# CODED SWITCH
07P2T

ELMA
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## Product description

### MAIN FEATURES

PUSH TO TURN FUNCTION

- Integrated push to turn function
- Push forces up to 11 N
- BCD coding 2 to 10 positions
- Switching mode: Shorting or non-shorting
- Switching torque: Up to 7 Ncm
- For rugged environments
- Gold plated contacts
- THT vertical or horizontal
- Front panel sealing IP68 (up to 5 bar)
- Operating temperature range: -40 to +85 °C
- Various options and customizations

**07P2T**

ELV (2000/53/EC)
RoHS (2011/65/EU)

### PRODUCT VARIETY

- Push to turn (all positions locked or on / off locked)
- Shaft length
- Shorting or non-shorting
- Terminal style (horizontal, vertical)
- Front panel sealing IP60 or IP68
- Number of positions
- With end stop or endless rotating

### POSSIBLE CUSTOMIZATIONS

- Shaft dimension and shape
- Bushing, mounting
- Switching torque
- Pull to turn function
- IP sealing

### TYPICAL APPLICATIONS

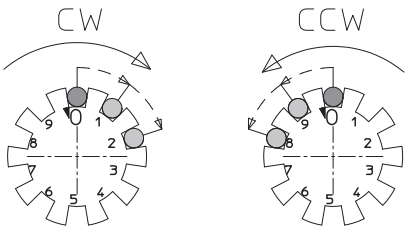
- Frequency and channel selection for two way radios
- Target aiming devices
- Aircraft transponder
- Medical equipment
- Industrial automation
- Cockpit applications

# Product description

## PUSH TO TURN EXPLANATION

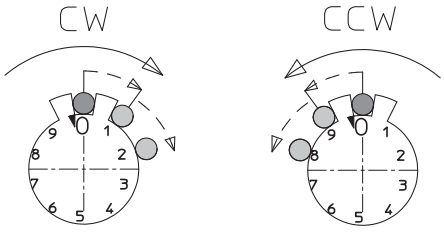
### ALL POSITIONS LOCKED

Before actuation every position is locked.




### ON / OFF LOCKED

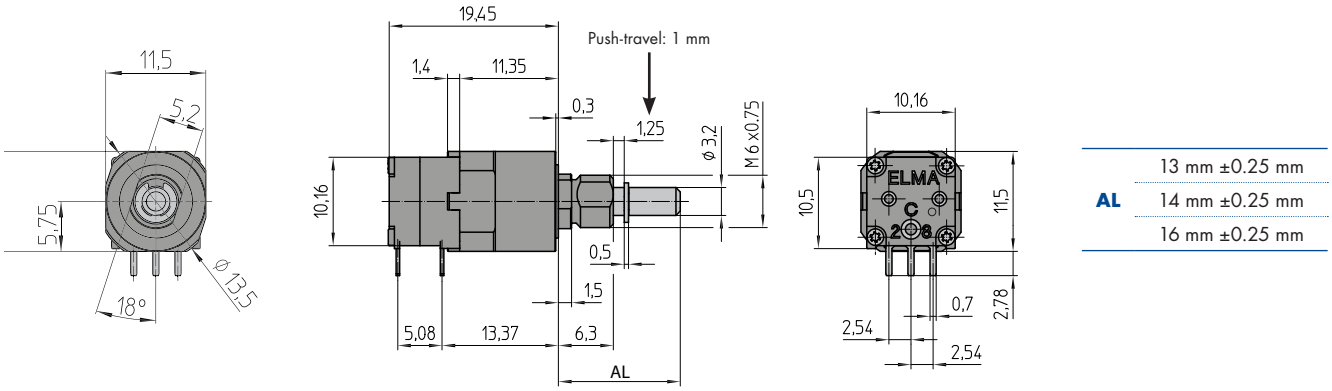
Before actuation only position 0 is locked. All other positions are movable.




# Dimensions and pin assignment

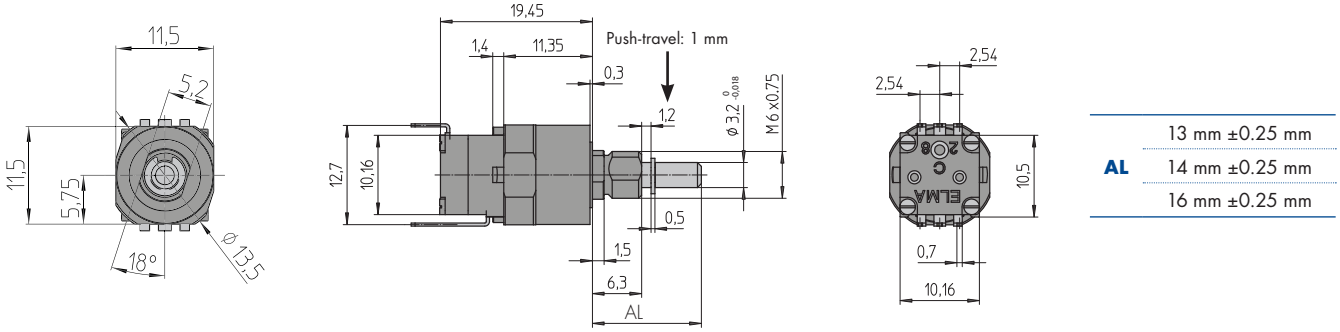
## SWITCH DESIGN

### HORIZONTAL




| | |
|---|---|
| AL | 13 mm ±0.25 mm |
| | 14 mm ±0.25 mm |
| | 16 mm ±0.25 mm |

### VERTICAL



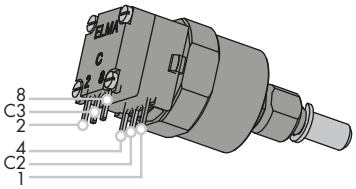

| | |
|---|---|
| AL | 13 mm ±0.25 mm |
| | 14 mm ±0.25 mm |
| | 16 mm ±0.25 mm |

Dimensions in mm
Tolerances according to DIN ISO 2768-1 (m), unless otherwise specified

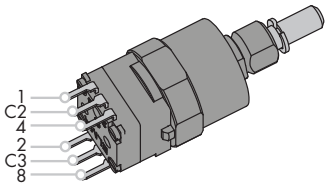
# Dimensions and pin assignment

## PIN ASSIGNMENT

HORIZONTAL



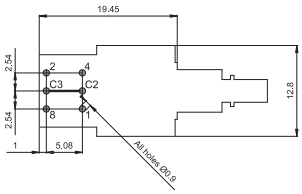

VERTICAL




## DRILLING DIAGRAM AND FOOTPRINT

HORIZONTAL

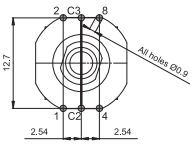
View from component side of the PCB




Commons (C2, C3) must be connected together on the PCB

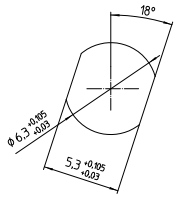
VERTICAL

View from component side of the PCB




Commons (C2, C3) must be connected together on the PCB

## FRONT PANEL CUT OUT

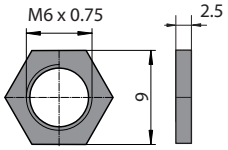



Dimensions in mm
Tolerances according to DIN ISO 2768-1 (m), unless otherwise specified

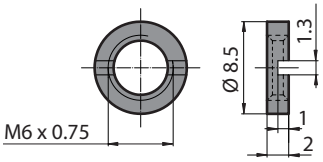
## Dimensions and pin assignment

### NUT | LOCK WASHER | FRONT PANEL SEALING

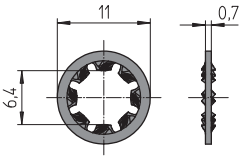
HEX NUT



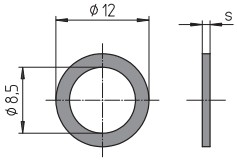

SLOTTED NUT




LOCK WASHER




FRONT PANEL SEALING




Dimensions in mm
Tolerances according to DIN ISO 2768-1 (m), unless otherwise specified

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# Ordering information

## ORDERING CODE

| 07P2T | - | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

### TERMINAL STYLE

**1** Horizontal, push to turn
**3** Vertical, push to turn
**X** Ask for customized solution

### CODING

**3** BCD (max. 10 positions)
**4** BCD complementary (max. 10 positions)
**X** Customized solutions on request

Explanation see chapter «Technical explanations»

### BUSHING | IP SEALING | NUT AND WASHER

**10** Threaded | IP60 | hex nut and washer
**20** Threaded | IP60 | slotted nut and washer
**30** Threaded | IP68 | hex nut and washer
**40** Threaded | IP68 | slotted nut and washer
**50** Threaded | IP60 | without nut and washer
**60** Threaded | IP68 | without nut and washer
**XX** Customized solutions on request

### PACKAGING

**-** Standard tray (25 or 50 pieces)

### SWITCHING TORQUE

**7** 7 Ncm
**X** Customized solutions on request

### D-SHAFT LENGTH

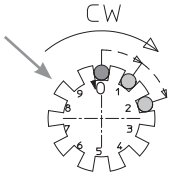
**13** Standard | 13 mm length
**14** Standard | 14 mm length
**16** Standard | 16 mm length
**XX** Customized solutions on request

For shaft dimension and shape see drawing

### ALL POSITIONS LOCKED CLOCKWISE

Adjustable «all positions locked» positions. Start at pos. 0.

**S** BCD: 10 positions
**1** 0 - 1: 2 positions
**2** **0 - 2: 3 positions**
**3** 0 - 3: 4 positions
**4** 0 - 4: 5 positions
**5** 0 - 5: 6 positions
**6** 0 - 6: 7 positions
**7** 0 - 7: 8 positions
**8** 0 - 8: 9 positions
**X** Customized solutions on request




Total up to max. 9 positions for locked options

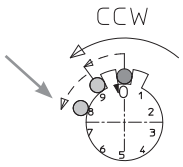
### SWITCHING MODE

**S** Shorting
**N** Non-shorting (only with BCD)

### ON / OFF LOCKED COUNTERCLOCKWISE

Adjustable «on / off locked» positions.
Start at position 0.

**S** BCD: 10 positions
**1** 0 - 9: 2 positions
**2** **0 - 8: 3 positions**
**3** 0 - 7: 4 positions
**4** 0 - 6: 5 positions
**5** 0 - 5: 6 positions
**6** 0 - 4: 7 positions
**7** 0 - 3: 8 positions
**8** 0 - 2: 9 positions
**X** Customized solutions on request

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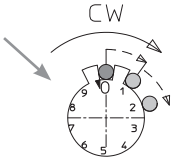
**6** 0 - 6: 7 positions
**7** 0 - 7: 8 positions
**8** 0 - 8: 9 positions
**X** Customized solutions on request

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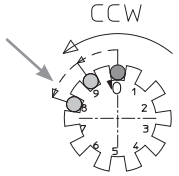
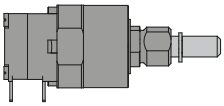



Total up to max. 9 positions for locked options

# Ordering information

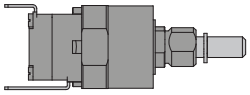
## PREFERENCE TYPES SELECTION CHART[1]

HORIZONTAL, STANDARD-POSITIONS (BCD: 10 POS.), SHORTING, STANDARD SHAFT LENGTH 14 MM, IP68



| CODING | INDEXING ANGLE \| POSITIONS | TORQUE | PUSH TO TURN | PART NUMBER BCD 10 POSITIONEN (0 – 9) |
|---|---|---|---|---|
| BCD | 36° \| 10 (09) | 7 Ncm | All positions locked | 07P2T-1330-714S000S |
| | | | On / off locked | 07P2T-1330-71400S0S |
| BCD complementary | 36° \| 10 (09) | 7 Ncm | All positions locked | 07P2T-1430-714S000S |
| | | | On / off locked | 07P2T-1430-71400S0S |

VERTICAL, STANDARD-POSITIONS (BCD: 10 POS.), SHORTING, STANDARD SHAFT LENGTH 14 MM, IP68



| CODING | INDEXING ANGLE \| POSITIONS | TORQUE | PUSH TO TURN | PART NUMBER BCD 10 POSITIONS (0 – 9) |
|---|---|---|---|---|
| BCD | 36° \| 10 (09) | 7 Ncm | All positions locked | 07P2T-3330-714S000S |
| | | | On / off locked | 07P2T-3330-71400S0S |
| BCD complementary | 36° \| 10 (09) | 7 Ncm | All positions locked | 07P2T-3430-714S000S |
| | | | On / off locked | 07P2T-3430-71400S0S |

## PACKAGING

| | |
|---|---|
| Foam polystyrene box: | 50 pieces |
| Antistatic blister box: | 50 pieces |

## ACCESSORIES AND SPARE PARTS

| | |
|---|---|
| Hex nut M6 x 0.75: | Part number 4424-22 (50 pieces / bag), brass |
| Slotted nut M6 x 0.75: | Part number 4424-28 (50 pieces / bag), brass |
| | Part number 4424-31 (50 pieces / bag), stainless steel (cross slot) |

[1] For other types | Options see type key

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# Specifications

## MECHANICAL DATA

| | |
|---|---|
| Detent angle \| positions: | 36° detent angle \| 10 positions |
| Rotary limitation \| end stop: | Configurable |
| Switching torque: | 7 Ncm (±25 % in new condition) |
| Rotational life: | > 10'000 cycles (tested at room temperature) |
| Rotational stop strength: | > 70 Ncm |
| Fastening torque of nut (front panel mounting): | M6 x 0.75: < 100 Ncm |

## ELECTRICAL DATA

| | |
|---|---|
| Electrical connections: | Pins 0.4 x 0.7 mm |
| Switching voltage: | < 42 VDC (resistive load) |
| Switching current: | < 200 mA (resistive load) |
| Contact resistance: | < 50 mΩ (in new condition) |
| Switching \| breaking capacity: | < 5 VA |
| Signal \| coding: | BCD or BCD complementary |
| Switching mode: | Shorting or non-shorting (non-shorting only with BCD possible) |
| Dielectric strength: | 500 VDC during 60 s (pin-to-pin, pin-to-housing) |
| Insulation resistance: | > 1 GΩ at 500 VDC (pin-to-pin, pin-to-housing, in new condition) |

## MATERIALS

| | |
|---|---|
| Shaft: | Stainless steel 1.4305 |
| Bushing \| housing: | Zinc die casting, fiberglass reinforced high performance plastic |
| Contact surface: | Cu alloy (Au plated) |
| Soldering leads: | Cu alloy (tin plated) |
| Hex nut: | Brass |
| Slotted nut: | Brass or stainless steel |
| Lock washer: | Steel (zinc plated) |
| Snap ring: | Stainless steel |
| O-rings: | NBR (nitrile rubber), 70 shore A |
| Front panel sealing: | NBR (nitrile rubber), 70 shore A |

## ENVIRONMENTAL DATA

| | |
|---|---|
| Operating temperature: | -40 to +85 °C (IEC 600068-2-14) |
| Storage temperature: | -40 to +85 °C (IEC 600068-2-14) |
| IP sealing against front panel: | IP60 without sealing<br>IP68 with shaft and front panel sealing (2 bar, 1 h) |
| Vibration: | 10 $G_{RMS}$ at 10 to 2'000 Hz |
| Flammability: | UL94-HB |

## SOLDERING

| | |
|---|---|
| Hand soldering: | < 280 °C during 2 s |
| Wave soldering: | < 280 °C during 2 s |

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