

D2VW



Sealed Miniature Basic Switch

- Watertight switch meets IP67 (IEC 529) requirements (lead wire types) and IP50 (terminal types)
- Monoblock construction assures high sealing capability and is ideal for applications where water spray or dust is prevalent
- V-Series internal mechanism assures high operating-position accuracy (± 0.4 mm) and long life (10 million operations)
- Wide operating temperature range of -40°C to 85°C is ideal for any environment.
- General Load (5 A. at 250 VAC) and micro-load models available
- ROHS Compliant

Part	Rated Resistive Load - Switch	Actuator types	Contact form	Operating Force	Seal type	Termination Style	Service Life - Electrical (Min. @ Rated Loads)
D2VW-01-1HS	0.1A @ 125VAC/0.1A @ 30VDC	Pin plunger	SPDT	200g	IP67	Solder / 187 Quick Connect	1,000,000 ops.
D2VW-01-1MS	0.1A @ 125VAC/0.1A @ 30VDC	Pin plunger	SPDT	200g	IP67	Lead Wires - Right Side Exit	1,000,000 ops.
D2VW-01L1-1HS	0.1A @ 125VAC/0.1A @ 30VDC	Hinge lever	SPDT	120g	IP67	Solder / 187 Quick Connect	1,000,000 ops.
D2VW-01L1-1MS	0.1A @ 125VAC/0.1A @ 30VDC	Hinge lever	SPDT	120g	IP67	Lead Wires - Right Side Exit	1,000,000 ops.
D2VW-01L1A-1HS	0.1A @ 125VAC/0.1A @ 30VDC	Short hinge lever	SPDT	200g	IP67	Solder / 187 Quick Connect	1,000,000 ops.
D2VW-01L1A-1MS	0.1A @ 125VAC/0.1A @ 30VDC	Short hinge lever	SPDT	200g	IP67	Lead Wires - Right Side Exit	1,000,000 ops.
D2VW-01L1B-1HS	0.1A @ 125VAC/0.1A @ 30VDC	Long hinge lever	SPDT	60g	IP67	Solder / 187 Quick Connect	1,000,000 ops.
D2VW-01L1B-1MS	0.1A @ 125VAC/0.1A @ 30VDC	Long hinge lever	SPDT	60g	IP67	Lead Wires - Right Side Exit	1,000,000 ops.
D2VW-01L2-1HS	0.1A @ 125VAC/0.1A @ 30VDC	Hinge roller lever	SPDT	120g	IP67	Solder / 187 Quick Connect	1,000,000 ops.

D2VW-01L2-1MS	0.1A @ 125VAC/0.1A @ 30VDC	Hinge roller lever	SPDT	120g	IP67	Lead Wires - Right Side Exit	1,000,000 ops.
D2VW-01L2A-1HS	0.1A @ 125VAC/0.1A @ 30VDC	Short hinge roller lever	SPDT	230g	IP67	Solder / 187 Quick Connect	1,000,000 ops.
D2VW-01L2A-1MS	0.1A @ 125VAC/0.1A @ 30VDC	Short hinge roller lever	SPDT	230g	IP67	Lead Wires - Right Side Exit	1,000,000 ops.
D2VW-01L3-1HS	0.1A @ 125VAC/0.1A @ 30VDC	Simulated roller lever	SPDT	120g	IP67	Solder / 187 Quick Connect	1,000,000 ops.
D2VW-01L3-1MS	0.1A @ 125VAC/0.1A @ 30VDC	Simulated roller lever	SPDT	120g	IP67	Lead Wires - Right Side Exit	1,000,000 ops.

Part	Rated Resistive Load - Switch	Actuator types	Contact form	Operating Force	Seal type	Termination Style	Service Life - Electrical (Min. @ Rated Loads)
D2VW-5-1HS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Pin plunger	SPDT	200g	IP67	Solder / 187 Quick Connect	100,000 ops
D2VW-5-1MS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Pin plunger	SPDT	200g	IP67	Lead Wires - Right Side Exit	100,000 ops
D2VW-5L1-1HS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Hinge lever	SPDT	120g	IP67	Solder / 187 Quick Connect	100,000 ops
D2VW-5L1-1MS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Hinge lever	SPDT	120g	IP67	Lead Wires - Right Side Exit	100,000 ops
D2VW-5L1A-1HS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Short hinge lever	SPDT	200g	IP67	Solder / 187 Quick Connect	100,000 ops
D2VW-5L1A-1MS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Short hinge lever	SPDT	200g	IP67	Lead Wires - Right Side Exit	100,000 ops
D2VW-5L1B-1HS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Long hinge lever	SPDT	60g	IP67	Solder / 187 Quick Connect	100,000 ops
D2VW-5L1B-1MS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @ 125VAC/125VAC)	Long hinge lever	SPDT	60g	IP67	Lead Wires - Right Side Exit	100,000 ops
D2VW-5L2-1HS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A)	Hinge roller lever	SPDT	120g	IP67	Solder / 187 Quick Connect	100,000 ops

	@125VAC/125VAC)						
D2VW-5L2-1MS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @125VAC/125VAC)	Hinge roller lever	SPDT	120g	IP67	Lead Wires - Right Side Exit	100,000 ops
D2VW-5L2A-1HS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @125VAC/125VAC)	Short hinge roller lever	SPDT	230g	IP67	Solder / 187 Quick Connect	100,000 ops
D2VW-5L2A-1MS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @125VAC/125VAC)	Short hinge roller lever	SPDT	230g	IP67	Lead Wires - Right Side Exit	100,000 ops
D2VW-5L3-1HS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @125VAC/125VAC)	Simulated roller lever	SPDT	120g	IP67	Solder / 187 Quick Connect	100,000 ops
D2VW-5L3-1MS	5A @ 125VAC/250VAC/30VDC (UL, CSA = 3A @125VAC/125VAC)	Simulated roller lever	SPDT	120g	IP67	Lead Wires - Right Side Exit	100,000 ops








Snap Action Switch D2VW

Watertight Miniature Snap Action Switch

- High-quality watertight, high-precision miniature Snap Action switch. Meets IP67 (IEC 529) requirements (for lead wire types) and IP50 (for terminal types)
- Monoblock construction assures high sealing capability and is ideal for dusty places or where water is sprayed
- V-series internal mechanism assures high operating-position accuracy (0.4 mm) and long life (10 million operations)
- Wide operating temperature range of -40° C to 90° C is ideal for any operating environment
- General-load (5 A at 250 VAC) models and micro-load models are available
- RoHS Compliant



Ordering Information

Actuator	Terminal	Model	
		Model 0.1 A	Model 5 A
Pin plunger 	With solder and #187 tab terminals	D2VW-01-1HS	D2VW-5-1HS
	With lead wires	D2VW-01-1MS	D2VW-5-1MS
Short hinge plunger 	With solder and #187 tab terminals	D2VW-01L1A-1HS	D2VW-5L1A-1HS
	With lead wires	D2VW-01L1A-1MS	D2VW-5L1A-1MS
Hinge lever 	With solder and #187 tab terminals	D2VW-01L1-1HS	D2VW-5L1-1HS
	With lead wires	D2VW-01L1-1MS	D2VW-5L1-1MS
Long hinge lever 	With solder and #187 tab terminals	D2VW-01L1B-1HS	D2VW-5L1B-1HS
	With lead wires	D2VW-01L1B-1MS	D2VW-5L1B-1MS
Simulated roller lever 	With solder and #187 tab terminals	D2VW-01L3-1HS	D2VW-5L3-1HS
	With lead wires	D2VW-01L3-1MS	D2VW-5L3-1MS
Short hinge roller lever 	With solder and #187 tab terminals	D2VW-01L2A-1HS	D2VW-5L2A-1HS
	With lead wires	D2VW-01L2A-1MS	D2VW-5L2A-1MS
Hinge roller lever 	With solder and #187 tab terminals	D2VW-01L2-1HS	D2VW-5L2-1HS
	With lead wires	D2VW-01L2-1MS	D2VW-5L2-1MS

Note: The standard lengths of the lead wires (AWG20) of models incorporating them are 30 cm.

Specifications

■ Characteristics

		D2VW-01	D2VW-5
Operating speed (see note 2)		0.1 mm to 1 m/s (at pin plunger)	
Operating frequency	Mechanical	300 operations/min.	
	Electrical	60 operations/min.	
Insulation resistance		100 MΩ min. (at 500 VDC)	
Contact resistance		100 mΩ max. (initial value)	
Dielectric strength		1,000 VAC, 50/60 Hz for 1 min. between contacts of the same polarity 1,500 VAC, 50/60 Hz for 1 min. between each terminal and ground	
Inrush current		—	15 A max.
Vibration resistance	Malfunction	10 to 55 Hz, 1.5 mm double amplitude	
Shock resistance	Malfunction	300 m/s ² min. (approx. 30 g)	
Life expectancy	Mechanical	10,000,000 operations min.	
	Electrical	1,000,000 operations min.	100,000 operations min.
Ambient temperature	Operating	-40° to 90° C (with no icing)	
Ambient humidity	Operating	95% max.	
Enclosure rating		Reference to IP67 IEC 529 (lead wire type). Reference to IP50 (terminal type).	
Weight		16 g (including lead wire)	

Note: 1. Data shown are of initial value.

2. The operating speed value shown is for pin plunger models. For hinge lever models, contact OMRON.

■ Operating Characteristics

Characteristics	Part number							
	D2VW-01-1HS D2VW-01-1MS D2VW-5-1HS D2VW-5-1MS	D2VW-01L1A-1HS D2VW-01L1A-1MS D2VW-5L1A-1HS D2VW-5L1A-1MS	D2VW-01L1-1HS D2VW-01L1-1MS D2VW-5L1-1HS D2VW-5L1-1MS	D2VW-01L1B-1HS D2VW-01L1B-1MS D2VW-5L1B-1HS D2VW-5L1B-1MS	D2VW-01L3-1HS D2VW-01L3-1MS D2VW-5L3-1HS D2VW-5L3-1MS	D2VW-01L2A-1HS D2VW-01L2A-1MS D2VW-5L2A-1HS D2VW-5L2A-1MS	D2VW-01L2-1HS D2VW-01L2-1MS D2VW-5L2-1HS D2VW-5L2-1MS	
OF max.	200 g	200 g	120 g	60 g	120 g	230 g	120 g	
RF min.	30 g	20 g	15 g	5 g	15 g	20 g	15 g	
PT max.	1.2 mm	1.6 mm	4.0 mm	9.0 mm	4.0 mm	1.6 mm	4.0 mm	
OT min.	1.0 mm	0.8 mm	1.6 mm	3.2 mm	1.6 mm	0.8 mm	1.6 mm	
MD max.	0.4 mm	0.5 mm	0.8 mm	2.0 mm	0.8 mm	0.5 mm	0.8 mm	
OP	14.7±0.4 mm	15.2±0.5 mm	15.2±1.2 mm	15.2±2.6 mm	18.7±1.2 mm	20.7±0.6 mm	20.7±1.2 mm	

■ Ratings (See note 5)

D2VW-5

Rated Voltage	Non-inductive load				Inductive load			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	5 A		0.5 A		4 A		—	
250 VAC	5 A		0.5 A		4 A		—	
30 VDC	5 A		3 A		4 A		—	
125 VDC	0.4 A		0.1 A		0.4 A		—	
250 VDC	0.2 A		0.03 A		0.2 A		—	

D2VW-01

Rated Voltage	Non-inductive load				Inductive load			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	0.1 A		—		—		—	
30 VDC	0.1 A		—		—		—	

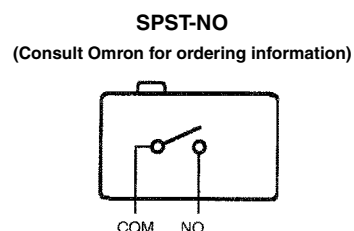
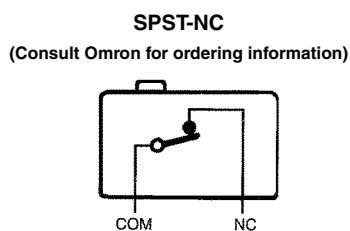
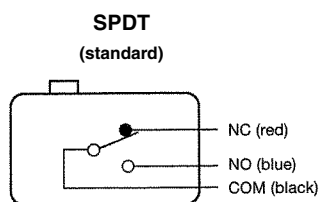
- Note:**
1. The above current ratings are the values of the steady-state current.
 2. Inductive load has a power factor of 0.7 min. (AC) and a time constant of 7 ms max. (DC).
 3. Lamp load has an inrush current of 10 times the steady-state current.
 4. Motor load has an inrush current of 6 times the steady-state current.
 5. **Rating for UL/CSA approval is as follows:**

D2VW-01 0.1A, 125 VAC

0.1A, 30 VDC

D2VW-5 3A 125 VAC, 250 VAC

■ Contact Form



■ Approvals

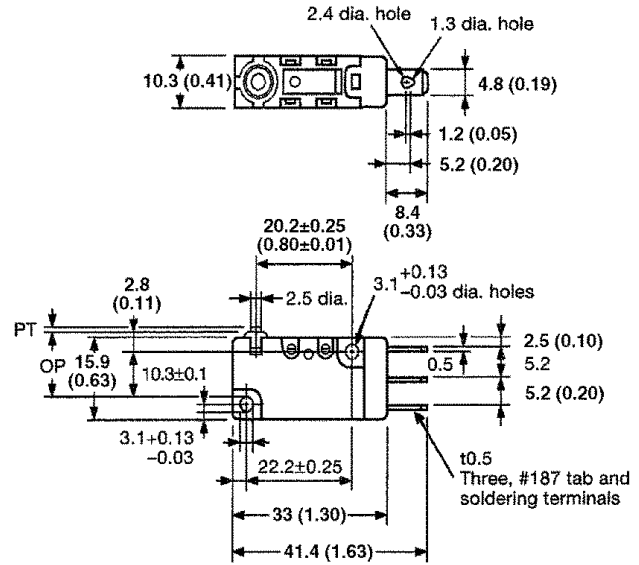
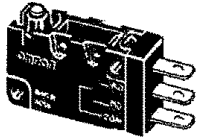
UL (File No. E41515), CSA (File No. LR21642-388), IEC 1058-1, EN conforms 61058-1

Dimensions

Unit: mm (inch)

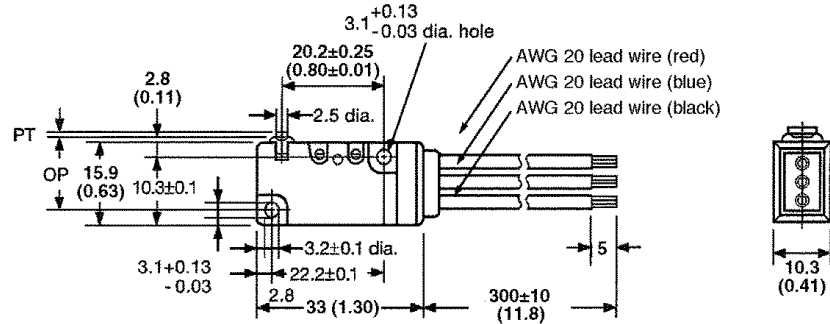
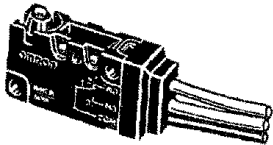
Pin plunger

D2VW-01-1HS
D2VW-5-1HS



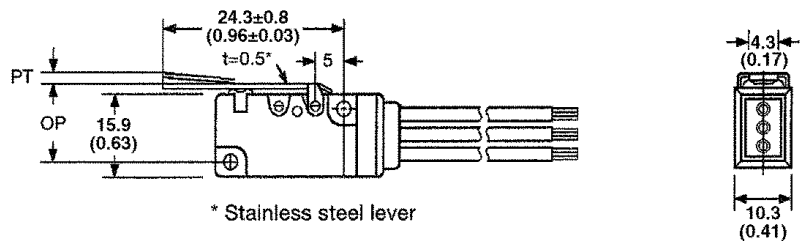
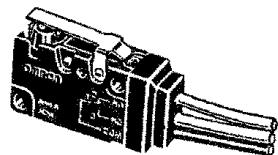
Pin plunger

D2VW-01-1MS
D2VW-5-1MS



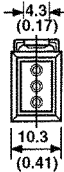
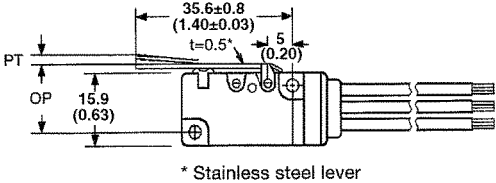
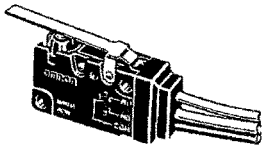
Short hinge lever

D2VW-01L1A-1MS
D2VW-5L1A-1MS



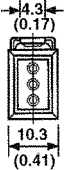
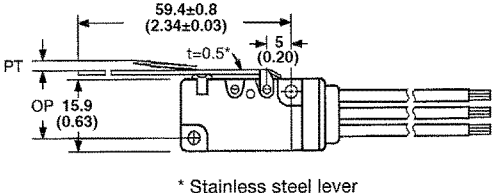
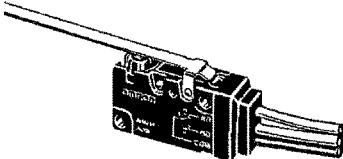
■ Hinge lever

D2VW-01L1-1MS
D2VW-5L1-1MS



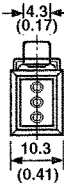
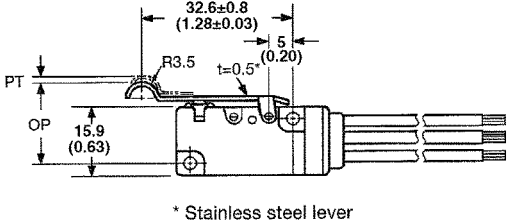
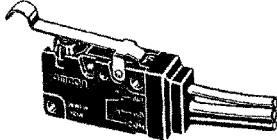
■ Long hinge lever

D2VW-01L1B-1MS
D2VW-5L1B-1MS



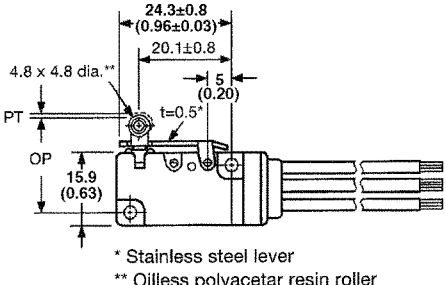
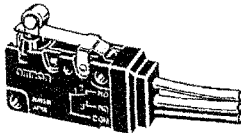
■ Simulated roller lever

D2VW-01L3-1MS
D2VW-5L3-1MS



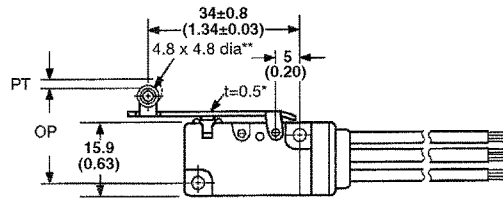
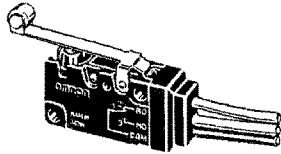
■ Short hinge roller lever

D2VW-01L2A-1MS
D2VW-5L2A-1MS



■ Hinge roller lever

D2VW-01L2-1MS
D2VW-5L2-1MS



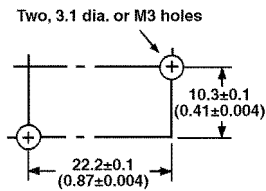
* Stainless steel lever
** Oilless polyacetal resin roller

Precautions

■ Mounting

Use two M3 mounting screws with spring washers to mount the switch. Tighten the screws to a torque of 0.39 to 0.59 N • m (4 to 6 kgf • cm).

Mounting holes



■ Operations

Make sure that the switching object is perfectly separated from the actuator when the switch is not operated and the actuator is pressed appropriately by the switching object when the switch is operated.

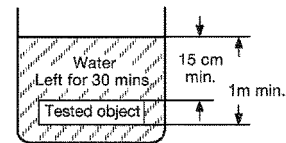
The switch should be set so that its stroke will be within the rated OT when the switch is operated.

Install the switching object so that its moving direction is the same as that of the actuator.

■ Enclosure Ratings

The D2VW was tested under water and passed the following watertightness test, which however, does not mean that the D2VW can be used in the water.

JIS C0929 (rules for testing the watertightness of electrical devices and materials), class 7 (watertightness test). Refer to the following illustration for the test method at OMRON.



Note: The object to be tested is left in the water for 30 minutes on condition that the distance between the surface of the water and the top of the object be 15 cm minimum and the distance between the surface of the water and the bottom of the object be 1 m minimum.