



IEC/EN60947-5-1, ANSI B11.19, AS4024.1, EN954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN1088, ISO14119  
CSA approved



G  
safety interlock switches

## SL Series Safety Limit Switches

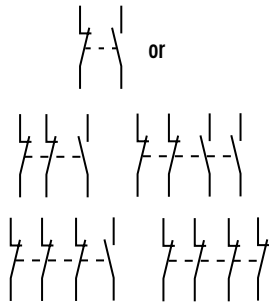
- Large selection—choose from a large selection of actuator configurations with either plastic or die-cast housings to satisfy most application requirements
- Rotatable head provides 4 actuator mounting positions for versatile installation
- Choice of contacts—your choice of Slow Break Before Make, Snap Action, or Slow Make Before Break Contacts
- NEMA 6 enclosure enables the SL Series switches to withstand harsh environments
- Positive operation—all safety contacts are force guided for positive operation by the actuator conforming to safety switch standards
- Long life—the SL Series is designed for a minimum of ten million actuations

**A** **Go to the Engineering Guide**  
For in-depth information on safety standards and use.

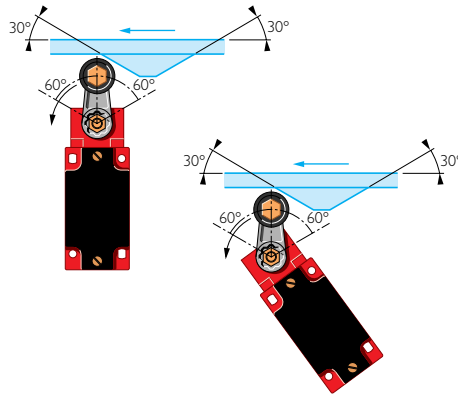
**N** **For More Guarding Products**  
See Section N for safeguarding cutting and turning machines

■ Operation

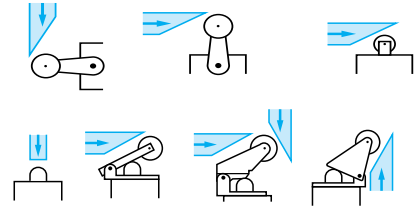
Contact Arrangements



Adjustable Lever Arms



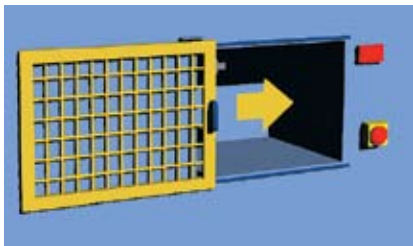
Operating Examples



The actuating cam should be profiled at 30° for optimum operation. (Note: plunger-type switches operate from a flat profile.)

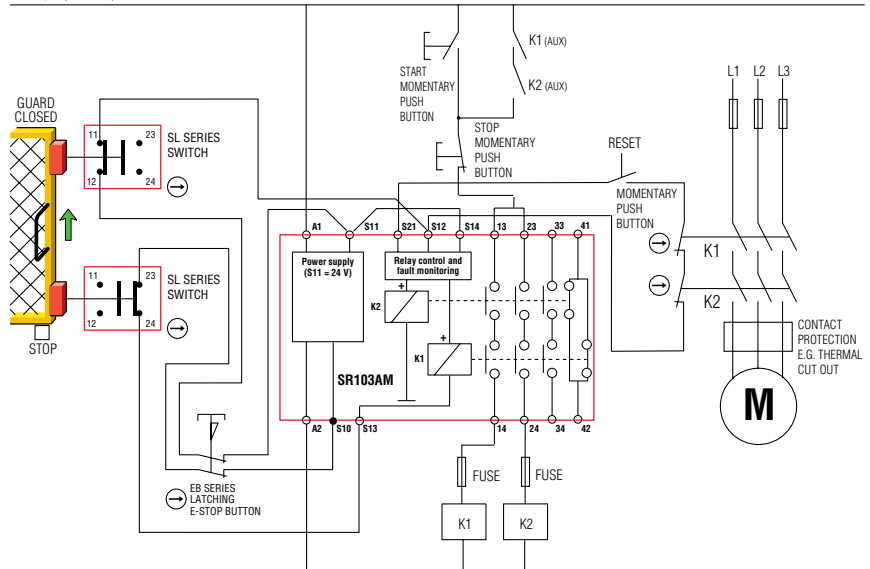
■ Applications

Typical applications are on sliding guard doors, moving machine beds, crane arms, etc.



Typical Application of SL Series with a Safety Monitoring Relay

24VAC/DC, 110VAC, 230VAC



For a full explanation of the circuit operating principle and fault detection, see "Common Circuit Examples" in the Engineering Section of this catalog.

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safety interlock switches

## ■ Specifications

Electrical	All Models	Metal Body	Plastic body
<b>Safety Contacts:</b>		1 N/C, 2 N/C, 3 N/C, 4 N/C	1 N/C, 2 N/C, 3 N/C
<b>Auxiliary Contacts:</b>		1 N/O, 2 N/O	1 N/O
<b>Switching Ability</b>			
<b>Inductive AC-15:</b>	600 V 1.2 A, 500 V 1.4 A, 240 V 3 A, 120 V 6 A		
<b>Inductive DC-13:</b>	600 V 0.4 A, 500 V 0.55 A, 250 V 1.1 A, 125 V 2.2A		
<b>Rated Insulation Voltage:</b>	600 VAC		
<b>Rated Impulse Withstanding Voltage:</b>	2500 V		
<b>Max Switching Speed:</b>	250 mm/s		
<b>Min. Switching Speed:</b>	100 mm/min.		
<b>Max. Switching Frequency:</b>	6000 operations/hour		
<b>Minimum Current:</b>	5 V 5 mA DC		
<b>Thermal Current:</b>	10 A		
<b>Mechanical</b>			
<b>Mounting:</b>	Any position		
<b>Actuator Travel for Positive Opening:</b>	Various—see diagrams		
<b>Case Material:</b>		Die-cast alloy	UL approved glass-filled polybutylene terephthalate
<b>Actuator Materials:</b>	See ordering table		
<b>Conduit Entry:</b>	M20 or 1/2 in. NPT		
<b>Weight:</b>		Approx. 500 g (18 oz.)	Approx. 80 g (3 oz.)
<b>Color:</b>	Red and black		
<b>Mechanical Life:</b>	1 x 10 <sup>7</sup>		
<b>Environmental</b>			
<b>Protection:</b>	IP66 (NEMA 6)		
<b>Operating Temperature:</b>	-25 to 80°C (-13 to 176°F)		
<b>Compliance</b>			
<b>Standards:</b>	IEC/EN60947-5-1, ANSI B11.19, AS4024.1, EN954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN1088, ISO14119		
<b>Approval:</b>	CE marked for all applicable directives, CSA (UL and C-UL pending)		
<b>Safety Category:</b>	Cat. 1 device per EN 954-1		

Specifications are subject to change without notice.

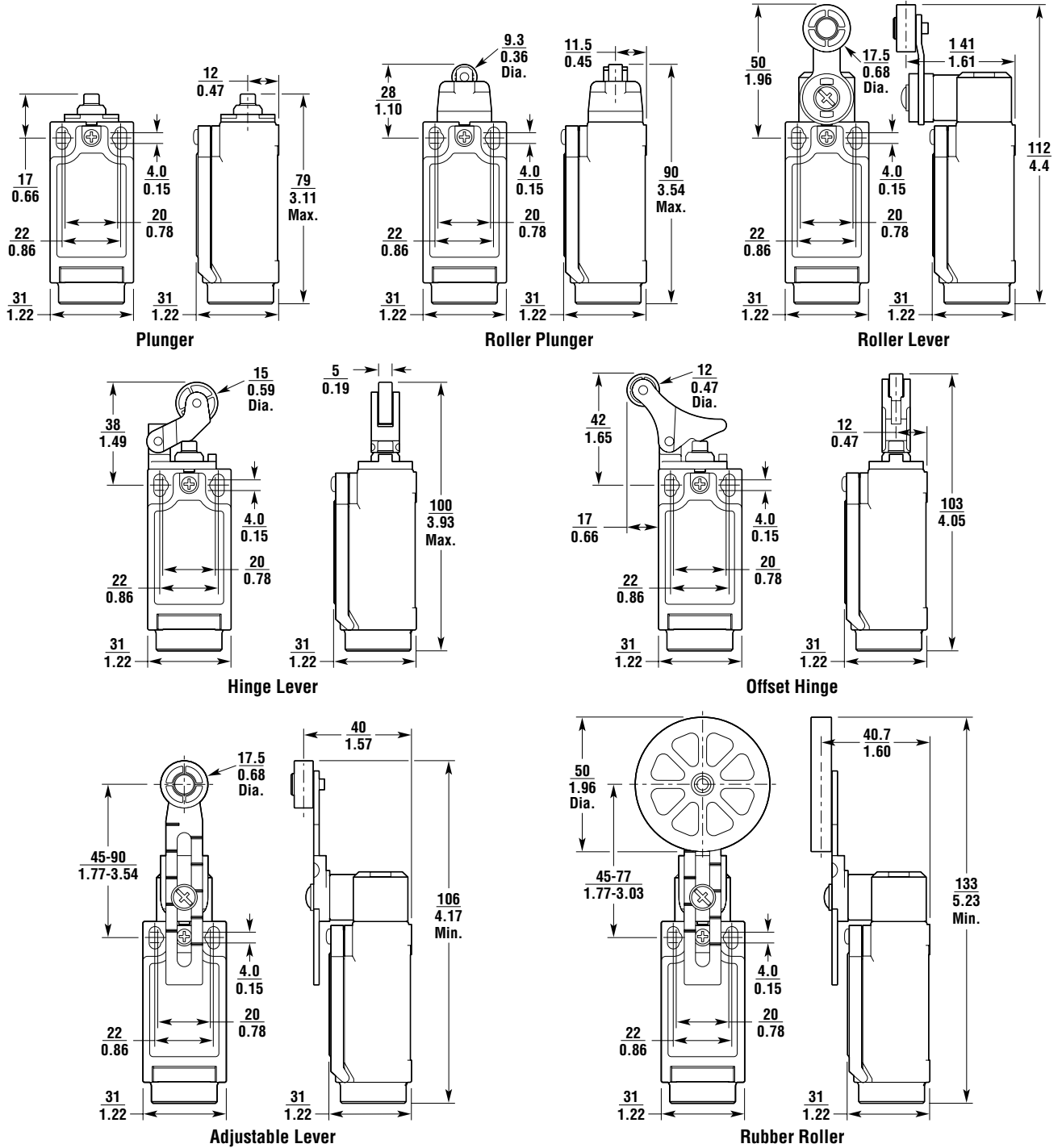
Note: The safety contacts of the Omron STI switches are described as normally closed (N/C)—i.e., with the guard closed, actuator in place, and the machine able to be started.

**A** **Go to the Engineering Guide**  
For in-depth information on safety standards and use.

**N** **For More Guarding Products**  
See Section N for safeguarding cutting and turning machines

■ Dimensions — mm/in.

Plastic Body Switches



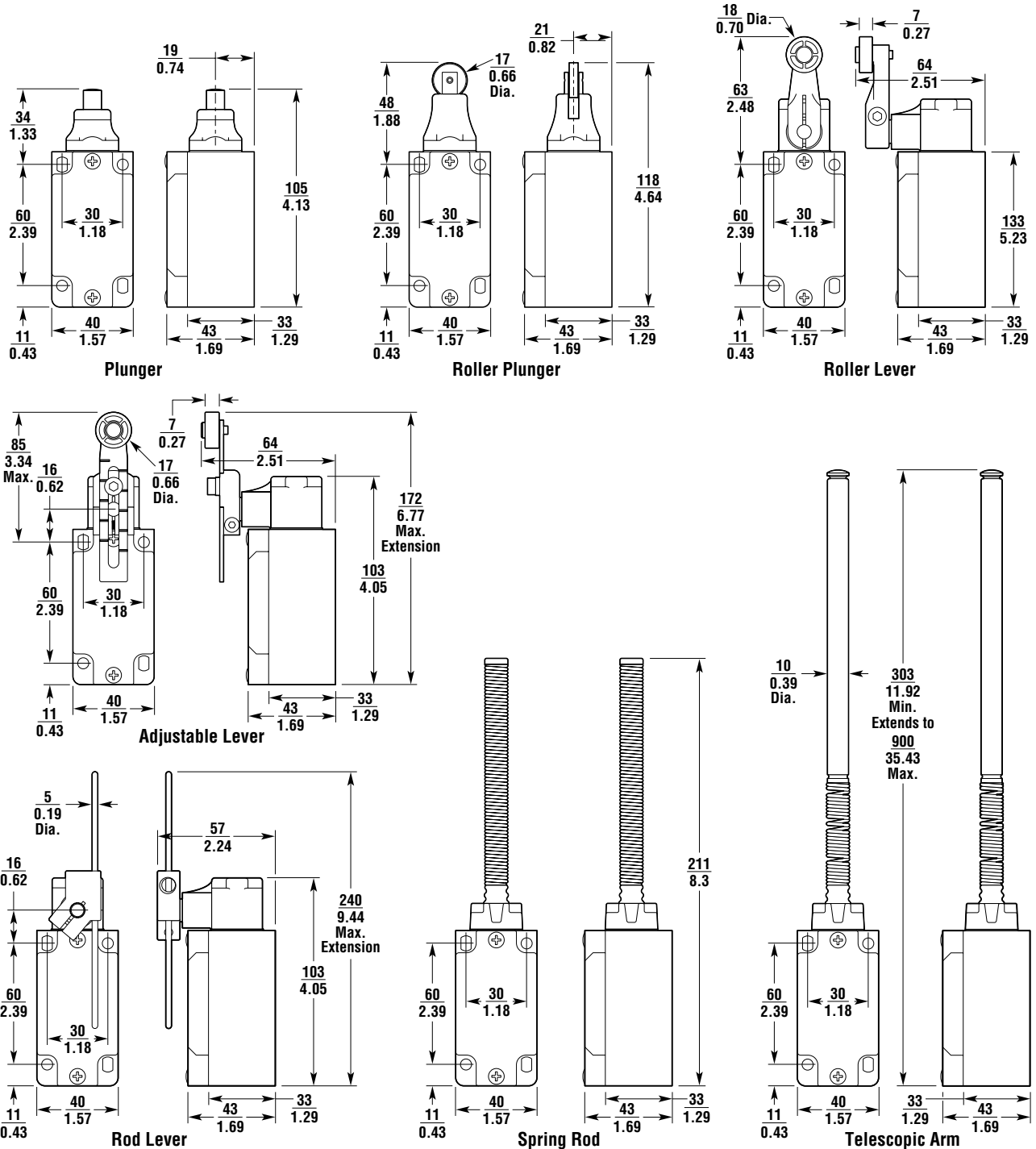
G safety interlock switches

## ■ Dimensions — mm/in. (continued)

### Metal Body Switches

safety interlock switches


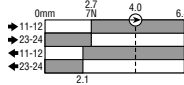
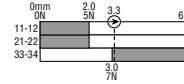

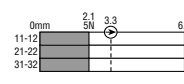

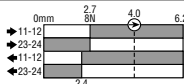
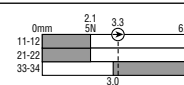
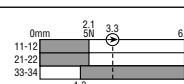
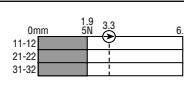

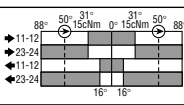
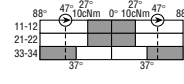
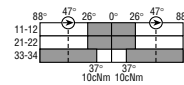
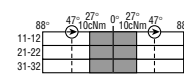
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**N** For More Guarding Products  
See Section N for safeguarding cutting and turning machines

■ Ordering

Plastic Body Switches

Operator Type	Contacts	Typical Force/ Torque to Operate	Contact Opening Characteristics □ Open ■ Closed ⊕ Positive Opening Point	Part No. Wiring Entry		
				1/2 in. NPT Conduit	M20 Conduit	Quick Disconnect*
<b>PLUNGER STYLE (PLASTIC BODY SWITCHES)</b>						
	1 N/C + 1 N/O (Snap Acting)	5 N		44505-1010	44505-1011	44505-1012
	2 N/C + 1 N/O (BBM)	6 N		44505-1020	44505-1021	44505-1022
	2 N/C + 1 N/O (MBB)	6 N		44505-1030	44505-1031	44505-1032
	3 N/C	5 N		44505-1040	44505-1041	44505-1042
<b>ROLLER PLUNGER STYLE (PLASTIC BODY SWITCHES)</b>						
	1 N/C + 1 N/O (Snap Acting)	5 N		44505-1110	44505-1111	44505-1112
	2 N/C + 1 N/O (BBM)	6 N		44505-1120	44505-1121	44505-1122
	2 N/C + 1 N/O (MBB)	6 N		44505-1130	44505-1131	44505-1132
	3 N/C	5 N		44505-1140	44505-1141	44505-1142
<b>ROLLER LEVER STYLE (PLASTIC BODY SWITCHES)</b>						
	1 N/C + 1 N/O (Snap Acting)	0.15 Nm		44505-1210	44505-1211	44505-1212
	2 N/C + 1 N/O (BBM)	0.14 Nm		44505-1220	44505-1221	44505-1222
	2 N/C + 1 N/O (MBB)	0.14 Nm		44505-1230	44505-1231	44505-1232
	3 N/C	0.14 Nm		44505-1240	44505-1241	44505-1242

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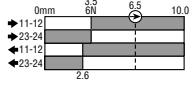
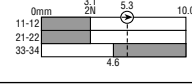
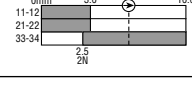
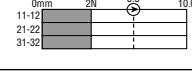



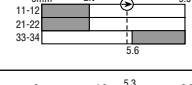
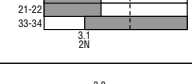
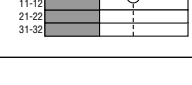


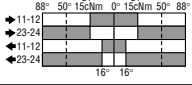
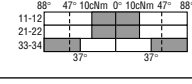
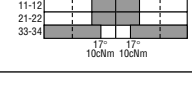
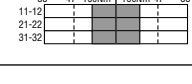

\*Plastic SL switches with 1 N/C + 1 N/O contacts and the Quick Disconnect option use 4-pin micro DC (M12) connectors. Plastic SL switches with all other contact configurations and the Quick Disconnect option use 6-pin micro AC (1/2-20 UN2A) dual keyway connectors. See accessories section for available cables.

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safety interlock switches



## ■ Ordering (continued)


### Plastic Body Switches

Operator Type	Contacts	Typical Force/ Torque to Operate	Contact Opening Characteristics		Part No. Wiring Entry		
			□ Open ⊙ Positive Opening Point	■ Closed	1/2 in. NPT Conduit	M20 Conduit	Quick Disconnect*
<b>HINGE LEVER STYLE (PLASTIC BODY SWITCHES)</b>							
	1 N/C + 1 N/O (Snap Acting)	5 N			44505-1310	44505-1311	44505-1312
	2 N/C + 1 N/O (BBM)	6 N			44505-1320	44505-1321	44505-1322
	2 N/C + 1 N/O (MBB)	6 N			44505-1330	44505-1331	44505-1332
	3 N/C	5 N			44505-1340	44505-1341	44505-1342
<b>OFFSET HINGE STYLE (PLASTIC BODY SWITCHES)</b>							
	1 N/C + 1 N/O (Snap Acting)	5 N			44505-1410	44505-1411	44505-1412
	2 N/C + 1 N/O (BBM)	6 N			44505-1420	44505-1421	44505-1422
	2 N/C + 1 N/O (MBB)	6 N			44505-1430	44505-1431	44505-1432
	3 N/C	5 N			44505-1440	44505-1441	44505-1442
<b>ADJUSTABLE LEVER STYLE (PLASTIC BODY SWITCHES) ⚠ Warning!</b>							
	1 N/C + 1 N/O (Snap Acting)	0.15 Nm			44505-1510	44505-1511	44505-1512
	2 N/C + 1 N/O (BBM)	0.14 Nm			44505-1520	44505-1521	44505-1522
	2 N/C + 1 N/O (MBB)	0.14 Nm			44505-1530	44505-1531	44505-1532
	3 N/C	0.14 Nm			44505-1540	44505-1541	44505-1542

**⚠ Warning!** Actuator adjustment may change through use leading to loss of the safety function.

\*Plastic SL switches with 1 N/C + 1 N/O contacts and the Quick Disconnect option use 4-pin micro DC (M12) connectors. Plastic SL switches with all other contact configurations and the Quick Disconnect option use 6-pin micro AC (1/2-20 UN2A) dual keyway connectors. See accessories section for available cables.




Operator Type	Contacts	Typical Force/ Torque to Operate	Contact Opening Characteristics <input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed ⊕ Positive Opening Point	Part No.		
				1/2 in. NPT Conduit	Wiring Entry M20 Conduit	Quick Disconnect*
<b>RUBBER ROLLER STYLE (PLASTIC BODY SWITCHES) ⚠ Warning!</b>						
	1 N/C + 1 N/O (Snap Acting)	0.15 Nm		44505-1610	44505-1611	44505-1612
	2 N/C + 1 N/O (BBM)	0.14 Nm		44505-1620	44505-1621	44505-1622
	2 N/C + 1 N/O (MBB)	0.14 Nm		44505-1630	44505-1631	44505-1632
	3 N/C	0.14 Nm		44505-1640	44505-1641	44505-1642

**⚠ Warning!** Actuator adjustment may change through use leading to loss of the safety function.

\*Plastic SL switches with 1 N/C + 1 N/O contacts and the Quick Disconnect option use 4-pin micro DC (M12) connectors. Plastic SL switches with all other contact configurations and the Quick Disconnect option use 6-pin micro AC (M12) dual keyway connectors. See accessories section for available cables.

### Metal Body Switches

Operator Type	Contacts	Typical Force/ Torque to Operate	Contact Opening Characteristics <input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed ⊕ Positive Opening Point	Part No.		
				1/2 in. NPT Conduit	Wiring Entry M20 Conduit	Quick Disconnect**
<b>PLUNGER STYLE (METAL BODY SWITCHES)</b>						
	1 N/C + 1 N/O (Snap Acting)	13 N		44505-2010	44505-2011	44505-2012
	2 N/C + 2 N/O (BBM)	11 N		44505-2020	44505-2021	44505-2022
	3 N/C + 1 N/O (BBM)	11 N		44505-2030	44505-2031	44505-2032
	4 N/C	11 N		44505-2040	44505-2041	44505-2042


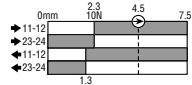
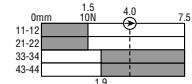
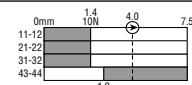
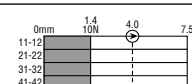

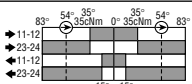
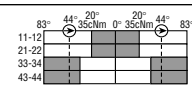
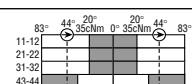
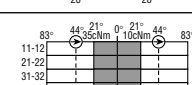

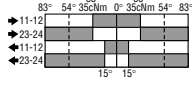
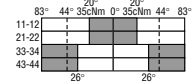
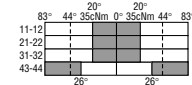
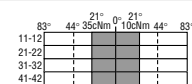
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\*\*Metal SL switches with 1 N/C + 1 N/O contacts and the Quick Disconnect option use 5-pin mini connectors. Metal SL switches with all other contact configurations and the Quick Disconnect option use 12-pin M23 connectors.






## ■ Ordering (continued)

### Metal Body Switches

Operator Type	Contacts	Typical Force/ Torque to Operate	Contact Opening Characteristics □ Open    ■ Closed ⊕ Positive Opening Point	Part No. Wiring Entry		
				1/2 in. NPT Conduit	M20 Conduit	Quick Disconnect**
<b>ROLLER PLUNGER STYLE (METAL BODY SWITCHES)</b>						
	1 N/C + 1 N/O (Snap Acting)	13 N		44505-2110	44505-2111	44505-2112
	2 N/C + 2 N/O (BBM)	11 N		44505-2120	44505-2121	44505-2122
	3 N/C + 1 N/O (BBM)	11 N		44505-2130	44505-2131	44505-2132
	4 N/C	11 N		44505-2140	44505-2141	44505-2142
<b>ROLLER LEVER STYLE (METAL BODY SWITCHES)</b>						
	1 N/C + 1 N/O (Snap Acting)	0.34 Nm		44505-2210	44505-2211	44505-2212
	2 N/C + 2 N/O (BBM)	0.34 Nm		44505-2220	44505-2221	44505-2222
	3 N/C + 1 N/O (BBM)	0.34 Nm		44505-2230	44505-2231	44505-2232
	4 N/C	0.20 Nm		44505-2240	44505-2241	44505-2242
<b>ADJUSTABLE LEVER STYLE (METAL BODY SWITCHES) ⚠ Warning!</b>						
	1 N/C + 1 N/O (Snap Acting)	0.34 Nm		44505-2510	44505-2511	44505-2512
	2 N/C + 2 N/O (BBM)	0.34 Nm		44505-2520	44505-2521	44505-2522
	3 N/C + 1 N/O (BBM)	0.34 Nm		44505-2530	44505-2531	44505-2532
	4 N/C	0.20 Nm		44505-2540	44505-2541	44505-2542

**⚠ Warning!** Actuator adjustment may change through use leading to loss of the safety function.

\*\*Metal SL switches with 1 N/C + 1 N/O contacts and the Quick Disconnect option use 5-pin mini connectors. Metal SL switches with all other contact configurations and the Quick Disconnect option use 12-pin M23 connectors.

Operator Type	Contacts	Typical Force/ Torque to Operate	Contact Opening Characteristics		Part No. Wiring Entry		
			☐ Open ⊕ Positive Opening Point	■ Closed	1/2 in. NPT Conduit	M20 Conduit	Quick Disconnect**
<b>ROD LEVER STYLE (METAL BODY SWITCHES) ⚠ Warning!</b>							
	1 N/C + 1 N/O (Snap Acting)	0.34 Nm	☐	■	44505-2610	44505-2611	44505-2612
	2 N/C + 2 N/O (BBM)	0.34 Nm	☐	■	44505-2620	44505-2621	44505-2622
	3 N/C + 1 N/O (BBM)	0.34 Nm	☐	■	44505-2630	44505-2631	44505-2632
	4 N/C	0.20 Nm	☐	■	44505-2640	44505-264	44505-2642
<b>SPRING ROD STYLE (METAL BODY SWITCHES) ⚠ Warning!</b>							
	1 N/C + 1 N/O (Snap Acting)	0.20 Nm	☐	■	44505-2710	44505-2711	44505-2712
	2 N/C + 2 N/O (BBM)	0.20 Nm	☐	■	44505-2720	44505-2721	44505-2722
	3 N/C + 1 N/O (BBM)	0.20 Nm	☐	■	44505-2730	44505-2731	44505-2732
	4 N/C	0.20 Nm	☐	■	44505-2740	44505-2741	44505-2742
<b>TELESCOPE ARM STYLE (METAL BODY SWITCHES) ⚠ Warning!</b>							
	1 N/C + 1 N/O (Snap Acting)	0.20 Nm	☐	■	44505-2810	44505-2811	44505-2812
	2 N/C + 2 N/O (BBM)	0.20 Nm	☐	■	44505-2820	44505-2821	44505-2822
	3 N/C + 1 N/O (BBM)	0.20 Nm	☐	■	44505-2830	44505-2831	44505-2832
	4 N/C	0.20 Nm	☐	■	44505-2840	44505-2841	44505-2842

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safety interlock switches

**⚠ Warning!** Actuator adjustment may change through use leading to loss of the safety function.

\*\*Metal SL switches with 1 N/C + 1 N/O contacts and the Quick Disconnect option use 5-pin mini connectors. Metal SL switches with all other contact configurations and the Quick Disconnect option use 12-pin M23 connectors.

