



Roller Lever Push



Description

Bulletin 802A IEC limit switches are designed for use in electrical control systems to sense position. These electromechanical switches convert mechanical motion into electrical inputs for logic control.

These switches are available in a wide range of sizes. Type A, B, C, and D housings are constructed of thermoplastic polyester while the type E housing is die-cast aluminum. All of these types will withstand most industrial environments. A gasketed head and snap-on or screw-on cover provide these switches with an IP65 (IEC 529) enclosure rating.

Flexibility is enhanced by a wide selection of operating heads and choice of contact operation. Rotary lever switches are factory set to operate in both clockwise and counterclockwise directions. Adaptors for converting from metric threads to 1/2in-NPT conduit threads are also available.

Specifications

Approvals	UL listed, CSA certified, and CE marked for applicable directives
Environmental	
Temperature—Operating	-30°C to +80°C (-22°F to +176°F)
Storage	-40°C to +80°C (-40°F to +176°F)
Electrical Ratings	
Rated Thermal Current (I_{th})	802A-A: 6A 802A-B, C, D, and E: 10A
Rated Insulation Voltage (U_i)	802A-A Slow make and break: 400V 802A-A Snap Action: 250V 802A-B, C, D, and E: 500V

Contact Ratings—802A-B, C, D, and E

Contact Type	V	NEMA A600 & AC110		NEMA P300 & DC110	
		Make A	Break A	Make A	Break A
Slow Make and Break	24①	60	6	1.1	1.1
	110①	60	6	1.1	1.1
	120	60	6	1.1	1.1
and Snap Action	220①	30	3	0.55	0.55
	240	30	3	0.55	0.55
	480	15	1.5	NA	NA
	500①	14	1.4	NA	NA

Contact Ratings—802A-A

Contact Type	V	NEMA A600 & AC110		NEMA P300 & DC110	
		Make A	Break A	Make A	Break A
Slow Make and Break	24①	60	6	0.4②	0.4②
	110①	60	6	0.4②	0.4②
	120	60	6	0.4②	0.4②
	220①	30	3	NA	NA
	240	30	3	NA	NA
	380①	18	1.8	NA	NA
Snap Action	24①	60	6	0.4②	0.4②
	110①	60	6	0.4②	0.4②
	120	60	6	0.4②	0.4②
	220①	30	3	NA	NA
	240	30	3	NA	NA
	450①	28	2.8	NA	NA


① IEC Electrical Designations

② Not standard NEMA Ratings

Features

- Positive opening action contact operation (most models)
- Choice of snap action or slow make and break contacts
- Wide selection of operating heads, including top push rod, top push roller, roller lever, roller lever push, rod lever and wobble stick
- Meets European standards for dimensions and operating characteristics
- Lower cost
- Compact housing designs
- Metric to U.S. conduit adaptors available

Specifications (continued)

Electrical Ratings (continued)	
Fusing Requirement (BS 88 or equivalent)	802A–A: 10A 802A–B, C, D, and E: 16A
Design Specification/Test Requirements—Electrical	
Dielectric Strength	2500V for 1 minute
Design Specification/Test Requirements—Mechanical	
Degree of Protection to IEC 529	IP65
Mechanical Life (Operations)	802A–A: 3×10^6 802A–B, C, D, and E: 10×10^6
Operation Position—Enclosures Operating Heads Operating Levers	Can be mounted in any position. Can be rotated axially and fastened in any one of 4 positions Interchangeable. Can be rotated and clamped in 7.5° increments through 360°
Contact Operation	802A–A: Slow make and break or snap action 802A–B, C, D, and E: Slow make and break or snap action Positive opening action (most models) 
Snap Action Change-Over Time	approx. 10ms
Snap Action Actuator Minimum Velocity	0.5m/s (1.6ft/s)
Tolerance Switching Pressure/Torque	$\pm 10\%$
Maximum Switching Frequency	6000 ops/hr
Design Specification/Test Requirements—Construction	
Body Material	802A–A, B, C, and D: Thermoplastic—polyamide glass reinforced. (Cover is thermoplastic only.) 802A–E: Die cast aluminum
Contact Material	Silver nickel alloy
Terminal Markings	In accordance with EN50013
Terminals	802A–A: M3 screw with self-lifting pressure plate 802A–B, C, D, and E: M3.5 screw with self-lifting pressure plate; for 2.5mm^2 (#14 AWG) wire or smaller

 Per IEC EN60947–5–1 and the standards of NFC 79110 and VDE 0113.

Applications

- Automated storage and retrieval systems
- Material handling equipment
- Assembly machinery
- Packaging equipment
- Indexing machines

Changing Direction of Operation

All 802A–C and 802A–E rotary lever switches are set so that the switch will operate when the shaft is operated in either the clockwise or the counterclockwise direction. The setting can be changed by the installer so that the switch will operate only when the shaft is operated in the clockwise direction, or only when operated in the counterclockwise direction. Please see the installation instructions, included with each switch, for changing direction of operation.

Installation Recommendations

A limit switch should not be used as a mechanical stop. Application consideration must be given to the maximum listed travel (linear or rotary) capabilities of the switch.

For reliable contact operation, the actuator should be adjusted to provide some overtravel beyond the operating point.

Application Considerations for Positive Opening Action

When applying a switch with the positive opening action feature, the application must move the actuator beyond the operating point to engage the positive opening action mechanism. To ensure positive opening action, the actuator must be adjusted to provide at least the minimum amount of travel to operate this feature, as specified in the Selection Guide.

If welding of contacts is an application consideration, the appropriate short-circuit protective devices must be carefully selected.

If the limit switches are applied in interlocking control circuits for personnel protection, it is recommended that:

1. The limit switch be used with at least one other device that will serve the same protective function; and
2. The control circuit be so arranged that malfunction or improper sequencing of either device will prevent further operation of the controlled equipment. Reference: NEMA Pub No. ICS 2, ICS 2–225.95.

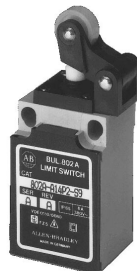
802A Miniature Rectangular • Thermoplastic International Style Position Switches



Top Push Rod



Top Roller Push



Roller Lever Push



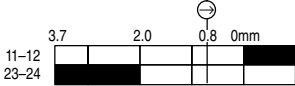

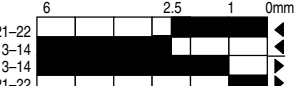


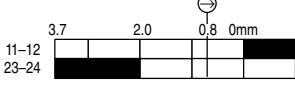

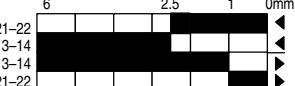


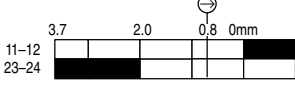


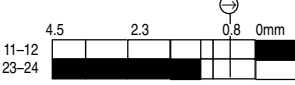

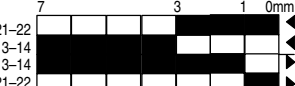


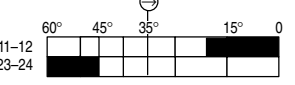

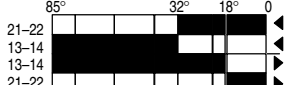





Roller Lever



Wobble Stick

Selection Guide

Operator Type and Direction of Movement	Contact Type	Positive Opening Action	Terminal Configuration	Contact Operating Characteristics □ Open ■ Closed	Force/Torque to Operate	Catalog Number
Top Push Rod 	Slow Break Before Make	Yes			1.913lb 8.5N	802A-A26P2-S9
	Snap Action	No			2.7lb 12N	802A-A26P3-S9
Top Roller Push 	Slow Break Before Make	Yes			1.913lb 8.5N	802A-A27P2-S9
	Snap Action	No			2.7lb 12N	802A-A27P3-S9
Top Roller Push 90° 	Slow Break Before Make	Yes			1.913lb 8.5N	802A-A28P2-S9
Roller Lever Push 	Slow Break Before Make	Yes			1.688lb 7.5N	802A-A14P2-S9
	Snap Action	No			1.913lb 8.5N	802A-A14P3-S9
Roller Lever 	Slow Break Before Make	Yes			0.709lb in 8Ncm	802A-A12P2-S9
	Snap Action	No			0.532lb in 6Ncm	802A-A12P3-S9
Wobble Stick 	Snap Action	No			0.2 to 1.0N measured at middle of plastic tip on wobble stick	802A-A29P3-S9

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3. PG9 Conduit Opening.

802A Small Rectangular • Thermoplastic

International Style Position Switches



Top Push Rod Top Roller Push Roller Lever Push Roller Lever Push (Offset) Roller Lever Push (Unidirectional) Roller Lever

Selection Guide

Operator Type and Direction of Movement	Contact Type	Positive Opening Action	Terminal Configuration	Contact Operating Characteristics □ Open ■ Closed	Force/Torque to Operate	Catalog Number
Top Push Rod 	Slow Break Before Make	Yes			2.7lb 12N	802A-B26P2-S10
	Snap Action	Yes			1.8lb 8N	802A-B26P4-S10
Top Roller Push 	Slow Break Before Make	Yes			2.812lb 12.5N	802A-B27P2-S10
	Snap Action	Yes			1.8lb 8N	802A-B27P4-S10
Roller Lever Push 	Slow Break Before Make	Yes			2.475lb 11N	802A-B14P2-S10
	Snap Action	Yes			1.57lb 7N	802A-B14P4-S10
Roller Lever Push (Offset) 	Slow Break Before Make	Yes			1.913lb 8.5N	802A-B18P2-S10
	Snap Action	Yes			1.35lb 6N	802A-B18P4-S10
Roller Lever Push (Unidirectional) 	Slow Break Before Make	Yes			1.463lb 6.5N	802A-B22P2-S10
	Snap Action	Yes			1.24lb 5.5N	802A-B22P4-S10
Roller Lever 	Slow Break Before Make	Yes			0.887lb in 10Ncm	802A-B12P2-S10
	Snap Action	Yes			0.443lb in 5Ncm	802A-B12P4-S10

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.

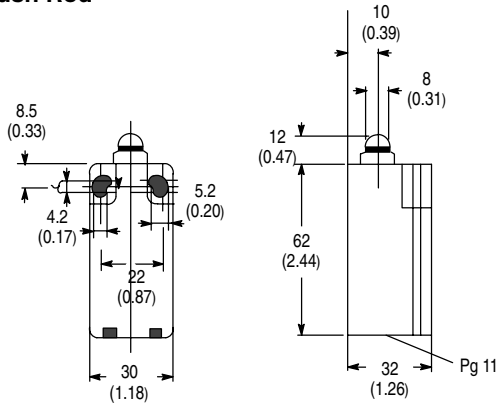
802A-B switches are supplied with a PG11 conduit opening.

The following PG11 to 1/2in-NPT conduit adaptors are available: plastic = 802A-P10, steel = 802A-S10.

802A Small Rectangular • Thermoplastic
International Style Position Switches

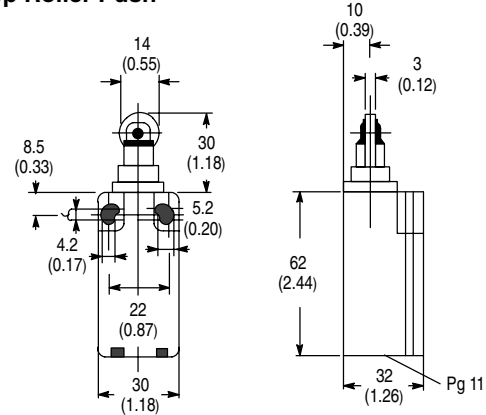
Dimensions—mm (inches) ①

Top Push Rod



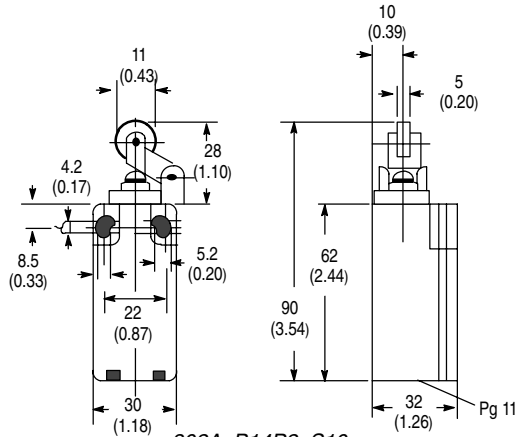
802A-B26P2-S10
802A-B26P4-S10
Shipping Wt. 63g (0.13lb)

Top Roller Push



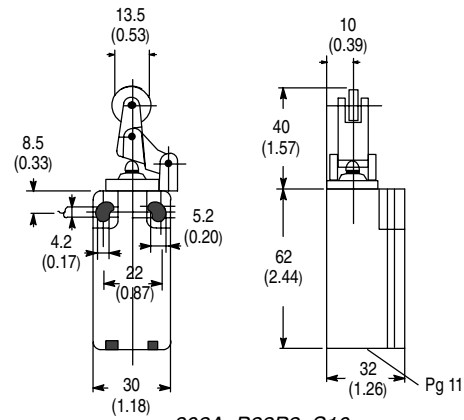
802A-B27P2-S10
802A-B27P4-S10
Shipping Wt. 63g (0.13lb)

Roller Lever Push



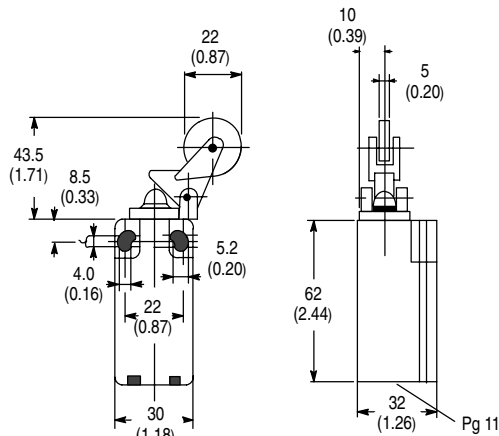
802A-B14P2-S10
802A-B14P4-S10
Shipping Wt. 72g (0.16lb)

Roller Lever Push (Unidirectional)



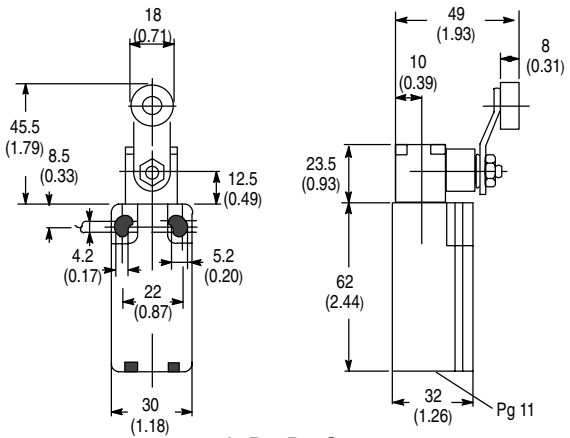
802A-B22P2-S10
802A-B22P4-S10
Shipping Wt. 73g (0.16lb)

Roller Lever Push (Adjustable Offset)



802A-B18P2-S10
802A-B18P4-S10
Shipping Wt. 78g (0.17lb)

Roller Lever



802A-B12P2-S10
802A-B12P4-S10
Shipping Wt. 100g (0.22lb)

① Dimension drawings are ISO projection.

802A Large Rectangular • Thermoplastic

International Style Position Switches



Top Push Rod Top Roller Push Roller Lever Push Roller Lever Adjustable Roller Lever Adjustable Rod Lever Wobble Stick

Selection Guide

Operator Type and Direction of Movement	Contact Type	Positive Opening Action	Terminal Configuration	Contact Operating Characteristics □ Open ■ Closed	Force/Torque to Operate	Conduit Opening ①	Catalog Number
Top Push Rod 	Slow Break Before Make	Yes			3.825lb 17N	PG13.5	802A-C26P2-S7
	Snap Action				2.02lbs 9N	PG13.5	802A-C26P4-S7
Top Roller Push 	Slow Break Before Make				3.825lb 17N	PG13.5	802A-C27P2-S7
	Snap Action				2.02lbs 9N	PG13.5	802A-C27P4-S7
Roller Lever Push 	Snap Action				2.02lbs 9N	PG13.5	802A-C14P4-S7
						20mm	802A-C14P4-S6
Roller Lever 	Slow Break Before Make				1.59lbs in 18Ncm	PG13.5	802A-C12P2-S7
	Snap Action				1.33lbs in 15Ncm	PG13.5	802A-C12P4-S7
Adjustable Roller Lever 	Slow Break Before Make				1.59lbs in 18Ncm	PG13.5	802A-C33P2-S7
	Snap Action				1.33lbs in 15Ncm	PG13.5	802A-C33P4-S7
Adjustable Rod Lever 	Slow Break Before Make	No			N/A	PG13.5	802A-C37P2-S7
	Snap Action				N/A	PG13.5	802A-C37P4-S7
Wobble Stick 	Snap Action				N/A	PG13.5	802A-C29P3-S7
						20mm	802A-C29P3-S6

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.

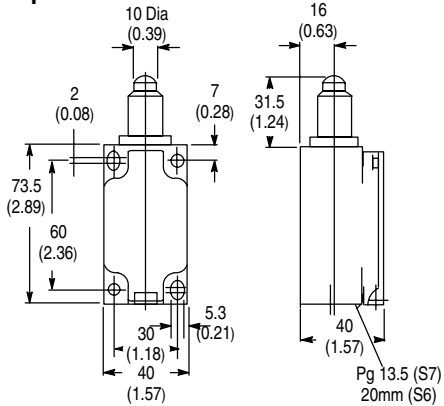
① The following PG13.5 to 1/2in-NPT conduit adaptors are available: plastic = 802A-P7, steel = 802A-S7. 20mm to 1/2in-NPT conduit adaptors are not available.

802A Large Rectangular • Thermoplastic

International Style Position Switches

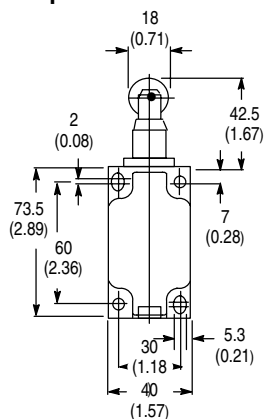
Dimensions—mm (inches) ①

Top Push Rod



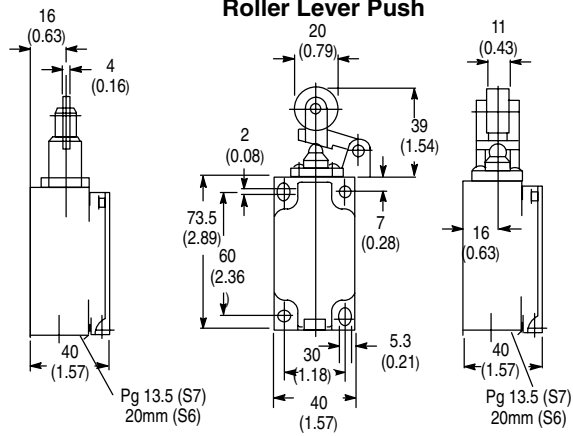
802A-C26P2-S7, 802A-C26P2-S6,
802A-C26P4-S7, 802A-C26P4-S6
Shipping Wt. 148g (0.33lb)

Top Roller Push



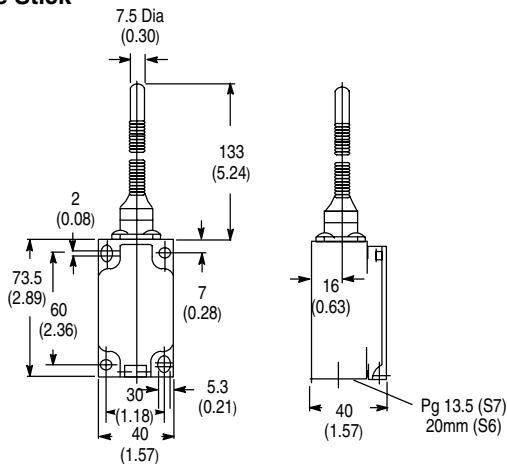
802A-C27P2-S7, 802A-C27P2-S6
802A-C27P4-S7, 802A-C27P4-S6
Shipping Wt. 160g (0.35lb)

Roller Lever Push



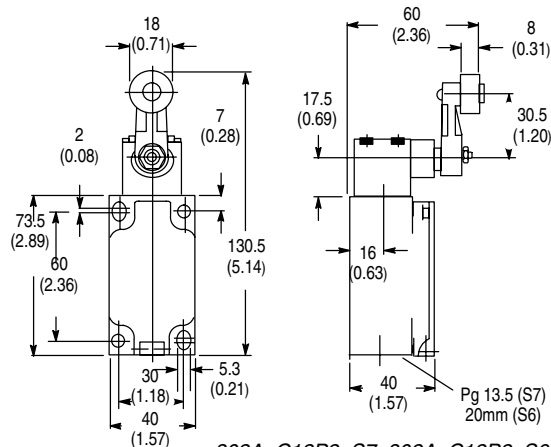
802A-C14P4-S7, 802A-C14P4-S6
Shipping Wt. 165g (0.37lb)

Wobble Stick



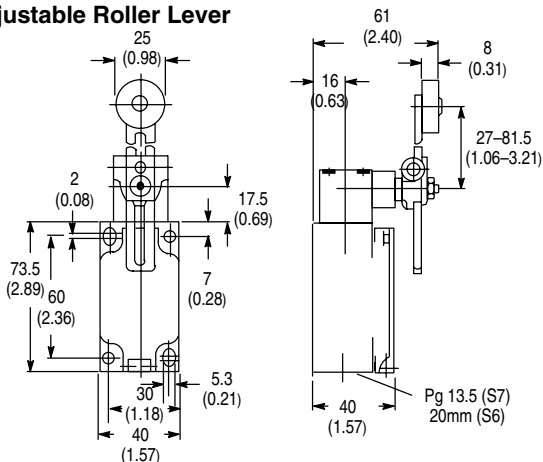
802A-C29P3-S7, 802A-C29P3-S6
Shipping Wt. 153g (0.34lb)

Roller Lever



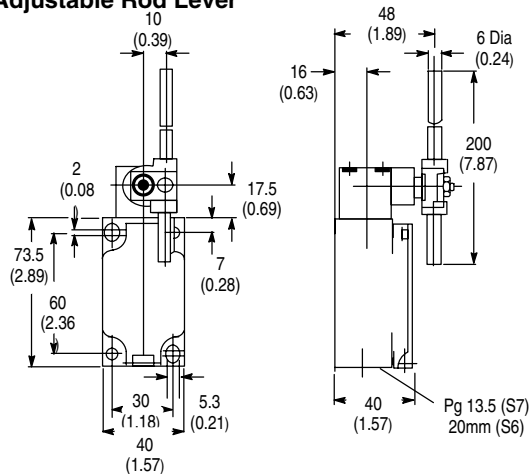
802A-C12P2-S7, 802A-C12P2-S6
802A-C12P4-S7, 802A-C12P4-S6
Shipping Wt. 223g (0.5lb)

Adjustable Roller Lever



802A-C33P2-S7, 802A-C33P2-S6
802A-C33P4-S7, 802A-C33P4-S6
Shipping Wt. 242g (0.53lb)

Adjustable Rod Lever



802A-C37P2-S7, 802A-C37P2-S6
802A-C37P4-S7, 802A-C37P4-S6
Shipping Wt. 235g (0.52lb)

① Dimension drawings are ISO projection.

802A Square • Thermoplastic
International Style Position Switches



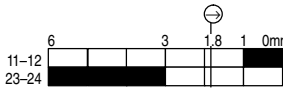

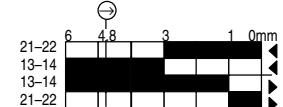


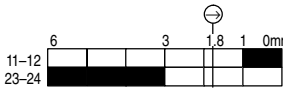

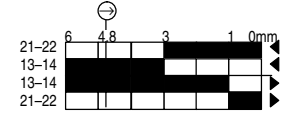


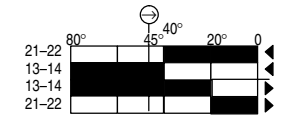


Top Push Rod

Top Roller Push

Roller Lever

Selection Guide

Operator Type and Direction of Movement	Contact Type	Positive Opening Action	Terminal Configuration	Contact Operating Characteristics □ Open ■ Closed	Force/Torque to Operate	Catalog Number
Top Push Rod 	Slow Break Before Make	Yes			2.813lb 12.5N	802A-D26P2-S10
	Snap Action	Yes			1.69lb 7.5N	802A-D26P4-S10
Top Roller Push 	Slow Break Before Make	Yes			2.813lb 12.5N	802A-D27P2-S10
	Snap Action	Yes			1.69lb 7.5N	802A-D27P4-S10
Roller Lever 	Snap Action	Yes			0.575lb in 6.5Ncm	802A-D12P4-S10

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.

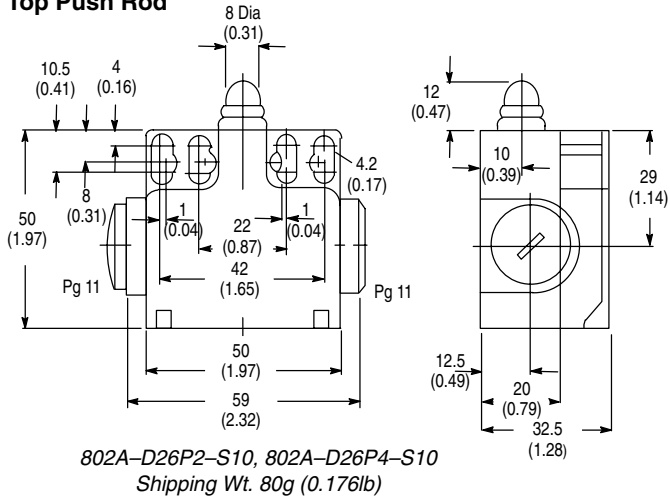
802A-D switches are supplied with a PG11 conduit opening.

The following PG11 to 1/2in-NPT conduit adaptors are available: plastic = 802A-P10, steel = 802A-S10.

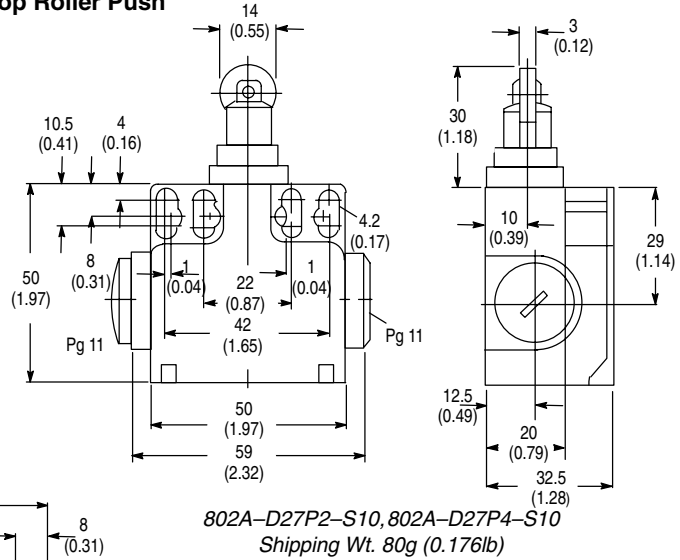
802A Square • Thermoplastic
International Style Position Switches

Dimensions—mm (inches) ①

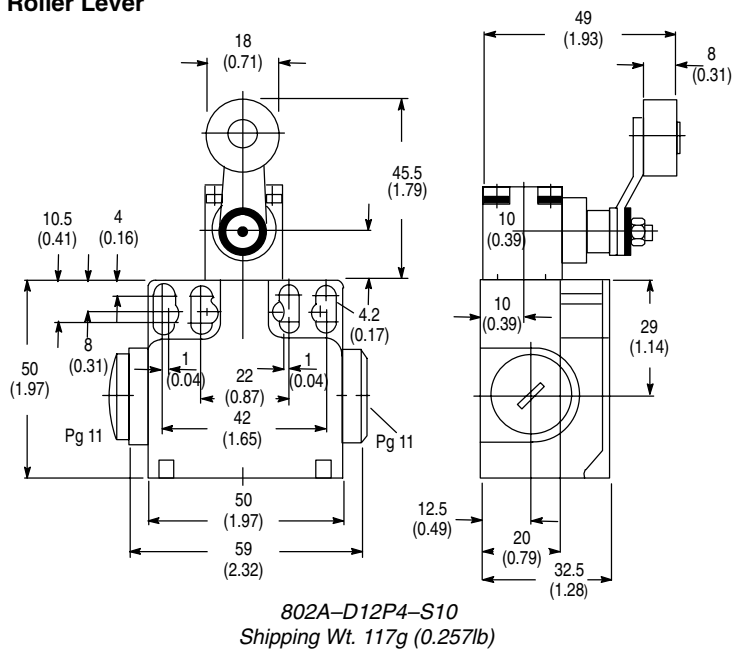
Top Push Rod



Top Roller Push

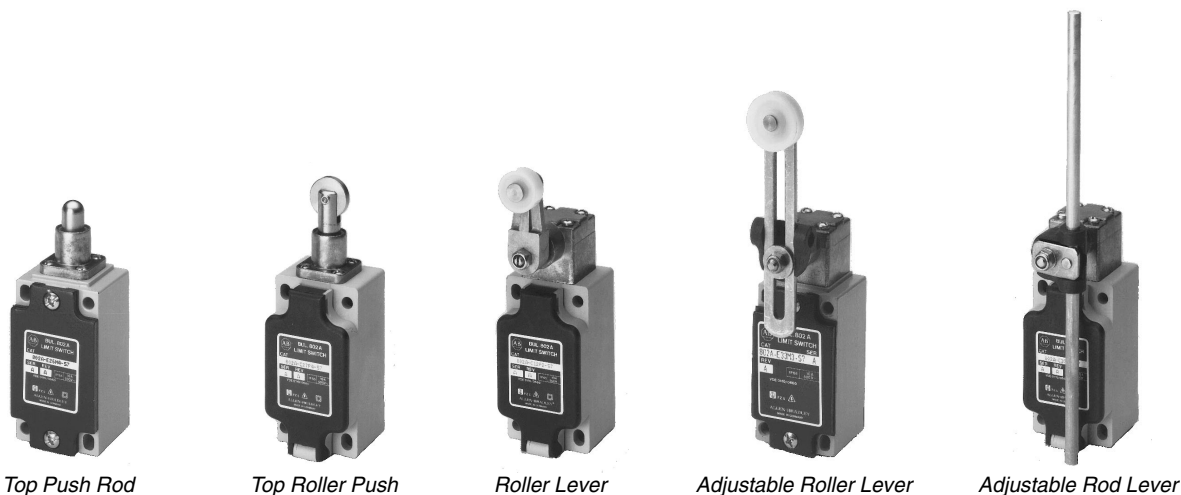


Roller Lever



① Dimension drawings are ISO projection.

Limit Switches
802A Large Rectangular • Metal
International Style Position Switches



Top Push Rod



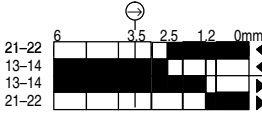


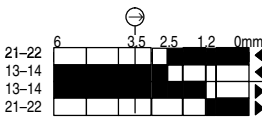


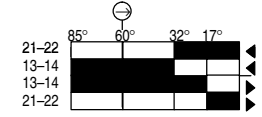


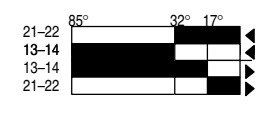


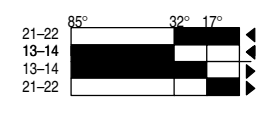
Top Roller Push

Roller Lever

Adjustable Roller Lever

Adjustable Rod Lever

Selection Guide

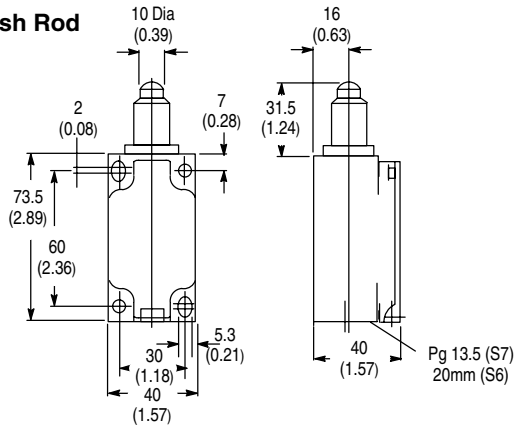
Operator Type and Direction of Movement	Contact Type	Positive Opening Action	Terminal Configuration	Contact Operating Characteristics □ Open ■ Closed	Force/Torque to Operate	Conduit Opening ①	Catalog Number
Top Push Rod 	Snap Action	Yes			2.48lbs 11N	PG13.5	802A-E26M4-S7
						20mm	802A-E26M4-S6
Top Roller Push 	Snap Action	Yes			2.48lbs 11N	PG13.5	802A-E27M4-S7
						20mm	802A-E27M4-S6
Roller Lever 	Snap Action	Yes			1.50lb in 17Ncm	PG13.5	802A-E12M4-S7
						20mm	802A-E12M4-S6
Adjustable Roller Lever 	Snap Action	No			1.50lb in 17Ncm	PG13.5	802A-E33M3-S7
						20mm	802A-E33M3-S6
Adjustable Rod Lever 	Snap Action	No			1.50lb in 17Ncm	PG13.5	802A-E37M3-S7
						20mm	802A-E37M3-S6

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.
 ① The following PG13.5 to 1/2in-NPT conduit adaptors are available: plastic = 802A-P7, steel = 802A-S7. 20mm to 1/2in-NPT conduit adaptors are not available.

802A Large Rectangular • Metal
International Style Position Switches

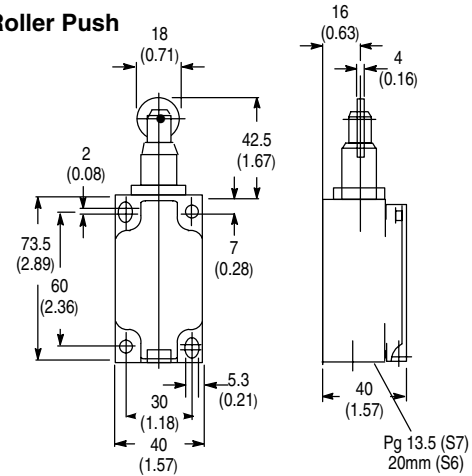
Dimensions—mm (inches) ①

Top Push Rod



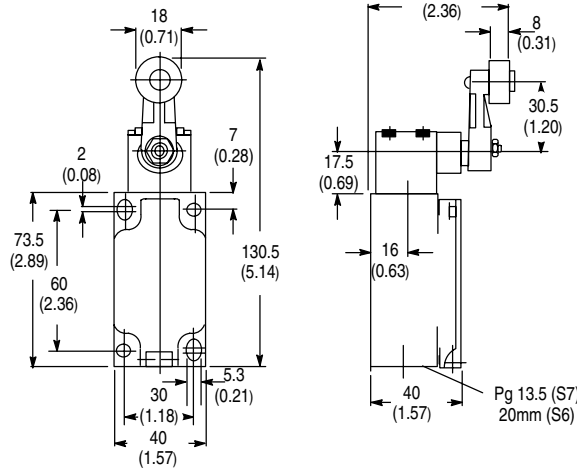
802A-E26M4-S7, 802A-E26M4-S6
Shipping Wt. 227g (0.49lb)

Top Roller Push



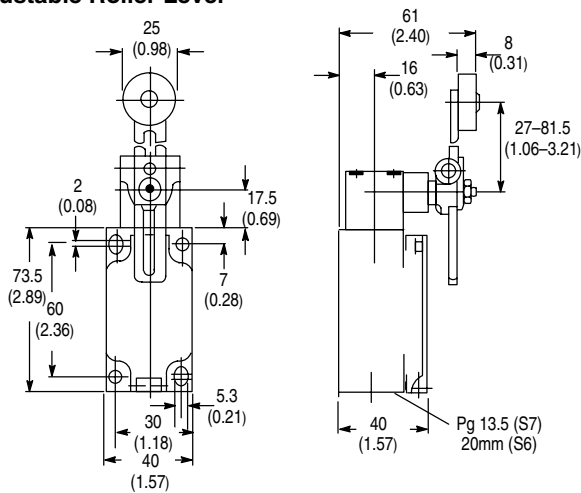
802A-E27M4-S7, 802A-E27M4-S6
Shipping Wt. 247g (0.54lb)

Roller Lever



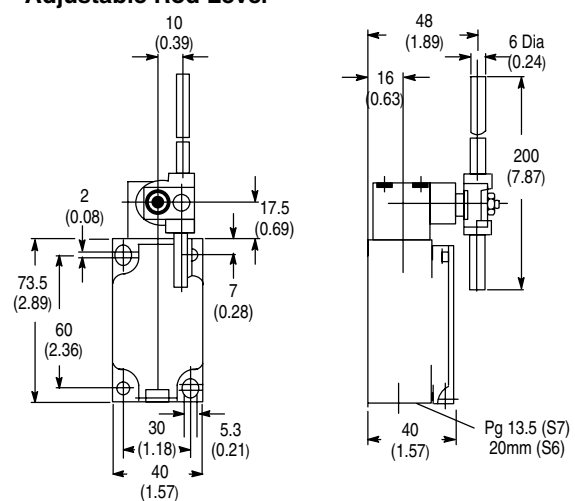
802A-E12M4-S7, 802A-E12M4-S6
Shipping Wt. 223g (0.5lb)

Adjustable Roller Lever



802A-E33M3-S7, 802A-E33M3-S6
Shipping Wt. 317.8g (0.70lb)

Adjustable Rod Lever



802A-E37M3-S7, 802A-E37M3-S6
Shipping Wt. 331.5g (0.73lb)

① Dimension drawings are ISO projection.