

Special Purpose Limit Switches**Contents**

Overview	1
Push Roller	2
Roller Lever	2
Rotating Shaft	3
Pneumatic Time Delay	3
Precision	4

Cutler-Hammer® Special Purpose (Type D, F), Rotating Shaft (Type J), Pneumatic Time Delay (Type LP) and Precision and Cabinet Door Interlock (Type PS) Limit Switches from Eaton's electrical business serve a variety of special purpose industrial applications for MRO and User Replacement requirements.

Approvals

- UL Listed
- CSA Certified
(Type J and PS only)



Unless otherwise noted, the products contained in this document are not designed or intended for use in human safety applications.

A Variety of Unique Limit Switches for MRO and User Replacement

Push Roller
Type D



Roller Lever
Type F



Rotating Shaft
Type J



Pneumatic Time Delay
Type F



Precision Switches
Type PS

For Customer Service in the U.S. call **1-800-356-1243**,
in Canada call **1-800-268-3578**.
For Application Assistance in the U.S. and Canada
call **1-800-426-9184**.

Push Roller Switches — Type D

Model Selection

	Operator	Circuit	Operating Force	Catalog Number
	Push Roller (Roller can be rotated 90°)	1N.O.-1N.C. SPDT	3.5 pounds	10316H10

 Fast turn product with typical one day lead-time to shipment.

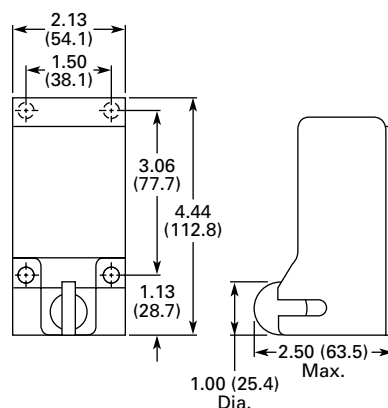
Specifications

Enclosure Rating	NEMA 1
Shipping Weight	1.5 pounds
Approvals	UL Listed

Maximum Ampere Rating

State	AC Volts				DC Volts		
	120	240	480	600	120	240	600
Make	20	8	4	4	—	—	—
Break	5	2	1	1	0.6	0.3	—

Approximate Dimensions in Inches (mm)



Roller Lever Switches — Type F

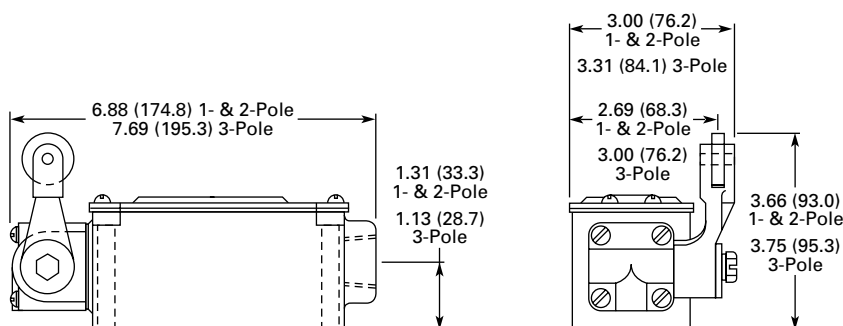
Model Selection ^①

	Operator	Circuit	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Overtravel	Catalog Number
	Roller Lever (CW and CCW operation, spring return)	1N.O.-1N.C.	40°	35°	65°	25°	10316H18
		2N.O.-2N.C.	17°	6°	60°	43°	10316H320

^① Replacement operator head is available with part number 86-862-22. Replacement roller lever is available with part number 24-1712. Replacement key pin and washer for roller is available with part number 16-906.

 Fast turn product with typical one day lead-time to shipment.

Approximate Dimensions in Inches (mm)



Specifications

Enclosure Rating	NEMA 4
Operating Temperature	0° to 180°F (-18° to 82°C)
Conduit Entrance	0.5 inch NPT
Shipping Weight	4.0 pounds
Approvals	UL Listed

Maximum Ampere Rating

Circuit	State	AC Volts				DC Volts		
		120	240	480	600	120	240	600
1N.O.-1N.C.	Make Break	60	30	20	15	—	—	—
		6	3	1.5	1.2	2.2	1.1	0.40
2N.O.-2N.C.	Make Break	40	20	10	8	—	—	—
		15	10	6	5	0.5	0.2	0.02

July 2005

Rotating Shaft Switches — Type J

Rotating Shaft Limit Switches allow the shaft to be rotated a preset number of revolutions (adjustable from 1/2 to 100 with an accuracy of 1/20 of a turn) before the contacts will switch. A second set of contacts will trip when reaching a preset limit in the opposite direction. These switches are typically used in crane and hoist applications to provide end of travel stops for the hook assembly.

Model Selection

	Shaft to Cam Ratio	Max. Turns to Trip Contacts	Min. Turns to Trip Contacts	Over-travel Before Resetting Contacts	Reversal After Tripping to Reset Contacts	Circuit ^①	Enclosure Rating	Catalog Number
	103:1	100 input shaft turns	1/2 input shaft turns	103 input shaft turns max.	1/8 input shaft turns min.	2N.C.	NEMA 1	10316H50
						2N.O.-2N.C. ^②	NEMA 4	10316H54 ^②

^① For replacement N.O. contacts, order 17-1403; N.C. contacts, order 17-702.

^② 10316H54 has factory set circuits, but is easily convertible to any of three circuits (2N.O.-2N.C., 4N.O. or 4N.C.). Full instructions enclosed with every switch.

☐ Fast turn product with typical one day lead-time to shipment.

Specifications

Shipping Weight	5.5 pounds
NEMA 1 Models	13 pounds
NEMA 4 Models	
Approvals	UL Listed, CSA Certified

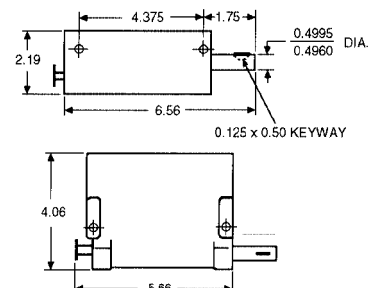
Maximum Ampere Rating

State	AC Volts				DC Volts	
	120	240	480	600	120	240
Make	60	30	15	12	2.2	1.1
Break	6	3	1.5	1.2	2.2	1.1
Continuous ^③	10	10	10	10	10	10

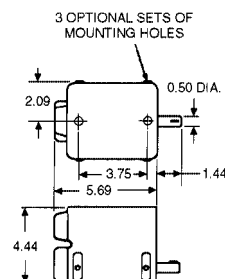
^③ Thermal rating. Valid only if switch does not have to make or break.

Approximate Dimensions in Inches

NEMA 1 Models



NEMA 4 Model



Pneumatic Time Delay Switches — Type LP

Model Selection

	Operator	Total Travel	Pre-travel	Circuit	Timed Contacts	Direction of Rotation ^④	Catalog Number
 Requires an operating lever, see PG.05C.04.T.E	Side Rotary (Spring return to center)	50°	10°	1N.O.-1N.C.	ON Delay	CW	10316H1580
						CW & CCW	10316H1600
					OFF Delay	CW	10316H1610
						CW & CCW	10316H1630

^④ Field convertible

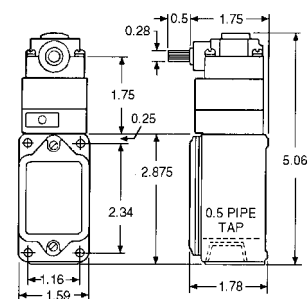
☐ Fast turn product with typical one day lead-time to shipment.

Specifications

Timing Range	0.05 to 60 seconds
ON Delay Function	Timing begins when lever is actuated and held
OFF Delay Function	Timing begins when lever is released
Repeat Accuracy ^⑤	With 15 second or higher interval between timing periods: $\pm 10\%$ of setting maximum With less than 15 second interval between timing periods: $\pm 25\%$ of setting maximum
Operating Frequency	250 operations per minute maximum
Enclosure Rating	NEMA 4, 13
Operating Temperature	32° to 150°F (0° to 65°C)
Conduit Entrance	0.5 inch NPT
Shipping Weight	2 pounds
Approvals	UL Listed

^⑤ To maintain operating accuracy during the timing cycle, the switch lever must be faster than the timed setting.

Approximate Dimensions in Inches



Type LP
Pneumatic Time Delay
Ship. Wt. Approx. 2 lbs.

Electrical Data — Max. Contact Ratings/Pole

AC Volts	Current, Amperes		Volt Amperes	DC Volts	DC Cur., Amp
	Make	Break	Make		
		Cont. ^⑥	Break		

All Switches 1N.O.-1N.C.

NEMA A600, R300 Rating						DC Cur., Amp
120	240	480	600	7200	720	
60	30	15	12			0.2
						0.1

^⑥ Thermal rating. Valid only if switch does not have to make or break.

Precision Switches — Type PS

Model Selection

	Operator	Catalog Number		
		Circuits — SPDT 1N.O.-1N.C.	Circuits — DPDT 2N.O.-2N.C.	Operator Only
Precision Switch Devices  Single-Pole  Roller Lever Type	Precision switch only	10316H89	10316H2000	—
	Pushbutton with oiltight plunger	—	10316H2006	—
	Roller with oiltight plunger perpendicular to mounting holes	—	10316H2012	—
	Roller with oiltight plunger in line with mounting holes	10316H110	—	—
	6" lever with top and right-hand mounting bracket	10316H113	—	10316H143
	6" lever with top and left-hand mounting bracket	—	—	10316H144
	Roller lever with top and right-hand mounting bracket	10316H119	—	10316H145
	Roller lever with top and left-hand mounting bracket	10316H122	—	10316H146
	One way roller lever with top and right-hand mounting bracket	—	—	10316H147
	One way roller lever with top and left-hand mounting bracket	—	—	10316H148
Cabinet Door Interlocks	Precision switch only	10316H828	—	—
	Cabinet door interlock operator with one precision switch and with red (defeated ①) indicator	10316H1028	10316H2042	10316H150
	Cabinet door interlock operator with two each of listed precision switches and with red (defeated ①) indicator	10316H1029	—	—

① The plunger when pulled out exposes a red band to indicate that interlock is defeated.

 Fast turn product with typical one day lead-time to shipment.

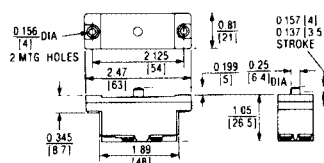
Maximum Ampere Rating — Heavy-Duty 1/2 hp, 250V AC Maximum

		AC Volts				DC Volts		
						Double Throw		
Type	State	120	240	480	600	120	240	600
Single-Pole	Make Break	40 15	20 10	10 6	8 5	2.0 0.5	0.5 0.2	0.1 0.02
Double-Pole	Make Break	30 3	15 1.5	8 1	6 0.8	0.5 0.2	0.2 0.1	0.2 —

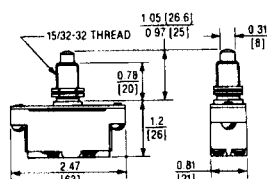
Specifications

Approvals	UL Recognized, CSA Certified
-----------	------------------------------

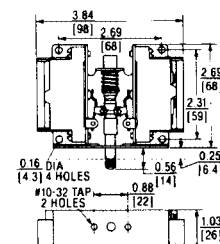
Approximate Dimensions in Inches (mm)



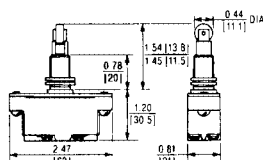
Contact Block Mechanism



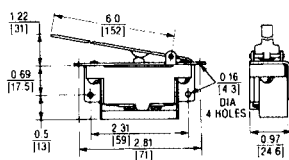
Pushbutton Type



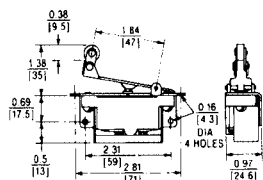
Cabinet Door Type
Two Contact Blocks



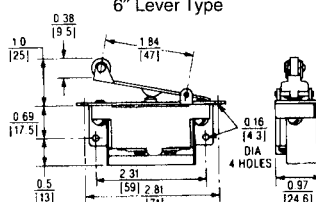
Push Roller Type



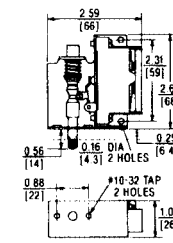
6" Lever Type



One Way Roller Type



Roller Lever Type



Cabinet Door Type
One Contact Block