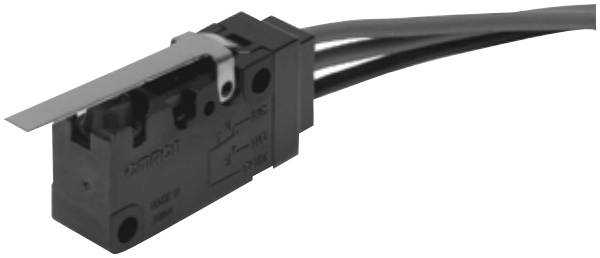
Basic Switch

D2VW

Watertight Miniature Basic Switch

- High-quality watertight, high-precision miniature basic switch — meets IP67 requirements (IEC 529)
- 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



Ordering Information


Pin plunger


Short hinge lever


Hinge lever


Long hinge lever


Simulated hinge lever

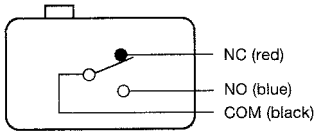

Short hinge roller lever


Hinge roller lever

Actuator	Terminal	Part Number	
		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 lever	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 hinge 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.

■ CONTACT FORM



Specifications

D2VW-5

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

D2VW-01

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

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.

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 (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)	
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.

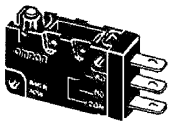
■ OPERATING CHARACTERISTICS

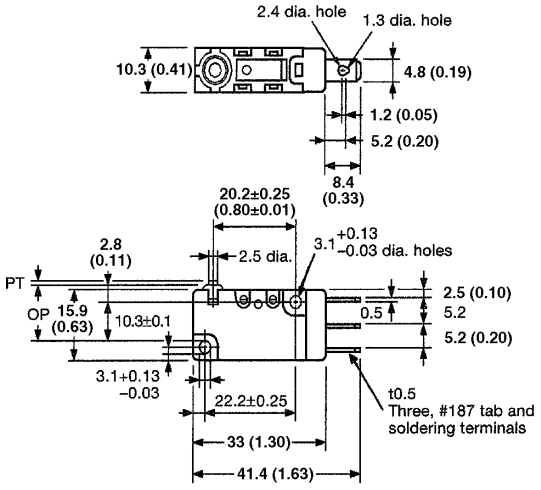
Type	Pin plunger D2VW-01-1HS D2VW-01-1MS D2VW-5-1HS D2VW-5-1MS	Short hinge lever D2VW-01L1A-1HS D2VW-01L1A-1MS D2VW-5L1A-1HS D2VW-5L1A-1MS	Hinge lever D2VW-01L1-1HS D2VW-01L1-1MS D2VW-5L1-1HS D2VW-5L1-1MS	Long hinge lever D2VW-01L1B-1HS D2VW-01L1B-1MS D2VW-5L1B-1HS D2VW-5L1B-1MS	Simulated hinge lever D2VW-01L3-1HS D2VW-01L3-1MS D2VW-5L3-1HS D2VW-5L3-1MS	Short hinge roller lever D2VW-01L2A-1HS D2VW-01L2A-1MS D2VW-5L2A-1HS D2VW-5L2A-1MS	Hinge roller lever 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

Dimensions

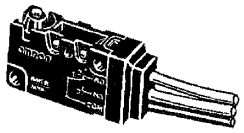
Unit: mm (inch)

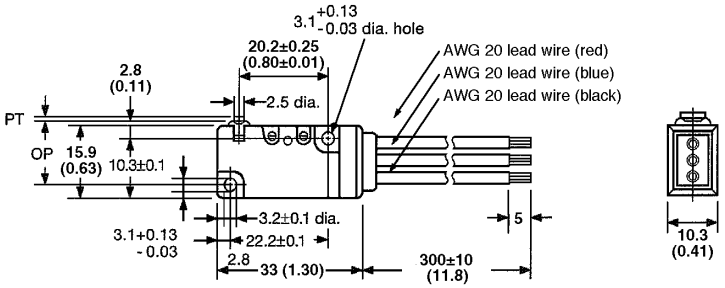
Pin plunger
D2VW-01-1HS
D2VW-5-1HS



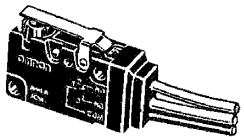


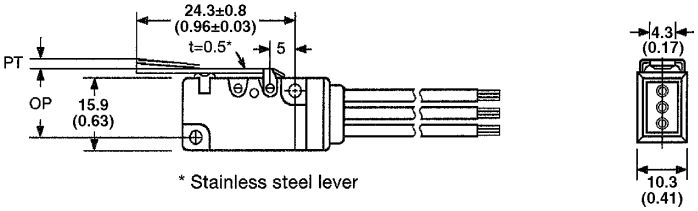
Pin plunger
D2VW-01-1MS
D2VW-5-1MS





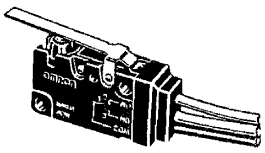
Short hinge lever
D2VW-01L1A-1MS
D2VW-5L1A-1MS

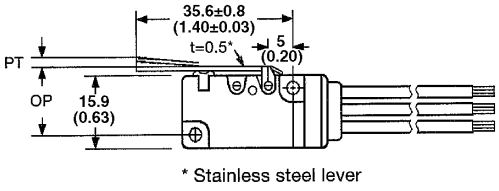




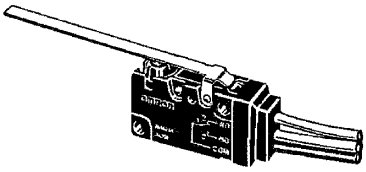
Unit: mm (inch)

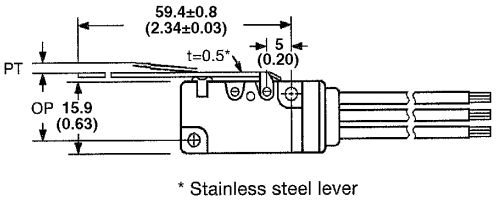
Hinge lever
D2VW-01L1-1MS
D2VW-5L1-1MS



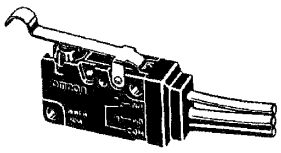


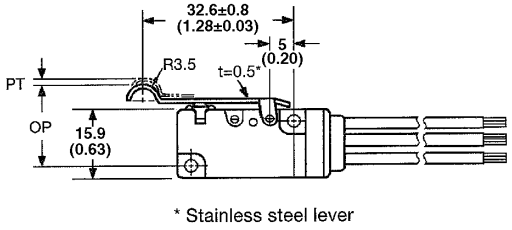
Long hinge lever
D2VW-01L1B-1MS
D2VW-5L1B-1MS

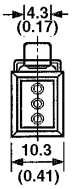




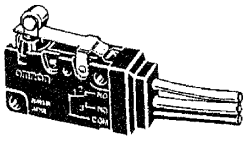
Simulated hinge lever
D2VW-01L3-1MS
D2VW-5L3-1MS

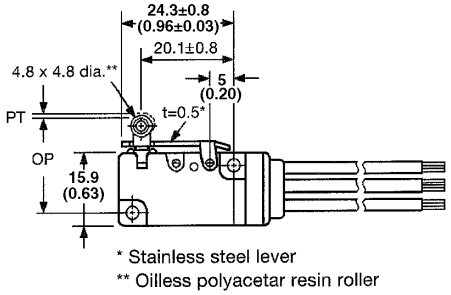




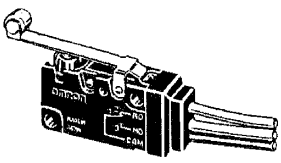


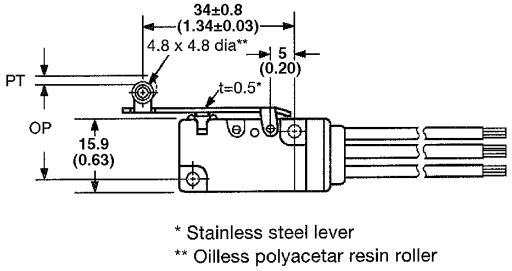
Short hinge roller lever
D2VW-01L2A-1MS
D2VW-5L2A-1MS

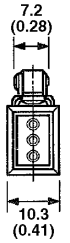




Hinge roller lever
D2VW-01L2-1MS
D2VW-5L2-1MS







■ APP ROVALS

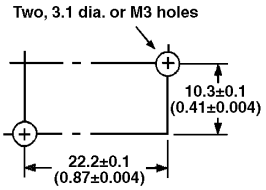
UL (File No. E41515)/CSA (File No. LR21642-388)

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



■ OPER ATIONS

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.

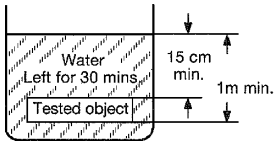
The switch should be set so that its stroke will be within the rated OT when the switch is operated.

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

■ ENCLOSURE R ATINGS

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.

OMRON

Omron Europe B.V. EMA-ISD, tel:+31 23 5681390, fax:+31 23 5681397, hp://www.eu.omron.com/emaC.

Cat. No. GC SW5 4/98 Specifications subject to change without notice. Printed in the U.S.A.