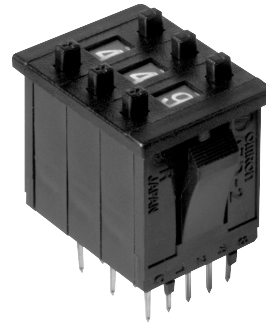


### Economical Thumbwheel Switch with Space-Saving Mount

- Cost effectiveness and improved reliability achieved through insert-molding and fewer component parts
- Mounting space reduced to 85% of that of conventional switches to save space
- Plastic spring with minimal fatigue and a mechanical service life of 30,000 steps or operations
- Front mount, rear mount, and types with stopper pins are available



### Ordering Information

#### SWITCH UNITS

Output code	Part number			
	PC board			
	Screw mounting (back mounting)		One-touch mounting (front mounting)	
	Light gray case	Black case	Light gray case	Black case
06 (binary code)	<b>A7D-106</b>	<b>A7D-106-1</b>	<b>A7D-206</b>	<b>A7D-206-1</b>

#### ACCESSORIES

Accessory	Part number			
	For screw mounting (back mounting)		For one-touch mounting (front mounting)	
	Light gray	Black	Light gray	Black
End Cap	<b>A7D-1M</b>	<b>A7D-1M-1</b>	<b>A7D-2M</b>	<b>A7D-2M-1</b>
Spacer	<b>A7D-1P□</b>	<b>A7D-1P□-1</b>	<b>A7D-2P□</b>	<b>A7D-2P□-1</b>

- Note: 1. When placing your order, please specify the model numbers and quantities of required switch units, end caps, and spacers, respectively. (Note that switch units and accessories are not factory-assembled for shipment.)
2. Types with stopper pins are also available. When placing orders for those, specify the stopper range in the two blank frames of the type number as follows:  
 A7D-106-S□□(-1)  
 A7D-206-S□□(-1)  
 Example: A7D-106-S06... (The case color is light grey.)  
 Specify the stopper range 0 to 6 in two digits with the first digit always 0.
3. One of the following alphabetic codes must be filled into the boxed part of the model number to specify a legend to be hot stamped on the required spacer.
4. End caps come as a set -- left and right.

Code	Legend	Code	Legend	Code	Legend
A	Hot stamp not required	F	kg	L	PCS
B	SEC	G	mm	P	day
C	MIN	H	cm	Q	x 10 SEC
D	H	J	m	T	0
E	g	K	°C	U	•

# Specifications

## CHARACTERISTICS

Switching capacity	1 mA to 0.1 A, 5 to 30 VDC (resistive load)	
Carry current	100 mA	
Contact resistance	200 mΩ max.	
Insulation resistance	10 MΩ min. (at 250 VDC) between nonconnected terminals 100 MΩ min. (at 500 VDC) between each terminal and noncurrent-carrying part	
Dielectric strength	250 VAC, 50/60 Hz for 1 minute between nonconnected terminals 1,000 VAC, 50/60 Hz for 1 minute between each terminal and noncurrent-carrying part	
Operating force	350 g max.	
Vibration	10 to 55 Hz, 1.5 mm double amplitude	
Shock	500 m/s <sup>2</sup> (approx. 50 g) min.	
Ambient temperature	Operating	-10° to 70°C
	Storage	-20° to 80°C
Humidity	35% to 85% RH	
Service life	Mechanical	30,000 operations (steps) min.
	Electrical	20,000 operations (steps) min.
Weight (per unit)	1.2 g	

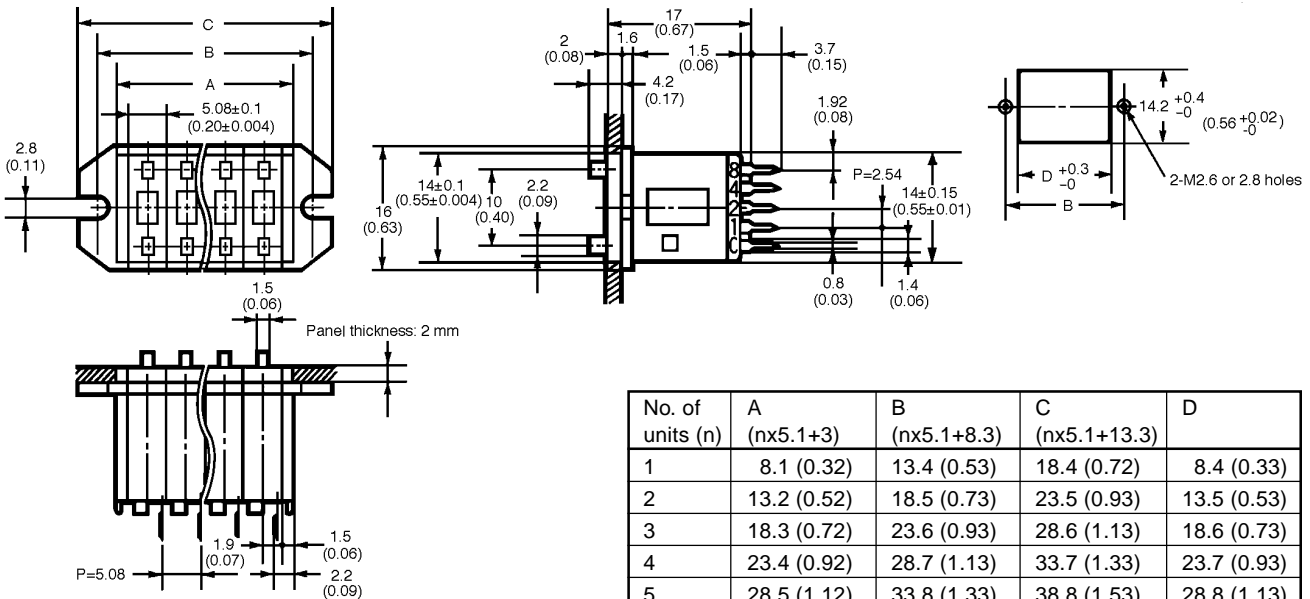
Note: Data shown are of initial value.

# Dimensions

Unit: mm (inch)

## SWITCH UNITS

### A7D-106 (-1)

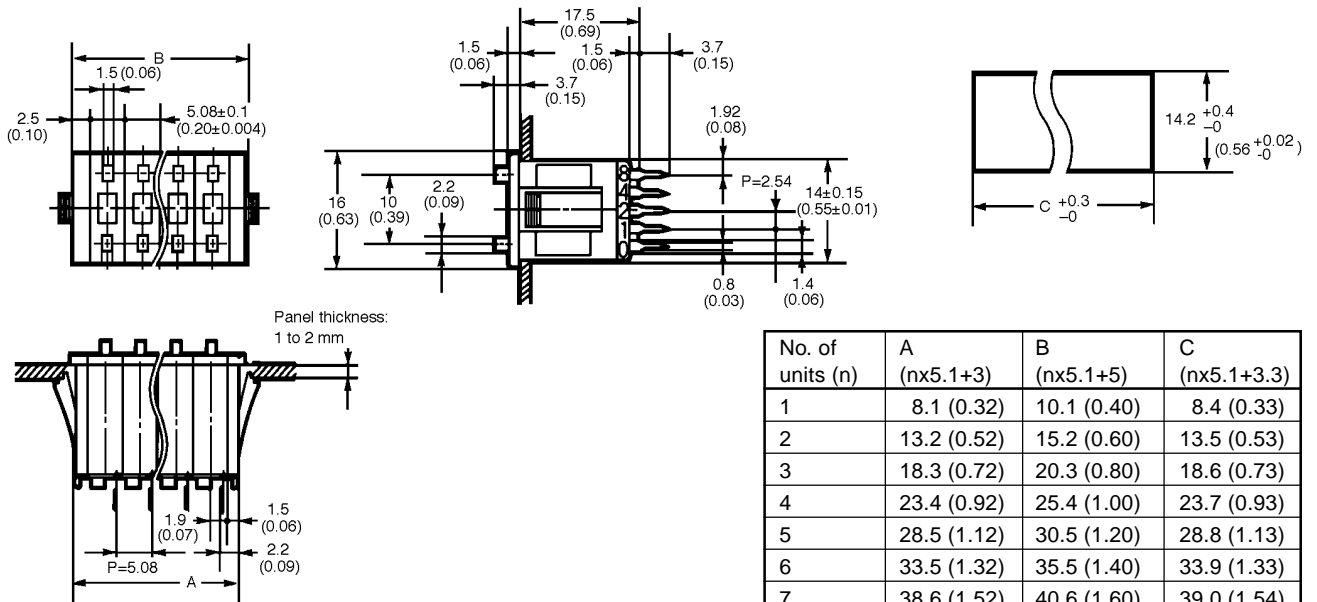


No. of units (n)	A (nx5.1+3)	B (nx5.1+8.3)	C (nx5.1+13.3)	D
1	8.1 (0.32)	13.4 (0.53)	18.4 (0.72)	8.4 (0.33)
2	13.2 (0.52)	18.5 (0.73)	23.5 (0.93)	13.5 (0.53)
3	18.3 (0.72)	23.6 (0.93)	28.6 (1.13)	18.6 (0.73)
4	23.4 (0.92)	28.7 (1.13)	33.7 (1.33)	23.7 (0.93)
5	28.5 (1.12)	33.8 (1.33)	38.8 (1.53)	28.8 (1.13)
6	33.5 (1.32)	38.9 (1.53)	43.9 (1.73)	33.9 (1.33)
7	38.6 (1.52)	44.0 (1.73)	49.0 (1.93)	39.0 (1.54)
8	43.7 (1.72)	49.1 (1.93)	54.1 (2.13)	44.1 (1.74)
9	48.8 (1.92)	54.2 (2.13)	59.2 (2.33)	49.2 (1.94)
10	53.9 (2.12)	59.3 (2.33)	64.3 (2.53)	54.3 (2.14)

- Note:
1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.
  2. Terminal C is the bottom terminal when the switch unit is viewed from the front.
  3. The dimensions in the above table include the end caps on both sides of the switch unit. If a spacer is used, add 5.08 mm (.20) to A7D-106(-1) and 6 mm (.24) to A7D-206(-1), respectively, per spacer.

A7D-206(-1)

Panel cutout



No. of units (n)	A (nx5.1+3)	B (nx5.1+5)	C (nx5.1+3.3)
1	8.1 (0.32)	10.1 (0.40)	8.4 (0.33)
2	13.2 (0.52)	15.2 (0.60)	13.5 (0.53)
3	18.3 (0.72)	20.3 (0.80)	18.6 (0.73)
4	23.4 (0.92)	25.4 (1.00)	23.7 (0.93)
5	28.5 (1.12)	30.5 (1.20)	28.8 (1.13)
6	33.5 (1.32)	35.5 (1.40)	33.9 (1.33)
7	38.6 (1.52)	40.6 (1.60)	39.0 (1.54)
8	43.7 (1.72)	45.7 (1.80)	44.1 (1.74)
9	48.8 (1.92)	50.8 (2.00)	49.2 (1.94)
10	53.9 (2.12)	55.9 (2.20)	54.3 (2.14)

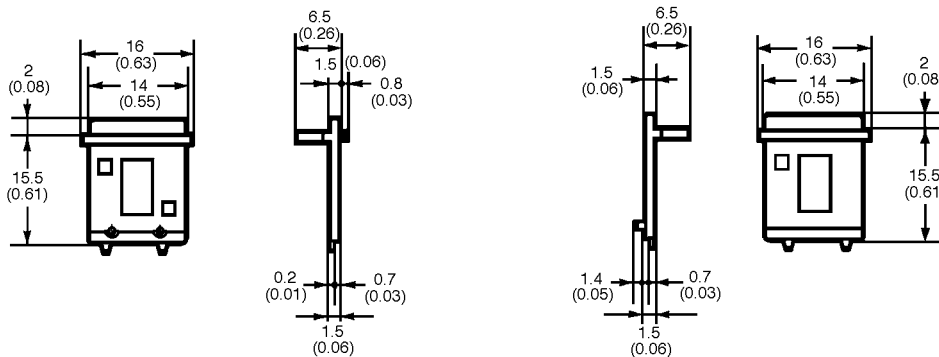
- Note:
1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.
  2. Terminal C is the bottom terminal when the switch unit is viewed from the front.
  3. The dimensions in the above table includes the end caps on both sides of the switch unit. If a spacer is used, add 5.08 mm (.20) to A7D-106(-1) and 6 mm (.24) to A7D-206(-1), respectively, per spacer.

■ END CAPS

A7D-1M(-1)

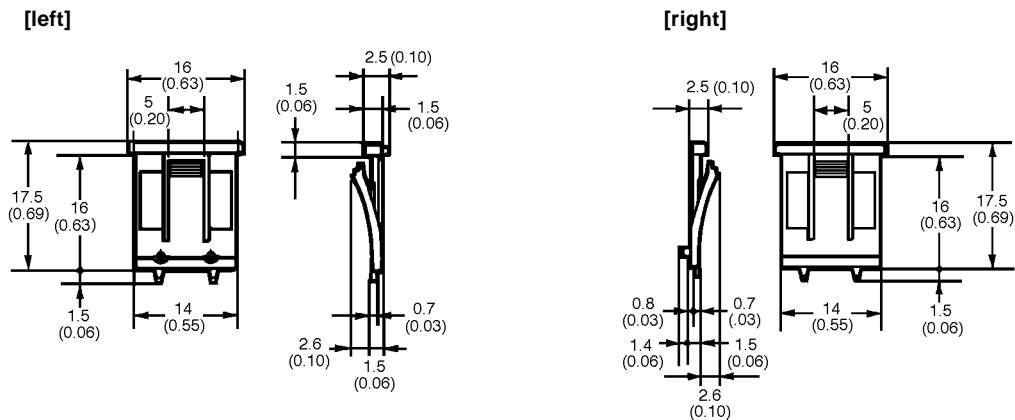
[left]

[right]



Unit: mm (inch)

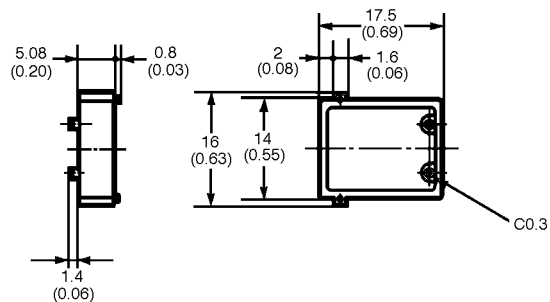
**A7D-2M(-1)**



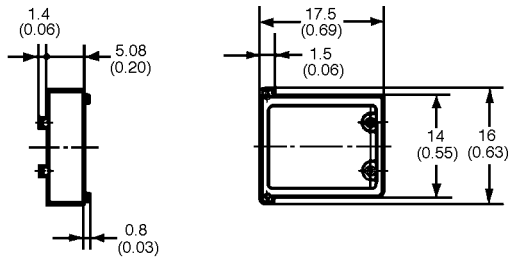
Note: End caps are attached to each end of the switch assembly and are used to secure the switch assembly to the mounting plate.

■ **SPACERS**

**A7D-1P□ (-1)**



**A7D-2P□ (-1)**



Note: Spacers are used to reserve space for switch units or to separate two switch units. The appearance and thickness of the spacers are the same as those of the switch units.

**NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

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04/01

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