








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-01L1A-1HS	D2VW-01L1-1HS	D2VW-01L1B-1HS	D2VW-01L3-1HS	D2VW-01L2A-1HS	D2VW-01L2-1HS
	D2VW-01-1MS	D2VW-01L1A-1MS	D2VW-01L1-1MS	D2VW-01L1B-1MS	D2VW-01L3-1MS	D2VW-01L2A-1MS	D2VW-01L2-1MS
	D2VW-5-1HS	D2VW-5L1A-1HS	D2VW-5L1-1HS	D2VW-5L1B-1HS	D2VW-5L3-1HS	D2VW-5L2A-1HS	D2VW-5L2-1HS
	D2VW-5-1MS	D2VW-5L1A-1MS	D2VW-5L1-1MS	D2VW-5L1B-1MS	D2VW-5L3-1MS	D2VW-5L2A-1MS	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		—		—		—	

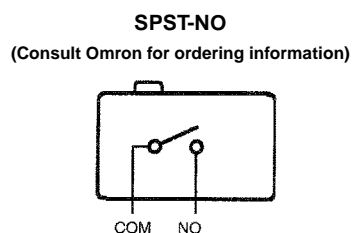
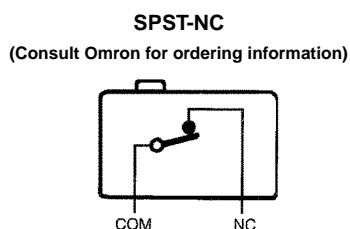
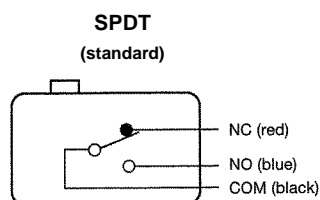
- Note:** 1. The above current ratings are the values of the steady-state current.
 2. Inductive load has a power factor of 0.7 min. (AC) and a time constant of 7 ms max. (DC).
 3. Lamp load has an inrush current of 10 times the steady-state current.
 4. Motor load has an inrush current of 6 times the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

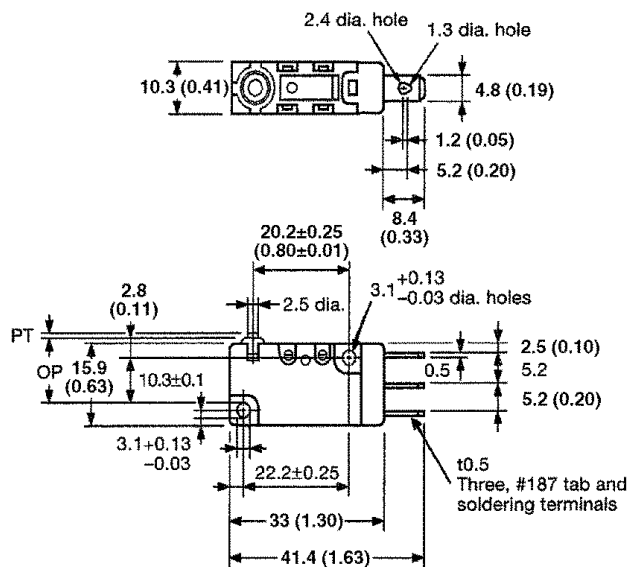
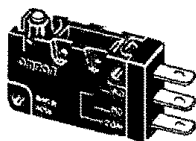
UL (File No. E41515), CSA (File No. LR21642-388), IEC 1058-1, EN conforms 61058-1

Dimensions

Unit: mm (inch)

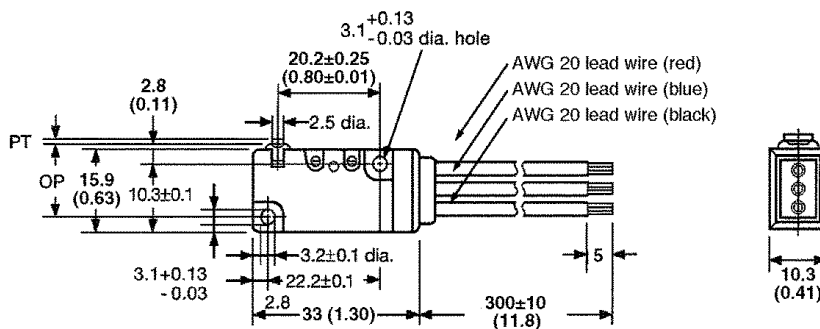
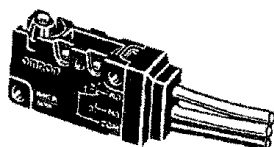
■ Pin plunger

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



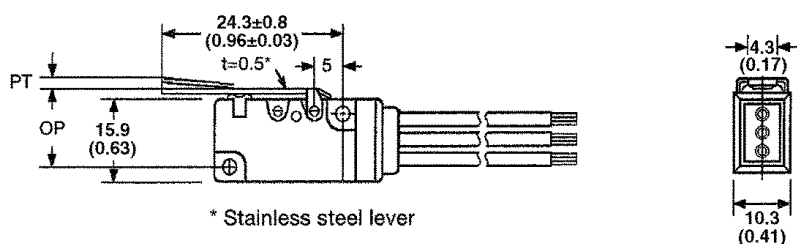
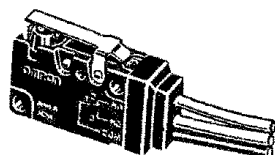
■ Pin plunger

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



■ Short hinge lever

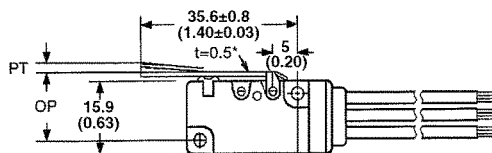
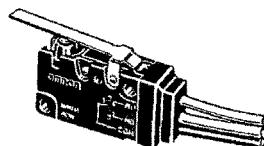
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D2VW-5L1A-1MS



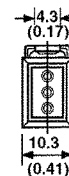
* Stainless steel lever

■ Hinge lever

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

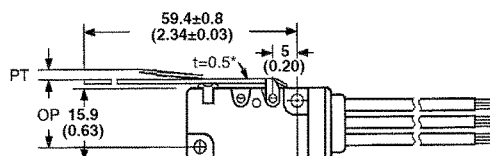
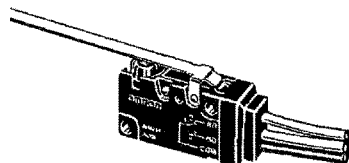


* Stainless steel lever

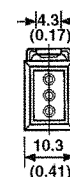


■ Long hinge lever

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

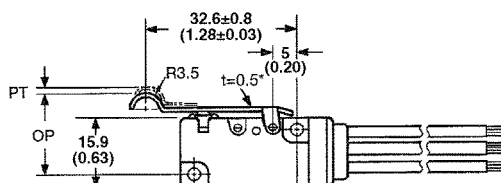
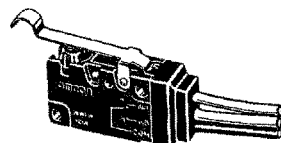


* Stainless steel lever

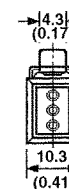


■ Simulated roller lever

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

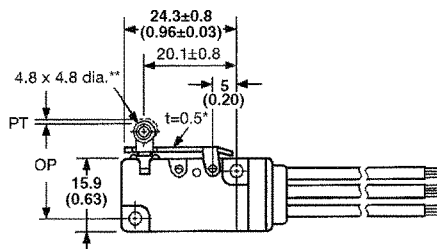
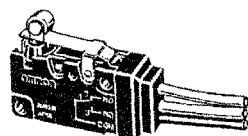


* Stainless steel lever



■ Short hinge roller lever

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



* Stainless steel lever

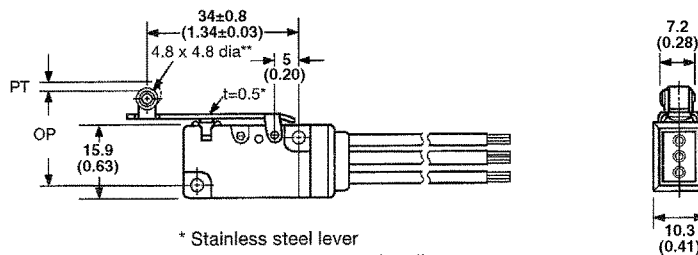
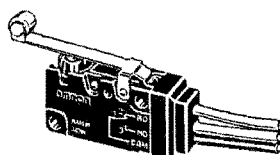
** Oilless polyacetal resin roller



■ Hinge roller lever

D2VW-01L2-1MS

D2VW-5L2-1MS

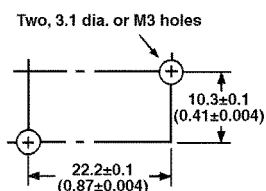


Precautions

■ 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.

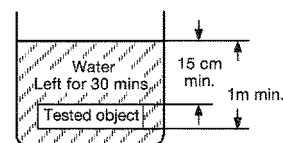
The switch should be set so that its stroke will be within the rated OT when the switch is operated.

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.

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10. Shipping; Delivery. Unless otherwise expressly agreed in writing by Seller:
 1. Shipments shall be by a carrier selected by Seller;
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 3. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Products shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Products until the full purchase price is paid by Buyer;
 4. Delivery and shipping dates are estimates only.
 5. Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
11. Claims. Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Seller in the condition claimed.
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 - (iii) Use in consumer products or any use in significant quantities.
 - (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this product.

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6. **RoHS Compliance.** Where indicated, our products currently comply, to the best of our knowledge as of the date of this publication, with the requirements of the European Union's Directive on the Restriction of certain Hazardous Substances ("RoHS"), although the requirements of RoHS do not take effect until July 2006. These requirements may be subject to change. Please consult our website for current information.

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ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

OMRON

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