

# MICRO SWITCH™ V15W Series Watertight Miniature Switches

## Basic Switches



### DESCRIPTION

The MICRO SWITCH™ V15W is a standard-sized basic switch designed for harsh-duty, wash down areas. Rugged yet precise, the Series gives highly accurate machine control for turning circuits on and off. The V15W can be used in a wide range of challenging environments, including food packaging plants, forklifts, ATVs, golf carts, lawn mowers, garbage trucks, salt trucks, commercial buses, and wheelchair lifts for conversion vans. Choose the V15W when the application needs accurate repeatability in a compact, lightweight and long-lasting basic switch.

This switch signifies an expansion of the proven and reliable, MICRO SWITCH™ V15 Standard snap-action switch series.

By utilizing an epoxy resin, the V15W Series switches deliver high sealing capability with an IP67 rating (pre-leaded only). They may also be used in dusty places or in washdown applications.

### FEATURES AND BENEFITS

- Degree of protection: IP67 (except terminal parts) to operate under difficult environmental conditions
- Wide current range: 0.1 A, 5 A, 10 A
- SPDT, SPNO, and SPNC options
- For engineering design flexibility, the V15W Series features a variety of straight, roller, simulated roller, and special actuators to choose from
- Pre-leaded wires for easy installation
- Special terminations available upon request
- Gold contacts available
- Wide temperature range
- Metric or USA mounting holes
- Long mechanical/electrical service life
- Global approvals: UL, cUL, ENEC, and CQC for reliable and consistent performance within a range of conditions
- RoHS compliant

### APPLICATIONS

- **Industrial**
  - Appliances
  - Communication equipment
  - Computers
  - Electric tools
  - Electromechanical timers
  - HVAC wall controls
  - Instrumentation
  - Mechanical cam assemblies (timers)
  - Office equipment
  - Valves
  - Vending machines
- **Transportation**
  - Automotive, truck, and boat wire harnesses
  - Lock modules for tail-gate/trunk
  - Sub-assemblies for convertible roofs
  - Tank and hood latch detection
- **Medical**
  - Chair lifts
  - Foot pedal controls
  - Medical and hospital beds

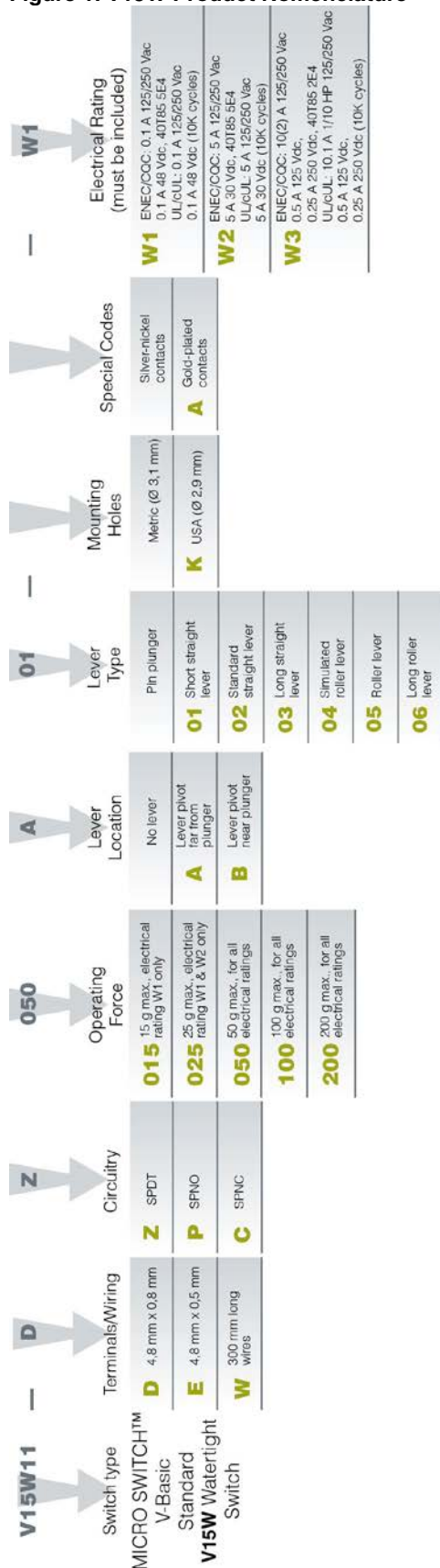
# MICRO SWITCH™ V15W Series Watertight Miniature Switches

## SPECIFICATIONS

Characteristic	Parameter
Electrical rating	0.1 A, 5 A, 10 A
Circuitry	SPDT, SPNC, SPNO
Operating force	15 g, 25 g, 50 g, 100 g, 200 g
Temperature rating	-40 °C to 85 °C [-40 °F to 185 °F]
Operating speed	0,1 mm to 1 m/s (at plunger)
Operating frequency	200 operations/minute max. (mechanical) 30 operations/minute max. (electrical)
Insulation resistance	100 MOhm min. at 500 Vdc
Contact resistance	100 mOhm max. 300 mOhm max. for lead wire models
Contacts	Silver nickel, gold-plated option
Terminals	4,8 mm x 0.8 mm or 4,8 mm x 0.5 mm
Wiring	300 mm long wire
Wire sizes	W1 – 24 AWG; W2 – 20 AWG; W3 – 16 AWG
Electrical life	W1 (0.1 A): 50000 cycles ENEC, 10000 cycles UL W2 (5 A): 50000 cycles ENEC, 10000 cycles UL W3 (10 A): 20000 cycles ENEC, 10000 cycles UL
Mechanical life	1 million cycles
Weight	8 g (terminal versions); 18 g (pre-wired versions)
Approvals	UL, cUL, ENEC, CQC
Case material	PBT
Plunger seal	Silicone rubber
External lever	Stainless steel
Mounting holes	Metric or USA

# Basic Switches

Figure 1. V15W Product Nomenclature



## MICRO SWITCH™ V15W Series Standard Listings

Part Number	Description
V15W11-EZ200-W3	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.5 mm terminals, SPDT, 200 g operating force, pin plunger, ENEC/CQC: 10(2) A 125/250 Vac; 0.5 A 125 Vdc, 0.25 A 250 Vdc, 40T85 2E4; UL/cUL: 10.1 A 1/10 HP 125/250 Vac; 0.5 A 125 Vdc (10K cycles)
V15W11-WZ200-W3	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 300 mm long wires, SPDT, 200 g operating force, pin plunger, ENEC/CQC: 10(2) A 125/250 Vac; 0.5 A 125 Vdc, 0.25 A 250 Vdc, 40T85 2E4; UL/cUL: 10.1 A 1/10 HP 125/250 Vac; 0.5 A 125 Vdc (10K cycles)
V15W11-DZ200-AW1	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.8 mm terminals, SPDT, 200 g operating force, pin plunger, gold-plated contacts, ENEC/CQC: 0.1 A 125/250 Vac, 0.1 A 48 Vdc, 40T85 5E4; UL/cUL: 0.1 A 125/250 Vac; 0.1 A 48 Vdc (10K cycles)
V15W11-DZ200A06-AW1	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.8 mm terminals, SPDT, 200 g operating force, lever pivot far from plunger, long-roller lever, gold-plated contacts, ENEC/CQC: 0.1 A 125/250 Vac; 0.1 A 48 Vdc, 40T85 5E4; UL/cUL: 0.1 A 125/250 Vac; 0.1 A 48 Vdc (10K cycles)
V15W11-DZ200A02-AW1	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.8 mm terminals, SPDT, 200 g operating force, lever pivot far from plunger, standard straight lever, ENEC/CQC: 0.1 A 125/250 Vac; 0.1 A 48 Vdc, 40T85 5E4; UL/cUL: 0.1 A 125/250 Vac; 0.1 A 48 Vdc (10K cycles)
V15W11-DZ200A06-W2	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.8 mm terminals, SPDT, 200 g operating force, lever pivot far from plunger, long-roller lever, ENEC/CQC: 5 A 125/250 Vac; 5 A 30 Vdc, 40T85 5E4; UL/cUL: 5 A 125/250 Vac; 5 A 30 Vdc (10K cycles)
V15W11-DZ200A02-W2	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.8 mm terminals, SPDT, 200 g operating force, lever pivot far from plunger, standard straight lever, ENEC/CQC: 5 A 125/250 Vac; 5 A 30 Vdc, 40T85 5E4; UL/cUL: 5 A 125/250 Vac; 5 A 30 Vdc (10K cycles)
V15W11-WZ200A02-W2	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 300 mm long wires, SPDT, 200 g operating force, lever pivot far from plunger, standard straight lever, ENEC/CQC: 5 A 125/250 Vac; 5 A 30 Vdc, 40T85 5E4; UL/cUL: 5 A 125/250 Vac; 5 A 30 Vdc (10K cycles)
V15W11-WZ200A06-AW1	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 300 mm long wires, SPDT, 200 g operating force, lever pivot far from plunger, long-roller lever, gold-plated contacts, ENEC/CQC: 0.1 A 125/250 Vac; 0.1 A 48 Vdc, 40T85 5E4; UL/cUL: 0.1 A 125/250 Vac; 0.1 A 48 Vdc (10K cycles)
V15W11-DZ200A05-AW1	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.8 mm terminals, SPDT, 200 g operating force, lever pivot far from plunger, roller lever, gold-plated contacts, ENEC/CQC: 0.1 A 125/250 Vac; 0.1 A 48 Vdc, 40T85 5E4; UL/cUL: 0.1 A 125/250 Vac; 0.1 A 48 Vdc (10K cycles)
V15W11-DZ200A04-W2	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 4,8 mm x 0.8 mm terminals, SPDT, 200 g operating force, lever pivot far from plunger, simulated roller lever, ENEC/CQC: 5 A 125/250 Vac; 5 A 30 Vdc, 40T85 5E4; UL/cUL: 5 A 125/250 Vac; 5 A 30 Vdc (10K cycles)
V15W11-WZ200A02-AW1	MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch, 300 mm long wires, SPDT, 200 g operating force, lever pivot far from plunger, standard straight lever, gold-plated contacts, ENEC/CQC: 0.1 A 125/250 Vac; 0.1 A 48 Vdc, 40T85 5E4; UL/cUL: 0.1 A 125/250 Vac; 0.1 A 48 Vdc (10K cycles)

# MICRO SWITCH™ V15W Series Watertight Miniature Switches

Figure 2. MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch Package Dimensions [mm]

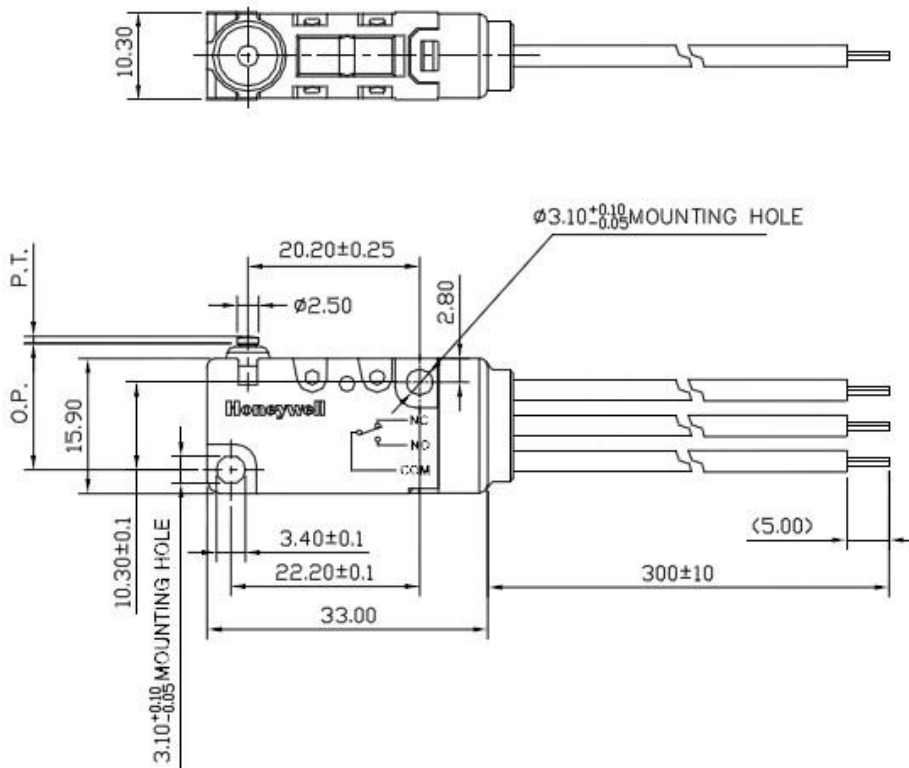
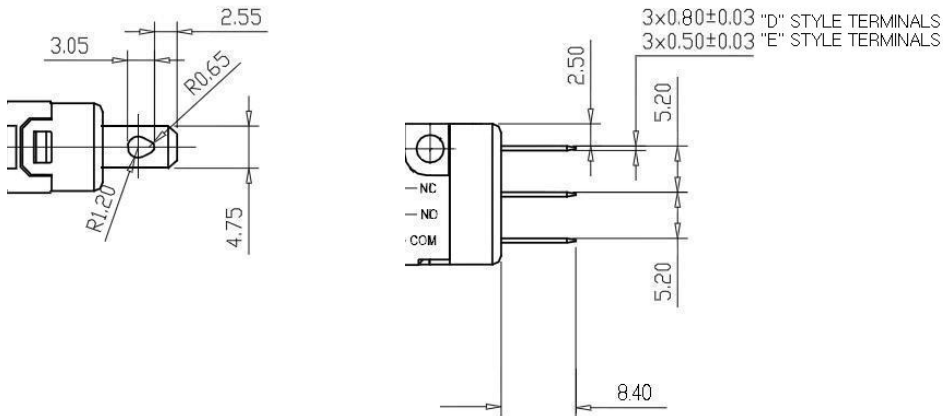


Figure 3. Other MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch Terminal Options



# Basic Switches

Figure 4. MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch Lever Options

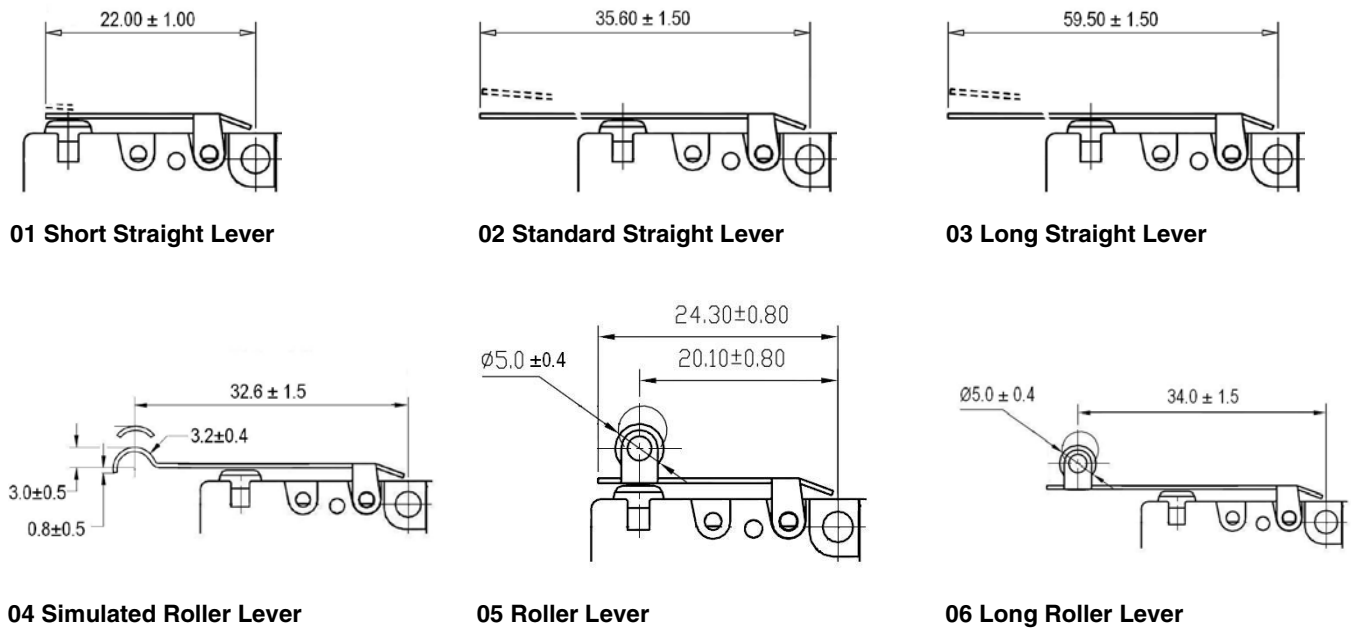


Figure 5. MICRO SWITCH™ V15W Series Watertight Miniature Basic Switch Operating Characteristics

	Operate Force Code					Maximum Pretravel (mm)	Minimum Overtravel (mm)	Maximum Differential Travel (mm)	Operate Point (mm)
	15	25	50	100	200				
<b>Maximum Operate Force (Grams)</b>									
Pin Plunger	15	25	50	100	200	1.6	0.8	0.4	14.7±0.5
Lever 01	15	25	50	100	200	1.6	0.8	0.4	15.3±0.5
Lever 02	9	15	30	60	120	3.2	1.3	1.2	15.3±1.5
Lever 03	5	7	15	30	60	6.4	2.6	2.4	15.3±3.0
Lever 04	9	15	30	60	120	3.2	1.3	1.2	18.5±1.5
Lever 05	18	30	60	120	240	1.6	0.8	0.4	20.6±0.8
Lever 06	9	15	30	60	120	3.2	1.3	1.2	20.6±1.6
<b>Minimum Release Force (Grams)</b>									
Pin Plunger	3	5	10	25	50				
Lever 01	3	5	10	25	50				
Lever 02	2	2	2	5	10				
Lever 03	2	2	2	5	10				
Lever 04	2	2	2	10	20				
Lever 05	3	5	10	20	40				
Lever 06	2	2	5	10	20				

## **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 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 instructions could result in death or serious injury.**

## **WARRANTY/REMEDY**

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