Thumbwheel Switch

A7MD

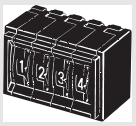
Ultra-small Thumbwheel-operated Switches

• High reliability achieved with gold contacts.



Ordering Information

Switches (Single Switch Units)

Model		A7MD
Classification (See note 1.)		Mounts via printed circuit board 
Character height		2.8 mm
Output code number	Terminals	PCB terminals
	Color	Black
06 (binary coded decimal)		A7MD-106-P-09

Note: 1. The classification diagrams show 4 Switch Units combined with End Caps to create 4-digit displays.
2. The model numbers given above are for 1 Switch Unit.

Accessories (Order Separately)

Use accessories, such as End Caps and Spacers, with the Switch Units.

Classification		A7MD
Accessory	Color	Black
End Caps		A7MD-1M
Spacer		A7MD-P□

Note: The □ in the Spacer model number stands for a letter in the range A to U. (Refer to the table in the following explanation about Spacers.)

End Caps

End Caps are used on the Switch Units at each end and allow all the Switch Units to be securely mounted to a panel. They come in pairs, one for the left and one for the right.

Spacers

- Spacers are used for creating extra space or gaps between the Switch Units and have the same dimensions as the Switch Units themselves.
- There are also Spacers with engraved characters or symbols that can be used for indicating units, such as time and length. (Refer to the following table.) Consult your OMRON representative for details.

Symbol	A	B	C	D	E	F	G
Stamp	No designation	SEC	MIN	H	g	kg	mm

Symbol	H	K	L	Q	T	U
Stamp	cm	°C	PCS	x 10 SEC	0	•

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Specifications

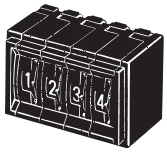
Item	Model	A7MD
Switching capacity (resistive load)		3.3 to 28 VDC 1 mA to 0.1 A
Continuous carry current		1 A max.
Contact resistance		300 mΩ max.
Insulation resistance	Between non-connected terminals	10 MΩ min. (at 500 VDC)
	Between terminal and non-current carrying part	1,000 MΩ min. (at 500 VDC)
Dielectric strength	Between non-connected terminals	200 VAC, 50/60 Hz for 1 min
	Between terminal and non-current carrying part	1,000 VAC, 50/60 Hz for 1 min
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude for 2 hours min.
Shock resistance	Malfunction	490 m/s^2 min.
Durability	Mechanical	30,000 operations min.
	Electrical	20,000 operations min.
Ambient temperature (with no icing)		Operating: –10°C to 65°C Storage: –20°C to 80°C
Ambient humidity		Operating: 45% to 85%
Max. operating force		2.94 N max.

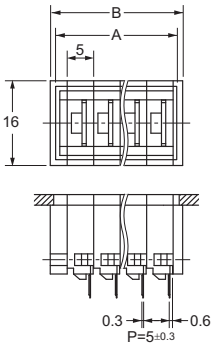
Dimensions

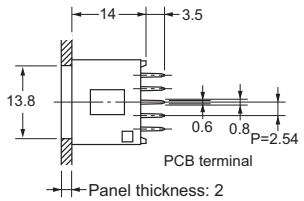
(Unit: mm)

Thumbwheel Switches

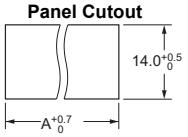
A7MD-106-P-09
PCB Terminals







Panel Cutout



Number of Switches (n)	Size A (5n + 3)	Size B (5n + 5)
1	8	10
2	13	15
3	18	20
4	23	25
5	28	30
6	33	35
7	38	40
8	43	45
9	48	50
10	53	55

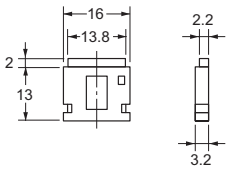
Note: 1. The dimensions above include both End Caps, and will increase 5 mm for each Spacer inserted.
2. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions. The tolerance for multiple connection is ±(number of units x 0.4) mm.

Accessories (Order Separately)

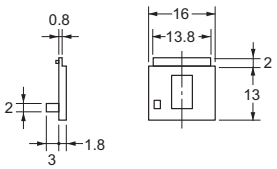
End Caps for Push-operated Switches

A7MD-1M PCB Mounting (Side Plate)*

Left Side



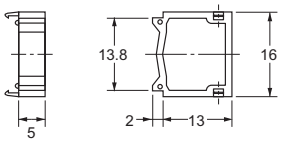
Right Side



* The A7MD cannot be mounted by a screw panel or snap-in panel. Fasten the PC board after mounting the A7MD to the PC board.

Spacers for Thumbwheel Switches

A7MD-P□
PCB Mounting



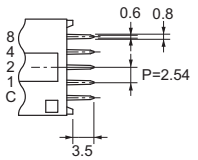
The □ in the Spacer model number stands for a letter in the range A to U. (Refer to the table under the explanation about Spacers on page 1.)

Note: Unless otherwise indicated, dimensional tolerances for dimensions in the models above are ±0.4 mm.

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Terminals

(Unit: mm)

Model Output code number	A7MD (PCB terminals)
06	

Output Codes

Dial	Terminal connected to common C			
	1	2	4	8
0				
1	●			
2		●		
3	●	●		
4			●	
5	●		●	
6		●	●	
7	●	●	●	
8				●
9	●			●

Note: The solid dot ● indicates that the internal switch is ON.

Ordering Procedure

- Standard products, such as the Switch Units and End Caps, are not factory-assembled for shipment.

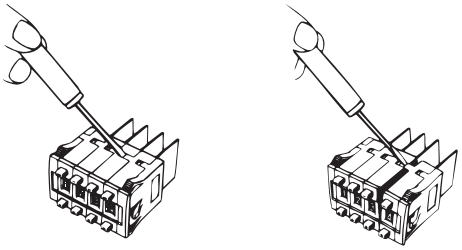
Safety Precautions

Refer to *Precautions for Correct Use* on in the *Technical Guide for Thumbwheel Switches*.

Precautions for Correct Use

Handling

- Do not drop the Switch. Doing so may possibly result in deformation of the terminals or damage to the PCB.
- The molded components of the Switch use polyacetal resin and ABS resin. It is recommended that alcohol be used to wipe off dirt and smudges from the molded components. Take care to prevent the alcohol from getting inside.
- Do not use them in areas subject to dust, water, or oil exposure, and do not operate with wet or oily hands.
- Dust from the surrounding air may cause a faulty contact. Always check the Switch after setting it up to ensure that it is outputting correctly.
- Tighten mounting screws to a torque between 0.2 to 0.24 N·m, using M2.6 screws. Use plain washers or spring washers together with the screws.
- To separate the Switches, use a flat-blade screwdriver as shown in the following figure to release the hooks on the top and bottom and then separate the Switches. Be careful not to bend the hooks.



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