

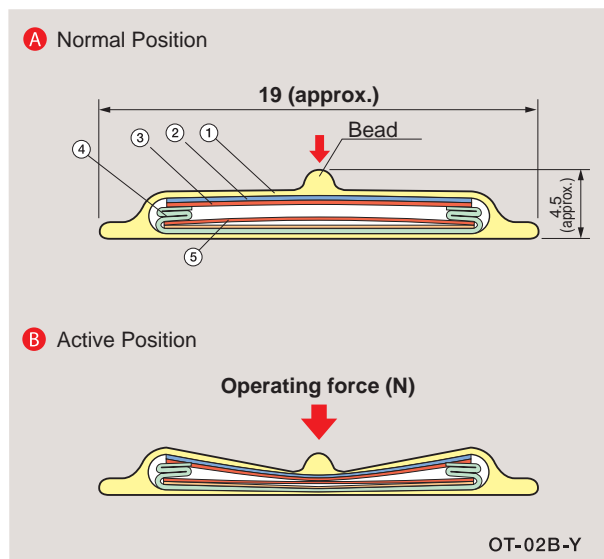
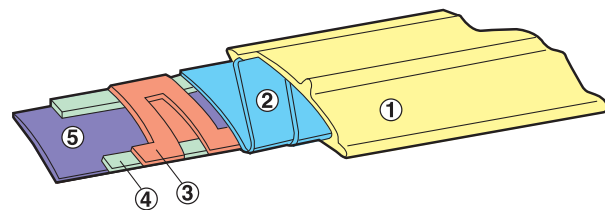
# TAPE SWITCHES

## TAPE SWITCHES INFORMATION

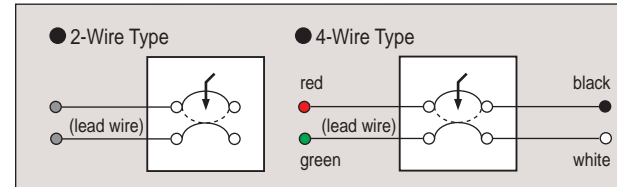
OJIDEN's tape switches are exported to countries around the world. While used primarily in factory automation (FA)-related equipment in securing safety, they are now finding applications in our immediate surroundings in the way of automating homes/shops (HA) and becoming part of medical equipment, all thanks to their globally acclaimed high performance and reliability.

### Construction and Operating Principles of Tape Switches

As its name suggests, the switch is shaped in the form of a tape containing a snap-action contact. It is made of lengths of quenched spring material serving as conducting plates. The plates are thickly coated by copper-plating and held together with Mylar (PET) film in between them serving as an insulator and with sheathing (PVC) formed by extrusion molding on the outside.



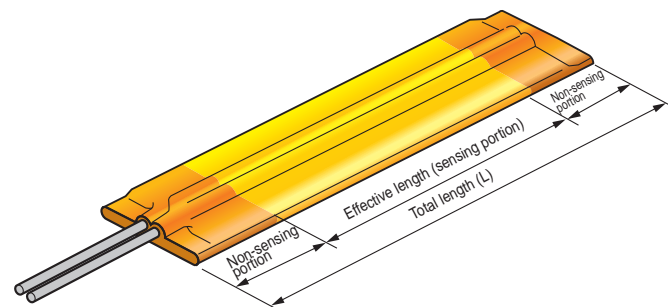
### Contact Construction 1a (snap action)



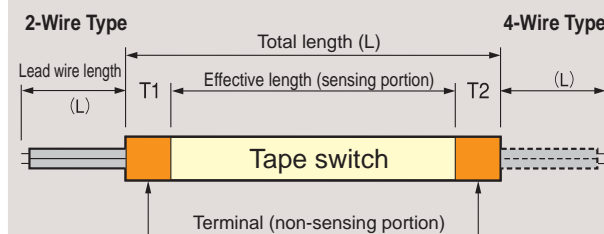
Typical Construction of a Tape Switch	
①	External sheathing (PVC, polyvinyl chloride)
②	Upper insulator (Mylar film)
③	Upper conducting plate (phosphor bronze)
④	Intermediate/lower insulator (Mylar film)
⑤	Lower conducting plate (copper-plated steel)

### Points to Note When Ordering Tape Switches

- Indicate the model and the total length (L).
- Indicate the length (L) of the lead wire and the lead-out configuration in terms of 2-wire (1-ended) and 4-wire (2-ended).  
※ In the absence of indication, a 2-wire type (1-ended) will be shipped.
- For outdoor uses, clearly indicate the need for extra waterproofing and other requirements.



(standard specifications for terminal processing by a high-frequency welding tool)



### Processing Dimensions (standard type, mm)

Dimensions	Model	02A 02B 80P	21BP 41BP C
2-/4-Wire type non-sensing portion (T1/T2)		25	20
2-/4-Wire lead wire (L)		500	500

NOTE:OT-80P has a non-sensing portion other than on both its terminals owing to its internal construction.

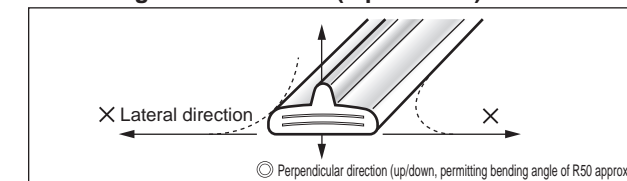
### Standard Tape Switch

Model (color)	Cross-sectional configuration (mm)	Operating force and weight	Applications and features
OT-02A-GY (gray)		30 N (approx.) Weight 110 g/m (approx.)	<ul style="list-style-type: none"> <li>High operating force (recovery) (02A-GY)</li> <li>High sensitivity (02B-Y, 02B-B)</li> <li>Applications: conveyers, elevators, seat (mat) sensor for entertainment equipment, medical equipment, various automation equipment, built-in sensors for crime-prevention devices and safety edges</li> </ul>
OT-02B-Y (yellow) B (black)		12 N (approx.) Weight 100 g/m (approx.)	<ul style="list-style-type: none"> <li>Bending angle: R50 (approx.)</li> <li>See the mounting diagram on the left for a cross-sectional view.</li> <li>Accommodation of extra waterproofing upon request</li> <li>Mounting channel: OC-06 (optional)</li> </ul>
OT-80P (red)		Operating angle 10° to 15° 2.2 N (approx.) Weight 60 g/m (approx.)	<ul style="list-style-type: none"> <li>VFF 0.5 mm, 0.5 m (standard)</li> <li>2-way activation (in response to bending at 10° to 15° or pressing)</li> <li>No bending processing</li> <li>Maximum length: 3 m</li> <li>Applications: inside beds/chairs; collision prevention</li> <li>Non-sensitive portion in addition to on both terminals</li> </ul>
OT-21BP-G (green)		3N (approx.) Weight 85 g/m (approx.)	<ul style="list-style-type: none"> <li>High sensitivity, Low protrusion</li> <li>Applications: built-in sensors in various edges, safety sensors in medical equipment, crime-prevention and on-hand switches</li> <li>Bending angle: R50 (approx.)</li> <li>Accommodation of extra waterproofing upon request</li> </ul>
OT-C-BL (blue)		3N (approx.) Weight 62 g/m (approx.)	<ul style="list-style-type: none"> <li>High sensitivity (bead surfaced with special texture)</li> <li>Accommodation of extra waterproofing upon request</li> </ul>
OT-41BP-W (white)		4 N (approx.) Weight 80g/m (approx.)	<ul style="list-style-type: none"> <li>Extra high sensitivity (higher than that of OT-41BP-W below and primarily built in safety edges)</li> <li>Bending angle: R50 (approx.)</li> <li>Accommodation of extra waterproofing upon request</li> <li>Mounting channel: OC-04 (optional)</li> </ul>
OT-41BP-W (white)		10 N (approx.) Weight 100g/m (approx.)	<ul style="list-style-type: none"> <li>High sensitivity, High protrusion</li> <li>Multi-directional activation (See the arrows in the diagram on the left.)</li> <li>Application: door edges, various medical equipment, parking equipment, as safety sensors in industrial equipment</li> <li>Bending angle: R50 (approx.)</li> <li>Accommodation of extra waterproofing upon request</li> <li>Mounting channel: OC-04 (optional)</li> </ul>
OT-41BP-R (red) B (black)		10 N (approx.) Weight 100g/m (approx.)	<ul style="list-style-type: none"> <li>Available in 2 colors: red (R), black (B)</li> <li>Maximum length: 200 m</li> <li>Applications: as emergency stop switches for belt conveyers/tooling machinery</li> <li>Accommodation of extra waterproofing upon request</li> <li>Mounting channel: OC-04 (optional)</li> </ul>

### Aluminum Mounting Channel (optional)

OC-04:	for OT-41BP, TS3
OC-06:	for OT-02A, 02B
◆	The channel may be 2 m long max. (Holes may optionally be drilled.)
◆	For details (e.g., dimensions, mounting method), see P12.
◆	A single channel may be shipped in parts (lengths).

### Bending Characteristics (tape switch)



### Ratings

Rated voltage/current	AC/DC28V-1A
Withstand voltage	AC 500V (1 min)
Contact life	1,000,000 activations (tested with relay; 24 V, 0.3 A load) or more
Operating force	2.2 N (220 gf) to 27 N (2.7 kgf) approx. (underφ15 pressing plate)
Insulation resistance	100 MΩ or more (by 500 VDC insulation tester)
Contact resistance	1.0 MΩ or less (if under operating force or more)
Operating temperature range	-10°C ~ +60°C
Withstand load	1470 N (150 kgf; underφ100 pressing plate for 1 min)
Waterproofing property	Water-tight, drip-proof (IP-54 equivalent)
Lead wire	w/ VFF (0.75 mm, 0.5 m; standard) ※OT-80P: w/ VFF (0.5 mm2, 0.5 m)