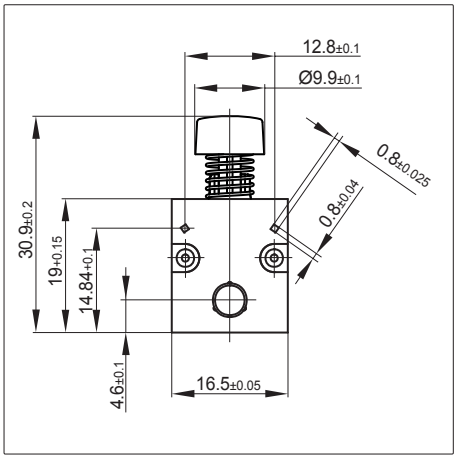
SCHALTBAU

Connect · Contact · Control

Single pole enabling switch with positive opening operation

S834 Series



D 34.*en*

Single pole enabling switches, S834 series

Enabling switches for manual control units of industrial robots

The S834 Series 3-position enabling switch is designed for easy integration into robotic or automated handling machinery. When installed in such devices, the S834 greatly increases the safety of the operator in the working area.

Application:

During machine operation, the enabling switch must be held in the operating position to maintain circuit closure. In case of emergency, the operator merely has to release the pressure on the button for the machine to stop immediately. The same is true for a panic reaction, where increased pressure will stop the machine.

Function:

To summarise, our S834 enabling switch only closes in the operating position. In the free and total travel positions the switch contacts are open. Contacts are not activated as the switch reverts from total travel position to free position.

Specification

Single pole enabling switch S 834
(figure enlarged)

Ordering code: S834 T1G2a 090

Also available:

2 pole enabling switch

S834 T1G2a 100

For further information
click here:
Flyer D34.en

S834 Series	
Contact configuration	NO, momentary contact switching positions OFF-ON-OFF
Conventional thermal current I_{th}	2.5 A
Rated insulation voltage U_i	250 V
Pollution degree	PD2
Rated impulse withstand voltage U_{imp}	1.5 kV
Contact resistance	100 mΩ typical
Contact material	Hard silver (AgCu3)
Contact gap	1.2 mm typical
Actuation force Towards working position For holding plunger in working position For release of compression past the midpoint detent For positive opening operation	 1.75 N ± 0.25 N < 3 N > 5 N ≤ 21 N
External fuse (IEC 60269-1)	1 A gG
Utilization category DC-12; U_e = 48V DC; I_e = 1A DC-13; U_e = 48V DC; I_e = 0.3A	 Overvoltage: 600 V max. Overvoltage: 1.4 kV max.
Mechanical life Operations towards working position Operations towards total travel position	 > 300.000 operations > 70.000 operations
Electrical life at U = 48 V DC; I = 1 A; τ = 0 ms	 > 200.000 operations
Temperature range	0°C ... 55°C
Degree of protection (IEC 60529) Terminals Contacts	 IP00 IP50
Connection	Pins for PCB
Mounting position	any
Weight	4.1 g ± 0.5 g

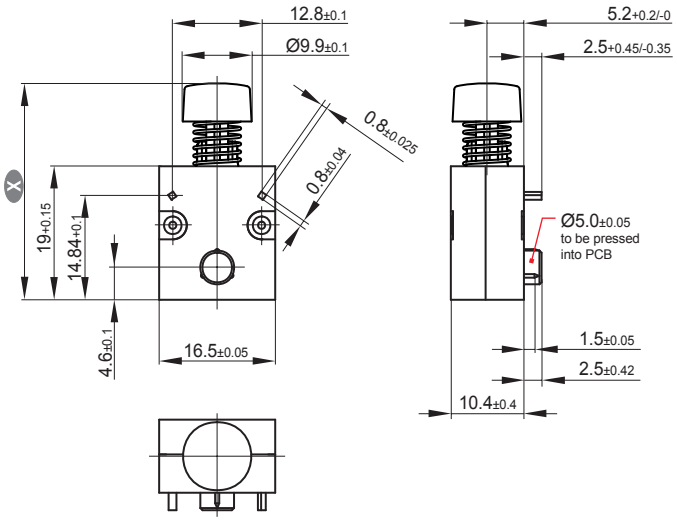
Features

- 3 position switch: OFF-ON-OFF
- Normally open contact, momentary contact type
- Positive opening operation, IEC 60947-5-1, Annex K
- Self-cleaning contact points by wiping action
- Low contact resistance
- Soldering pins for PCB mounting
- Transparent green housing allows the contact condition to be viewed easily
- Return to free position guaranteed even after spring failure

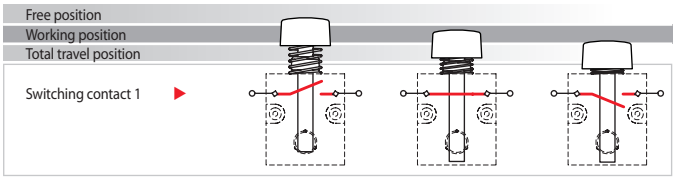
Standards

- **IEC 60947-5-1:** Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
- **EN 60529:** Degrees of protection provided by enclosures (IP code), terminals IP00, contacts IP50
- Plastics flame retardant according to **UL 94V-0**

Actuator travel



Circuit diagram, function



- **Free position ▶ Operating position:**
  Contact closed, if operator is holding the button manually in operating position
- **Operating position ▶ Total travel position:**
  Contact open, if the operator presses the button to the lower total travel position
- **Total travel position ▶ Free position:**
  Contact open, no contact during release from total travel position to free position

Actuator position	Pushbutton, travel (X) in mm
Free position	30.90 ±0.20
Operating position	28.28 $^{+0.30}_{-0.12}$
Total travel position	24.90 $^{+0.25}_{-0.20}$
Total positive opening travel	26.40

Handling instructions:

Hand soldering:
- *Soldering apparatus: Hand-held soldering iron*
- *Solder: Flux-filled solder wire, leadfree*
- *Temperature/duration: 350 °C; 6 s max.**

Selective soldering:
- *Soldering apparatus : Selective soldering station*
- *Solder: Leadfree solder for selective and wave soldering*
- *Temperature/duration: 300 °C; 2 s; 3 mm wave distance; Flux time 1 s*

Wave soldering:
- *Soldering apparatus: Wave soldering station, 1 wave (Wörthmann wave)*
- *Solder: Leadfree solder for selective and wave soldering*
- *Temperature/duration: 260 °C; 4.4 s; wave width 66 mm; conveyor speed 0.9 m/min; pre-heating approx. 100 s at 110 ... 145 °C (typical)*

* *PCB; 1.6 mm; through-contacted*

Mounting instructions:
- *Please ensure basic protection against electric shock when installing the switch.*

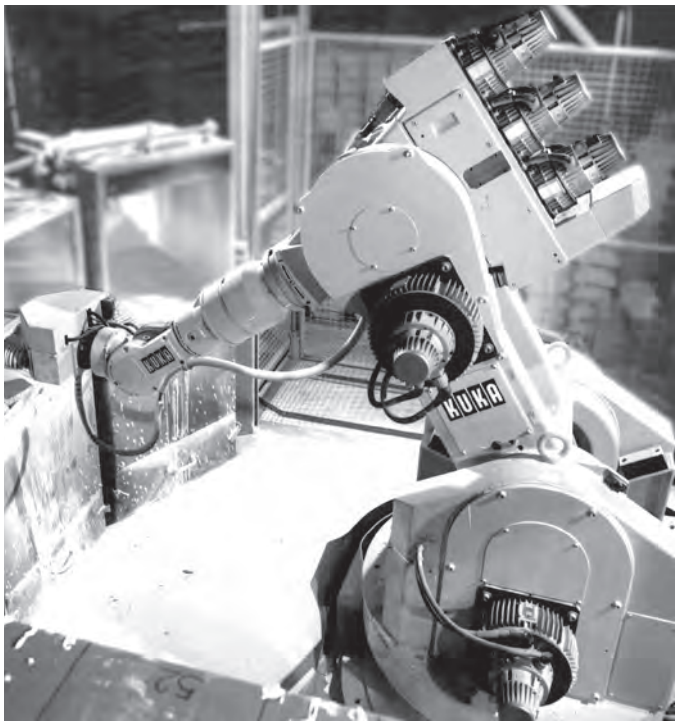


Figure: KUKA Systems GmbH

Schaltbau GmbH manufactures in compliance with RoHS. The LV Series connectors are RoHS compliant.

Schaltbau GmbH has an environment management system that has been certified since 2002.

Schaltbau GmbH has a quality management system that has been certified since 1994.

Electrical Components and Systems for Railway Engineering and Industrial Applications

Connectors	• Connectors manufactured to industry standards • Connectors to suit the special requirements of communications engineering (MIL connectors) • Charging connectors for battery-powered machines and systems • Connectors for railway engineering, including UIC connectors • Special connectors to suit customer requirements
Snap-action switches	• Snap-action switches with positive opening operation • Snap-action switches with self-cleaning contacts • Enabling switches • Special switches to suit customer requirements
Contactors	• Single and multi-pole DC contactors • High-voltage AC/DC contactors • Contactors for battery powered vehicles and power supplies • Contactors for railway applications • Terminal bolts and fuse holders • DC emergency stop switches • Special contactors to suit customer requirements
Electrics for rolling stock	• Equipment for driver‘s cab • Equipment for passenger use • High-voltage switchgear • High-voltage heaters • High-voltage roof equipment • Equipment for electric brakes • Design and engineering of train electrics to customer requirements

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