








A High-quality, High-precision Miniature Switch Conforms to IP67

- Monoblock construction made from single-liquid epoxy resin assures high sealing capability.
- V-series internal mechanism assures high operating-position accuracy (± 0.4 mm) and long life (10 million operations).
- A 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.



Ordering Information

Actuator		Model	
		0.1 A	5 A
Pin plunger 	With soldered and #187 tab terminals	D2VW-01-1	D2VW-5-1
	With lead wired	D2VW-01-1M (see note 2)	D2VW-5-1M (see note 2)
Short hinge lever 	With soldered and #187 tab terminals	D2VW-01L1A-1	D2VW-5L1A-1
	With lead wired	D2VW-01L1A-1M (see note 2)	D2VW-5L1A-1M (see note 2)
Hinge Lever 	With soldered and #187 tab terminals	D2VW-01L1-1	D2VW-5L1-1
	With lead wired	D2VW-01L1-1M (see note 2)	D2VW-5L1-1M (see note 2)
Long hinge lever 	With soldered and #187 tab terminals	D2VW-01L1B-1	D2VW-5L1B-1
	With lead wired	D2VW-01L1B-1M (see note 2)	D2VW-5L1B-1M (see note 2)
Simulated hinge lever 	With soldered and #187 tab terminals	D2VW-01L3-1	D2VW-5L3-1
	With lead wired	D2VW-01L3-1M (see note 2)	D2VW-5L3-1M (see note 2)
Short hinge roller lever 	With soldered and #187 tab terminals	D2VW-01L2A-1	D2VW-5L2A-1
	With lead wired	D2VW-01L2A-1M (see note 2)	D2VW-5L2A-1M (see note 2)
Hinge roller lever 	With soldered and #187 tab terminals	D2VW-01L2-1	D2VW-5L2-1
	With lead wired	D2VW-01L2-1M (see note 2)	D2VW-5L2-1M (see note 2)

Note: 1. The standard lengths of the lead wires (AV0.75f) of models incorporating them are 30 cm.

2. UL/CSA approved lead-wired models use UL/CSA approved lead wire. Model name changes from D2VW-□-1M to D2VW-□-1MS.

Specifications

■ Ratings

Model	Rated voltage	Non-inductive load				Inductive load			
		Resistive load		Lamp load		Inductive load		Motor load	
		NC	NO	NC	NO	NC	NO	NC	NO
D2VW-5	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		---	
D2VW-01	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.

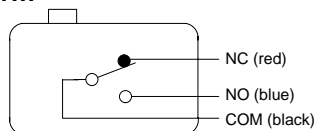
■ Approved Standards

UL (File No. E32667)/CSA (File No. LR21642)

D2VW-01 series: 0.1 A at 125 VAC, 0.1 A at 30 VDC

D2VW-5 series: 5 A at 125/250 VAC

Contact Form



■ Characteristics

Item	D2VW-01	D2VW-5
Operating speed (see note)	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) for lead wired models	
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between contacts of 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 (approx. 30G)	
Life expectancy	Mechanical: 10,000,000 operations min. Electrical: 1,000,000 operations min.	Mechanical: 10,000,000 operations min. Electrical: 100,000 operations min.
Ambient temperature	Operating: -40°C to 90°C (with no icing)	
Ambient humidity	Operating: 95% max.	
Enclosure rating	IP67 for lead wire model IP50 for terminal model	
Weight	16 g (including lead wire)	

Note: The operating speed value shown is for pin plunger models. For hinge lever models, this speed is for the plunger parts.

■ Operating Characteristics

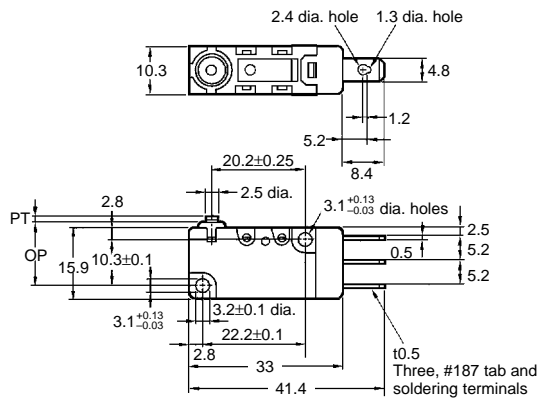
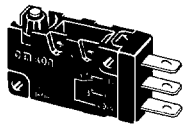
Type	Pin plunger	Short hinge lever	Hinge lever	Long hinge lever	Simulated hinge lever	Short hinge roller lever	Hinge roller lever
		D2VW-01-1 D2VW-01-1M D2VW-5-1 D2VW-5-1M	D2VW-01L1A-1 D2VW-01L1A-1M D2VW-5L1A-1 D2VW-5L1A-1M	D2VW-01L1-1 D2VW-01L1-1M D2VW-5L1-1 D2VW-5L1-1M	D2VW-01L1B-1 D2VW-01L1B-1M D2VW-5L1B-1 D2VW-5L1B-1M	D2VW-01L3-1 D2VW-01L3-1M D2VW-5L3-1 D2VW-5L3-1M	D2VW-01L2A-1 D2VW-01L2A-1M D2VW-5L2A-1 D2VW-5L2A-1M
OF max.	1.96 N (200 gf)	1.96 N (200 gf)	1.18 N (120 gf)	0.59 N (60 gf)	1.18 N (120 gf)	2.25 N (230 gf)	1.18 N (120 gf)
RF min.	0.29 N (30 gf)	0.20 N (20 gf)	0.15 N (15 gf)	0.05 N (5 gf)	0.15 N (15 gf)	0.20 N (20 gf)	0.15 N (15 gf)
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 m	15.2±2.6 mm	18.7± 1.2 mm	20.7±0.6 mm	20.7± 1.2 mm

Dimensions

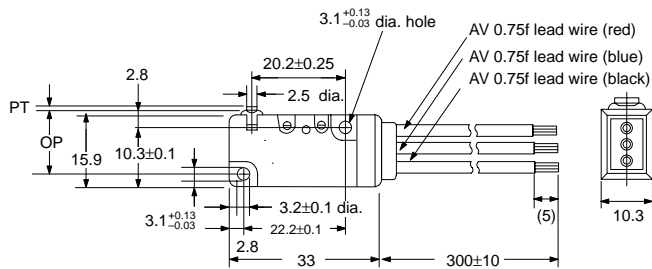
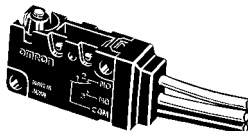
Note: All units are in millimeters unless otherwise indicated.

Pin Plunger

D2VW-01-1
D2VW-5-1

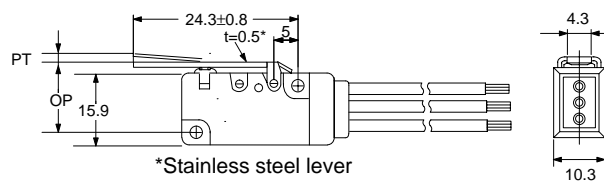
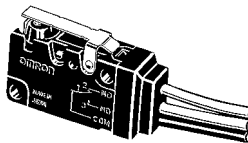


D2VW-01-1M
D2VW-5-1M



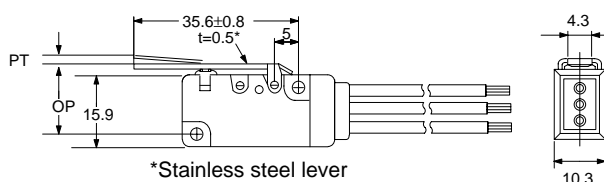
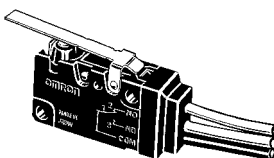
Short Hinge Lever

D2VW-01L1A-1M
D2VW-5L1A-1M



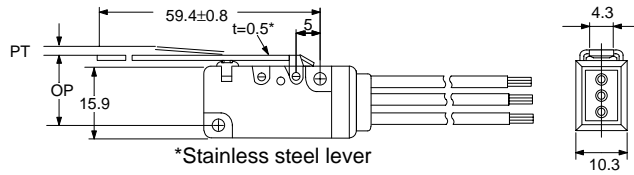
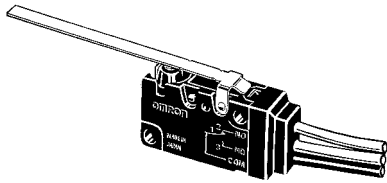
Hinge Lever

D2VW-01L1-1M
D2VW-5L1-1M



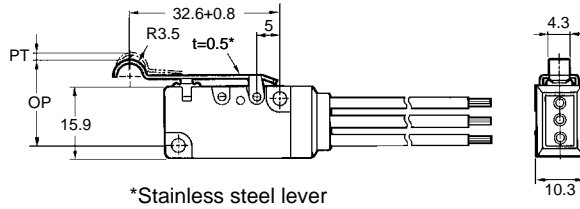
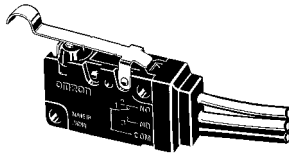
Long Hinge Lever

D2VW-01L1B-1M
D2VW-5L1B-1M



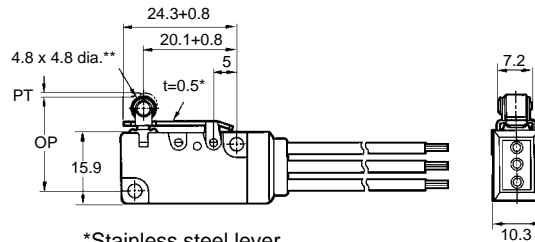
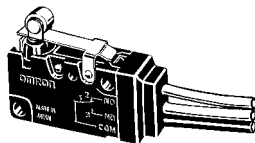
Simulated Hinge Lever

D2VW-01L3-1M
D2VW-5L3-1M



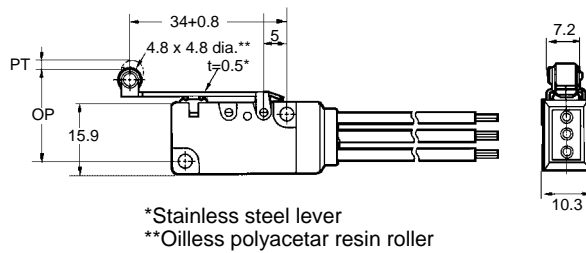
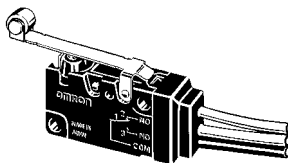
Short Hinge Roller Lever

D2VW-01L2A-1M
D2VW-5L2A-1M



Hinge Roller Lever

D2VW-01L2-1M
D2VW-5L2-1M

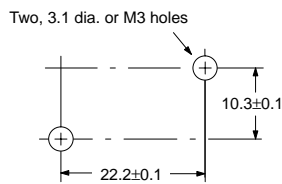


Precautions

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.

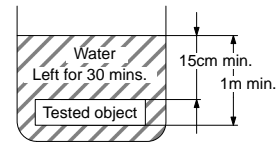
Install the switching object so that its moving direction is the same as that of the actuator.

Enclosure Ratings

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

JIS C0920 (rules for testing the watertightness of electrical devices and materials), class 7 (watertightness test). Refer to the following illustration for the test method.

IEC Publication 529, class IP67. 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.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.