4
48 V DC	W4	--	--
60 V DC	E4	--	--
110 V DC	F4	F4	F4
125 V DC	G4	--	G4
220 V DC	M4	M4	M4
230 V DC	P4	--	P4

- 1) Operating range at 220 V:  
0.85 to 1.15 x  $U_s$ ;  
lower operating range limit according to IEC 60947.
- 2) Lower operating range limit at 220 V:  
0.85 x  $U_s$  according to IEC 60947.
- 3) Rated control supply voltage  $U_s$ :  
50 Hz      60 Hz  
**B0:** 24 V      --  
**F0:** 110 V      120 V  
**P0:** 220 V to 230 V      240 V (only 3TK1 974)  
**U0:** 230 V to 240 V      --