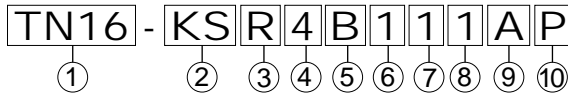


## MODEL DESIGNATION



| Designation            | Signal | Description                                 |
|------------------------|--------|---------------------------------------------|
| 1. Mounting Hole       | TN-16  | 16 m/m Series                               |
| 2. Type                | SS     | Knob Operator                               |
|                        | KS     | Key Operator                                |
| 3. Shape               | R      | Round                                       |
|                        | S      | Square                                      |
|                        | L      | Rectangular                                 |
| 4. Operator Protection | 4      | IP 40                                       |
|                        | 6      | IP 65                                       |
| 5. Lens Color          | R      | Red                                         |
|                        | G      | Green                                       |
|                        | B      | Black                                       |
| 6 Positions            | 1      | 90° 2 Positions                             |
|                        | 2      | 90° 2 Positions Spring return from right    |
|                        | 3      | 180° 3 - Positions                          |
|                        | 4      | 150° 3 - Positions Spring return from right |
|                        | 5      | 150° 3 - Positions Spring return from left  |
|                        | 6      | 150° 3 - Positions 2-Ways Spring return     |

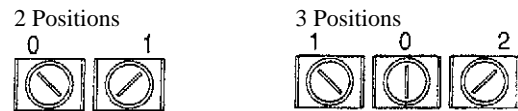
◆ KSR/KSS/KSL Type only available in black colors.

## CHARACTERISTICS

|                       |                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Contact resistance    | 50 mΩ max (initial)                                                                                                                           |
| Insulation resistance | 100 mΩ min (at 500 VDC)                                                                                                                       |
| Dielectric Strength   | 1,000 VAC, 50/60 Hz for 1 minute between non-continuous terminals 2000 VAC, 50/60 Hz for 1 minute between current-carrying part and ground.   |
| Vibration             | Mechanical durability: 10 to 55 Hz 1.5 mm double amplitude                                                                                    |
| Shock                 | Mechanical durability: Approx. 500 m/sec <sup>2</sup> (approx. 50 G's) Malfunction durability: Approx. 500 m/sec <sup>2</sup> (approx. 50G's) |
| Ambient Temperature   | Operating : - 25°C to 55°C<br>Storage : -30°C to 80°C                                                                                         |
| Humidity              | 45% to 80% RH max.                                                                                                                            |
| Mechanical Life (min) | 250,000 operations                                                                                                                            |
| Electrical Life (min) | 100,000 operations                                                                                                                            |

| Designation                      | Signal | Description                                |      |      |
|----------------------------------|--------|--------------------------------------------|------|------|
| 6 Positions                      | 7      | 90° 3 - Positions                          |      |      |
|                                  | 8      | 90° 3 - Positions Spring return from right |      |      |
|                                  | 9      | 90° 3 - Positions Spring return from left  |      |      |
|                                  | 0      | 90° 3 - Positions 2-Ways Spring return     |      |      |
| 7. Type of Contact Blocks Fitted |        | 2- Positions      3- Positions             |      |      |
|                                  | 1      | 1a1b      -                                |      |      |
|                                  | 2      | 2a2b      1a1b 0 1a1b                      |      |      |
|                                  | 3      | 3a3b      1a1b 1a1b 1a1b                   |      |      |
| 8. Key Withdrawable              | 1      | 0.1 Key withdrawable                       |      |      |
|                                  | 2      | 0 Key withdrawable                         |      |      |
|                                  | 3      | 2 Positions 1 Key withdrawable             |      |      |
|                                  | 4      | 0.1.2 Key withdrawable                     |      |      |
|                                  | 5      | 3 Positions 0 Key withdrawable             |      |      |
| 9. Key No.                       | A      | F                                          | 2132 | 3123 |
|                                  | B      | G                                          | 2231 | 3133 |
|                                  | C      | H                                          | 2313 | 3213 |
|                                  | D      | I                                          | 2331 | 3231 |
|                                  | E      | J                                          | 3131 | 3331 |
| 10. Terminal                     | None   | Solder / Plug-in                           |      |      |
|                                  | P      | PC Board                                   |      |      |

## KEY WITHDRAWABLE



### 2 Positions

| Positions | Key Withdrawable |   |   |   |   |   |
|-----------|------------------|---|---|---|---|---|
|           | 1                |   | 2 |   | 3 |   |
|           | 0                | 1 | 0 | 1 | 0 | 1 |
| 1         | •                | • | • | - | - | • |
| 2         | •                | • | • | - | - | • |

### 3 Positions

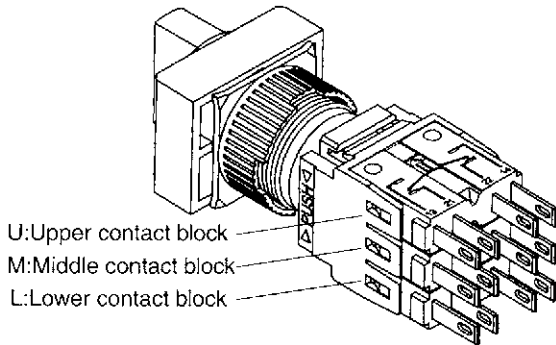
| Positions | Key Withdrawable |   |   |   |   |   |
|-----------|------------------|---|---|---|---|---|
|           | 4                |   |   | 5 |   |   |
|           | 1                | 0 | 2 | 1 | 0 | 2 |
| 3         | •                | • | • | - | • | - |
| 4         | -                | - | - | - | • | - |
| 5         | -                | - | - | - | • | - |
| 6         | -                | - | - | - | • | - |
| 7         | -                | - | - | - | • | - |
| 8         | -                | - | - | - | • | - |
| 9         | -                | - | - | - | • | - |
| 0         | -                | - | - | - | • | - |

◆ KEY WITHDRAWABLE

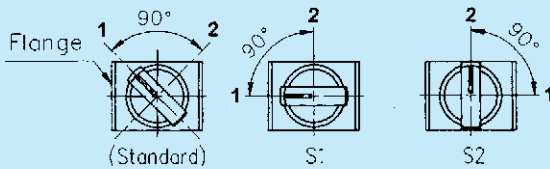
# tend Ø16 m/m SELECTOR SWITCHES / KEY SWITCHES TN16

## CONTACT BLOCK POSITIONS

### View from back



The operating angle range can be changed as shown below by setting the attached flange shifted by 45° in combination with the contact block. In this case, the minimum mounting pitch is 26 mm because the contact block is shifted by 45° from the flange.



### Contact arrangement and operator positions:

#### 2-Positions selector switch / Key switch

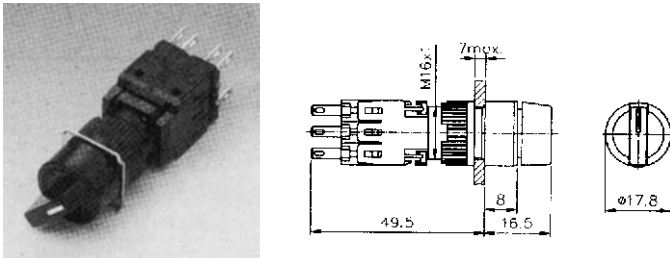
| Contact arrangement |       | 1 NO + 1 NC (1a1b) | 2 NO + 2 NC (2a2b) | 3NO + 3 NC (3a3b) |
|---------------------|-------|--------------------|--------------------|-------------------|
| Operator Position   | Left  |                    |                    |                   |
|                     | Right |                    |                    |                   |

#### 3-Positions selector switch / Key switch

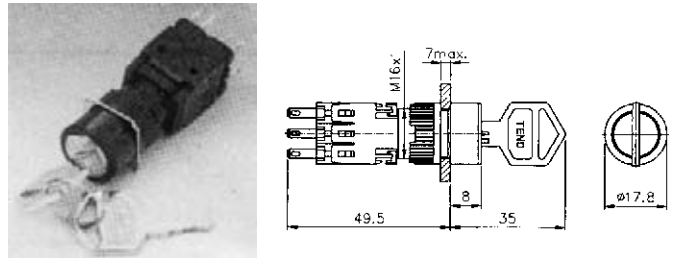
| Contact arrangement |        | 2 NO + 2 NC (2a2b) | 3NO + 3 NC (3a3b) |
|---------------------|--------|--------------------|-------------------|
| Operator Position   | Left   |                    |                   |
|                     | Center |                    |                   |
|                     | Right  |                    |                   |

## DIMENSIONS

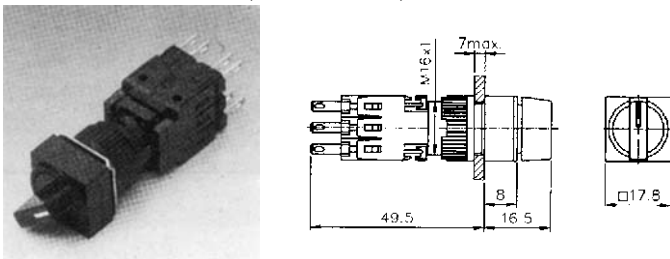
### TN16-SSR @ n/a (1NO + 1NC)



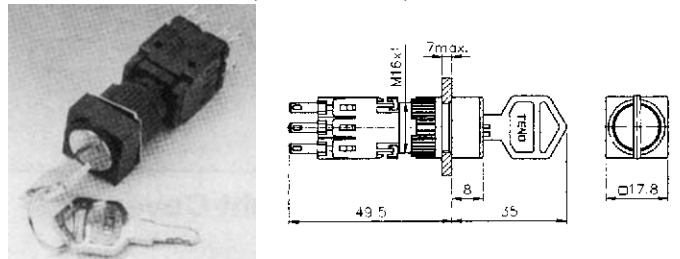
### TN16-KSR @ n/a (1NO + 1NC)



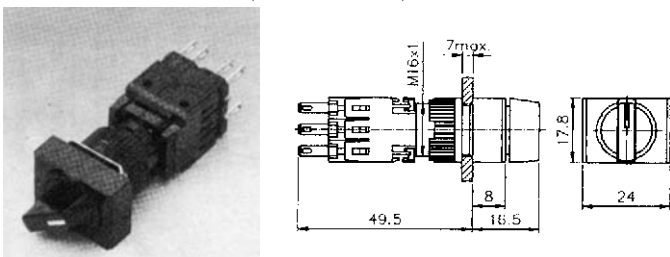
### TN16-SSS @ n/a (1NO + 1NC)



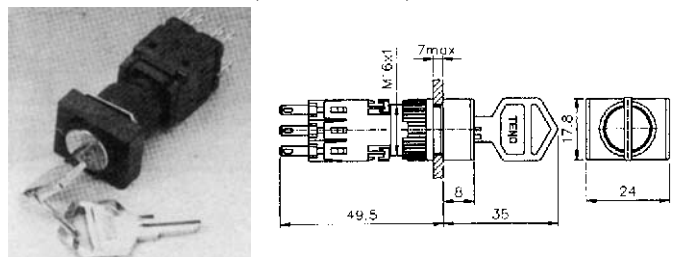
### TN16-KSS @ n/a (1NO + 1NC)



### TN16-SSL @ n/a (1NO + 1NC)



### TN16-KSL @ n/a (1NO + 1NC)



หมายเหตุ : ราคานี้เป็นราคาชนิด IP40 สามารถเพิ่ม Contact ได้ถึง 3a3b (3NO+3NC); เพิ่ม Contact 1NO+1NC รุ่น TN16-C หรือ TN16-CP อีก n/a