

### Easy-to-Assemble Thumbwheel Switch

- Dustproof construction ensures highly reliable performance at low voltage and very small current even under adverse environmental conditions
- Switch units can be assembled simply by fitting the integral hook coupler of each unit into the mating unit, thus eliminating the need of bolts and nuts for assembly



### Ordering Information

#### ■ SWITCH UNITS

| Output Code                                      | Part Number                     |               |
|--|---------------------------------|---------------|
|  | Front mounting solder terminals |               |
|  | Light gray case                 | Black case    |
| 03 (decimal code)                                | A7AS-203                        | A7AS-203-1    |
| 06 (binary code)<br>(binary code w/+, - display) | A7AS-206                        | A7AS-206-1    |
|  | A7AS-206-PM                     | A7AS-206-PM-1 |
| 07 (binary code w/diode provision)               | A7AS-207                        | A7AS-207-1    |
| 19 (decimal code w/diode provision)              | A7AS-219                        | A7AS-219-1    |
| 22 (compliment of BCD)                           | A7AS-222                        | A7AS-222-1    |

#### ■ ACCESSORIES

| Accessory | Part Number                                       |          |        |
|-----------|---|----------|--------|
|           | For front mounting type switch assembly terminals |          |        |
|           | Light gray  | Black    |        |
| End Cap   | A7AS-M  | A7AS-M-1 |        |
| Spacer    | NRT-P□  | NRT-P□-1 |        |
| Connector | Solder terminal                                   | NRT-C    | NRT-C  |
|           | PC terminal                                       | NRT-CP   | NRT-CP |

- 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. Switch case, end cap, and spacer are made of polyacetal resin.
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   |
|------|------------------------|------|----------|
| A    | Hot stamp not required | H    | cm       |
| B    | SEC                    | J    | m        |
| C    | MIN                    | K    | °C       |
| D    | H                      | L    | PCS      |
| E    | g                      | Q    | x 10 SEC |
| F    | kg                     | T    | 0        |
| G    | mm                     |      |          |

# Characteristics

|                       |            |  |
|-----------------------|------------|--|
| Switching capacity    |            | 1 mA to 0.1 A 50 VAC/28 VDC (resistive load)   |
| Carry current         |            | 1 A (max.)   |
| Contact resistance    |            | 200 mΩ max.  |
| Insulation resistance |            | 10 MΩ min. (at 500 VDC) between nonconnected terminals<br>1,000 MΩ min. (at 500 VDC) between each terminal and noncurrent-carrying part              |
| Dielectric strength   |            | 600 VAC, 50/60 Hz for 1 minute between nonconnected terminals<br>1,000 VAC, 50/60 Hz for 1 minute between each terminal and noncurrent-carrying part |
| Operating force       |            | 400 g max.   |
| Vibration             |            | 10 to 55 Hz, 1.5 mm double amplitude   |
| Shock                 |            | 500 m/s <sup>2</sup> (approx. 50 G)  |
| Ambient temperature   | Operating  | -40° to 85°C   |
|                       | Storage    | -40° to 85°C   |
| Humidity              |            | 85% RH max.  |
| Service life          | Mechanical | 1,000,000 operations (steps) min.  |
|                       | Electrical | 50,000 operations (steps) min.   |
| Weight (per unit)     |            | Approx. 7.6 g  |

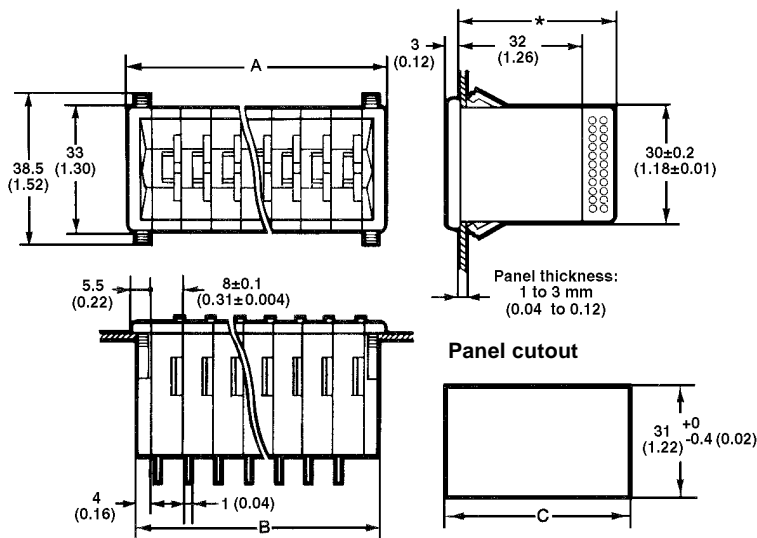
Note: Data shown are of initial value.

# Dimensions

Unit: mm (inch)

## SWITCH UNITS

A7AS-203(-1), A7AS-206(-1)  
A7AS-207(-1), A7AS-219(-1)  
A7AS-222(-1)



| No. of units (n) | A (8n + 11)               | B (8n + 8)                | C (B + 1) |
|------------------|---------------------------|---------------------------|-----------|
| 1                | 19 (0.75)                 | 16 (0.63)                 | 17 (0.67) |
| 2                | 27 (1.06)                 | 24 (0.94)                 | 25 (0.98) |
| 3                | 35 (1.38)                 | 32 (1.26)                 | 33 (1.30) |
| 4                | 43 (1.69)                 | 40 (1.57)                 | 41 (1.66) |
| 5                | 51 ± 0.8<br>(2 ± 0.03)    | 48 ± 0.8<br>(1.89 ± 0.03) | 49 (1.93) |
| 6                | 59 ± 0.8<br>(2.32 ± 0.03) | 56 ± 0.8<br>(2.20 ± 0.03) | 57 (2.24) |
| 7                | 67 ± 0.8<br>(2.64 ± 0.03) | 64 ± 0.8<br>(2.52 ± 0.03) | 65 (2.56) |
| 8                | 75 ± 0.8<br>(2.95 ± 0.03) | 72 ± 0.8<br>(2.83 ± 0.03) | 73 (2.87) |
| 9                | 83 ± 0.8<br>(3.27 ± 0.03) | 80 ± 0.8<br>(3.15)        | 81 (3.19) |
| 10               | 91 ± 0.8<br>(3.58 ± 0.03) | 88 ± 0.8<br>(3.46 ± 0.03) | 89 (3.50) |

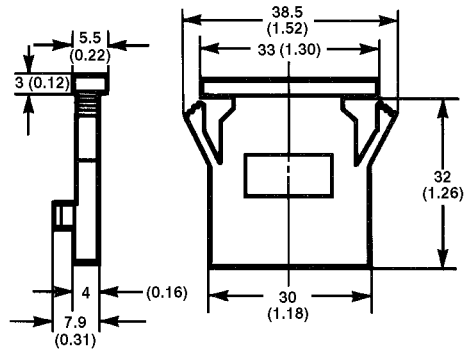
Note: Dimension \* is 41.5 (1.63) for the switch with output code "03" or "06," and 53.5 (2.11) for the switch with output code "07" or "19."

1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.
2. Each model number applies to a single switch unit and not to the switch assembly as shown in the drawings.

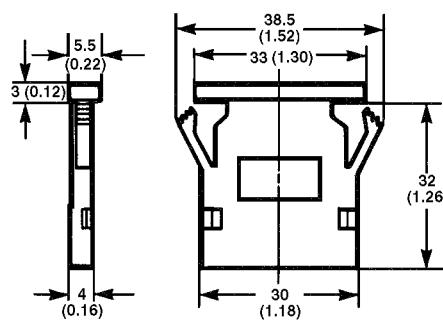
■ END CAPS

A7AS-M, A7AS-M-1

[right]

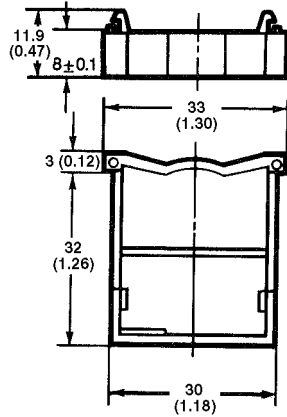


[left]



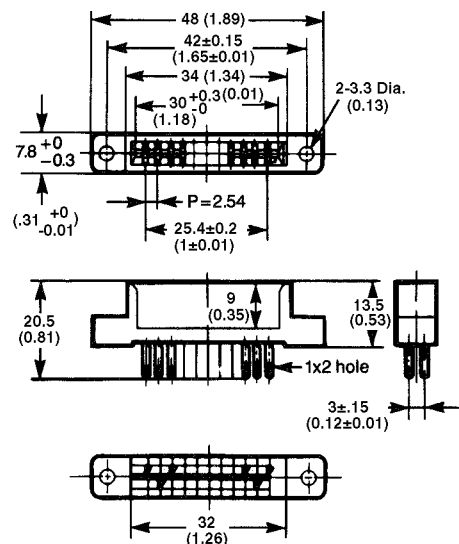
■ SPACERS

NRT-P□, NRT-P□-1

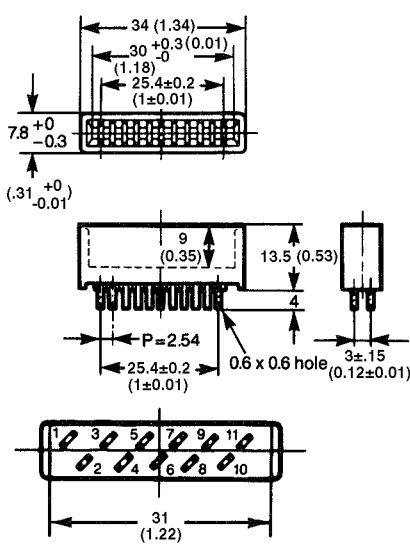


■ CONNECTORS

NRT-C



NRT-CP



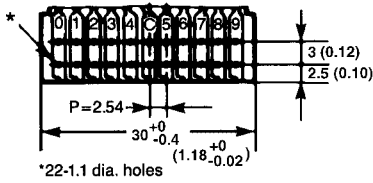
Note: 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

2. End caps are attached to each end of the switch assembly and used to secure the switch assembly to a mounting panel.

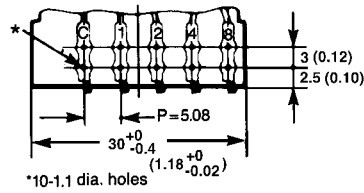
Unit: mm (inch)

■ TERMINALS

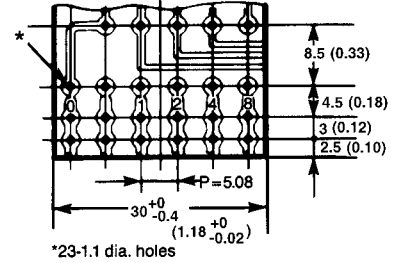
A7AS-203-□



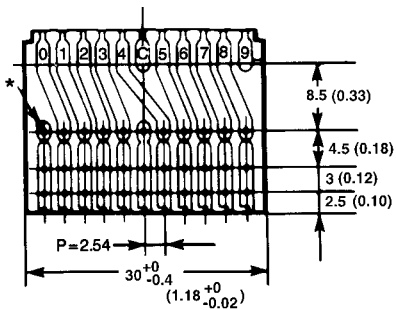
A7AS-206-□



A7AS-207-□



A7AS-219-□



Hints on Correct Use

Refer to HINTS ON CORRECT USE under the General Information section.



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