

# TSW Series

## 3 & 5 -way Navigation Switch



### Features/Benefits

- Compact and slim
- Multiple function in one component (rotary, select)
- Easy installation
- Through hole termination
- Integrated decoration (B type)

### Typical Applications

- Remote controls
- Desk phones
- Keyboards
- Printers
- Entertainment systems
- White goods

### Operation Characteristics

OPERATING FORCE: See chart below  
24 detent - 12 pulses/360°

### Specifications

INITIAL CONTACT RESISTANCE: Max. 300mΩ  
INSULATION RESISTANCE: Min. 100 MΩ (100 VDC)  
RATING: 1mA 10 VDC  
LIFE CYCLE: See chart below  
OPERATING FREQUENCY:  
Rotation - Max. 30 operations per minute  
Push - Max. 120 operations per minute  
Depression - Max. 300 gf

### Environmental

OPERATING TEMPERATURE: 0°C / 40°C  
STORAGE TEMPERATURE: -40°C / 70°C  
VIBRATION RESISTANCE: 10 ~ 55 Hz, displacement 0.75mm (p-p)  
SHOCK RESISTANCE: Destruction 1,000 m/s<sup>2</sup> (approx. 100G) max.  
WAVE SOLDERING: Max. 260°C for 5 seconds  
HAND SOLDERING: Max. 260°C for 5 seconds

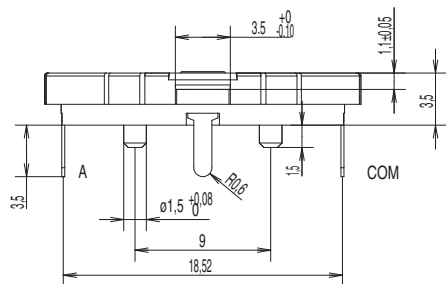


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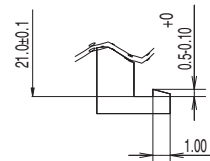
Navigation

Designation	Number of Circuits	Rotation Actuation Force	Push Actuation Force	Cycle Life Rotation (per direction)	Cycle Life Push	Packaging/ Multiple
TSW A-3N-C LFS	3	Max. 60g - cm	220g ± 50g	1,000K cycles	1,000K cycles	80 pcs per tray, 1600 pcs
TSW B-3N-C LFS	5	Max. 50g - cm	Max 300g	1,000K cycles	1,000K cycles	30 pcs per tray, 600 pcs

### TSW A



### COVER DESIGN GUIDELINE



### CONTACT CONFIGURATION

Push

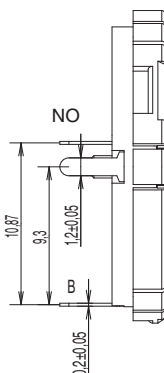
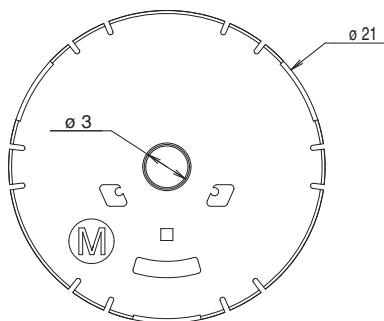


### Rotation output waveform

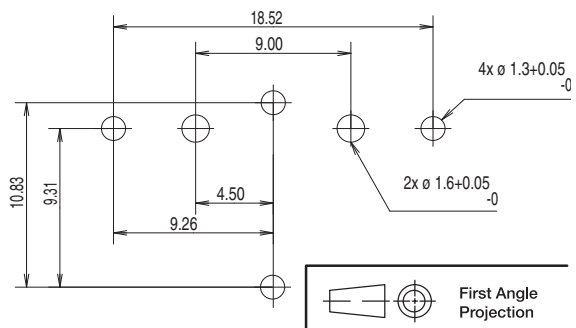
ANGLE CONTACT	-90°	-60°	-30°	0°	30°	60°	90°
A-Com ON	High	High	High	High	High	High	High
A-Com OFF	Low	Low	Low	Low	Low	Low	Low
B-Com ON	Low	High	High	High	High	High	High
B-Com OFF	High	Low	Low	Low	Low	Low	Low

CW ← → CCW

Numbers of detent : 24  
Pulse/Rotation : 12 pulse/360°



### PCB LAYOUT

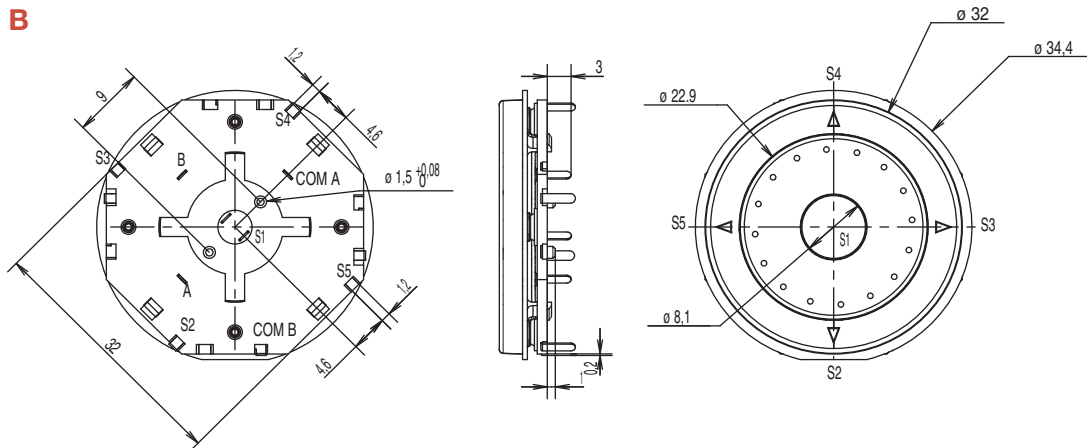


Dimensions are shown: mm  
Specifications and dimensions subject to change

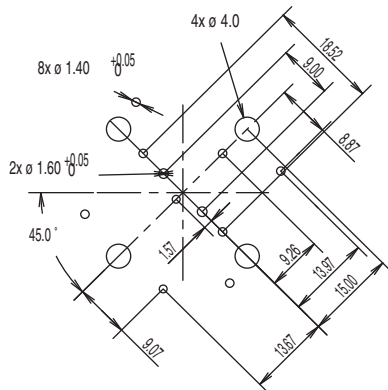


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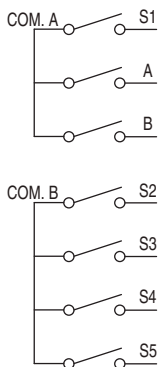
## TSW B



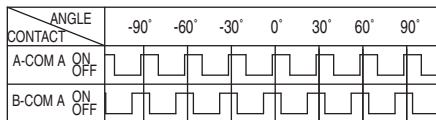
PCB LAYOUT



ELECTRICAL FUNCTION



Rotational Output Waveform



CW ← → CCW

Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°



C

Navigation



Dimensions are shown: mm  
Specifications and dimensions subject to change

www.ck-components.com