

Installation Instructions for the MICRO SWITCH™ V-Basic Standard V15W Watertight Switches

ISSUE 1

50066512

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.

CAUTION

SWITCH DAMAGE

- Wiring must be rated to meet or exceed circuitry requirements.
- Connecting circuitry must not exceed switch rating.
- Wiring connections must be properly secured.
- Do not exceed recommended soldering time or temperature.
- Do not contact switch housing with soldering device.
- Do not exceed recommended mounting screw tightening torques.
- Discontinue use if switch has been damaged or cover removed.
- Do not apply side loads to actuator or exceed specified travel limits.
- Do not operate or store in areas where corrosive gases such as hydrogen sulfide are present.

Failure to comply with these instructions may result in product and/or property damage.

DANGER

IMPROPER USE

- Do not use in hazardous environments where flammable or explosive gases or liquids such as gasoline or thinners, etc., are present.

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

GENERAL INFORMATION

MICRO SWITCH™ V-Basic Standard V15W Watertight switches are precision snap-action contact mechanisms enclosed in watertight plastic cases. Switch actuation triggers the mechanical closure of the switch's contacts. A small amount of arcing between the contacts during contact closure occurs during normal operation. In order to obtain desired switch performance, the switch must be chosen based on the mechanical, electrical and environmental conditions of the application.

Do not use this product in water. Although molded lead wire versions carry an ingress protection rating of IP67 according to the test conditions of IEC 529, this test is to check the ingress of water into the switch enclosure after submerging the switch in water for a given time.

Satisfying this test condition does not mean that the switch can be used in water. Switches with terminals are also sealed, but because the terminals are exposed the corresponding degree of protection is IP00.

MOUNTING INFORMATION

Mounting hole size	Screw Type*	Screw Size	Tightening Torque (max.)
3,1 mm	Flat fillister head	3 mm	5,8 kg-cm [5.0 in-lb]
2,9 mm (-K option)	Flat fillister head	#4	5,8 kg-cm [5.0 in-lb]

*To prevent loosening of screws, use spring washers under screw heads and thread lock adhesive.

- Turn OFF the power supply before mounting or removing the switch, wiring, or performing maintenance or inspection. Failure to do so may result in electric shock.
- Mount the switch onto a flat surface. Mounting on an uneven surface may cause deformation of the switch, resulting in faulty operation or damage.
- Use an operating device with low frictional resistance and of a shape that will not interfere with the plunger seal otherwise the plunger may be damaged or the sealing may deteriorate.
- Position the operating device perpendicular to the actuator/pushbutton to prevent side loading of the switch actuator or pushbutton.
- Position the operating device so that no force is applied to the pushbutton/actuator when the switch is in the free position.
- The operating device should be positioned so that when the switch is in the operating position it should move the actuator no less than 70% of the total travel. Setting the travel position so that less than 70% of the total travel is used may cause poor contact or welding conditions due to an insufficient contact switching force.
- The operating device should never force the actuator/pushbutton to exceed the total travel position.

WIRING INFORMATION – TERMINAL VERSIONS

- Connect wires firmly to terminals.
- Replace wires that have damaged insulation.
- Use properly sized spade terminals.
- Use wire rated for the application's electrical load and application's temperature
- Provide strain relief when a potential exists for forces to be transferred from the lead wires to the switch terminals

MICRO SWITCH™ V-Basic Standard

V15W Watertight Switches

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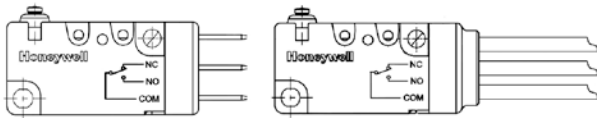
- The switch is sealed around the terminals. However, live terminals should never be exposed to water. Use appropriate sealed connectors or mount the switch in a sealed enclosure so that the terminals are not exposed to water.

WIRING INFORMATION - PRE-LEADED VERSIONS

- Provide strain relief when a potential exists for forces to be transferred from the lead wires to the switch.
- When wiring molded lead wire models, ensure that there is no weight on the wire and that there are no sharp bends.

CIRCUIT INFORMATION

A circuit diagram is included on the switch case labeling each of the terminals/wires. The normal position corresponds to the switch plunger in its released position.



SOLDERING GUIDELINES

When hand soldering the switch's terminals, do not exceed three seconds at 260 °C [508 °F]. Contacting the switch housing with the soldering device may damage the switch housing. Solder joints must not be moved for at least one minute after soldering.

Do not try to clean the switch with a solvent or similar substance after the soldering process

ENVIRONMENTAL OPERATING CHARACTERISTICS

Operating temperature range	-40 °C to 85 °C [-40 °F to 185 °F]
Humidity	95% max.
Rate of actuation	0.1 mm/s to 1000 mm/s
Operating frequency (electrical)	30 operations/minute max.
Operating frequency (mechanical)	200 operations/minute max.

WARRANTY/REMEDY

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E-mail: info.sc@honeywell.com

Internet: www.honeywell.com/sensing

Phone and Fax:

Asia Pacific +65 6355-2828; +65 6445-3033 Fax
 Europe +44 (0) 1698 481481; +44 (0) 1698 481676 Fax
 Latin America +1-305-805-8188; +1-305-883-8257 Fax
 USA/Canada +1-800-537-6945; +1-815-235-6847
 +1-815-235-6545 Fax

Sensing and Control
 Honeywell
 1985 Douglas Drive North
 Golden Valley, MN 55422
www.honeywell.com/sensing

50066512-001-EN IL50 GLO Printed in USA
 September 2011
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