**Thumbwheel Switch** 

# A7PS/A7PH

# Dust-tight, Easy-to-Use, Push-operated Switches with Large Display Characters

- Simple push mechanism and large, easy-to-view numeric display make setting easy.
- Dust penetration prevented with seal for the display windows.

# **Ordering Information**

#### Switches (Single Switch Units)

Switches (Single Switch Onits)					
Model	A7	PS	A7PH		
Classification (See note 1.)	Snap-in (front mounting)		Snap-in (front mounting)		
Terminals		Solder te	minals *1		
Color	Light gray	Black	Light gray	Black	
Output code number	Model				
03 (decimal code)	A7PS-203	A7PS-203-1	A7PH-203	A7PH-203-1	
06 (binary coded decimal)	A7PS-206	A7PS-206-1	A7PH-206	A7PH-206-1	
07 (binary coded decimal, with component- adding provision) *2	A7PS-207	A7PS-207-1	A7PH-207	A7PH-207-1	
19 (decimal code, with component-adding provision)	A7PS-219	A7PS-219-1	A7PH-219		
54 (binary coded hexadecimal)	A7PS-254	A7PS-254-1	A7PH-254	A7PH-254-1	
55 (binary coded hexadecimal, with compo- nent adding provision) *2	A7PS-255	A7PS-255-1			

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.

4. Models with +, - displays can also be produced. Add "-PM" after the "206" in the model number (e.g., A7PS-206-PM or A7PS-206-PM-1)

\*1. Models with PCB terminals are available.

\*2. Models with diodes are available. Add "-D" to the model number (e.g., A7PS-207-D or A7PS-207-D-1).

#### Accessories (Order Separately)

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

Accessory	Color	Light gray	Black	
End Caps		A7P-M *	A7P-M-1 *	
Spacer		A7P-P	A7P-P□-1	
		(See note.)	(See note.)	
Connec- Solder terminals		NRT-C		
Connec- tors	Soluer terminals	NRT-CN		
1010	PCB terminals	NRT-CP		

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.)
\* The minimum order is for 10 End Caps.

#### **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	Α	В	С	D	Е	F	G
Stamp	No des- ignation	SEC	MIN	Н	g	kg	mm
Symbol	н	J	K		Q	т	П
		•		-	5	•	•

CSM\_A7PS\_A7PH\_DS\_E\_3\_1

# A7PS/A7PH

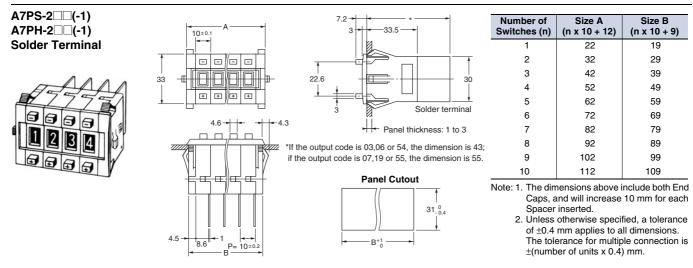
# Specifications

Item	Model	A7PS	A7PH	
Switching capacity (resistive load)		50 VAC or 5 to 28 VDC 1 mA to 0.1 A	125 VAC or 5 to 28 VDC 10 μA to 0.15 A	
Continuou	s carry current	1 A max. 3 A max.		
Contact resistance		300 mΩ max.		
Insulation	Between non-connected terminals	10 MΩ min. (at 500 VDC)	100 MΩ min. (at 500 VDC)	
resistance	Between terminal and non-current carrying part	1,000 MΩ min. (at 500 VDC)		
Dielectric	Between non-connected terminals	600 VAC, 50/60 Hz for 1 min		
strength	Between terminal and non-current carrying part	1,000 VAC, 50/60 Hz for 1 min		
Vibration resistance		10 to 55 Hz, 1.5-mm double amplitude for 2 hours min.		
Shock resistance		490 m/s² min.		
Durability	Mechanical	100,000 operations min.	2,000,000 operations min.	
	Electrical	50,000 operations min.	1,000,000 operations min.	
Ambient temperature		Operating: -10°C to 65°C		
Ambient h	umidity	Operating: 45% to 85%		
Max. opera	operating force 6.37 N max.			

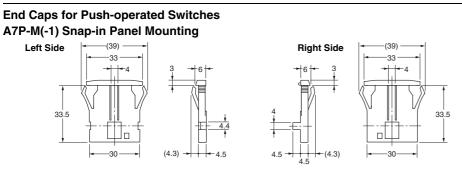
## Dimensions

#### (Unit: mm)

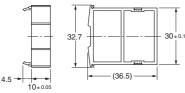




#### **Accessories (Order Separately)**



# Spacers for Push-operated Switches A7P-P□(-1) Snap-in Panel Mounting



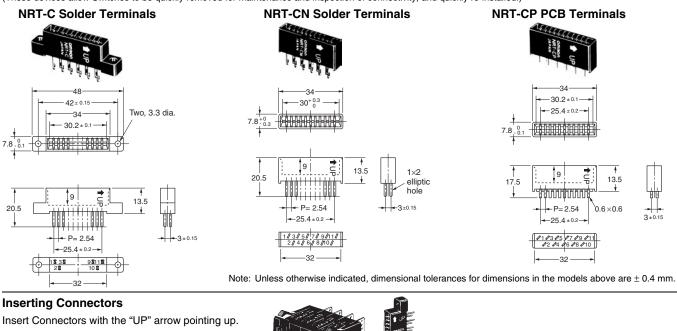
The 🗌 in the Spacer model number stands for a letter in the range A to U. (Refer to the table under the explanation about Spacers on page 1.)

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

# A7PS/A7PH

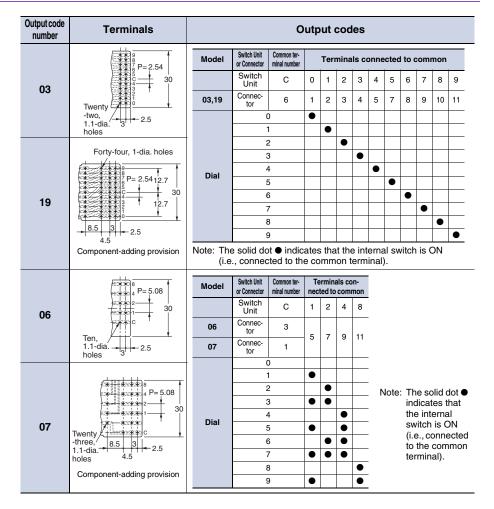
#### Connectors

(These devices allow Switches to be quickly removed for maintenance and inspection of connectivity, and quickly re-installed.)

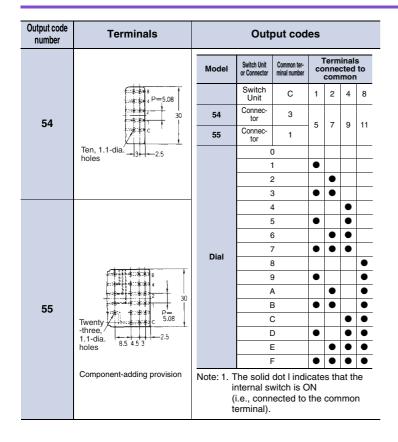




- Switches with output codes 06 or 07 both use binary coded decimal but Switches with output code 07 have a componentadding provision. Similarly, Switches with output codes 54 or 55 both use binary coded hexadecimal but Switches with output code 55 have a componentadding provision.
- How to Read Output Codes For example, when the dial position is "3," the common terminal C on the Switch is connected to terminals 1 and 2. When the Switch is inserted into the Connector, the common terminal C becomes connector terminal 3, and terminals 1 and 2 become connector terminals 5 and 7 respectively.

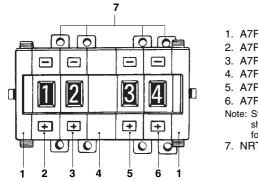


Connector



# **Ordering Procedure**

Place orders as shown in the example below, specifying the model and number.



 A7P-M (End Caps): 1 set
 A7PS-203 (Switch Unit): 1 piece
 A7PS-206 (Switch Unit): 1 piece
 A7P-PA (Spacer): 1 piece
 A7PS-207 (Switch Unit): 1 piece
 A7PS-219 (Switch Unit): 1 piece
 A7PS-219 (Switch Unit): 1 piece
 Note: Standard products are not factory-assembled for shipment. Contact your OMRON representative for details on ordering factory-assembled sets.
 NRT-C (Connector): 4 pieces

# **Safety Precautions**

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

#### **Precautions for Correct Use**

#### Handling

- The molded components of the Switch use polyacetal resin and ABS resin. It is recommended that alcohol is used to wipe off dirt and smudges from the molded components. Take care to prevent the alcohol from getting inside.
- A7P Thumbwheel Switches are dust-proof, but they are not dripproof. Do not use them in areas subject to water or oil exposure.
- Do not allow solder flux or alcohol to enter the Switch.
- Do not push the (+) and (-) operating push-buttons at the same time.

#### **Read and Understand This Catalog**

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

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- · Systems, machines, and equipment that could present a risk to life or property.

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#### Disclaimers

#### CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

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Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

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