

MICRO SWITCH V15W2 Series

Basic Switch for Hazardous Locations

32336117
Issue C

Datasheet



DESCRIPTION

MICRO SWITCH V15W2 Series basic switches are precision snap-action contact mechanisms enclosed in plastic cases. Switch actuation triggers the mechanical closure of the switch's contacts. The switches are approved for use in Zone 2 hazardous locations. While a small amount of arcing occurs between the switch contacts during contact closure, the switch is environmentally sealed so that flammable gases cannot enter into the switching cavity. This minimizes the chances of ignition of flammable gases in a hazardous atmosphere. The IEC Ex approvals are: Ex nC IIA T5 Gc for an ambient temperature range of -25 °C to +85 °C per IEC 60079-0 6th Edition (2011) and IEC 60079-15 4th Edition (2010) via certificate IEC Ex DEK 17.0053U.

DIFFERENTIATION

- IEC Ex approvals
- Wide variety of actuators, connections, operating and electrical characteristics
- More durable performance within a range of conditions
- Operates under many difficult/harsh environmental conditions

FEATURES

- Approved for use in Zone 2 hazardous locations
- IP67 equivalent
- UL, cUL, ENEC, CQC, IEC Ex approvals
- 5 A electrical rating
- Longer service life: over one million mechanical operations
- Quick-connect terminals
- SPDT, SPNO¹, SPNC¹
- 100 gf, 200 gf¹ operating forces
- Available with a variety of actuators
- Global package size acceptance
- Gold contacts are also available for controlling logic-level/low-energy circuits

¹These options have a three-month lead time for set up.

POTENTIAL APPLICATIONS

- Appliances (especially with new refrigerants)
- Valve actuators
- Commercial refrigeration
- Ice makers
- HVAC/R (furnace, refrigeration, ventilation)

VALUE TO CUSTOMERS

- IEC Ex Certificate: Electrotechnical standard certifying product use in explosive atmospheres (Standard: IEC 60079-15)
- V-Basic switches for potential use in refrigeration units using alternatives for HFC and HCFCs, specifically targeting OEMs and Tier white goods manufacturers transitioning to lower GHA emission refrigerants (which tend to be more explosive) per EPA and other regulatory guidance
- Certified to UL, cUL (North America), CQC (Asia-Pacific), ENEC (Europe), and IEC Ex for worldwide use

PORTFOLIO

The MICRO SWITCH V15W2 Series basic switch is part of a broad Honeywell switch portfolio. Globally compliant and known worldwide for their compact and lightweight design, MICRO SWITCH snap-action switches are designed for more accurate repeatability and extended life.

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Table 1. Specifications

Characteristic	Measure
Circuitry	SPDT, SPNO ¹ , SPNC ¹
Operating force	100 gf, 200 gf ¹
Termination	quick connect: 4,8 mm x 0,5 mm
Actuators	pin plunger, roller plunger other actuators/levers available for special order
Agency certification	UL, cUL, ENEC, CQC, IEC Ex
Sealing	IP67 equivalent (terminals are sealed, but they are exposed so official rating is IP00)
Operating temperature	-25 °C to 85 °C [-13 °F to 185 °F]
Mechanical life (cycles)	1,000,000 cycles min. @ 180 cycles/minute max.
Dielectric strength	1000 Vac (RMS) for one minute between open contacts, leakage current ≤10 mA
Switch resistance (initial)	50 mOhm max.
Insulation resistance	100 mOhm min. (500 Vdc for one minute)
Contact material	silver alloy
Housing material	PBT thermoplastic polyester
Sealing material	silicone

¹These options have a three-month lead time for set up.

Table 2. Electrical Ratings

Characteristic	Measure
UL/cUL electrical rating per UL 61058-1	5 A, 1/10 HP @ 125 Vac/250 Vac, 10,000 cycles
ENEC/CQC electrical rating per IEC 61058-1 and GB15091.1	5 A, 125 Vac/250 Vac, 50,000 cycles

Table 3. Hazardous Area Certification

IEC Ex per IEC 60079-0 and 60079-15
Ex nC IIA T5 Gc
-25°C < Tamb < +85°C

PRODUCT NOMENCLATURE

Switch Type	Terminals	Circuitry	Operating Force	Lever Location	Lever Type	Mounting Holes	Contact Material	Electrical Rating (must be included)	Special Designator
MICRO SWITCH Hazardous Location-Rated V15W2 Basic Switch	E Quick connect 4,8 mm x 0,5 mm	Z SPDT P SPNO ¹ C SPNC ¹	100 100 g max. 200 200 g max. ¹	No lever A Lever pivot far from plunger B Lever pivot near plunger	Pin plunger 01 Short straight lever ¹ 02 Standard straight lever ¹ 03 Long straight lever ¹ 04 Simulated roller lever ¹ 05 Roller lever 06 Long roller lever ¹	Metric (Ø 3,1 mm) K USA (Ø 2,9 mm)	Standard silver alloy A Gold-plated silver alloy	W2 5 A, 1/10 HP 125 Vac/250 Vac	A special designator code is used to indicate some non-standard feature such as a special actuator, wire color, wire length, connector, etc. Review product specification to determine the nature of the non-standard feature. This code will consist of up to three alphanumeric characters. A blank designates no difference from standard listing.

Not all combinations of model code are available.
Please contact your Honeywell provider/representative for assistance.

¹These options have a three-month lead time for set up.

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DIMENSIONS

Figure 1. Dimensions

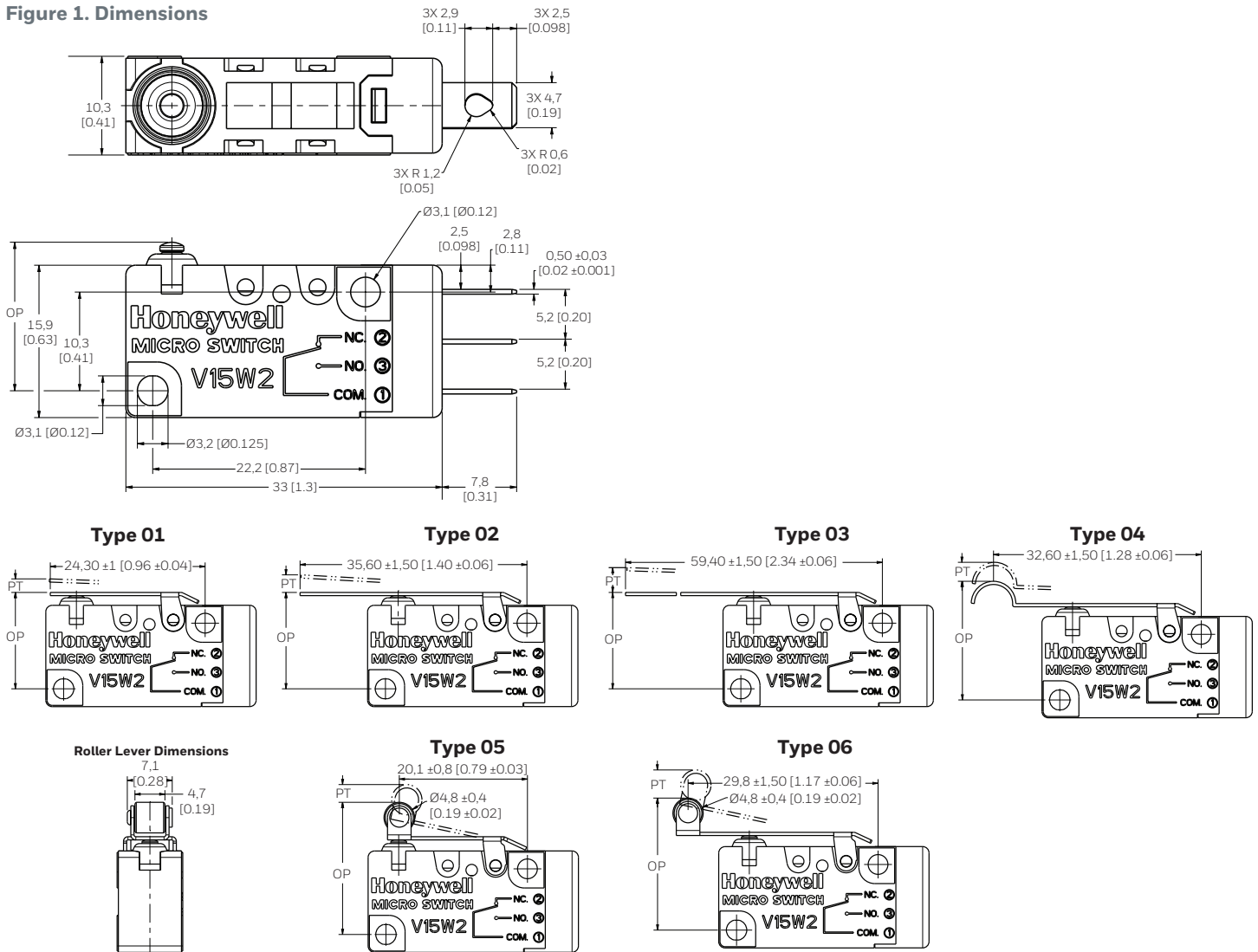


Table 4. Operating Characteristics

	Lever Position A				Lever Position B			
	Maximum Pretravel mm	Minimum Overtravel mm	Maximum Differential Travel mm	Operate Point mm	Maximum Pretravel mm	Minimum Overtravel mm	Maximum Differential Travel mm	Operate Point mm
Maximum Operate Force (g)								
Pin Plunger	1,2	1,0	0,4	14,7 ±0,4	1,2	1,0	0,4	14,7 ±0,4
01 Short Straight Lever	2,6	1,1	0,6	15,1 ±0,6	5,1	1,2	1,1	15,0 ±1,1
02 Standard Straight Lever	4,0	1,5	0,9	14,8 ±0,8	8,0	2,4	1,8	14,5 ±1,6
03 Long Straight Lever	7,0	2,6	2,0	13,4 ±2,0	17,5	4,5	3,0	12,9 ±3,3
04 Simulated Roller Lever	3,6	1,7	1,0	18,1 ±0,8	7,2	2,1	1,7	17,6 ±1,5
05 Roller Lever	2,1	1,0	0,5	20,6 ±0,5	4,2	1,2	0,9	20,4 ±0,9
06 Long Roller Lever	3,3	1,3	0,7	20,4 ±0,7	6,5	1,5	1,4	20,2 ±1,2
Maximum Release Force (g)								
Pin Plunger								
01 Short Straight Lever								
02 Standard Straight Lever								
03 Long Straight Lever								
04 Simulated Roller Lever								
05 Roller Lever								
06 Long Roller Lever								

ADDITIONAL MATERIALS

The following associated literature is available at sensing.honeywell.com:

- Product range guide
- Product installation instructions
- Application notes
- CAD drawings
- Product images

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 product installation instructions could result in death or serious injury.

WARNING **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

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

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment 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 that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other 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 Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility 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 writing. However, Honeywell assumes no responsibility for its use.

For more information

Honeywell Sensing and Internet of Things services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, visit sensing.honeywell.com or call:

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