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Sensing and Control
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Sensing and Control

Honeywell Inc.

11 West Spring Street

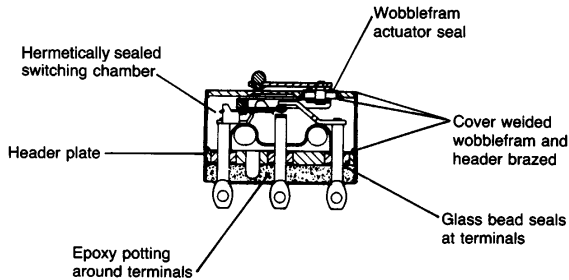
Freeport, IL 61032

Position Sensors

Miniature Hermetically Sealed Switches



GENERAL INFORMATION
 HM switches are not generally recommended for 115 VAC, 60 Hz. If you have a 60 Hz application in the milliamp range, contact our 800 number for special design variations that are available.



- FEATURES**
- Hermetically sealed per enclosure design symbol 5, MIL-S-8805
 - Power load switching capability up to 4 amperes, 28 VDC and 2 Amps 115 VAC, 400 Hz
 - Temperature tolerance from -85°F to +250°F (-65°C to +121°C)
 - High temperature construction for use from -85°F to +500°F (-65°C to +260°C)
 - Variety of auxiliary actuators
 - Choice of terminal styles
 - Gold contacts for special applications
 - Military standard construction with listings on the MIL-S-8805 qualified products list.

ELECTRICAL RATINGS

Circuitry	Electrical Rating Code
Single-Pole Double-Throw	H 1 amp res., 0.25 amp ind., 28 VDC.
Single-Pole Double-Throw	I 2 amps res., 2 amps ind., 0.5 amps lamp load, 115 VAC, 400 Hz. 4 amps res., 2 amps ind., 1 amp lamp load, 28 VDC
Single-Pole Double-Throw	J 1/2 amp res., 1/4 amp ind. (sea level or 70,000 ft.), 28 VDC
Single-Pole Double-Throw	K 3 amps res., 1 amp ind. (sea level or 70,000 ft.), 28 VDC 1 amp res. or ind. (sea level), 115 VAC., 400 Hz.
Single-Pole Double-Throw	L 3 amp res., 1 amp ind., 28 VDC 1 amp res., 1 amp ind., 115 VAC, 400 Hz.

APPLICATION NOTES

1. Honeywell does *not* recommend the use of silver cadmium oxide switch contacts in non-arcing loads. Non-arcing loads are generally loads less than 12 volts and/or 0.5 amp. Catalog listings in the 5, 6, 15, and 16HM Series use silver cadmium oxide contacts. If you have specific questions, contact the MICRO SWITCH Application Center at 1-800-537-6945.
2. For applications involving non-arcing loads, catalog listings in the 9, 10, 19 and 20HM Series are recommended.
3. The 1, 2, 5, and 6HM Series are recommended for use only in 3 to 4 amp range applications.





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HM Series

Characteristics: O.F. — Operating Force; R.F. — Release Force;
 P.T. — Pretravel; O.T. — Overtravel; D.T. — Differential Travel;
 O.P. — Operating Position.

HM ORDER GUIDE

	Catalog Listing	Recommended For	Electrical Rating Code	Operating Characteristics					
				O.F. max. Newtons ounces	R.F. min. Newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. max. mm inches	O.P. mm inches ±.015 (0,38 mm)
 Fig. 1	11HM1 (MS27216-5)	Most applications. Exceeds MIL-S-8805 requirements for shock and vibration.	K	1,95 7	0,28 1	0,76 .030	0,08 .003	0,15 .006	8,38 .330
	13HM1	Applications requiring gold contacts	H	1,95 7	0,28 1	0,76 .030	0,08 .003	0,15 .006	8,38 .330
	9HM1 (MS27216-6)	Bifurcated gold contacts	J	1,95 7	0,28 1	0,76 .030	0,08 .003	0,15 .006	8,38 .330
 Fig. 2	2HM19-1 (MS27216-2)	MIL-S-8805 application requirements 1 ft. (305mm) leads	I	1,95 7	0,28 1	0,76 .030	0,08 .003	0,15 .006	8,38 .330
	2HM19-5 (MS27216-4)	5 foot (1524mm) long leads	I	1,95 7	0,28 1	0,76 .030	0,08 .003	0,15 .006	8,38 .330
 Fig. 3	16HM1-1	High temperature to 500°F (260°C) flat spring	L	1,95 7	0,28 1	0,76 .030	0,08 .003	0,15 .006	8,38 .330
 Fig. 4	15HM2	Operating in temperatures to +500°F (260°C) with weld tab termination.	L	1,95 7	0,28 1	0,76 .030	0,08 .003	0,15 .006	8,38 .330

Position Sensors

HM MOUNTING

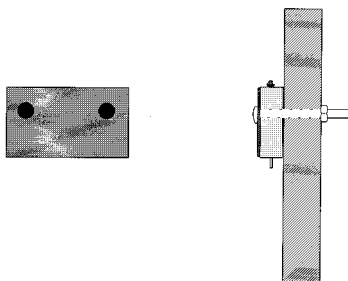
A force spreading plate is recommended to reduce the chance of product damage due to excessive mounting force.

MOUNTING PLATE

19PA137-HM

NOTICE




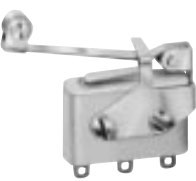
Torque on #2 mounting screws must be restricted to 1.5 inch pounds max. to prevent switch damage. The force spreading mounting plate used as shown will allow up to 2.5 inch pounds of mounting torque.



Position Sensors
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AUXILIARY ACTUATORS FOR HM SWITCHES ORDER GUIDE
 (Switches are not included)

Characteristics: O.F. — Operating Force; R.F. — Release Force;
 P.T. — Pretravel; O.T. — Overtravel; D.T. — Differential Travel;
 O.P. — Operating Position; F.P. — Free Position.

	Catalog Listing	Description	Temp. (Max.)	Operating Characteristics with Actuator Mounted on a 6HM1-1						
				O.F. max. Newtons ounces	R.F. min. Newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. max. mm inches	O.P. mm inches	F.P. mm inches
 Fig. 5	JS-254	Leaf	500°F (260°C)	2,50 9	0,56 2	—	0,76 .030	0,76 .030	8,64 .340 approx.	12,2 .480 approx.
 Fig. 6	JS-151	Roller leaf	500°F (260°C)	2,50 9	0,56 2	—	0,76 .030	0,76 .030	14 .550 approx.	17,5 .690 approx.
 Fig. 7	JS-307	Straight lever	500°F (260°C)	0,42 1.5	0,03 .11	3,18 .125 approx.	0,64 .025	1,42 .056	10,3 .406 approx.	
 Fig. 8	JS-308	Roller lever	500°F (260°C)	0,42 1.5	0,03 .11	3,18 .125 approx.	0,64 .025	1,42 .056	14,3 .562 approx.	

MOUNTING TORQUE:
 JS-254 2.5 inch pounds
 all others 1.5 inch pounds
 See optional mounting plate – previous page.

All standard JS actuators in the SM Section of Catalog 10 can be used with the HM line. However, hardware, insulator, and oil impregnated roller supplied with these actuators may not provide the required service at temperatures above 250°F (121°C).

Position Sensors

HM Series

Miniature Hermetically Sealed Switches

HM MOUNTING DIMENSIONS (For reference only)
Pin plunger switches

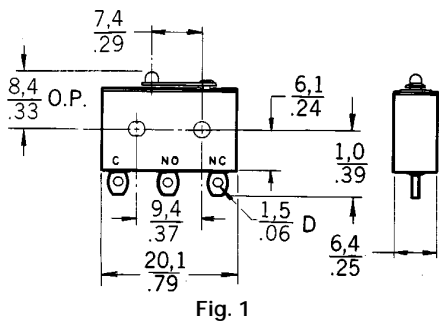


Fig. 1

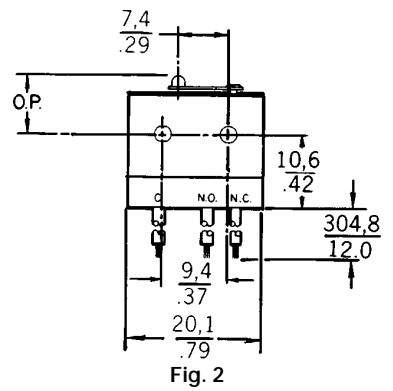


Fig. 2

MOUNTING HOLES WILL ACCEPT PINS OR SCREWS OF 1,9/.08 DIA

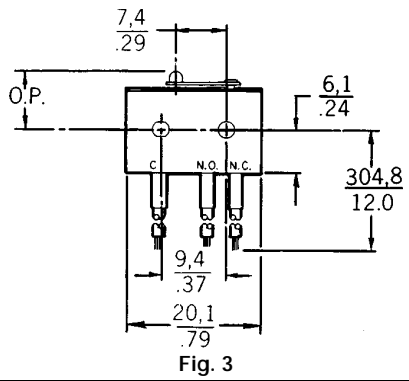


Fig. 3

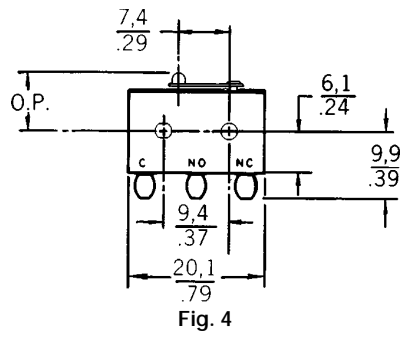


Fig. 4

Auxiliary actuators

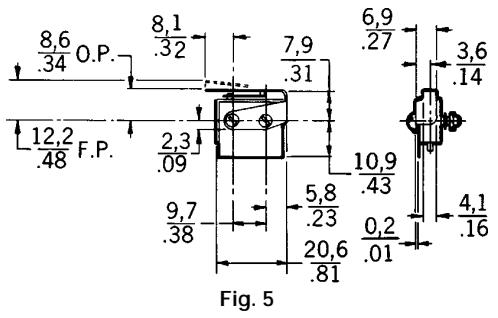


Fig. 5

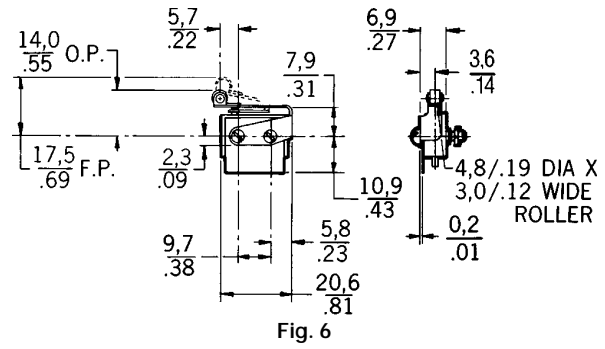


Fig. 6

4,8/.19 DIA X 3,0/.12 WIDE ROLLER

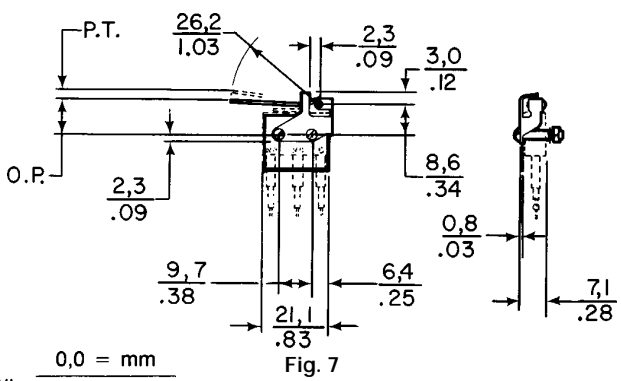


Fig. 7

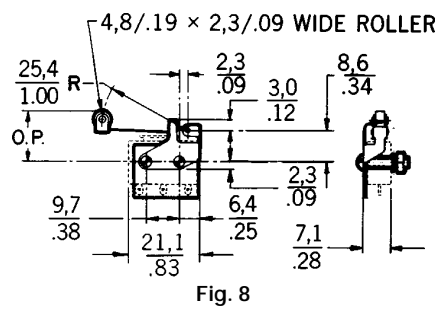


Fig. 8

Key: 0,0 = mm
0.00 = inches

Position Sensors