

MICRO SWITCH™ SM Series

Premium Subminiature Switch



DESCRIPTION

The industry-defining name in snap-action switches, Honeywell MICRO SWITCH™ premium subminiature switches are designed for repeatability and enhanced product life. MICRO SWITCH™ SM Series delivers repeatability and consistent performance within a range of conditions.

The MICRO SWITCH™ SM Series' small size and light weight are combined with ample electrical capacity, precision operation, and extended life. Featuring high precision and repeatability, the SM Series offers gold contacts for low-energy switching and bifurcated gold contacts for maximum reliability and power load switching capability to 11 A.

FEATURES AND BENEFITS

- Best suited for high cost-of-failure applications
- Small size and light weight
- Extended operating life
- Elongated mounting holes provides for easier, more accurate mounting
- Choice of actuation, electrical termination, and operating characteristics
- High temperature construction options
- MIL-PRF-8805 qualified listings available
- UL/CSA, cUL, ENEC, and CE approvals

APPLICATIONS

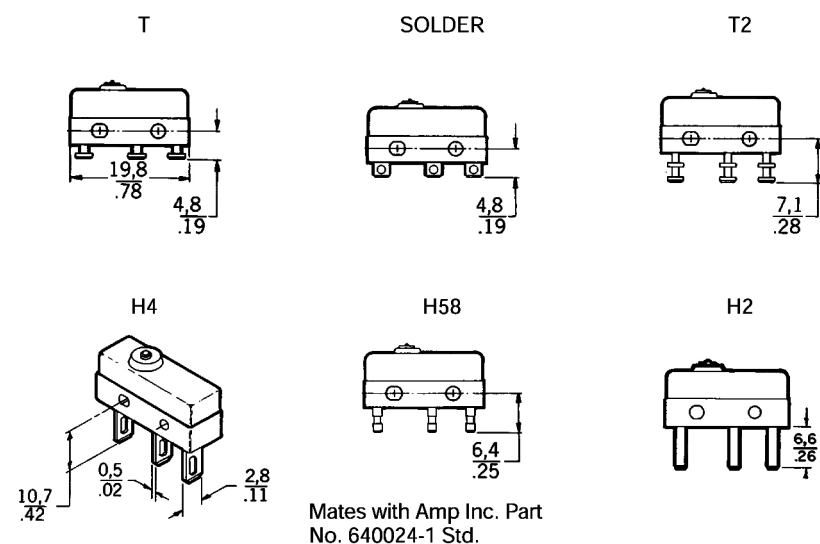
- Aerospace
- Industrial
 - Appliances
 - Instrumentation
 - Office equipment
 - Valves
- Medical
 - Medical/dental equipment

MICRO SWITCH™ SM Series

Table 1. Specifications

Parameter	Characteristic
Differentiator	low operating force to 2 oz. max; power load switching capability to 11 A; motor load handling capacity to 1/4 HP (Vac)
Ampere rating	0.1 A to 11 A
Circuitry	SPDT
Operating force	0.04 oz to 2 oz
Termination	quick connect, solder, pcb
Actuator	pin plunger, straight, roller, simulated roller lever, paddle
Voltage	115 Vac, 125 Vac, 250 Vac, 30 Vdc
Agency approvals	UL, CE, CSA, ENEC
Agency file information	CE: 61058-1; UL: E12252; CSA: LR41372
Operating temperature	-55 °C to 125 °C [-67 °F to 267 °F]
Contacts	silver, gold
Housing	phenolic
Sealing	MIL-PRF-8805 qualified listings available
Expected mechanical life	up to 10,000,000 operations for 11SM listings up to 80,000 operations for 1SM/14SM listings up to 1,000,000 operations for bifurcated contacts
Size	12,7 mm H x 6,35 mm W x 20,3 mm L [0.5 in H x 0.25 in W x 0.8 in L]

MICRO SWITCH™ SM SERIES AVAILABLE TERMINALS



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MICRO SWITCH™ SM SERIES STANDARD LEVER OPTIONS AND DIMENSIONS mm/in

Lever/ Terminals	Dimensions	Lever/ Terminals	Dimensions
Pin plunger/ T Terminals	OPERATING POSITION	Pin plunger/ Solder	
Integral leaf/ T terminals	CORROSION RESISTANT STEEL LEAF	Integral roller/ T terminals	4,8/.19 D X 3,2/.13 W ROLLER
Integral levers			

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NUMERIC DESIGNATIONS FOR MICRO SWITCH™ SM SERIES

Prefix	Description
1SM	Standard pin plunger construction, 80,000 operations
11SM	Long-life pin plunger construction, 10,000,000 operations
5SM	"For factory use only" in "SE" products
6SM	750 °F round, no plunger (OBSOLETE)
7SM	1 inch mounting holes on centers (OBSOLETE)
8SM	Base assembly only, no "C" spring; sold to subsidiary
9SM	Made in Newhouse, Scotland
12SM	Gold bifurcated contacts
13SM	Drum contacts (OBSOLETE)
15SM	500 °F max (OBSOLETE)
21SM	Same as 1SM (formerly had DAP material)
22SM	Same as 11SM (formerly had DAP material)
23SM	Same as 12SM (formerly had DAP material)
31SM	Lead wire assembly
41SM	11 A construction (11SM construction)
51SM	Center plunger
101SM	1SM with integral leaf actuator
111SM	11SM with integral spring leaf
112SM	12SM with an integral spring leaf
122SM	22SM with an integral spring leaf
151SM	51SM with an integral spring leaf
301SM	1SM with an integral rigid lever
302SM	1SM with an integral roller lever
311SM	Integral rigid lever
321SM	21SM with an integral rigid lever
322SM	22SM with an integral rigid lever
401SM	Dust/splash resistant 1SM
411SM	Dust/splash resistant 11SM
412SM	Dust/splash resistant 12SM

Suffix	Description
23	Gold contacts
400	Low differential travel series
500	Reverse terminal designation
700	Low force series
1000	Gold alloy
8000	Pimpled contacts

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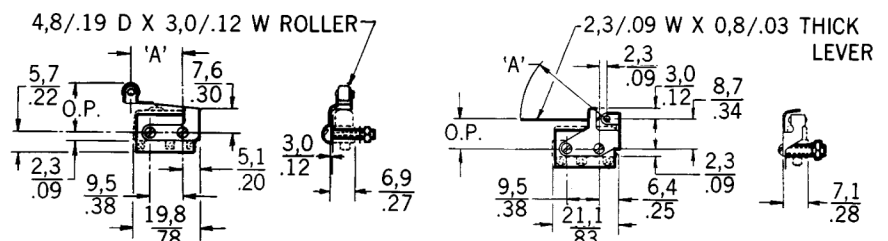
MICRO SWITCH™ JS SERIES AUXILIARY ACTUATORS FOR THE MICRO SWITCH™ SM SERIES SWITCHES

		Description	Actuator length mm [in]	OF max. N [oz]	RF min. N [oz]	PT max. mm [in]	OT min. mm [in]	DT max. mm [in]	OP mm [in]	FP max. mm [in]
JS-2		Straight leaf	16,8 [0.66]	2,78 [10]	0,56 [2]	1,98 [0.078]	0,38 [0.015]	0,38 [0.015]	8,89 ±0,38 [0.350 ±0.015]	11,3 [0.445]
JS-5		Roller leaf (bronze roller)	15 [0.59]	2,78 [10]	0,83 [3]	1,98 [0.078]	0,38 [0.015]	0,38 [0.015]	14,2 ±0,38 [0.580 ±0.015]	16,9 [0.665]
JS-7		Formed leaf (simulated roller)	14,7 [0.58]	2,78 [10]	0,56 [2]	2,39 [0.094]	0,79 [0.031]	0,38 [0.015]	9,65 ±0,38 [0.380 ±0.015]	12,7 [0.475]
JS-220		Straight lever	26,2 [1.03]*	0,28 [1]	0,04 [0.14]	3,18 [0.125] approx.	0,76 [0.030]	0,76 [0.030]	10,3 [0.406] approx.	–
JS-246		Roller lever (steel roller)	25,4 [1.00]*	0,28 [1]	0,04 [0.14]	3,18 [0.125] approx.	0,76 [0.030]	0,76 [0.030]	14,3 [0.562] approx.	–
JS-221		Formed lever (simulated roller)	25,4 [1.00]*	0,28 [1]	0,04 [0.14]	3,18 [0.125] approx.	0,76 [0.030]	0,76 [0.030]	11,6 [0.455] approx.	–
JS-33**		Tandem leaf	5,3 [0.21]	5,00 [18]	2,78 [10]	2,36 [0.093]	0,15 [0.006]	0,38 [0.015]	8,89 ±0,38 [0.350 ±0.015]	10,5 [0.415]
JS-31**		Tandem leaf (bronze roller)	4,3 [0.17]	11,1 [40]	4,45 [16]	2,36 [0.093]	0,13 [0.005]	0,38 [0.015]	14,5 ±0,38 [0.570 ±0.015]	16,1 [0.635]

** Travel characteristics on tandem actuators vary with actual basic switch characteristics

NOTE: Above actuators should be used below 300 °F

* "A" measurement is from pivot point of lever to the point indicated on drawing



MICRO SWITCH™ SM Series

This datasheet supports the following MICRO SWITCH™ SM Series Premium Subminiatures Switches.

111SM1	11SM401-H58	311SM2-T
111SM115-H2	11SM401-T	311SM3
111SM115-H58	11SM423-H4	311SM3-H58
111SM117-H2	11SM4601-H4	311SM3-T
111SM119-H2	11SM601-H4	311SM4
111SM124-H2	11SM701-T	311SM43-T
111SM125-H2	11SM703	311SM4-T
111SM1-H58	11SM712-H58	311SM5-T
111SM1-T	11SM7601-H4	311SM6
111SM2	11SM861-T	311SM68-H4
111SM23-T	11SM8849-H58	311SM68-T
111SM2-T	122SM44-T2	311SM6-T
111SM602-H4	12SM4-T	311SM7018-T
111SM858-H403	12SM83	311SM701-H58
11SM1	141SM28-H2	311SM702-T
11SM1077-T	1SM1	311SM703-T
11SM144	1SM36-H2	311SM704-H2
11SM1-H2	21SM1-T	311SM705-T
11SM1-H58	21SM284	311SM706-T
11SM1-T	21SM284-T2	311SM717-T
11SM1-T2	21SM368	411SM1
11SM23-H2	22SM22-T	412SM4
11SM23-T	22SM426-T	41SM1
11SM244	311SM1068-H4	41SM1-H2
11SM2440	311SM1138-T	41SM1-T
11SM244-T	311SM1-T	41SM1-T2
11SM3	311SM2	41SM27-T
11SM3-S	311SM23-H4	41SM28-H2
11SM3-T	311SM25-H4	41SM28-T2
11SM401	311SM2-H58	

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Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

WARNING **PERSONAL INJURY**

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

WARNING **MISUSE OF DOCUMENTATION**

- The information presented in this datasheet is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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