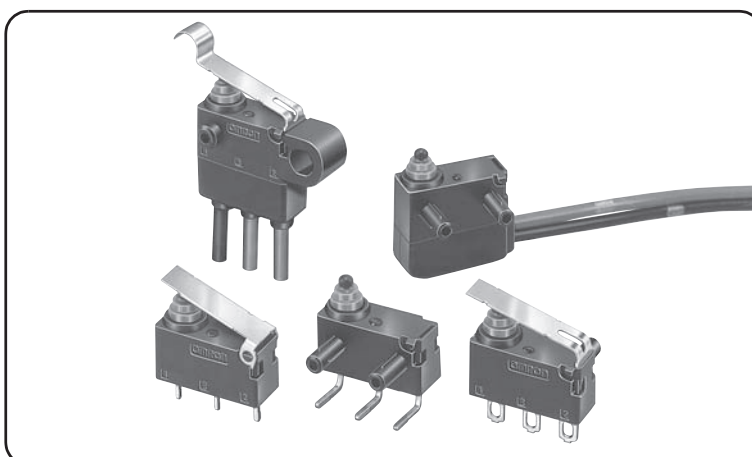


D2HW-AQ

Sealed Ultra Subminiature Basic Switch

Smallest sealed snap-action switch in the industry with a very long stroke for reliable ON/OFF action

- The case dimensions are 78% of conventional models, contributing to down-sizing of mechanical modules.
- Extra-long stroke even without levers. (OT reference value: 1.4 mm).
- Made of environmentally-friendly materials. All models are lead-free, including molded lead wire models.



Model Number Legend

D2HW-123456-AQ

1. Mounting Structure

- A : Without posts (base-mounting)
- BR : Long post on right
- BL : Long post on left
- C : M3-screw mounting models
- ER : Short post on right
- EL : Short post on left

2. Ratings

- 2 : 5 VDC 1mA to 12 VDC 2A

3. Actuator

- 0 : Pin plunger
- 1 : Hinge lever
- 2 : Long hinge lever
- 3 : Simulated roller lever
- 4 : Hinge roller lever
- 5 : Straight leaf lever
- 6 : Leaf lever
- 7 : Simulated roller leaf lever
- 8 : Long leaf lever

4. Contact form

- 1 : SPDT
- 2 : SPST-NC (Molded lead wire models only)
- 3 : SPST-NO (Molded lead wire models only)

5. Terminals

- D : PCB terminals (Straight)
- DR : PCB Terminals (Right-angled)
- DL : PCB Terminals (Left-angled)
- H : Solder terminals
- M : Molded lead wires downwards
- MR : Molded lead wires on right-side
- ML : Molded lead wires on left-side

6. Special Specification

List of Models

Due to the idiosyncrasies of the automotive parts industry, a business decision is required on individual items to determine when to start supply. Contact your OMRON representative for information on individual models.

●PCB-mounted Models

List of Models				Long post on right 	Short post on right 
Actuator	Terminals	Contact form			
Pin plunger 	For PCB	Straight	SPDT	-	-
		Angled		D2HW-BR201DR-AQ	D2HW-ER201DR-AQ
Hinge lever 		Straight		-	-
		Angled		D2HW-BR211DR-AQ	D2HW-ER211DR-AQ
Long hinge lever 		Straight		-	-
		Angled		D2HW-BR221DR-AQ	D2HW-ER221DR-AQ
Simulated roller hinge lever 		Straight		-	-
		Angled		D2HW-BR231DR-AQ	D2HW-ER231DR-AQ

List of Models				Long post on left 	Short post on left 	Without posts 
Actuator	Terminals	Contact form				
Pin plunger 	For PCB	Straight	SPDT	-	-	D2HW-A201D-AQ
		Angled		D2HW-BL201DL-AQ	D2HW-EL201DL-AQ	-
Hinge lever 		Straight		-	-	D2HW-A211D-AQ
		Angled		D2HW-BL211DL-AQ	D2HW-EL211DL-AQ	-
Long hinge lever 		Straight		-	-	D2HW-A221D-AQ
		Angled		D2HW-BL221DL-AQ	D2HW-EL221DL-AQ	-
Simulated roller hinge lever 		Straight		-	-	D2HW-A231D-AQ
		Angled		D2HW-BL231DL-AQ	D2HW-EL231DL-AQ	-

Note. Angled terminals and posts are the same direction.

●Models with Solder Terminals or Molded Lead Wires

Actuator		List of Models		Long post on right 	Short post on right 
		Terminals	Contact form		
Pin plunger 		Solder	SPDT	D2HW-BR201H-AQ	D2HW-ER201H-AQ
			SPDT	D2HW-BR201M-AQ	D2HW-ER201M-AQ
			SPST-NC	D2HW-BR202M-AQ	D2HW-ER202M-AQ
			SPST-NO	D2HW-BR203M-AQ	D2HW-ER203M-AQ
			SPST-NC	D2HW-BR202MR-AQ	D2HW-ER202MR-AQ
			SPST-NO	D2HW-BR203MR-AQ	D2HW-ER203MR-AQ
			SPST-NC	D2HW-BR202ML-AQ	D2HW-ER202ML-AQ
			SPST-NO	D2HW-BR203ML-AQ	D2HW-ER203ML-AQ
Hinge lever 		Solder	SPDT	D2HW-BR211H-AQ	D2HW-ER211H-AQ
			SPDT	D2HW-BR211M-AQ	D2HW-ER211M-AQ
			SPST-NC	D2HW-BR212M-AQ	D2HW-ER212M-AQ
			SPST-NO	D2HW-BR213M-AQ	D2HW-ER213M-AQ
			SPST-NC	D2HW-BR212MR-AQ	D2HW-ER212MR-AQ
			SPST-NO	D2HW-BR213MR-AQ	D2HW-ER213MR-AQ
			SPST-NC	D2HW-BR212ML-AQ	D2HW-ER212ML-AQ
			SPST-NO	D2HW-BR213ML-AQ	D2HW-ER213ML-AQ
Long hinge lever 		Solder	SPDT	D2HW-BR221H-AQ	D2HW-ER221H-AQ
			SPDT	D2HW-BR221M-AQ	D2HW-ER221M-AQ
			SPST-NC	D2HW-BR222M-AQ	D2HW-ER222M-AQ
			SPST-NO	D2HW-BR223M-AQ	D2HW-ER223M-AQ
			SPST-NC	D2HW-BR222MR-AQ	D2HW-ER222MR-AQ
			SPST-NO	D2HW-BR223MR-AQ	D2HW-ER223MR-AQ
			SPST-NC	D2HW-BR222ML-AQ	D2HW-ER222ML-AQ
			SPST-NO	D2HW-BR223ML-AQ	D2HW-ER223ML-AQ
Simulated roller hinge lever 		Solder	SPDT	D2HW-BR231H-AQ	D2HW-ER231H-AQ
			SPDT	D2HW-BR231M-AQ	D2HW-ER231M-AQ
			SPST-NC	D2HW-BR232M-AQ	D2HW-ER232M-AQ
			SPST-NO	D2HW-BR233M-AQ	D2HW-ER233M-AQ
			SPST-NC	D2HW-BR232MR-AQ	D2HW-ER232MR-AQ
			SPST-NO	D2HW-BR233MR-AQ	D2HW-ER233MR-AQ
			SPST-NC	D2HW-BR232ML-AQ	D2HW-ER232ML-AQ
			SPST-NO	D2HW-BR233ML-AQ	D2HW-ER233ML-AQ
Hinge roller lever 		Solder	SPDT	D2HW-BR241H-AQ	D2HW-ER241H-AQ
			SPDT	D2HW-BR241M-AQ	D2HW-ER241M-AQ
			SPST-NC	D2HW-BR242M-AQ	D2HW-ER242M-AQ
			SPST-NO	D2HW-BR243M-AQ	D2HW-ER243M-AQ
			SPST-NC	D2HW-BR242MR-AQ	D2HW-ER242MR-AQ
			SPST-NO	D2HW-BR243MR-AQ	D2HW-ER243MR-AQ
			SPST-NC	D2HW-BR242ML-AQ	D2HW-ER242ML-AQ
			SPST-NO	D2HW-BR243ML-AQ	D2HW-ER243ML-AQ
Straight leaf lever 		Solder	SPDT	D2HW-BR251H-AQ	D2HW-ER251H-AQ
			SPDT	D2HW-BR251M-AQ	D2HW-ER251M-AQ
			SPST-NC	D2HW-BR252M-AQ	D2HW-ER252M-AQ
			SPST-NO	D2HW-BR253M-AQ	D2HW-ER253M-AQ
			SPST-NC	D2HW-BR252MR-AQ	D2HW-ER252MR-AQ
			SPST-NO	D2HW-BR253MR-AQ	D2HW-ER253MR-AQ
			SPST-NC	D2HW-BR252ML-AQ	D2HW-ER252ML-AQ
			SPST-NO	D2HW-BR253ML-AQ	D2HW-ER253ML-AQ
Leaf lever 		Solder	SPDT	D2HW-BR261H-AQ	D2HW-ER261H-AQ
			SPDT	D2HW-BR261M-AQ	D2HW-ER261M-AQ
			SPST-NC	D2HW-BR262M-AQ	D2HW-ER262M-AQ
			SPST-NO	D2HW-BR263M-AQ	D2HW-ER263M-AQ
			SPST-NC	D2HW-BR262MR-AQ	D2HW-ER262MR-AQ
			SPST-NO	D2HW-BR263MR-AQ	D2HW-ER263MR-AQ
			SPST-NC	D2HW-BR262ML-AQ	D2HW-ER262ML-AQ
			SPST-NO	D2HW-BR263ML-AQ	D2HW-ER263ML-AQ
Simulated roller leaf lever 		Solder	SPDT	D2HW-BR271H-AQ	D2HW-ER271H-AQ
			SPDT	D2HW-BR271M-AQ	D2HW-ER271M-AQ
			SPST-NC	D2HW-BR272M-AQ	D2HW-ER272M-AQ
			SPST-NO	D2HW-BR273M-AQ	D2HW-ER273M-AQ
			SPST-NC	D2HW-BR272MR-AQ	D2HW-ER272MR-AQ
			SPST-NO	D2HW-BR273MR-AQ	D2HW-ER273MR-AQ
			SPST-NC	D2HW-BR272ML-AQ	D2HW-ER272ML-AQ
			SPST-NO	D2HW-BR273ML-AQ	D2HW-ER273ML-AQ
Long leaf lever 		Solder	SPDT	D2HW-BR281H-AQ	D2HW-ER281H-AQ
			SPDT	D2HW-BR281M-AQ	D2HW-ER281M-AQ
			SPST-NC	D2HW-BR282M-AQ	D2HW-ER282M-AQ
			SPST-NO	D2HW-BR283M-AQ	D2HW-ER283M-AQ
			SPST-NC	D2HW-BR282MR-AQ	D2HW-ER282MR-AQ
			SPST-NO	D2HW-BR283MR-AQ	D2HW-ER283MR-AQ
			SPST-NC	D2HW-BR282ML-AQ	D2HW-ER282ML-AQ
			SPST-NO	D2HW-BR283ML-AQ	D2HW-ER283ML-AQ

Note. The length of standard lead wires (AVSS 0.5) for molded lead wire models shown above is 30 cm.

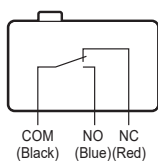
●Models with Solder Terminals or Molded Lead Wires

			List of Models	Long post on left 	Short post on left 	M3-screw mounting 
Actuator	Terminals		Contact form			
Pin plunger	Solder		SPDT	D2HW-BL201H-AQ	D2HW-EL201H-AQ	D2HW-C201H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL201M-AQ	D2HW-EL201M-AQ	D2HW-C201M-AQ
			SPST-NC	D2HW-BL202M-AQ	D2HW-EL202M-AQ	D2HW-C202M-AQ
			SPST-NO	D2HW-BL203M-AQ	D2HW-EL203M-AQ	D2HW-C203M-AQ
		Right-side	SPST-NC	D2HW-BL202MR-AQ	D2HW-EL202MR-AQ	D2HW-C202MR-AQ
			SPST-NO	D2HW-BL203MR-AQ	D2HW-EL203MR-AQ	D2HW-C203MR-AQ
			Left-side	SPST-NC	D2HW-BL202ML-AQ	D2HW-EL202ML-AQ
	SPST-NO	D2HW-BL203ML-AQ		D2HW-EL203ML-AQ	-	
Hinge lever	Solder		SPDT	D2HW-BL211H-AQ	D2HW-EL211H-AQ	D2HW-C211H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL211M-AQ	D2HW-EL211M-AQ	D2HW-C211M-AQ
			SPST-NC	D2HW-BL212M-AQ	D2HW-EL212M-AQ	D2HW-C212M-AQ
			SPST-NO	D2HW-BL213M-AQ	D2HW-EL213M-AQ	D2HW-C213M-AQ
		Right-side	SPST-NC	D2HW-BL212MR-AQ	D2HW-EL212MR-AQ	D2HW-C212MR-AQ
			SPST-NO	D2HW-BL213MR-AQ	D2HW-EL213MR-AQ	D2HW-C213MR-AQ
			Left-side	SPST-NC	D2HW-BL212ML-AQ	D2HW-EL212ML-AQ
	SPST-NO	D2HW-BL213ML-AQ		D2HW-EL213ML-AQ	-	
Long hinge lever	Solder		SPDT	D2HW-BL221H-AQ	D2HW-EL221H-AQ	D2HW-C221H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL221M-AQ	D2HW-EL221M-AQ	D2HW-C221M-AQ
			SPST-NC	D2HW-BL222M-AQ	D2HW-EL222M-AQ	D2HW-C222M-AQ
			SPST-NO	D2HW-BL223M-AQ	D2HW-EL223M-AQ	D2HW-C223M-AQ
		Right-side	SPST-NC	D2HW-BL222MR-AQ	D2HW-EL222MR-AQ	D2HW-C222MR-AQ
			SPST-NO	D2HW-BL223MR-AQ	D2HW-EL223MR-AQ	D2HW-C223MR-AQ
			Left-side	SPST-NC	D2HW-BL222ML-AQ	D2HW-EL222ML-AQ
	SPST-NO	D2HW-BL223ML-AQ		D2HW-EL223ML-AQ	-	
Simulated roller hinge lever	Solder		SPDT	D2HW-BL231H-AQ	D2HW-EL231H-AQ	D2HW-C231H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL231M-AQ	D2HW-EL231M-AQ	D2HW-C231M-AQ
			SPST-NC	D2HW-BL232M-AQ	D2HW-EL232M-AQ	D2HW-C232M-AQ
			SPST-NO	D2HW-BL233M-AQ	D2HW-EL233M-AQ	D2HW-C233M-AQ
		Right-side	SPST-NC	D2HW-BL232MR-AQ	D2HW-EL232MR-AQ	D2HW-C232MR-AQ
			SPST-NO	D2HW-BL233MR-AQ	D2HW-EL233MR-AQ	D2HW-C233MR-AQ
			Left-side	SPST-NC	D2HW-BL232ML-AQ	D2HW-EL232ML-AQ
	SPST-NO	D2HW-BL233ML-AQ		D2HW-EL233ML-AQ	-	
Hinge roller lever	Solder		SPDT	D2HW-BL241H-AQ	D2HW-EL241H-AQ	D2HW-C241H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL241M-AQ	D2HW-EL241M-AQ	D2HW-C241M-AQ
			SPST-NC	D2HW-BL242M-AQ	D2HW-EL242M-AQ	D2HW-C242M-AQ
			SPST-NO	D2HW-BL243M-AQ	D2HW-EL243M-AQ	D2HW-C243M-AQ
		Right-side	SPST-NC	D2HW-BL242MR-AQ	D2HW-EL242MR-AQ	D2HW-C242MR-AQ
			SPST-NO	D2HW-BL243MR-AQ	D2HW-EL243MR-AQ	D2HW-C243MR-AQ
			Left-side	SPST-NC	D2HW-BL242ML-AQ	D2HW-EL242ML-AQ
	SPST-NO	D2HW-BL243ML-AQ		D2HW-EL243ML-AQ	-	
Straight leaf lever	Solder		SPDT	D2HW-BL251H-AQ	D2HW-EL251H-AQ	D2HW-C251H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL251M-AQ	D2HW-EL251M-AQ	D2HW-C251M-AQ
			SPST-NC	D2HW-BL252M-AQ	D2HW-EL252M-AQ	D2HW-C252M-AQ
			SPST-NO	D2HW-BL253M-AQ	D2HW-EL253M-AQ	D2HW-C253M-AQ
		Right-side	SPST-NC	D2HW-BL252MR-AQ	D2HW-EL252MR-AQ	D2HW-C252MR-AQ
			SPST-NO	D2HW-BL253MR-AQ	D2HW-EL253MR-AQ	D2HW-C253MR-AQ
			Left-side	SPST-NC	D2HW-BL252ML-AQ	D2HW-EL252ML-AQ
	SPST-NO	D2HW-BL253ML-AQ		D2HW-EL253ML-AQ	-	
Leaf lever	Solder		SPDT	D2HW-BL261H-AQ	D2HW-EL261H-AQ	D2HW-C261H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL261M-AQ	D2HW-EL261M-AQ	D2HW-C261M-AQ
			SPST-NC	D2HW-BL262M-AQ	D2HW-EL262M-AQ	D2HW-C262M-AQ
			SPST-NO	D2HW-BL263M-AQ	D2HW-EL263M-AQ	D2HW-C263M-AQ
		Right-side	SPST-NC	D2HW-BL262MR-AQ	D2HW-EL262MR-AQ	D2HW-C262MR-AQ
			SPST-NO	D2HW-BL263MR-AQ	D2HW-EL263MR-AQ	D2HW-C263MR-AQ
			Left-side	SPST-NC	D2HW-BL262ML-AQ	D2HW-EL262ML-AQ
	SPST-NO	D2HW-BL263ML-AQ		D2HW-EL263ML-AQ	-	
Simulated roller leaf lever	Solder		SPDT	D2HW-BL271H-AQ	D2HW-EL271H-AQ	D2HW-C271H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL271M-AQ	D2HW-EL271M-AQ	D2HW-C271M-AQ
			SPST-NC	D2HW-BL272M-AQ	D2HW-EL272M-AQ	D2HW-C272M-AQ
			SPST-NO	D2HW-BL273M-AQ	D2HW-EL273M-AQ	D2HW-C273M-AQ
		Right-side	SPST-NC	D2HW-BL272MR-AQ	D2HW-EL272MR-AQ	D2HW-C272MR-AQ
			SPST-NO	D2HW-BL273MR-AQ	D2HW-EL273MR-AQ	D2HW-C273MR-AQ
			Left-side	SPST-NC	D2HW-BL272ML-AQ	D2HW-EL272ML-AQ
	SPST-NO	D2HW-BL273ML-AQ		D2HW-EL273ML-AQ	-	
Long leaf lever	Solder		SPDT	D2HW-BL281H-AQ	D2HW-EL281H-AQ	D2HW-C281H-AQ
	Molded lead wires	Downwards	SPDT	D2HW-BL281M-AQ	D2HW-EL281M-AQ	D2HW-C281M-AQ
			SPST-NC	D2HW-BL282M-AQ	D2HW-EL282M-AQ	D2HW-C282M-AQ
			SPST-NO	D2HW-BL283M-AQ	D2HW-EL283M-AQ	D2HW-C283M-AQ
		Right-side	SPST-NC	D2HW-BL282MR-AQ	D2HW-EL282MR-AQ	D2HW-C282MR-AQ
			SPST-NO	D2HW-BL283MR-AQ	D2HW-EL283MR-AQ	D2HW-C283MR-AQ
			Left-side	SPST-NC	D2HW-BL282ML-AQ	D2HW-EL282ML-AQ
	SPST-NO	D2HW-BL283ML-AQ		D2HW-EL283ML-AQ	-	

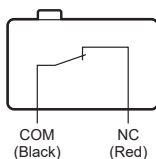
Note. The length of standard lead wires (AVSS 0.5) for molded lead wire models shown above is 30 cm.

Contact form

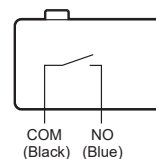
●SPDT



● SPST-NC, (Molded Lead Wire Models Only)



● SPST-NO, (Molded Lead Wire Models Only)



Molded lead wire colors are indicated in parentheses.

Contact Specifications

Contact	Specification	Crossbar
	Material	Gold alloy
	Gap (standard value)	0.5 mm
Minimum applicable load (see note)		5 VDC 1mA

Ratings

Rated voltage	Resistive load
125 VAC	0.1A
12 VDC	2A
24 VDC	1A
42 VDC	0.5A

Note. The above rating values apply under the following test conditions.

- (1) Ambient temperature: 20±2°C
- (2) Ambient humidity: 65±5 %
- (3) Operating frequency: 30 operations/min

Characteristics

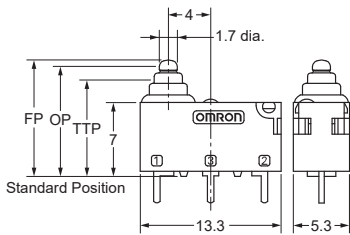
Permissible operating speed		1 mm to 500 mm/s (for pin plunger models)
Permissible operating frequency		30 operations/min
Insulation resistance		100 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)	Terminals	100 mΩ max.
	Molded lead wire models	150 mΩ max.
Dielectric strength	Between terminals of the same polarity	600 VAC 50/60 Hz 1min
	Between current-carrying metal parts and ground	1,500 VAC 50/60 Hz 1 min
	Between terminals and non-current-carrying metal parts	1,500 VAC 50/60 Hz 1 min
Vibration resistance * 1	Malfunction	10 to 55 Hz, 1.5 mm double amplitude
Shock resistance	Durability	1,000 m/s ² {approx. 100G} max.
	Malfunction * 1	300 m/s ² {approx. 30G} max.
Durability * 2	Mechanical	1,000,000 operations min. (30 operations/min)
	Electrical	100,000 operations min. (20 operations/min)
Degree of protection	Terminals	IEC IP67 (excluding the terminals on terminal models)
	molded lead wire models	IEC IP67
Ambient operating temperature		-40 to +85°C (at ambient humidity of 60% max.) (with no icing or condensation)
Ambient operating humidity		95% max. (for +5 to +35°C)
Weight		Approx. 0.7 g (for pin plunger models with terminals)

Note. The data given above are initial values.

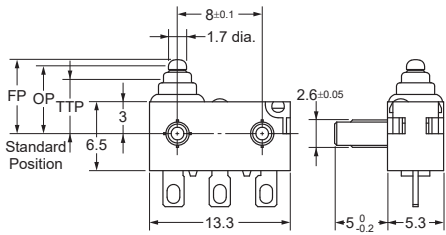
- *1. For the pin plunger models, the above values apply for use at the free position, operating position, and total travel position. For the lever models, they apply at the total travel position. Close or open circuit of the contact is 1ms max.
- *2. For testing conditions, consult your OMRON sales representative.

Mounting Structure and Reference Positions for Operating Characteristics (Unit: mm)

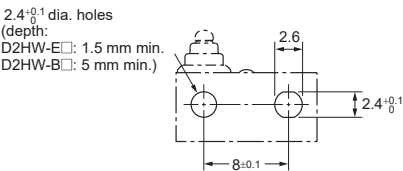
●Without posts
D2HW-A□



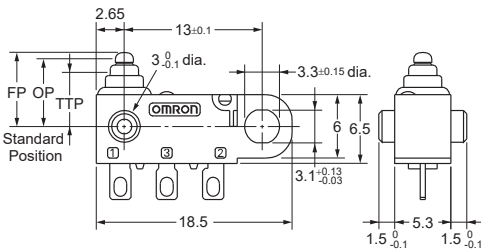
●Long post
D2HW-B□



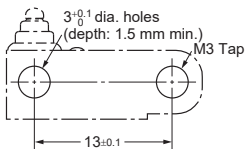
Mounting Hole Dimensions (Reference)



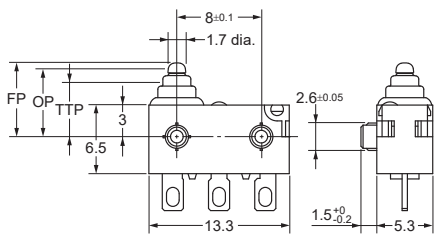
●M3-screw Mounting Models
D2HW-C□



Mounting Hole Dimensions (Reference)



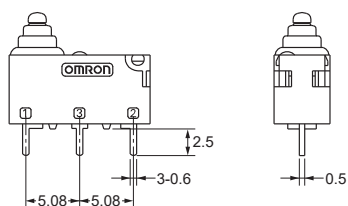
●Short post
D2HW-E□



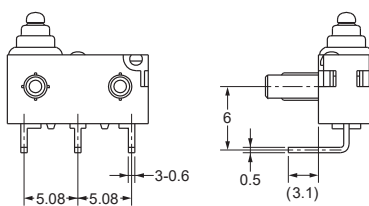
Note. The reference positions used for Free Position (FP), Operating Position (OP), and Total Travel Position (TTP) values are as shown above for each type of mounting.

Terminals/Apearances (Unit: mm)

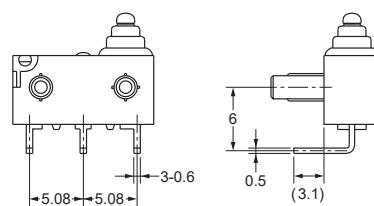
●PCB terminals (Straight)



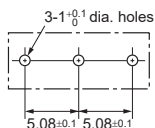
●PCB Terminals (Left-angled)



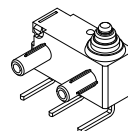
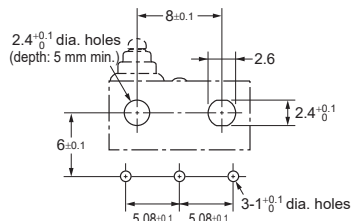
●PCB terminals (Right-angled)



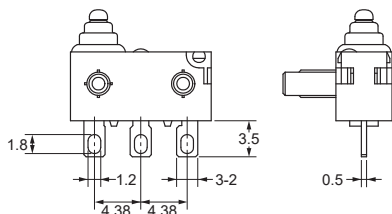
<PCB Mounting Dimensions (Reference)>



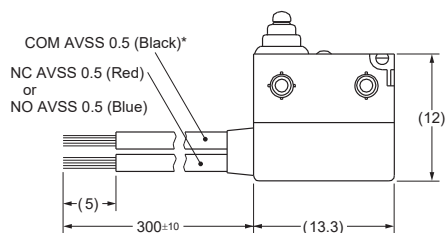
<PCB Cutout Dimensions (Reference)>



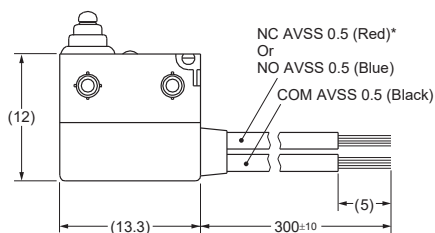
●Solder terminals



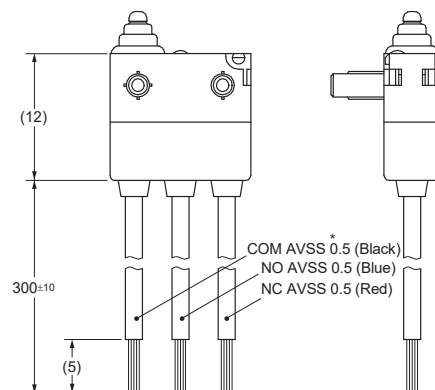
●Molded Lead Wires on Left-side



●Molded Lead Wires on Right-side



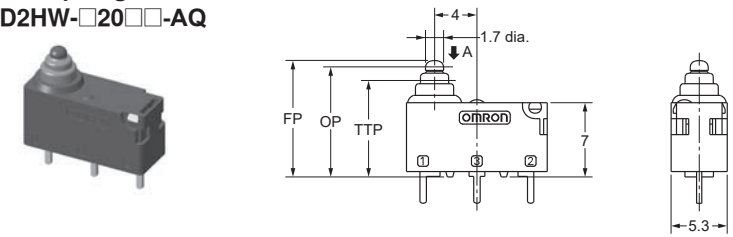
●Molded Lead Wires Downwards



Dimensions (Unit: mm) /Operating Characteristics

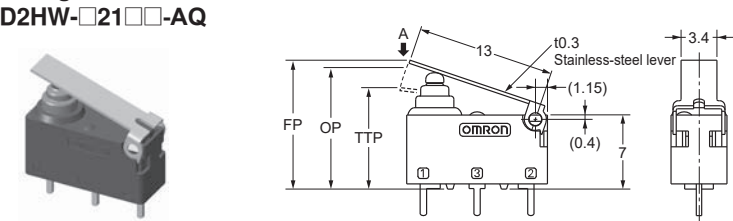
The following illustrations and drawings are representative models. When ordering, replace □ with the code for the mounting structure, contact form and terminal that you need.
See the "■List of Models" for available combinations of appearances.
Refer to page 28 to 29 for the mounting structures and terminal forms.

●Pin plunger
D2HW-□20□□-AQ



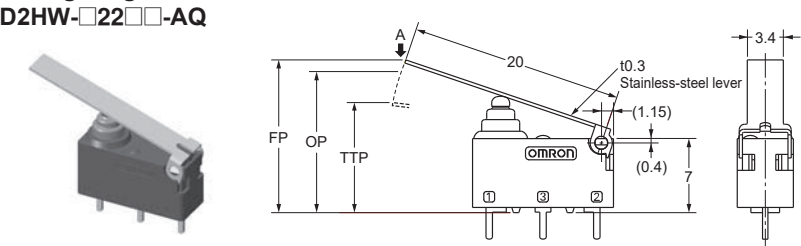
Operating characteristics	Type	Without posts	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	0.75N {76 gf}		
Releasing Force	RF Min.	0.10N {10 gf}		
Overtravel	OT	1.4 mm (reference value)		
Movement Differential	MD Max.	0.25 mm		
Free Position	FP Max.	11.2 mm	7.2 mm	
Operating Position	OP	10.4±0.2 mm	6.4±0.2 mm	
Total Travel Position	TTP Max.	9.1 mm	5.1 mm	

●Hinge Lever
D2HW-□21□□-AQ



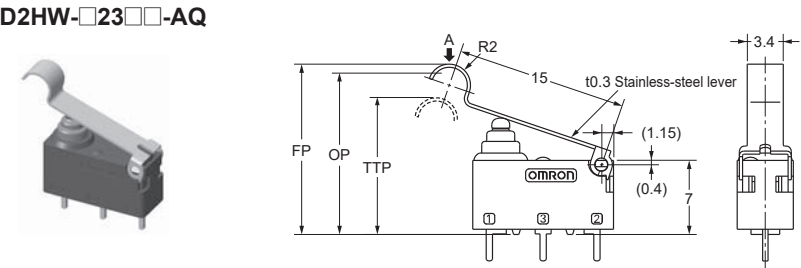
Operating characteristics	Type	Without posts	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	0.75N {76 gf}		
Releasing Force	RF Min.	0.07N {7 gf}		
Overtravel	OT	1.6 mm (reference value)		
Movement Differential	MD Max.	0.5 mm		
Free Position	FP Max.	12.8 mm	8.8 mm	
Operating Position	OP	11.5±0.5 mm	7.5±0.5 mm	
Total Travel Position	TTP Max.	10 mm	6 mm	

●Long Hinge Lever
D2HW-□22□□-AQ



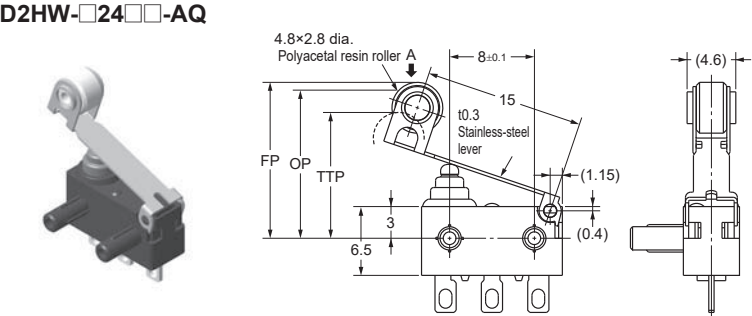
Operating characteristics	Type	Without posts	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	0.5N {50 gf}		
Releasing Force	RF Min.	0.03N {3 gf}		
Overtravel	OT	2.5 mm (reference value)		
Movement Differential	MD Max.	0.8 mm		
Free Position	FP Max.	15.5 mm	11.5 mm	
Operating Position	OP	13.3±0.8 mm	9.3±0.8 mm	
Total Travel Position	TTP Max.	11 mm	7 mm	

●Simulated Roller Lever
D2HW-□23□□-AQ



Operating characteristics	Type	Without posts	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	0.65N {66 gf}		
Releasing Force	RF Min.	0.05N {5 gf}		
Overtravel	OT	1.9 mm (reference value)		
Movement Differential	MD Max.	0.5 mm		
Free Position	FP Max.	16.5 mm	12.5 mm	
Operating Position	OP	15.2±0.5 mm	11.2±0.5 mm	
Total Travel Position	TTP Max.	13.5 mm	9.5 mm	

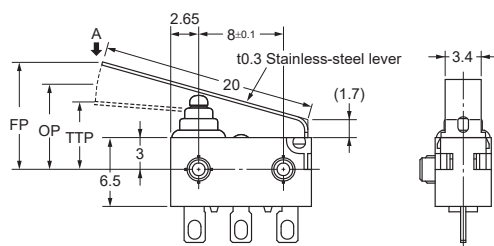
●Hinge Roller Lever
D2HW-□24□□-AQ



Operating characteristics	Type	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	0.65N {66 gf}	
Releasing Force	RF Min.	0.03N {3 gf}	
Overtravel	OT	1.9 mm (reference value)	
Movement Differential	MD Max.	0.6 mm	
Free Position	FP Max.	15.3 mm	
Operating Position	OP	14±0.6 mm	
Total Travel Position	TTP Max.	12.3 mm	

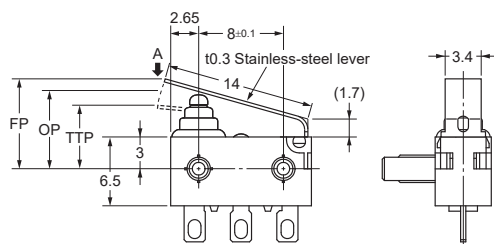
Note1. Unless otherwise specified, a tolerance of ±0.2mm applies to all dimensions.
Note2. The operating characteristics are for operation in the A direction (↓).

●Leaf straight lever D2HW-□25□□-AQ



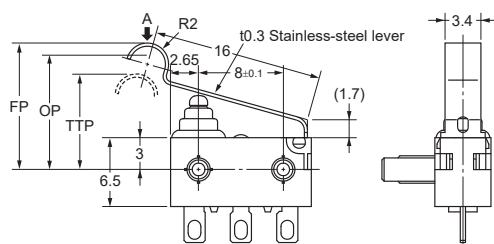
Operating characteristics	Type	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	1.2N {122 gf}	
Releasing Force	RF Min.	0.05N {5 gf}	
Overtravel	OT	2.5 mm (reference value)	
Movement Differential	MD Max.	0.7 mm	
Free Position	FP Max.	11.9 mm	
Operating Position	OP	8.1±0.8 mm	
Total Travel Position	TTP Max.	6.0 mm	

●Leaf Lever D2HW-□26□□-AQ



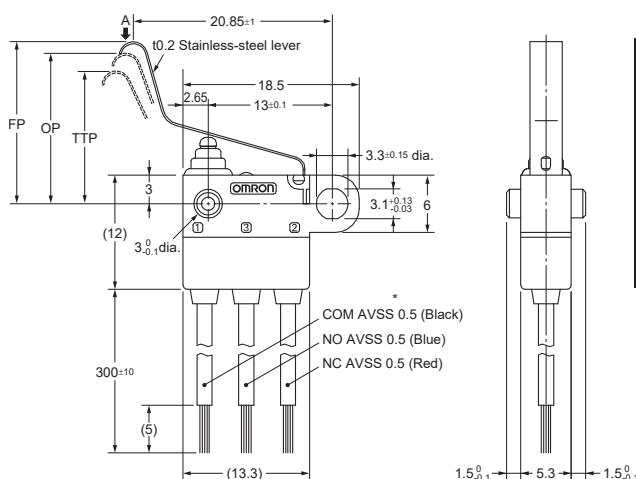
Operating characteristics	Type	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	1.8N {183 gf}	
Releasing Force	RF Min.	0.20N {20 gf}	
Overtravel	OT	1.8 mm (reference value)	
Movement Differential	MD Max.	0.5 mm	
Free Position	FP Max.	9.3 mm	
Operating Position	OP	7.4±0.5 mm	
Total Travel Position	TTP Max.	5.8 mm	

●Simulated Roller Lever D2HW-□27□□-AQ



Operating characteristics	Type	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	1.8N {183 gf}	
Releasing Force	RF Min.	0.20N {20 gf}	
Overtravel	OT	2.0 mm (reference value)	
Movement Differential	MD Max.	0.5 mm	
Free Position	FP Max.	13.0 mm	
Operating Position	OP	10.8±0.5 mm	
Total Travel Position	TTP Max.	8.9 mm	

●Long Leaf Lever D2HW-□28□□-AQ



Operating characteristics	Type	Models with Posts	M3-screw Mounting Models
Operating Force	OF Max.	0.9N {92 gf}	
Releasing Force	RF Min.	0.05N {5 gf}	
Overtravel	OT	2.8 mm (reference value)	
Movement Differential	MD Max.	0.7 mm	
Free Position	FP Max.	19 mm	
Operating Position	OP	15.4±1.5 mm	
Total Travel Position	TTP Max.	12.8 mm	

Note1. Unless otherwise specified, a tolerance of ±0.2mm applies to all dimensions.

Note2. The operating characteristics are for operation in the A direction (↓).

Precautions

Please refer to "Safety Precautions for All Detection Switches" on page 15 for correct use.

Cautions

●Degree of Protection

- Do not use this product underwater.

Although molded lead wire models satisfy the test conditions for the standard given below, this test is to check the ingress of water into the switch enclosure after submerging the Switch in water for a given time. Satisfying this test condition does not mean that the Switch can be used underwater.

JIS C0920:

Degrees of protection provided by enclosures of electrical apparatus (IP Code)

IEC 60529:

Degrees of protection provided by enclosures (IP Code)

Degree of protection: IP67

(check water intrusion after immersion for 30 min. submerged 1m underwater)

- Do not operate the Switch when it is exposed to water spray, or when water drops adhere to the Switch surface, or during sudden temperature changes, otherwise water may intrude into the interior of the Switch due to a suction effect.
- Prevent the Switch from coming into contact with oil and chemicals.
Otherwise, damage to or deterioration of Switch materials may result.
- Do not use the Switch in areas where it is exposed to silicon adhesives, oil, or grease. Otherwise faulty contact may result due to the generation of silicon oxide.

●Soldering

When soldering the lead wire to the terminal, first insert the lead wire conductor through the terminal hole and then conduct soldering.

Make sure that the temperature of the soldering iron tip does not exceed 300°C, and complete the soldering within 3 seconds. Do not apply any external force for 1 minute after soldering.

Soldering at an excessively high temperature or soldering for more than 3 seconds may deteriorate the characteristics of the Switch.

In case of automatic soldering, please do not apply the heat beyond 260°C within 5 seconds. Pay careful attention so that flux or solder liquid does not flow over the edge of the PCB panel.

●Side-actuated (Cam/Dog) Operation

- When using a cam or dog to operate the Switch, factors such as the operating speed, operating frequency, push-button indentation, and material and shape of the cam or dog will affect the durability of the Switch. Confirm performance specifications under actual operating conditions before using the Switch in applications.

Correct Use

●Mounting

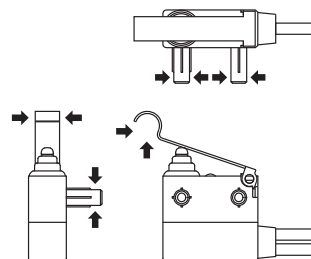
- Turn OFF the power supply before mounting or removing the Switch, wiring, or performing maintenance or inspection. Failure to do so may result in electric shock or burning.
- For M3-screw mounting models, use M3 mounting screws with plane washers or spring washers to securely mount the Switch.
Tighten the screws to a torque of 0.27 to 0.29 N·m {27.5 to 29.5 gf}. Exceeding the specified torque may result in deterioration of the sealing or damage.
- For models with posts, secure the posts by thermal caulking or by pressing into an attached device. When pressed into an attached device, provide guides on the opposite ends of the posts to ensure that they do not fall out or rattle. Thermal caulking conditions varies according to the equipment, jig and base used for switch mounting. Consult your OMRON sales representative for details.

●Operating Body

- Use an operating body with low frictional resistance and of a shape that will not interfere with the sealing rubber, otherwise the plunger may be damaged or the sealing may deteriorate.

●Handling

- Do not handle the Switch in a way that may cause damage to the sealing rubber.
- When handling the Switch, ensure that pressure is not applied to the posts in the directions shown in the following diagram. Also, ensure that uneven pressure or pressure in a direction other than the operating direction is not applied to the Actuator as shown in the following diagram. Otherwise, the post, Actuator, or Switch may be damaged, or the service life may be reduced.



●Wiring Molded Lead Wire Models

- When wiring molded lead wire models, ensure that there is no weight applied on the wire or that there are no sharp bends near the parts where the wire is drawn out. Otherwise, damage to the Switch or deterioration in the sealing may result.

●Using Micro Loads

- Even when using micro load models within the operating range shown below, if inrush/surge current occurs, it may increase the contact wear and so decrease durability. Therefore, insert a contact protection circuit where necessary.

Please check each region's Terms & Conditions by region website.

OMRON Corporation

Device & Module Solutions Company

Regional Contact

Americas

<https://components.omron.com/us>

Asia-Pacific

<https://components.omron.com/ap>

Korea

<https://components.omron.com/kr>

Europe

<https://components.omron.com/eu>

China

<https://components.omron.com.cn>

Japan

<https://components.omron.com/jp>