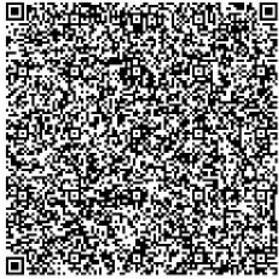




SCHALTBAU

Connect · Contact · Control



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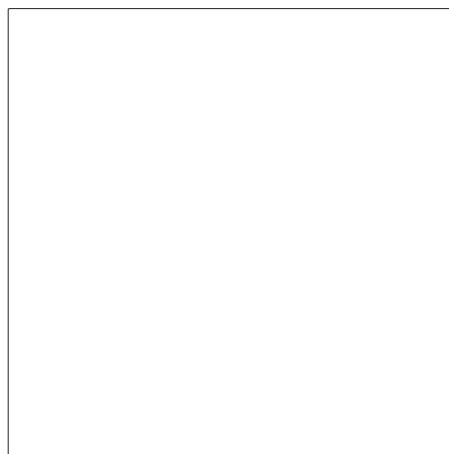
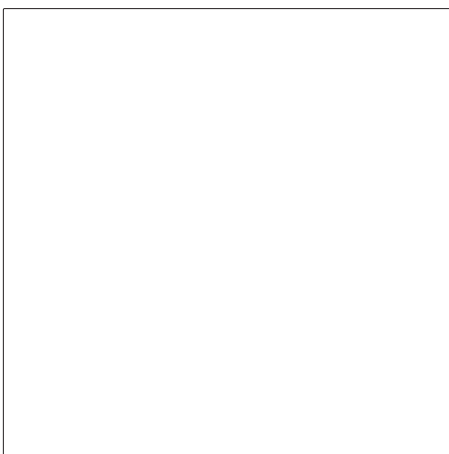
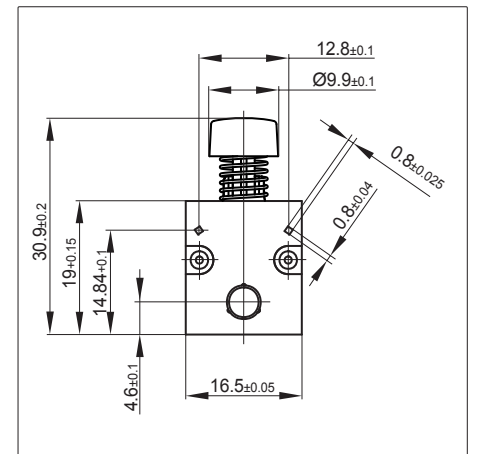
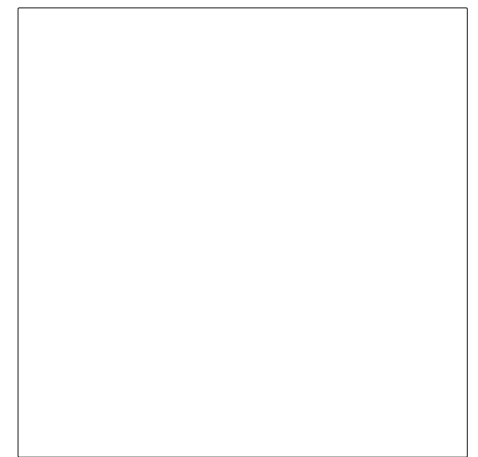
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**Single pole
enabling switch
with positive opening
operation**

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.

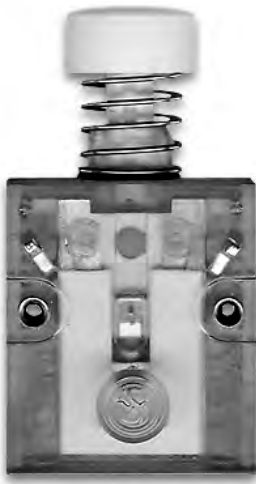
Application:

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



| 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 | 1.75 N ± 0.25 N |
| For holding plunger in working position | < 3 N |
| For release of compression past the midpoint detent | > 5 N |
| For positive opening operation | ≤ 21 N |
| External fuse (IEC 60269-1) | 1 A gG |
| Utilization category | |
| DC-12; $U_e = 48V DC$; $I_e = 1A$ | Overvoltage: 600 V max. |
| DC-13; $U_e = 48V DC$; $I_e = 0.3A$ | Overvoltage: 1.4 kV max. |
| Mechanical life | |
| Operations towards working position | > 300.000 operations |
| Operations towards total travel position | > 70.000 operations |
| Electrical life | |
| at $U = 48 V DC$; $I = 1 A$; $\tau = 0 ms$ | > 200.000 operations |
| Temperature range | 0°C ... 55°C |
| Degree of protection (IEC 60529) | |
| Terminals | IP00 |
| Contacts | IP50 |
| Connection | Pins for PCB |
| Mounting position | any |
| Weight | 4.1 g ± 0.5 g |

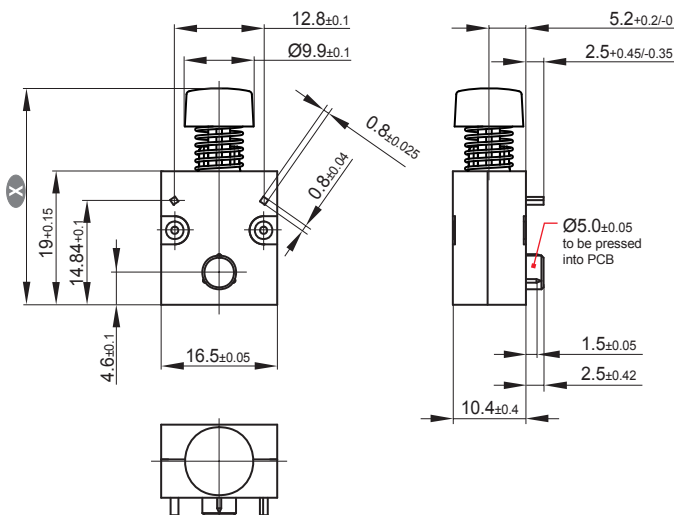
Features

- 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



| 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:

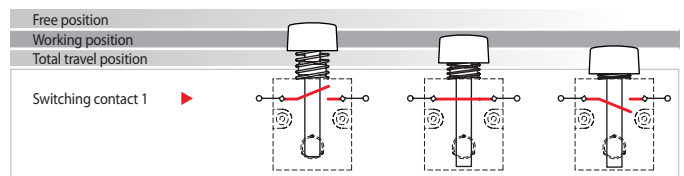
- Soldering apparatus: Wave soldering station, 1 wave (Wörthmann wave)
- Solder: Leadfree solder for selective and wave soldering
- Temperature/duration: 260 °C; 4.4 s; wave width 66 mm; conveyor speed 0.9 m/min; pre-heating approx. 100 s at 110 ... 145 °C (typical)

* PCB; 1.6 mm; through-contacted

Mounting instructions:

- Please ensure basic protection against electric shock when installing the switch.

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

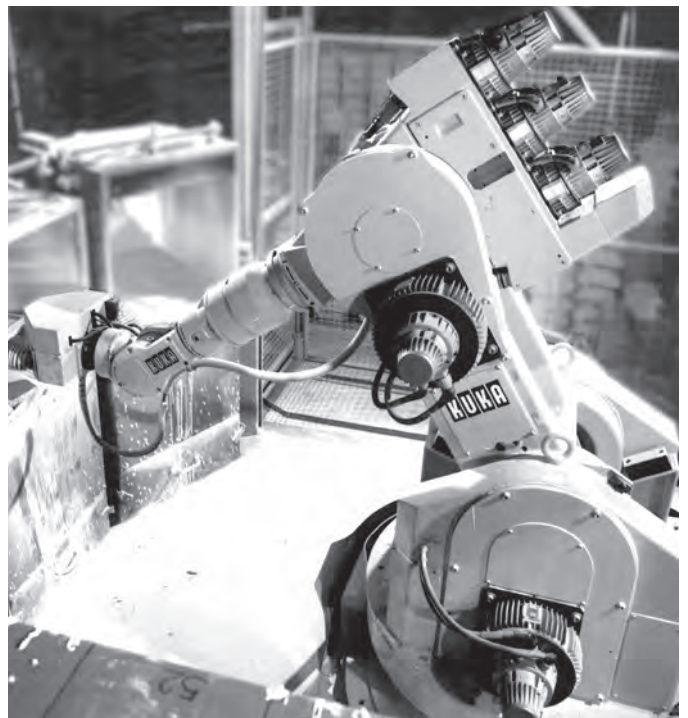


Figure: KUKA Systems GmbH



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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with compliments: