



Features

- ⊕ Positive-opening safety contacts (IEC 60947-5-1) (not dependent upon springs)
- Mechanically coded actuators utilize two independent operating elements to minimize intentional tampering or defeat
- Rotating head allows actuator engagement from front or back or either of two top positions
- Choice of four standard actuators; special high extraction force actuator is available as option
- IEC IP65 switch housing rating may be increased to IEC IP67 with addition of screw to wiring chamber door
- ☐ Insulated device (IEC 60947-5-1) on all models with plastic housings

Models

Kit Model†	Actuator Type†	Interlock Body†	Contact Configuration (Actuator Engaged)	Contact Configuration (Actuator Removed)	Switching Diagrams
SI-QS90MD	SI-QS-SSA-4 In-Line Stamped	SI-QS90D	One N.C. and One N.O. Contact		
SI-QS90MFD (Direct replacement for models SI-QS90MRHD and SI-QS90MRVD)	SI-QS-SSU Flexible				
SI-QS90MDHF (High Force)††	SI-QS-SSA In-Line Die-Cast	SI-QS90DHF	Two N.C. Contacts		
SI-QS90ME	SI-QS-SSA-4 In-Line Stamped	SI-QS90E	Two N.C. Contacts		
SI-QS90MFE (Direct replacement for models SI-QS90MRHE and SI-QS90MRVE)	SI-QS-SSU Flexible				
SI-QS90MEHF (High Force)††	SI-QS-SSA In-Line Die-Cast	SI-QS90EHF	Two N.C. Contacts		

NOTE: ⊕ This symbol is used in the switching diagrams to identify the point in actuator travel where the normally closed safety contact is fully open.

Contacts: ☐ Open ■ Closed ▒ Transition

† A kit contains an interlock and actuator. Individual interlock bodies or actuators are for replacement purposes only. See Warning on page 10.

†† High Force: 50 N (11.25 lbf) holding force integrated into switch. Use SI-QS-SSA In-Line Actuator only; also see accessory SI-QS-100 on page 9.

Machine Safety Switches – SI-QS75 and SI-QS90 Series Flat Pack Style

Models, continued

Kit Model†	Actuator Type†	Interlock Body†	Contact Configuration (Actuator Engaged)	Contact Configuration (Actuator Removed)	Switching Diagrams
SI-QS90MF	SI-QS-SSA-4 In-Line Stamped	SI-QS90F	Two N.C. and One N.O. Contact		
SI-QS90MFF (Direct replacement for models SI-QS90MRHF and SI-QS90MRVF)	SI-QS-SSU Flexible				
SI-QS90MFHF (High Force)††	SI-QS-SSA In-Line Die-Cast	SI-QS90F			
SI-QS75MC	SI-QS-SSA-4 In-Line Stamped	SI-QS75C	One N.O. Contact		
SI-QS75MFC (Direct replacement for models SI-QS75MRHC and SI-QS75MRVC)	SI-QS-SSU Flexible		SI-QS75C		
SI-QS75MCHF (High Force)††	SI-QS-SSA In-Line Die-Cast	SI-QS75CHF			

NOTE: This symbol is used in the switching diagrams to identify the point in actuator travel where the normally closed safety contact is fully open.

Contacts: Open Closed Transition

† A kit contains an interlock and actuator. Individual interlock bodies or actuators are for replacement purposes only. See Warning on page 10.

†† High Force: 50 N (11.25 lbf) holding force integrated into switch. Use SI-QS-SSA In-Line Actuator only; also see accessory SI-QS-100 on page 9.

Overview

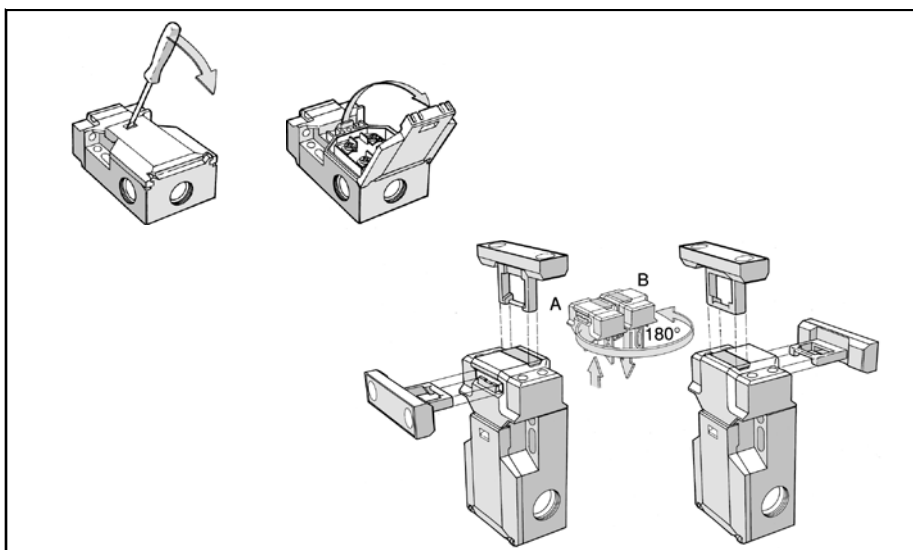


Figure 1. Rotating the actuator head and accessing the wiring chamber

Easy Access




The wiring chamber is accessed via a hinged door. Simply insert a flat-blade screwdriver, as shown, and pry gently down to open.

Rotating Actuator Head

The actuator head may be rotated 180° to create four possible actuator engagement locations. To rotate the head, first open the wiring chamber door, as shown, left. Then, using a small flat-blade screwdriver, dislodge the two locking tabs located on the backside of the switch. Lift the head straight off of the switch body. Rotate the head, as shown, and reinstall it on the switch body.

Machine Safety Switches – SI-QS75 and SI-QS90 Series Flat Pack Style

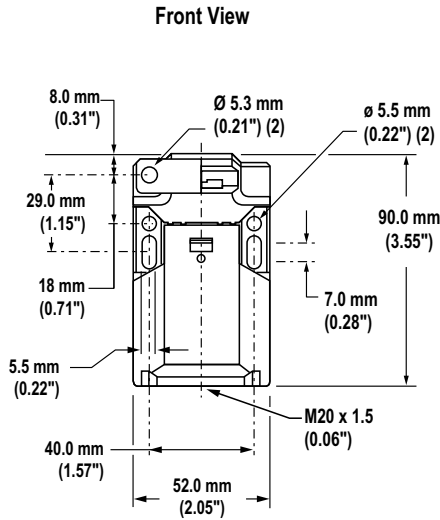
Specifications

Contact Rating	10A @ 24V ac, 10A @ 110V ac, 6A @ 230V ac; 6A @ 24V dc 2.5 kV max. transient tolerance NEMA A300 P300														
European Rating	Utilization categories: AC15 and DC13 (IEC 60947-5-1) Switches with 1 and 2 contact pairs: $U_i = 500V$ ac $I_{th} = 10 A$ Switches with 3 contact pairs: $U_i = 400V$ ac $I_{th} = 5A$	40-60 Hz													
		<table border="1"> <thead> <tr> <th>U_e V</th> <th>$I_e/AC-15$ A</th> <th>$I_e/DC-13$ A</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>10</td> <td>6</td> </tr> <tr> <td>110</td> <td>10</td> <td>1</td> </tr> <tr> <td>230</td> <td>6</td> <td>0.4</td> </tr> </tbody> </table>	U_e V	$I_e/AC-15$ A	$I_e/DC-13$ A	24	10	6	110	10	1	230	6	0.4	
U_e V	$I_e/AC-15$ A	$I_e/DC-13$ A													
24	10	6													
110	10	1													
230	6	0.4													
Contact Material	Silver-nickel alloy														
Maximum Switching Speed	30 operations per minute														
Maximum Actuator Speed	1 m/second (39"/second)														
Minimum Actuator Engagement Radius	In-line actuators: 150 mm (6") Flexible actuators: 50 mm (2") in all directions														
Actuator Extraction Force	High force models: 50 Newtons (11 lbf) All other models: 10 Newtons (2.2 lbf)														
Short Circuit Protection	6 amp Slow Blow, 10 amp Fast Blow. Recommended external fusing or overload protection.														
Mechanical Life	1 million operations														
Wire Connections	Screw terminals with pressure plates accept the following wire sizes – For switches with one or two contacts: Stranded and solid: 20 AWG (0.5 mm ²) to 16 AWG (1.5 mm ²) for one wire Stranded: 20 AWG (0.5 mm ²) to 18 AWG (1.0 mm ²) for two wires For switches with three contacts: Stranded and solid: 20 AWG (0.5 mm ²) to 18 AWG (1.0 mm ²) for one wire Stranded: 20 AWG (0.5 mm ²) to 18 AWG (1.0 mm ²) for two wires														
Cable Entry	SI-QS75 models: M16 x 1.5 threaded entrance SI-QS90 models: M20 x 1.5 threaded entrance Adapter supplied to convert to ½"-14 NPT threaded entrance.														
Construction	Glass fiber-reinforced polyamide thermoplastic housing; UL 94-V0 rating														
Environmental Rating	IEC IP65 NOTE: Addition of a No. 3 x ¼" screw (max) to the wiring access door increases sealing to IEC IP67, NEMA 4X														
Operating Conditions	Temperature: -30° to +80° C (-22° to +176° F)														
Weight	SI-QS75 models: 0.11 kg (0.25 lb) SI-QS90 models: 0.13 kg (0.29 lb)														
Application Notes	Models with one and two contacts have three cable entry locations (bottom and two sides); models with three contacts have two cable entry locations (two sides). All entry locations are sealed with knockouts. To remove knockouts, thread the supplied M16 x 1.5 or M20 x 1.5 to ½"-14 NPT conduit adapter or optional M16 x 1.5 or M20 x 1.5 cable gland into one of the threaded entry locations. The knockout will break open just before the adapter or cable gland bottoms out.														
Certifications	   Auxiliary Devices LISTED														

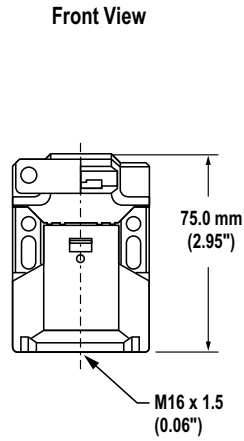
Machine Safety Switches – SI-QS75 and SI-QS90 Series Flat Pack Style

Dimensions

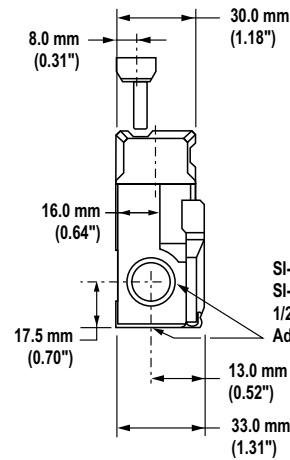
Model SI-QS90.. Interlock Body



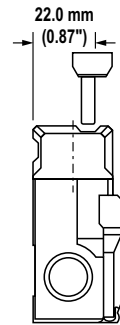
Model SI-QS75.. Interlock Body



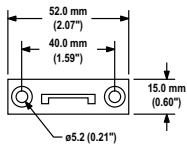
Side View



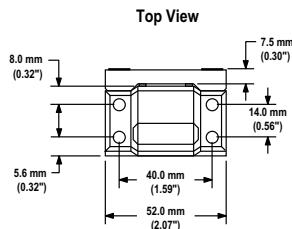
Side View with Head Rotated 180°



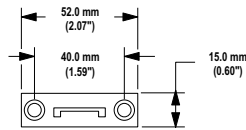
Model SI-QS-SSA In-line Actuator



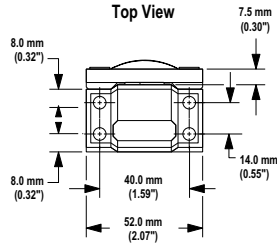
Switch and Actuator



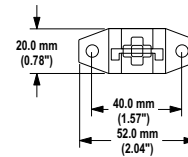
Model SI-QS-SSA-4 In-line Actuator



Switch and Actuator



Model SI-QS-SSU Flexible Actuator



Switch and Actuator

