



# C100

Single pole DC NO contactors  
for industrial trucks

# C100 - DC contactors for battery voltages

DC contactors of the C100 series offer an economical solution for operational currents up to 320 amps as well as battery voltages up to 80 volts.

The contactors are equipped with DC coils featuring coil tolerances as required for traction batteries of industrial trucks and other battery-powered vehicles.

C100 Series contactors are single pole NO DC contactors with magnetic blowout designed for use as main or auxiliary contactors. The magnetic blow-out they feature ensures a long service life with respect to electrical endurance. Only stock items are dealt with in this catalogue.

## Features

- Compact, rugged design
- Types of 4 different sizes
- Double-break cadmium-free contacts
- Extra wide coil tolerance
- Applicable standards:  
EN 1175-1, IEC 60947-1, IEC 60947-4-1

## Applications

- Main contactor for materials handling vehicles
- Main contactor for all kind of battery-powered vehicles
- Auxiliary contactor for steering and control functions, and the like

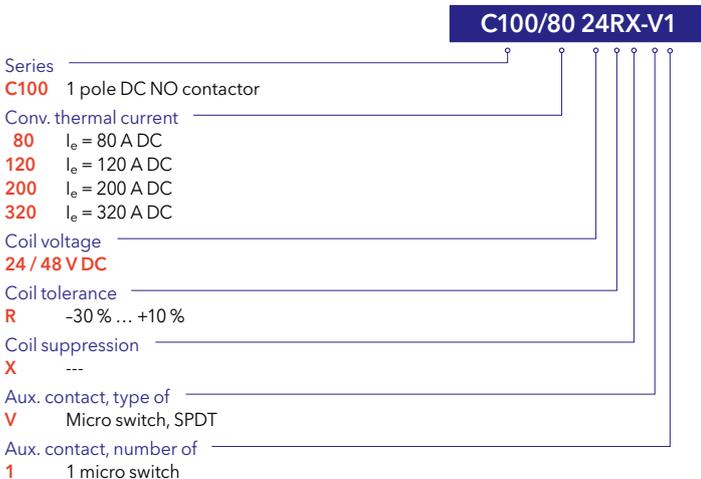


C100/80 and C100/120 Series contactors



C100/200 and C100/320 Series contactors

## Ordering code



## Standard items

Presented in this catalogue are only stock items which can be supplied in short delivery time.

The following options are also available:

- SPDT
- Double pole SPST NO
- Mounting brackets
- Omega-shape brackets (only C100/120)
- Large contacts
- Closed contact housings
- Coils for other voltages
- Coils for 70% duty with stronger spring

## Special variants

If you need a special variant of the contactor, please do not hesitate to contact us. Maybe, the type of contactor you are looking for is among our many special designs. If not, we can also supply customized designs. In this case, however, minimum order quantities apply.

## Specifications

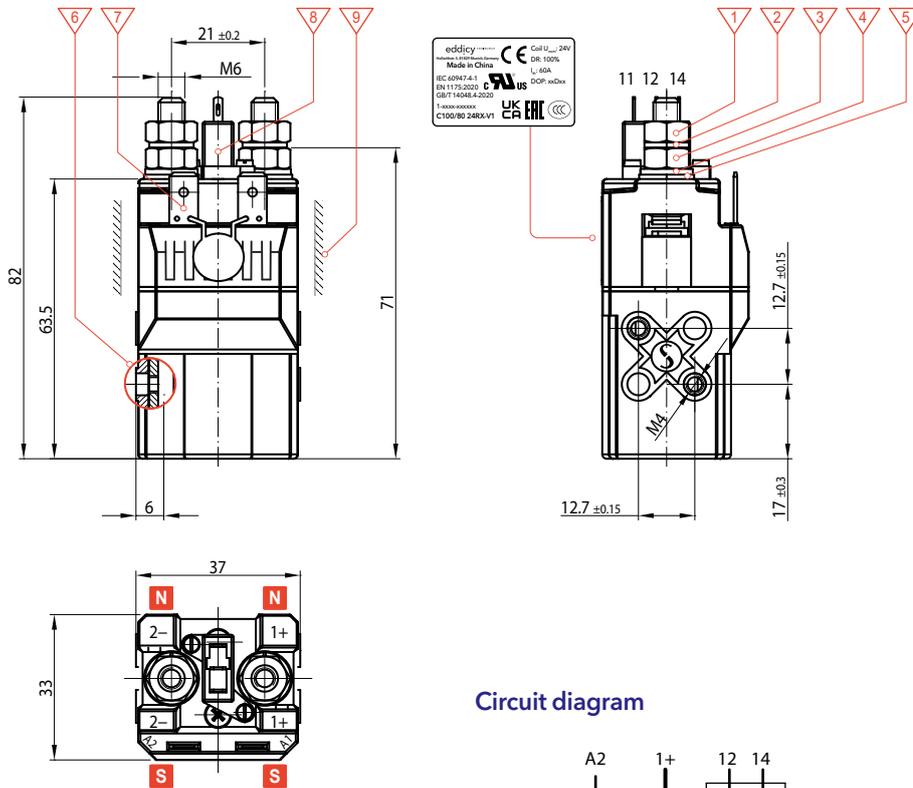
Series		C100/80	C100/120	C100/200	C100/320	
Kind of voltage		DC				
Main contacts, number of, configuration		1x SPST NO				
<b>Electrical data</b>						
Nominal voltage $U_n$		80 V				
Rated insulation voltage $U_i$		150 V				
Rated impulse withstand voltage $U_{imp}$		2.5 kV				
Pollution degree Overvoltage category		PD3 OV3				
Rated operational current $I_e$ 70% duty cycle, repetition time: 60 s		80 A	120 A	200 A	320 A	
Conventional free air thermal current $I_{th}$		60 A	100 A	150 A	250 A	
Making capacity	resistive load, T = 1 msec	300 A	600 A	1,000 A	1,600 A	
Breaking capacity	T < 1 msec, NO	80 V DC: 250 A	80 V DC: 300 A	80 V DC: 500 A	80 V DC: 1,300 A	
Rated short-time withstand current $I_{cw}$		400 A / 100 msec	800 A / 100 msec	1,500 A / 100 msec	2,000 A / 100 msec	
Switch-off, no reversing		only in one direction				
<b>Main contacts</b>						
Contact material Terminals / torque		NO: AgSnO <sub>2</sub> M6 / 5 Nm max.	NO: AgSnO <sub>2</sub> M8 / 7 Nm max.	NO: AgSnO <sub>2</sub> M8 / 7 Nm max.	NO: AgSnO <sub>2</sub> M10 / 10 Nm max.	
<b>Auxiliary contact</b>						
Auxiliary contact Mirror contact Number of / configuration Switching capacity, T = 0 ms	IEC 60947-4-1, Annex F	● 1x SPDT 2.5 A @ 24 V DC; 1.0 A @ 48 V DC; 0.5 A @ 80 V DC 2.0 x 0.5 mm	● 1x SPDT 2.5 A @ 24 V DC; 1.0 A @ 48 V DC; 0.5 A @ 80 V DC 6.3 x 0.8 mm	● 1x SPDT 2.5 A @ 24 V DC; 1.0 A @ 48 V DC; 0.5 A @ 80 V DC 6.3 x 0.8 mm	● 1x SPDT 2.5 A @ 24 V DC; 1.0 A @ 48 V DC; 0.5 A @ 80 V DC 6.3 x 0.8 mm	
Terminals, Flat tabs		2.0 x 0.5 mm	6.3 x 0.8 mm	6.3 x 0.8 mm	6.3 x 0.8 mm	
<b>Magnetic drive</b>						
Coil voltage $U_s$		24 / 48 V DC				
Coil tolerance		-30 % ... +10 % $U_s$				
Coil power dissipation	@ $U_s$ and $T_a = 20$ °C cold / warm coil	< 6.5 W / < 5.5 W	< 14 W / < 11.5 W	< 19 W / < 16 W	< 24 W / < 20 W	
Coil suppression		---	---	---	---	
Coil terminals	Flat tabs	6.3 x 0.8 mm				
<b>Degree of protection</b>						
IP00						
<b>Mechanical life cycles</b>						
> 3 x 10 <sup>6</sup>						
<b>Electrical life</b>						
> 100.000 cycles ( $U_n$ , $I_{th}$ , T < 1 msec, cycle ≤ 6/min)						
<b>Vibration / shock</b>						
IEC 60068-2-6, IEC 60068-2-27		6 g (10 ... 500 Hz) / 30 g (11 msec, half sinus)				
<b>Mounting position</b>						
horizontal or vertical (contact studs must point upwards)						
<b>Temperature</b>						
Ambient temperature $T_a$		-25 °C ... +40 °C				
Storage temperature $T_L$		-40 °C ... +85 °C				
<b>Approvals</b>						
		CE	CCC	EAC	cULus	UK CA
<b>Weight</b>						
		< 250 g	< 450 g	< 800 g	< 1.500 g	

## C100/80 - Single pole NO contactor $I_e = 80 \text{ A DC} / I_{th} = 60 \text{ A DC}$

C100/80 series contactors are designed for currents of up to 80 A DC and battery voltages of up to 80 V. The C100/80 is a single pole NO contactor with magnetic blow-out suitable for use as main or auxiliary contactor.

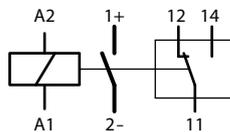
The contactors are fitted with DC coils featuring an extra wide coil tolerance as required for traction batteries of industrial trucks and other battery-powered vehicles. See data sheet for detailed specifications on page 2.

### Dimension diagram



- 1 Nut M6 DIN EN ISO 4032; steel, white zinc plated. Permissible tightening torque 4 ... 5 Nm
- 2 Retaining washer 6
- 3 Nut M6 DIN EN ISO 4032; brass, without surface-coating. Permissible tightening torque 2 Nm.
- 4 Spring washer 6
- 5 Washer 6, non-standard
- 6 Maximum length of engagement 2.5 mm
- 7 Coil terminal: Flat quick-connect 6.3 x 0.8 mm (DIN46244)
- 8 Auxiliary contact: Flat quick-connect termination 2 x 0.5 mm
- 9 At arc exit the minimum clearance must be > 50mm (in all other areas a minimum clearance of 5 mm must be maintained to all sides)

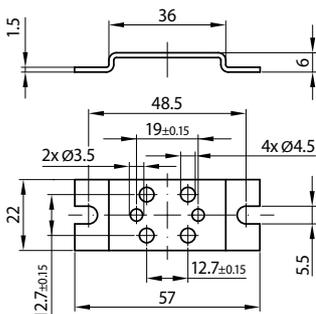
### Circuit diagram



### Mounting accessories

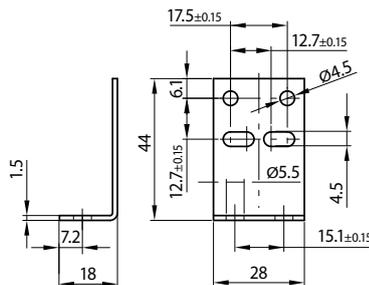
#### MB-H S1

Horizontal mounting brackets



#### MB-V S1

Vertical mounting brackets



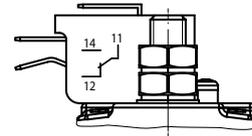
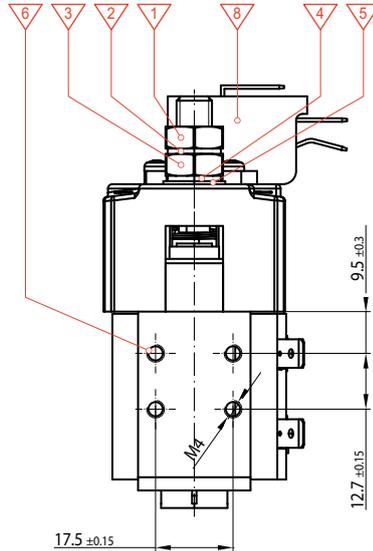
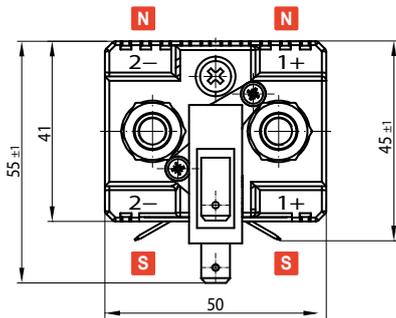
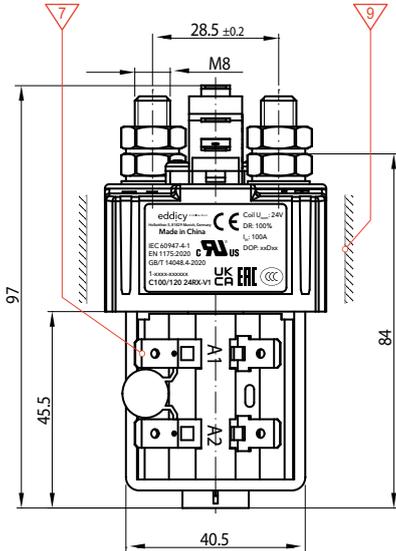
**i** Please observe  when using mounting brackets!

## C100/120 - Single pole NO contactor $I_e = 120 \text{ A DC} / I_{th} = 100 \text{ A DC}$

C100/120 series contactors are designed for currents of up to 120 A DC and battery voltages of up to 80 V. The C100/120 is a single pole NO contactor with magnetic blowout suitable for use as main or auxiliary contactor.

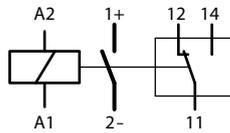
The contactors are fitted with DC coils featuring an extra wide coil tolerance as required for traction batteries of industrial trucks and other battery-powered vehicles. See data sheet for detailed specifications on page 2.

### Dimension diagram



- 1 Nut M8 DIN EN ISO 4032; steel, white zinc plated  
Permissible tightening torque 6 ... 7 Nm
- 2 Retaining washer 8
- 3 Nut M8 DIN EN ISO 4032; brass, without surface-coating. Permissible tightening torque 3 Nm.
- 4 Spring washer 8
- 5 Washer 8, non-standard
- 6 Maximum length of engagement 2.5 mm
- 7 Coil terminal: Flat quick-connect 6.3 x 0.8 mm (DIN46244)
- 8 Auxiliary contact: Flat quick-connect termination 6.3 x 0.8 mm (DIN46244)
- 9 At arc exit the minimum clearance must be > 60mm (in all other areas a minimum clearance of 5 mm must be maintained to all sides)

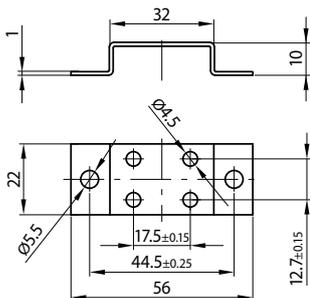
### Circuit diagram



### Mounting accessories

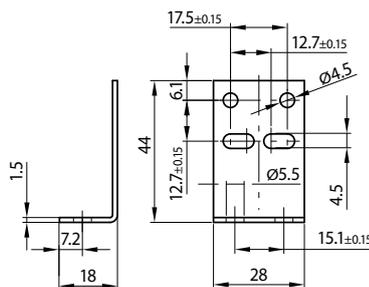
#### MB-H S2

Horizontal mounting brackets



#### MB-V S1

Vertical mounting brackets



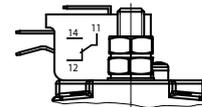
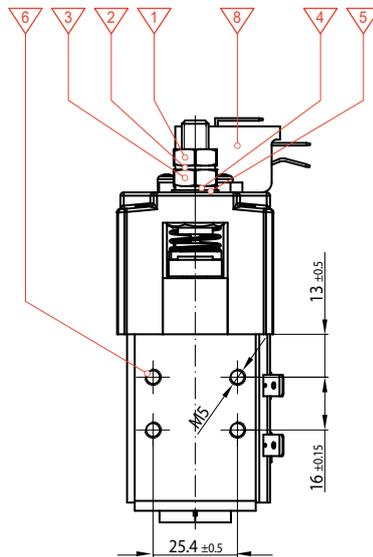
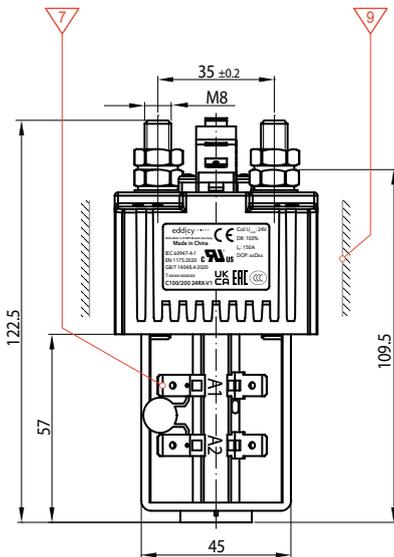
**i** Please observe  when using mounting brackets!

## C100/200 - Single pole NO contactor $I_e = 200 \text{ A DC} / I_{th} = 150 \text{ A DC}$

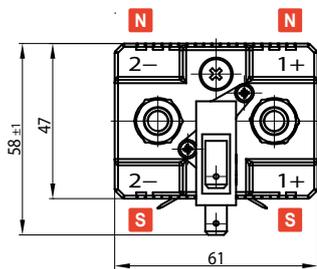
C100/200 series contactors are designed for currents of up to 200 A DC and battery voltages of up to 80 V. The C100/200 is a single pole NO contactor with magnetic blowout suitable for use as main or auxiliary contactor. The contactors are fitted with DC coils featuring an extra wide

coil tolerance as required for traction batteries of industrial trucks and other battery-powered vehicles. See data sheet for detailed specifications on page 2.

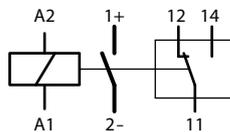
### Dimension diagram



- 1 Nut M8 DIN EN ISO 4032; steel, white zinc plated  
Permissible tightening torque 6 ... 7 Nm
- 2 Retaining washer 8
- 3 Nut M8 DIN EN ISO 4032; brass, without surface-coating. Permissible tightening torque 3 Nm.
- 4 Spring washer 8
- 5 Washer 8, non-standard
- 6 Maximum length of engagement 3.0 mm
- 7 Coil terminal: Flat quick-connect 6.3 x 0.8 mm (DIN46244)
- 8 Auxiliary contact: Flat quick-connect termination 6.3 x 0.8 mm (DIN46244)
- 9 At arc exit the minimum clearance must be > 70mm (in all other areas a minimum clearance of 5 mm must be maintained to all sides)



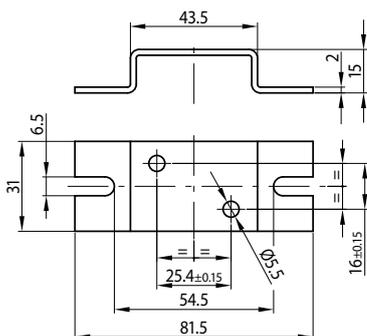
### Circuit diagram



### Mounting accessories

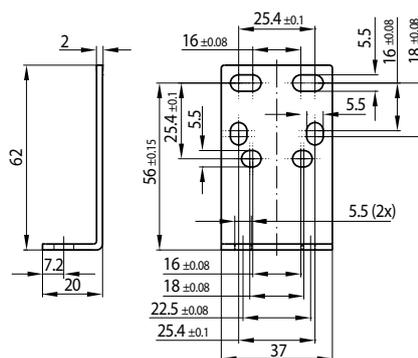
#### MB-H S3

Horizontal mounting brackets



#### MB-V S2

Vertical mounting brackets



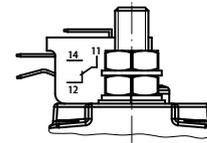
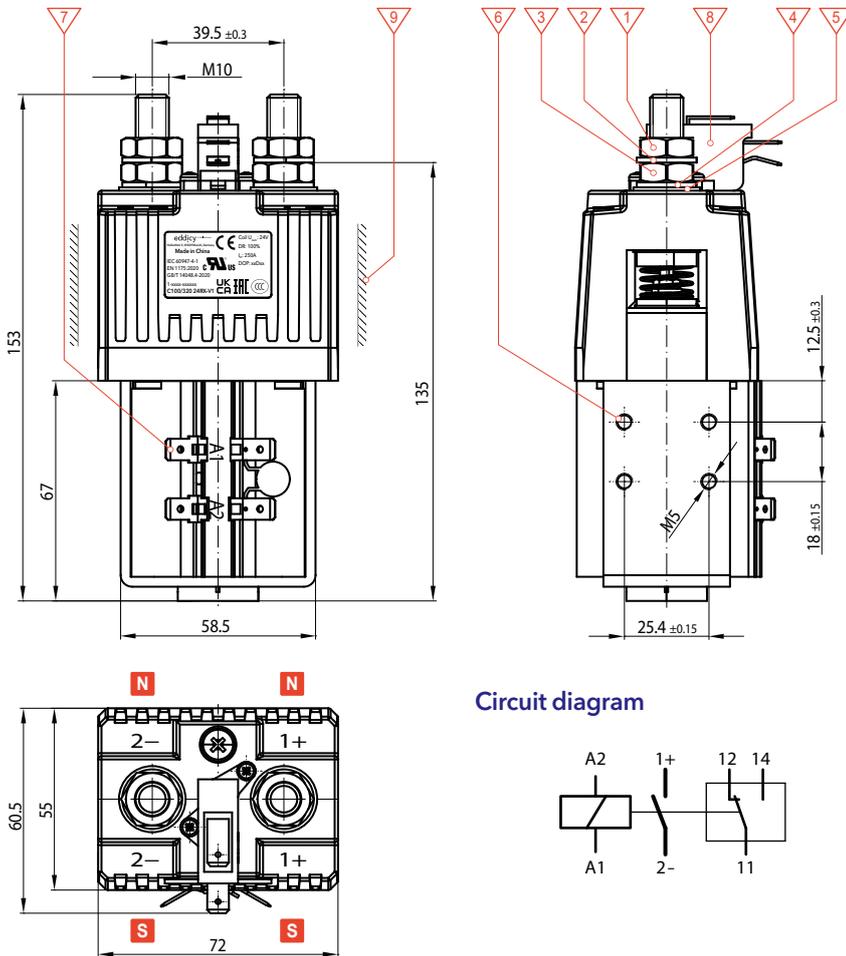
**i** Please observe  when using mounting brackets!

## C100/320 - Single pole NO contactor $I_e = 320 \text{ A DC} / I_{th} = 250 \text{ A DC}$

C100/320 series contactors are designed for currents of up to 320 A DC and battery voltages of up to 80 V. The C100/320 is a single pole NO contactor with magnetic blowout suitable for use as main or auxiliary contactor. The contactors are fitted with DC coils featuring an extra wide

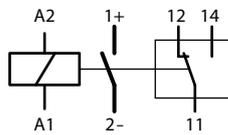
coil tolerance as required for traction batteries of industrial trucks and other battery-powered vehicles. See data sheet for detailed specifications on page 2.

### Dimension diagram



- 1 Nut M10 DIN EN ISO 4032; steel, white zinc plated  
Permissible tightening torque 9 ... 10 Nm
- 2 Retaining washer 10
- 3 Nut M10 DIN EN ISO 4032; brass, without surface-coating. Permissible tightening torque 5 Nm.
- 4 Spring washer 10
- 5 Washer 10, non-standard
- 6 Maximum length of engagement 3.5 mm
- 7 Coil terminal: Flat quick-connect 6.3 x 0.8 mm (DIN46244)
- 8 Auxiliary contact: Flat quick-connect termination 6.3 x 0.8 mm (DIN46244)
- 9 At arc exit the minimum clearance must be > 100mm (in all other areas a minimum clearance of 5 mm must be maintained to all sides)

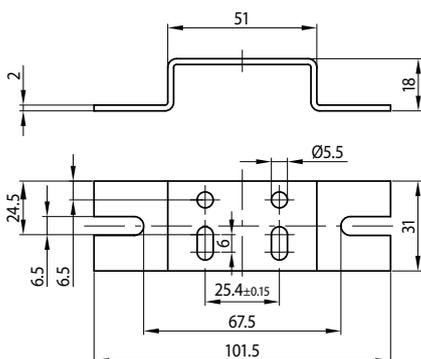
### Circuit diagram



### Mounting accessories

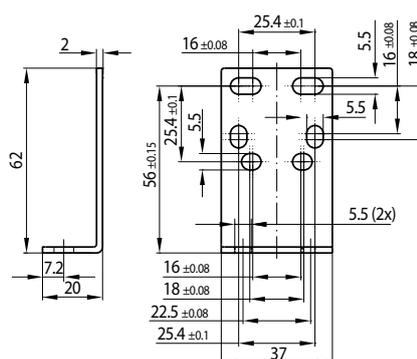
#### MB-H S4

Horizontal mounting brackets



#### MB-V S2

Vertical mounting brackets



**i** Please observe  when using mounting brackets!

## We enable electrification for a sustainable future

Schaltbau is a global technology leader specializing in contactors, connectors, switches, and electrical devices.

As pioneers of electrification, Schaltbau has been championing safety on rail for generations. Building on nearly a century of rail experience, with our sub-brand Eddicy we also create future-oriented products and solutions with the highest standards of safety and reliability to switch, connect, control and protect DC applications in energy and e-mobility.

Headquartered in Germany, Schaltbau has a worldwide presence with 12 production and sales sites on all major continents.

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