HS SERIES

003128
Issue 2

Hermetically Sealed Premium Large Basic Switches

DESCRIPTION

When hermetic sealed switches (metal-to-metal and glass-to-metal sealing) are a requirement for demanding applications, Honeywell MICRO SWITCH HS Series premium large basic switches fulfill the need. The HS Series design incorporates a MIL-PRF-8805 symbol 5 hermetic seal to comply with hermetic seal requirements. With a compact package size, HS Series switches have overall dimensions of 1.96 inch length, 1.18 inch height, and 0.67 inch wide and are suitable for applications where space is limited.

In addition to MIL-PRF-8805 qualified HS Series switches, UL and CSA certified HS Series basic switches are available for a wide variety of applications.

FEATURES

- Select HS catalog listings qualified to MIL-PRF-8805 and/or UL, CSA certified
- Hermetic sealing to MIL-PRF-8805 symbol 5 requirements
- Similar package size as Honeywell MICRO SWITCH premium large basic switches with 25,4 mm [1.00 in] mounting centers
- Mounting holes of switch are outside of hermetic sealed switch chamber
- Several different styles of integral actuators and auxiliary actuators
- Electrical connection with #6-32 terminal screws or individual #18 AWG wire leads
- Temperature range from -54°C to 121°C [-65°F to 250°F] with select catalog listings to 149°C [300°F]

USE CASE EXAMPLES

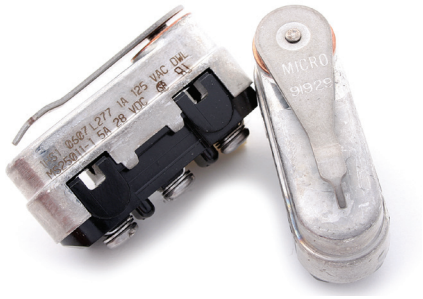
- Commercial and military aircraft in high altitude for engine valve open/closed position and door latch positions
- Food processing equipment
- Adverse gas or vapor environments

DIFFERENTIATION

- HS Series has the common 25,4 mm [1.00 in] mounting centers

VALUE TO CUSTOMERS

- Hermetic seal protects the switch mechanism from harmful particle (sand/dust), liquid (water), and gas (corrosive gas and atmospheric pressures) environments



PORTFOLIO

The Honeywell HS Series is part of a comprehensive line of aerospace sensors, switches, and value-added solutions. To view Honeywell's complete product offering, click here.

Honeywell

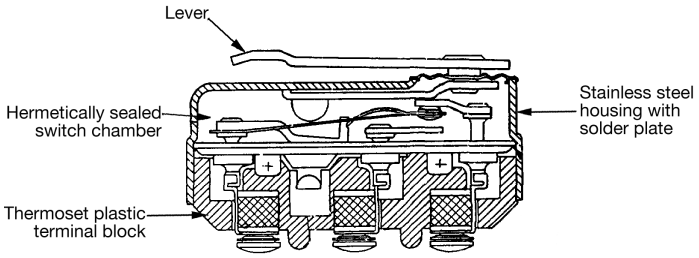
HERMETIC SEALED PREMIUM LARGE BASIC SWITCHES
HS SERIES

TABLE 1. SPECIFICATIONS

Characteristic	Parameter
Description	Hermetic sealed premium large basic switch
Certifications	MIL-PRF-8805, UL, and CSA
Housing material	Stainless steel housing and lever with thermoset plastic base
Actuators	Standard lever; extended lever; roller lever
Contacts	Fine silver
Circuitry	1PDT (one-pole double-throw)
Electrical rating	Table 2, Page 2
Electrical termination	#6-32 terminal screws or wire leads
Mechanical endurance	25,000 cycles min. per MIL-PRF-8805
Electrical endurance	10,000 cycles min. at rated electrical load per MIL-PRF-8805
Dielectric strength (initial)	1000 VRMS per MIL-PRF-8805
Environmental sealing	Symbol 5, hermetic seal per MIL-PRF-8805
Temperature range	-54°C to 121°C [-65°F to 250°F]; select catalog listings -54°C to 149°C [-65°F to 300°F]
Shock	Symbol M (100 g) per MIL-PRF-8805
Vibration	Symbol 1 (10 g peak) 10 Hz to 500 Hz sinusoidal per MIL-PRF-8805

TABLE 2. ELECTRICAL RATINGS

Rating Code		Capacity (Amps)				
					UL, CSA	
		28 Vdc	125 Vac	120 Vdc	125 Vac	28 Vdc
A	Resistive	25	1	0.5	1	5
	Inductive	8	1	0.5	–	–
B	Resistive	15	0.5	–	1	5
	Inductive	8	1	–	–	–
C	Resistive	15	0.5	–	–	–
	Inductive	8	1	–	–	–
D	Resistive	25	0.5	–	1	5
	Inductive	8	1	–	–	–



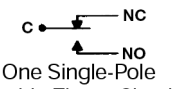
HS SERIES SWITCHES

The HS Series hermetic sealed basic switches are designed for side mounting on 25,4 mm [1.00 in] centers. The mounting of the switch is outside the hermetic sealed switch chamber. The external material for the HS Series is stainless steel and thermoset plastic.

Electrical terminations for the HS Series switches are individual wire leads or integral #6-32 terminal screws.

CIRCUITRY

1PDT



One Single-Pole Double-Throw Circuit

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ELECTROMECHANICAL SWITCHES

Definitions below explain the meaning of operating characteristics. Characteristics shown in tables were chosen as most significant. They are taken at normal room temperature and humidity. These may vary as temperature and humidity conditions differ. Sketches show how characteristics are measured for in-line plunger actuation.

Linear dimensions for in-line actuation are from top of plunger to a reference line.

Differential Travel (D.T.) – Plunger or actuator travel from point where contacts "snap-over" to point where they "snap-back."

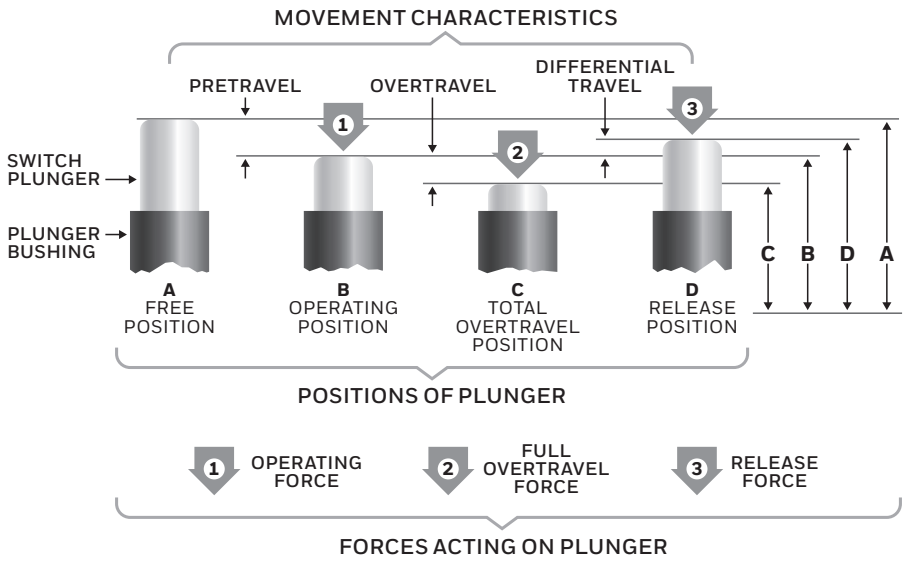
Free Position (F.P.) – Position of switch plunger or actuator when no external force is applied (other than gravity).

Full Overtravel Force – Force required to attain full overtravel of actuator.

Operating Position (O.P.) – Position of switch plunger or actuator at which point contacts snap from normal to operated position. Note that in the case of flexible or adjustable actuators, the operating position is measured from the end of the lever or its maximum length. Location of operating position measurement shown on mounting dimension drawings.

Operating Force (O.F.) – Amount of force applied to switch plunger or actuator to cause contact "snap-over." Note in the case of adjustable actuators, the force is measured from the maximum length position of the lever.

In-line Plunger Actuation



Overtravel (O.T.) – Plunger or actuator travel available beyond operating position.

Pretravel (P.T.) – Distance or angle traveled in moving plunger or actuator from free position to operating position.

Release Force (R.F.) – Amount of force still applied to switch plunger or actuator at moment contacts snap from operated position to unoperated position.

Total Travel (T.T.) – Distance from actuator free position to overtravel limit position.

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TABLE 3. ORDER GUIDE

Actuator	Catalog Listing	Military Number or Note	Electrical Termination	Electrical Rating (see Table 2)	Temperature Range	Switch Characteristics					
						Operating Force N [oz]	Release Force min. N [oz]	Free Position nom. mm [in]	Pretravel max. mm [in]	Overtravel min. mm [in]	Differential Travel max. mm [in]
Lever	**1HS1**	MS25011-1	Screws (#6-32)	A [25 A]	-54 °C to 121 °C [-65 °F to 250 °F]	2,78 to 6,12 [10.0 to 22.0]	1,11 [4]	15,24 [0.600]	1,65 [0.065]	0.25 [0.010]	0,51 [0.020]
Lever	**101HS1**	–	Screws (#6-32)	D [25 A]	-54 °C to 121 °C [-65 °F to 250 °F]	2,78 to 6,12 [10.0 to 22.0]	1,11 [4]	15,24 [0.600]	1,65 [0.065]	0.25 [0.010]	0,51 [0.020]
Lever	**102HS1**	–	Screws (#6-32)	B [15 A]	-54 °C to 149 °C [-65 °F to 300 °F]	2,78 to 8,34 [10.0 to 30.0]	1,11 [4]	15,24 [0.600]	1,65 [0.065]	0.25 [0.010]	0,51 [0.020]
Lever	**1HS6**	MS25011-4	Screws (#6-32)	A [25 A]	-54 °C to 121 °C [-65 °F to 250 °F]	6,12 to 7,78 [22.0 to 28.0]	1,11 [4]	15,49 [0.610]	2,16 [0.085]	0.25 [0.010]	0,51 [0.020]
Lever	**4HS4-118**	–	Leadwire #18 AWG, per MIL-W-22759/9	C [15 A]	-54 °C to 121 °C [-65 °F to 250 °F]	2,78 to 6,12 [10.0 to 22.0]	1,11 [4]	17,78 [0.700]	1,65 [0.065]	0.25 [0.010]	0,51 [0.020]
Ex-tended Lever	**1HS41**	Additional overtravel	Screws (#6-32)	A [25 A]	-54 °C to 121 °C [-65 °F to 250 °F]	1,11 to 5,56 [4.0 to 20.0]	0,56 [2.0]	18,49 [0.728]	4,95 [0.195] approx.	1,57 [0.062]	2,54 [0.100]
Roller Lever	**1HS3**	Slide-by actuation	Screws (#6-32)	A [25 A]	-54 °C to 121 °C [-65 °F to 250 °F]	2,78 to 6,12 [10.0 to 22.0]	1,11 [4]	20,07 [0.790]	1,65 [0.065]	0.25 [0.010]	0,51 [0.020]
Auxiliary roller lever	**ADH3721R2**	Typical char-acteristics with a 1HS6	–	–	–	7,78 [28] max.	3,34 [12.0]	46,02 [1.812]	–	6,35 [0.250] approx.	1,17 [0.046]

PRODUCT DIMENSIONS

Figure 1. 1HS1 mm [in]

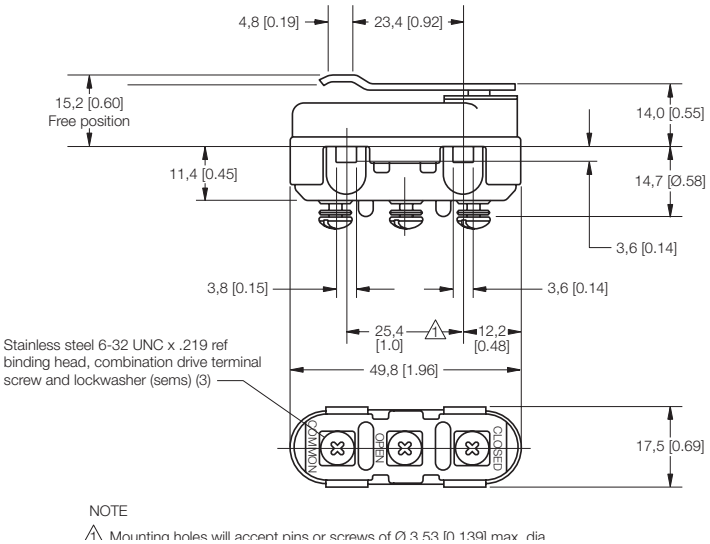
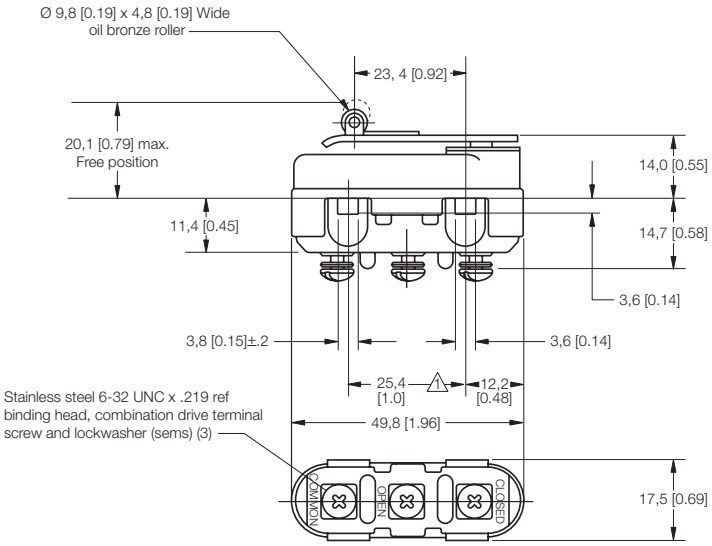


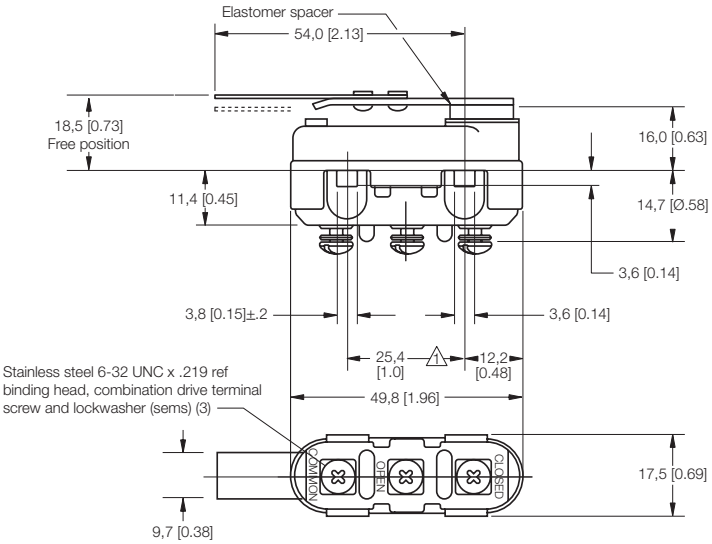
Figure 2. 1HS3 mm [in]



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PRODUCT DIMENSIONS

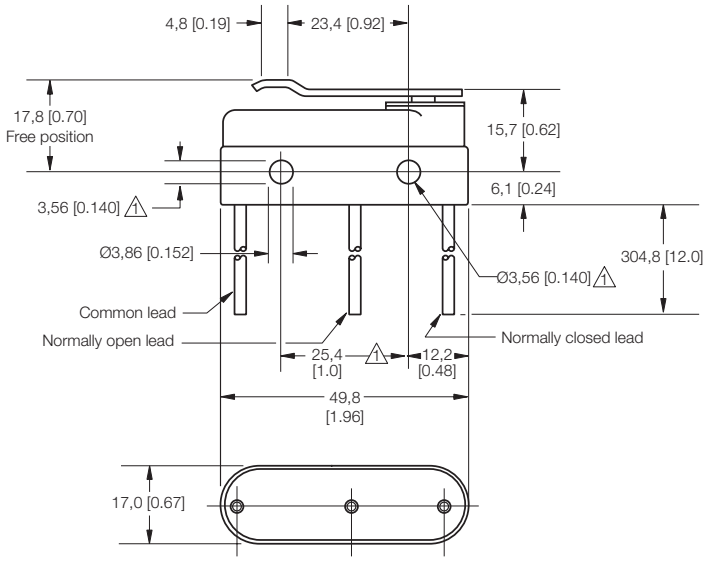
Figure 3. 1HS41 mm [in]



NOTE

1 Mounting holes will accept pins or screws of Ø 3,53 [0.139] max dia

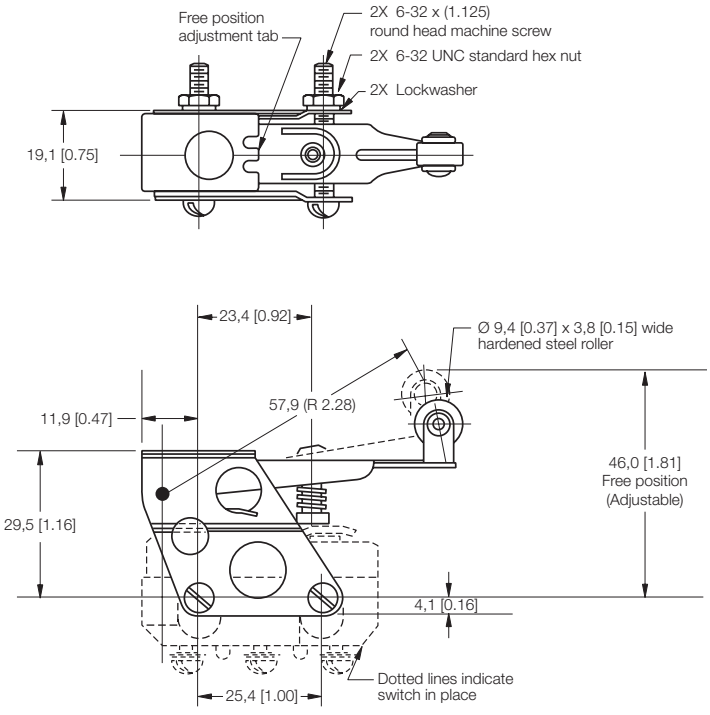
Figure 4. 4HS4-118 mm [in]



NOTE

1 Mounting holes will accept pins or screws of Ø 3,53 [0.139] max dia

Figure 5. ADH3721R2 Lever mm [in]



NOTES

1 Screws, nuts, and lockwashers furnished unassembled

WARRANTY/REMEDY

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