## Easy-to-Assemble Thumbwheel Switch

 Designed Specially for Printed Circuit Boards- The transparent window plate fitted in the readout section protects dial characters from dust and prevents wear by incorrect handling
- Plus (+) and minus (-) pushbuttons for positive forward and reverse rotation of each digital wheel
- The contact section is of dust-proof construction
- Switch units can be assembled simply by fitting
 the integral hook coupler of each unit into the mating unit, thus eliminating the need of nuts and bolts for assembly


## Ordering Information

$\qquad$
SWITCH UNITS

| Output Code | Part number |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | Back mounting PC board |  |  | Front mounting PC board |
|  | Light gray case | Black case | Light gray case | Black case |
|  | - | A7CN-106-1 | A7CN-206 | A7CN-206-1 |

## ACCESSORIES

| Accessory | Part number |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | For back mounting type switch assembly | For front mounting type switch assembly |  |  |
|  | Light gray | Black | Light gray | Black |
|  | - | A7CN-1M-1 | A7CN-2M | A7CN-2M-1 |
| Spacer | - | A7CN-1P-1 | A7CN-2P | A7CN-2P $\square$-1 |

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; however, the window plate is made of polycarbonate 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 | ${ }^{\circ} \mathrm{C}$ |
| D | H | L | PCS |
| E | g | Q | $\times 10$ SEC |
| F | kg |  |  |
| G | mm |  | 0 |

## Specifications

## CHARACTERISTICS

| Switching capacity |  | 1 mA to 0.1 A $50 \mathrm{VAC/28} \mathrm{VDC}$ (resistive load) |
| :---: | :---: | :---: |
| Carry current |  | 1 A (max.) |
| Contact resistance |  | $200 \mathrm{~m} \Omega$ max. |
| Insulation resistance |  | $10 \mathrm{M} \Omega \mathrm{min}$. (at 250 VDC ) between nonconnected terminals $1,000 \mathrm{M} \Omega \mathrm{min}$. (at 250 VDC ) between each terminal and noncurrent-carrying part |
| Dielectric strength |  | 250 VAC, $50 / 60 \mathrm{~Hz}$ for 1 minute between nonconnected terminals $1,000 \mathrm{VAC}, 50 / 60 \mathrm{~Hz}$ for 1 minute between each terminal and noncurrent-carrying part |
| Operating force |  | 450 g max. |
| Vibration |  | 10 to $55 \mathrm{~Hz}, 1.5 \mathrm{~mm}$ double amplitude |
| Shock |  | $490 \mathrm{~m} / \mathrm{s}^{2}$ (approx. 50 g ) |
| Ambient temperature | Operating | $-10^{\circ}$ to $65^{\circ} \mathrm{C}$ |
|  | Storage | $-20^{\circ}$ to $80^{\circ} \mathrm{C}$ |
| Humidity |  | 45\% to 85\% RH max. |
| Service life | Mechanical | 30,000 operations (steps) min. |
|  | Electrical | 20,000 operations (steps) min. |
| Weight (per unit) |  | Approx. 1.5 g |

Note: Data shown are of initial value.

## Dimensions

Unit: mm (inch)

## ■ SWITCH UNITS

## A7CN-206(-1)



Panel cutout



| No. of <br> units (n) | A <br> $(n \times 6+8)$ | B <br> $(n \times 6+6)$ | $D$ |
| :--- | :--- | :--- | :--- |
| 1 | $14(0.55)$ | $12(0.47)$ | $12.4(0.49)$ |
| 2 | $20(0.79)$ | $18(0.71)$ | $18.4(0.72)$ |
| 3 | $26(1.02)$ | $24(0.94)$ | $24.4(0.96)$ |
| 4 | $32(1.26)$ | $30(0.18)$ | $30.4(1.20)$ |
| 5 | $38 \pm 0.8(1.50 \pm 0.03)$ | $36 \pm 0.8(1.42 \pm 0.03)$ | $36.8(1.45)$ |
| 6 | $44 \pm 0.8(1.73 \pm 0.03)$ | $42 \pm 0.8(1.65 \pm 0.03)$ | $42.8(1.64)$ |
| 7 | $50 \pm 0.8(1.97 \pm 0.03)$ | $48 \pm 0.8(1.89 \pm 0.03)$ | $48.8(1.92)$ |
| 8 | $56 \pm 0.8(2.20 \pm 0.03)$ | $54 \pm 0.8(2.13 \pm 0.03)$ | $54.8(2.16)$ |
| 9 | $62 \pm 0.8(2.44 \pm 0.03)$ | $60 \pm 0.8(2.36 \pm 0.03)$ | $60.8(2.39)$ |
| 10 | $68 \pm 0.8(2.68 \pm 0.03)$ | $66 \pm 0.8(2.60 \pm 0.03)$ | $66.8(2.63)$ |

Note: 1. Unless otherwise specified, a tolerance of $\pm 0.4 \mathrm{~mm}$ applies to all dimensions.
2. Each model number applies to a single switch unit and does not apply to the switch assembly as shown in the drawings.

## A7CN-106-1



Panel cutout


| No. of <br> units $(n)$ | A <br> $(n \times 6+6)$ | B <br> $(n \times 6+11)$ | C <br> $(n \times 6+16)$ | D |
| :--- | :--- | :--- | :--- | :--- |
| 1 | $12(0.47)$ | $17(0.67)$ | $22(0.87)$ | $12.4(0.49)$ |
| 2 | $18(0.71)$ | $23(0.91)$ | $28(1.10)$ | $18.4(0.72)$ |
| 3 | $24(0.94)$ | $29(1.14)$ | $34(1.34)$ | $24.4(0.96)$ |
| 4 | $30(1.18)$ | $35(1.38)$ | $40(1.57)$ | $30.4(1.20)$ |
| 5 | $36 \pm 0.8(1.42 \pm 0.03)$ | $41(1.61)$ | $46 \pm 0.8(1.81 \pm 0.03)$ | $36.8(1.45)$ |
| 6 | $42 \pm 0.8(1.65 \pm 0.03)$ | $47(1.85)$ | $52 \pm 0.8(2.05 \pm 0.03)$ | $42.8(1.69)$ |
| 7 | $48 \pm 0.8(1.89 \pm 0.03)$ | $53(2.09)$ | $58 \pm 0.8(2.28 \pm 0.03)$ | $48.8(1.92)$ |
| 8 | $54 \pm 0.8(2.13 \pm 0.03)$ | $59(2.32)$ | $64 \pm 0.8(2.52 \pm 0.03)$ | $54.8(2.16)$ |
| 9 | $60 \pm 0.8(2.36 \pm 0.03)$ | $65(2.56)$ | $70 \pm 0.8(2.76 \pm 0.03)$ | $60.8(2.39)$ |
| 10 | $66 \pm 0.8(2.60 \pm 0.03)$ | $71(2.80)$ | $76 \pm 0.8(3.00 \pm 0.03)$ | $66.8(2.63)$ |

Note: 1. Unless otherwise specified, a tolerance of $\pm 0.4 \mathrm{~mm}$ applies to all dimensions.
2. Each model number applies to a single switch unit and does not apply to the switch assembly as shown in the drawings.

Unit: mm (inch)

## END CAPS

A7CN-2M-1
[left]


A7CN-1M-1
[left]


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


## A7CN



## TERMINALS

A7CN-106-1, A7CN-206


## Hints on Correct Use

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

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