

# 440P—22 Mm Plastic

## Description

These 22 mm plastic-body safety limit switches conform to EN 50047 standards and are available with snap-acting or slow-break/make 2- or 3-contact configurations as well as a variety of actuator heads.

These switches also feature an optional rotating head that can be adjusted in 90° increments before installation to allow for ease of mounting.

Allen-Bradley Guardmaster limit switches can be used in guard door applications as well as on moving machine beds, crane arms, lifts, elevators, etc.

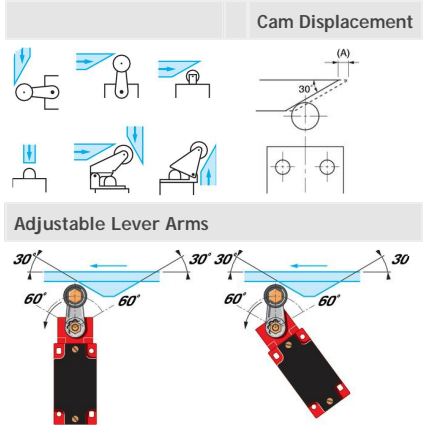


Operation of these limit switches is achieved by the sliding action of a guard, or other moving object, deflecting the plunger or lever. For safety applications, it is important that upon actuation, the guard or moving object should not pass completely beyond the switch to allow the plunger or lever to return to its original position—the plunger or lever must remain engaged by the guard or object.

## Features

- Large selection of actuator heads
- Positive operation, forced disconnection of contacts
- Snap-acting, slow make before break or slow break before make contact blocks
- Contacts 1 N.C. + 1 N.O., 2 N.C. + 1 N.O. 3 N.C.
- Conforms to EN 50047, EN 1088, EN 60947-5-1, EN 292 and EN 60204-1

## Operating Examples



The actuating cam should be profiled at 30° for optimum operation.

**Note:** Plunger-type switches operate from a flat profile.

## Specifications

Safety Ratings						
Standards		EN 954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN 1088, ISO 14119, IEC/ EN 60947-5-1, ANSI B11.19, AS 4024.1				
Safety Classification		Cat. 1 Device per EN 954-1 Dual channel limit switch suitable for Cat. 3 or 4 systems and used with a safety monitoring device				
Functional Safety Data * Note: For up-to-date information, visit <a href="http://www.ab.com/Safety/">http://www.ab.com/Safety/</a>		B10d: > 2 x 10 <sup>7</sup> operations at min. load PFH <sub>D</sub> : > 3 x10 <sup>-7</sup> MTTFd: > 385 years Dual channel limit switch may be suitable for performance levels Plc or Pld (according to ISO 13849-1:2006) and for use in SIL2 or SIL3 systems (according to IEC 62061) depending on application characteristics				
Certifications		cULus Listed, TÜV, CCC, and CE Marked for all applicable directives				
Outputs						
Safety Contacts ‡		1 N.C. snap acting, 2 N.C. or 3 N.C. slow acting				
Auxiliary Contacts		1 N.O. (except 3 N.C. versions)				
Thermal Current I <sub>ItH</sub>		10 A				
Rated Insulation Voltage		600V AC				
Switching Current @ Voltage, Min.		25 mA @ 5V DC				
Utilization Category		Contact Specification ♣				
A600/AC-15	(Ue)	600V	500V	240V	120V	
	(Ie)	1.2 A	1.4 A	3.0 A	6.0 A	
N600/DC-13	(Ue)	600V	500V	250V	125V	
	(Ie)	0.4 A	0.55 A	1.1 A	2.2 A	
Operating Characteristics						
Actuation Speed, Max.		250 mm/s				
Actuation Speed, Min.		100 mm/min				
Actuation Frequency, Max.		6000 operation per hour				
Mechanical Life		1 x 10 <sup>7</sup> operations with no electrical load				
Environmental						
Enclosure Type Rating		IP66				
Operating Temperature [C (F)]		-25...+65 ° (-13...+149 °)				
Pollution Degree		3				
Physical Characteristics						
Housing Material		UL Approved glass-filled polybutylene terephthalate				
Actuator Material		Various polymers and metals				
Mounting		2 x M4, Any position				
Vibration		IEC 68-2-6 (10...55 Hz, 0.35 mm amplitude)				
Shock		IEC 68-2-7 (30 Gn 3 pulses per axis)				
Conduit Entry		M20 or 1/2 inch NPT				
Color		Red				


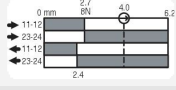
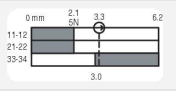
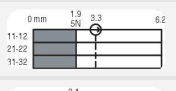
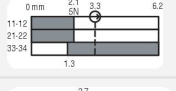

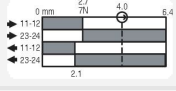

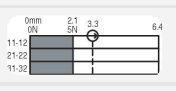
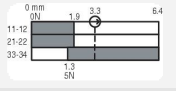

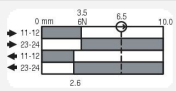
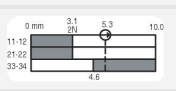
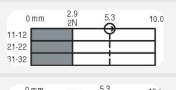
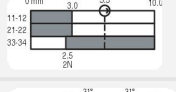

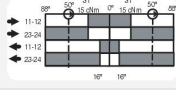
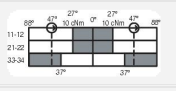
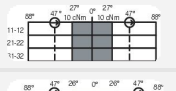
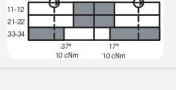
\* Usable for ISO 13849-1:2006 and IEC 62061. Data other than B10d is based on:  
- Usage rate of 1op/10 mins., 24 hrs/day, 360 days/year, representing 51840 operations per year  
- Mission time/Proof test interval of 38 years

‡ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.



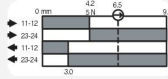
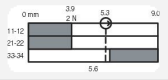
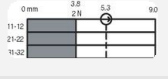
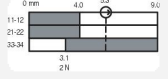
♣ Maximum for:

Two-Circuit D4 4-Pin Micro Connector	
AC	DC
250V, 2.5 A	250V, 2.5 A
Three-Circuit R6 6-Pin Micro Connector	
AC	DC
30V, 2 A	30V, 2 A

## Product Selection

Description	Safety Contacts	Auxiliary Contacts	Contact Type	Typical Force/Torque to Operate	Contact Opening Characteristics	Cat. No.		
					<input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed <input checked="" type="checkbox"/> Positive Opening Point	1/2 inch NPT Conduit	M20 Conduit	Connector Style*
	1 N.C.	1 N.O.	Snap acting	5 N		440P-CRPS11E	440P-CRPS11B	440P-CRPS11D4
	2 N.C.	1 N.O.	BBM	6 N		440P-CRPB12E	440P-CRPB12B	440P-CRPB12R6
	3 N.C.	—	—	5 N		440P-CRPB03E	440P-CRPB03B	440P-CRPB03R6
Roller Plunger	2 N.C.	1 N.O.	MBB	6 N		440P-CRPM12E	440P-CRPM12B	440P-CRPM12R6
	1 N.C.	1 N.O.	Snap acting	5 N		440P-CDPS11E	440P-CDPS11B	440P-CDPS11D4
	2 N.C.	1 N.O.	BBM	6 N		440P-CDPB12E	440P-CDPB12B	440P-CDPB12R6
	3 N.C.	—	—	5 N		440P-CDPB03E	440P-CDPB03B	440P-CDPB03R6
Dome Plunger	2 N.C.	1 N.O.	MBB	6 N		440P-CDPM12E	440P-CDPM12B	440P-CDPM12R6
	1 N.C.	1 N.O.	Snap Acting	5 N		440P-CHLS11E	440P-CHLS11B	440P-CHLS11D4
	2 N.C.	1 N.O.	BBM	6 N		440P-CHLB12E	440P-CHLB12B	440P-CHLB12R6
	3 N.C.	—	—	5 N		440P-CHLB03E	440P-CHLB03B	440P-CHLB03R6
Hinge Lever	2 N.C.	1 N.O.	MBB	6 N		440P-CHLM12E	440P-CHLM12B	440P-CHLM12R6
	1 N.C.	1 N.O.	Snap acting	0.15 N•m		440P-CSLS11E	440P-CSLS11B	440P-CSLS11D4
	2 N.C.	1 N.O.	BBM	0.14 N•m		440P-CSLB12E	440P-CSLB12B	440P-CSLB12R6
	3 N.C.	—	—	0.14 N•m		440P-CSLB03E	440P-CSLB03B	440P-CSLB03R6
Short Lever	2 N.C.	1 N.O.	MBB	0.14 N•m		440P-CSLM12E	440P-CSLM12B	440P-CSLM12R6
Recommended standard cordset, 2 m, 4-pin, DC Micro (M12) connector.								889D-F4AC-2
Recommended standard cordset, 2 m, 6-pin, AC Micro (M12) connector.								889R-F6ACA-2

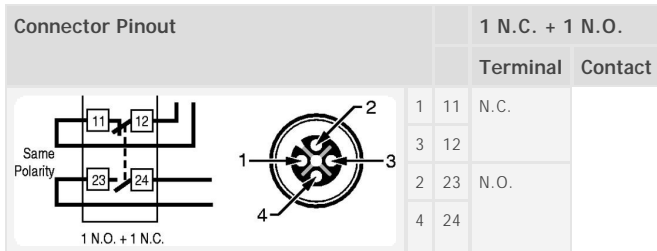
\* D4 suffix uses a 4-pin DC Micro (M12) connector and R6 suffix uses a 6-pin AC Micro (dual keyway) consumer.

Description	Safety Contacts	Auxiliary Contacts	Contact Type	Typical Force/Torque to Operate	Contact Opening Characteristics	Cat. No.			
					<input type="checkbox"/> Open <input type="checkbox"/> Closed <input checked="" type="checkbox"/> Positive Opening Point	1/2 inch NPT Conduit	M20 Conduit	Connector Style*	
	1 N.C.	1 N.O.	Snap acting	0.15 N•m		440P-CMHS11E	440P-CMHS11B	440P-CMHS11D4	
	2 N.C.	1 N.O.	BBM	0.14 N•m		440P-CMHB12E	440P-CMHB12B	440P-CMHB12R6	
	3 N.C.	—	—	0.14 N•m		440P-CMHB03E	440P-CMHB03B	440P-CMHB03R6	
Short Lever Metal Roller	2 N.C.	1 N.O.	MBB	0.14 N•m		440P-CMHM12E	440P-CMHM12B	440P-CMHM12R6	
	1 N.C.	1 N.O.	Snap acting	5 N		440P-COHS11E	440P-COHS11B	440P-COHS11D4	
	2 N.C.	1 N.O.	BBM	6 N		440P-COHB12E	440P-COHB12B	440P-COHB12R6	
	3 N.C.	—	—	5 N		440P-COHB03E	440P-COHB03B	440P-COHB03R6	
Offset Hinge	2 N.C.	1 N.O.	MBB	6 N		440P-COHM12E	440P-COHM12B	440P-COHM12R6	
Recommended standard cordset, 2 m, 4-pin, DC Micro (M12) connector.								889D-F4AC-2	
Recommended standard cordset, 2 m, 6-pin, AC Micro (M12) connector.								889R-F6ACA-2	

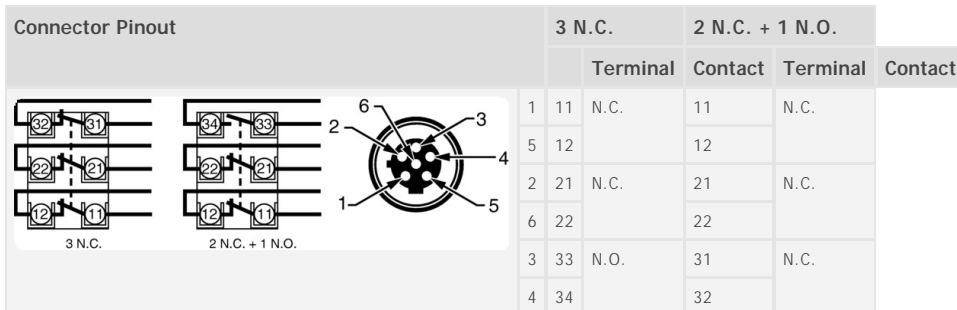
\* D4 suffix uses a 4-pin DC Micro (M12) connector and R6 suffix uses a 6-pin AC Micro (dual keyway) consumer.  
 ‡ Not positive opening

## Typical Wiring Diagrams ★

### Two-Circuit Type D4 4-Pin Micro Connector



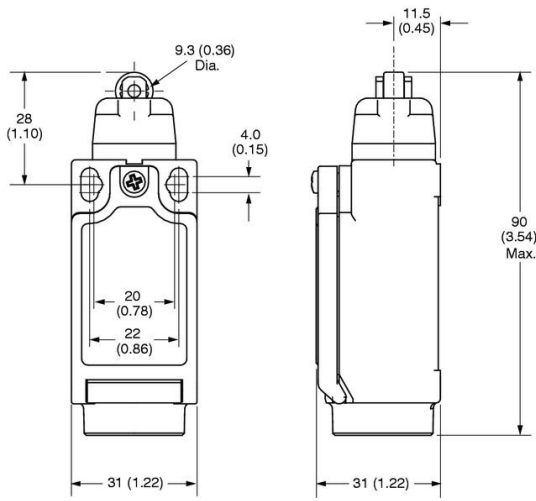
### Three-Circuit Type R6 6-Pin Micro Connector



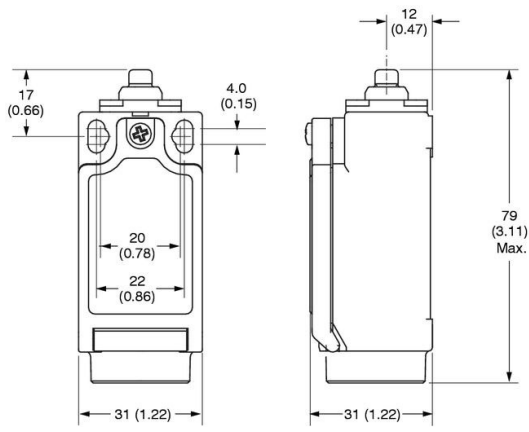
\* See Product Selection Table for positive opening circuits.

## Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



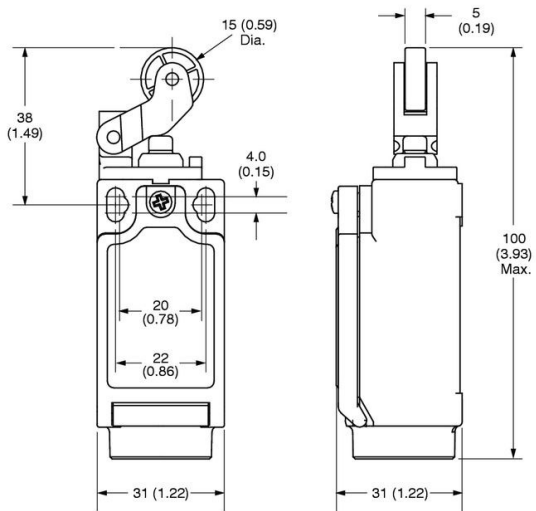
Roller Plunger



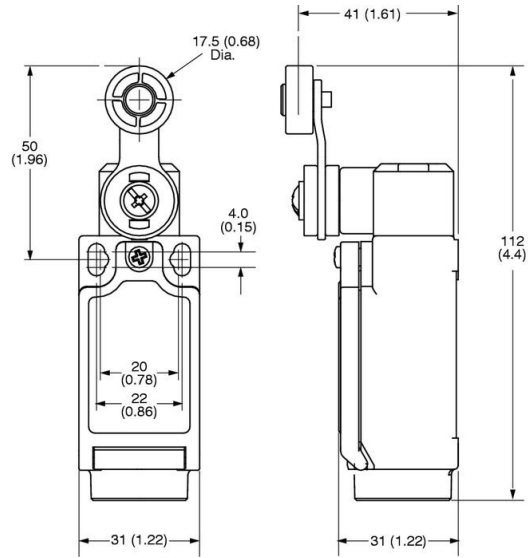
Dome Plunger

**Approximate Dimensions [mm (in.)] (continued)**

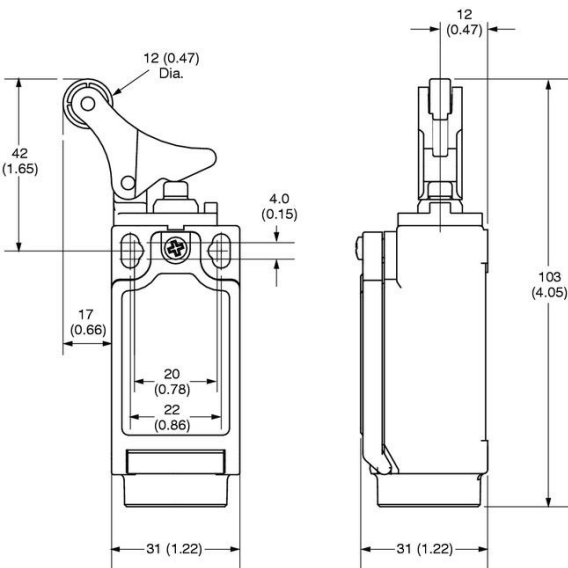
Dimensions are not intended to be used for installation purposes.



Hinge Lever



Short Lever,  
Metal and Plastic Roller



Offset Hinge

