# Rotary Switches Type 04

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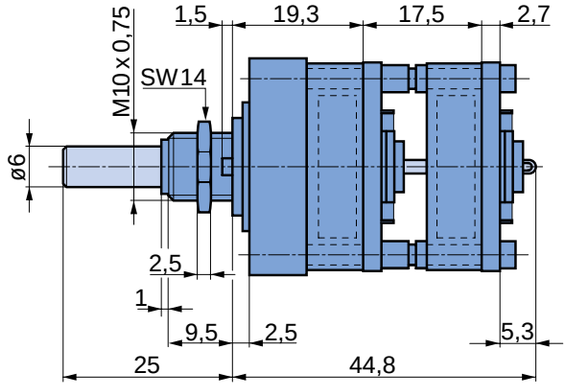
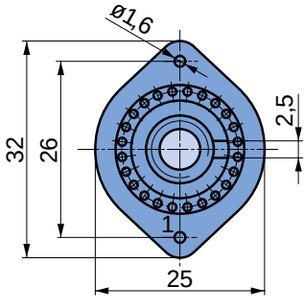
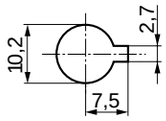
### With solder eyelets

SW = key spanner

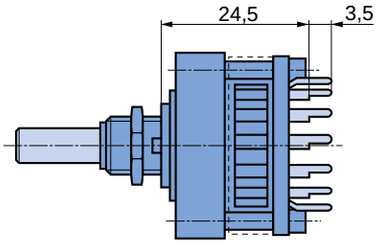


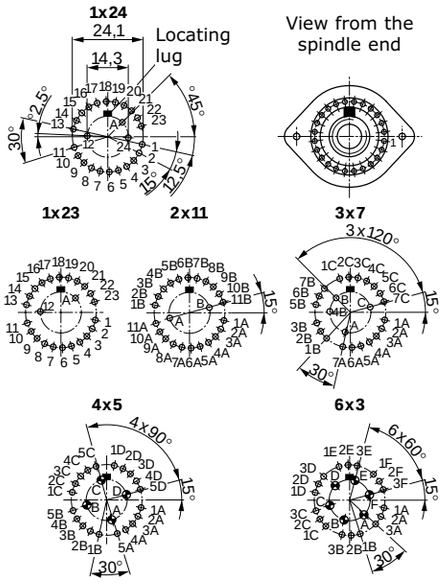

Front-panel cut out



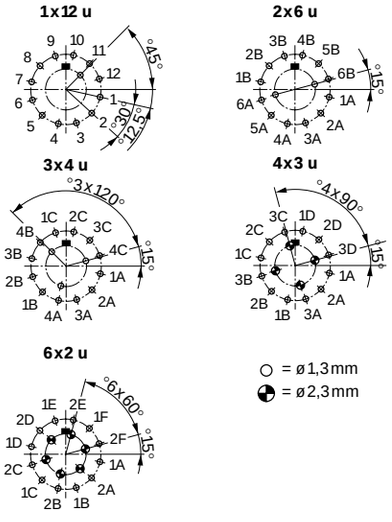

### With pins for PCB mounting




Drilling diagram
for indexing angle 15°




Drilling diagram
for indexing angle 30°




### Description

Rotary switch with bridge contact principle

*Overall dimension*
32 x 25 mm

*Threaded bushing*
M 10 x 0,75

*Two-hole mounting*
Mounting hole distance 26 mm
Mounting screws M 2

*Indexing angle*
15° = 24 switching positions
30° = 12 switching positions
With or without stop.

The adjustable stop screws can be set on any position between 2 and the maximum. Stop screws have to be ordered separately.

*Number of poles per wafer*
1, 2, 3, 4 or 6 (poles)

*Switching mode*
Shorting or non-shorting

*Contact material*
Gold flash and Gold plated 3 µm

*Terminals*
Solder eyelets or PCB mountable

# Rotary Switches Type 04

**Technical information**

**Mechanical data**

*Indexing mechanism*
15° = 24 positions
shorting or non-shorting

30° = 12 positions
non-shorting

*Switching torque with 1 wafer, 1 pole*
Standard:
15 Ncm ± 25%
Special:
8 Ncm ± 25%
20 Ncm ± 25%

*Vibration resistance*
10–2000 Hz/10 g

*Max. admissible tightening torque for nuts*
max. 300 Ncm

*Mechanical life*
> 25000 switching cycles

*Temperature range*
– 40 °C to + 85 °C

**Material data**

*Housing*
pressure cast, zinc plated and passivated

*Shaft*
stainless steel

*Insulation material*
Wafers: HF-ceramic
Rotor: polybutylene (PBTB)

*Contact material*
Rivet (copper)
Segment (brass)
- gold flash
  10 µm silver coated, gold flashed approx. 0.2 µm
- 3µm gold plated
  3 µm gold plating on 3 µm nickel layer

*Wiper (bronze)*
- gold flash
  10 µm silver plated, gold flashed approx. 0.2 µm
- 3 µm gold plated

**Soldering data**

*Handsoldering*
Ceramic wafer ≤ 10 s/≤ 350 °C

*Machine soldering*
Wave ≤ 5 s/≤ 260 °C

**Electrical data**

*Application data*
Voltage < 42 V
Current < 2 A

*Switching capacity with resistive load:*
2 V/<2 A AC/DC
24 V/0,6 A AC/DC
42 V/0,4 A AC/DC

*Switching mode*
shorting or non-shorting

*Contact and lead resistance*
< 10 mΩ in new condition

*Insulation resistance measured with 500 V DC, for 1 min*
> $10^{13}$ V contact to contact
> $10^{12}$ V contact to earth

*Capacitance*
1 pF contact to contact

*Test voltage at 50 Hz and 60% relative humidity, for 1 min*
1000 rms contact to contact
1000 rms contact to earth



1 mm = 0.04 inch 1 inch = 25.4 mm

# Special Options Type 04

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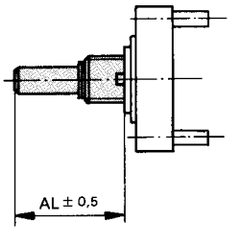
### Ordering an option

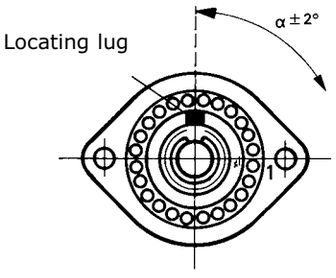
To order a special option please use the order form on page 106.
Please specify your requirements and fax it to your local contact or to Elma.



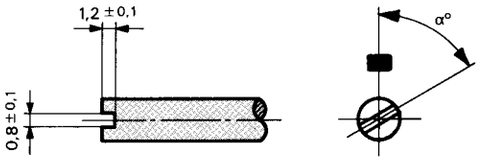

### Special shaft length

To order, state the shaft length AL as shown in diagram, measured from mounting face.
Specify shaft lenght on page 106.

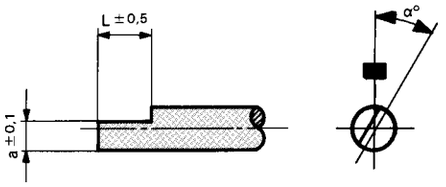
### Special types of shaft



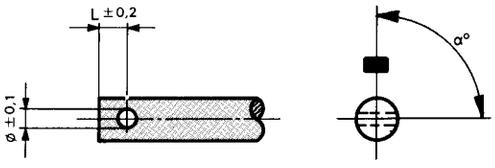

Angle in ° from locating lug.
Switch on position 1




e. g. 60 °




e. g. 30 °

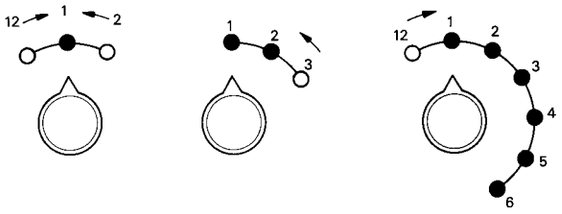



e. g. 90 °

Specially machined shafts are available. Specify dimensions on page 106.

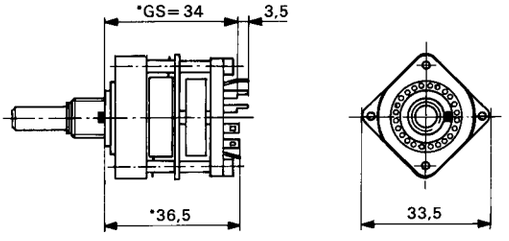
### Switch with momentary contact

Examples




• Detent position
o Momentary contact

Dimensions

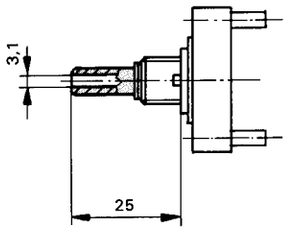



Detent and momentary contact position: 30°

*17,5 mm extra per wafer

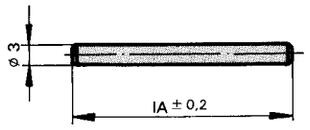
Configuration with 1 or 2 momentary positions. Please complete order form on page 106.

# Special Options Type 04



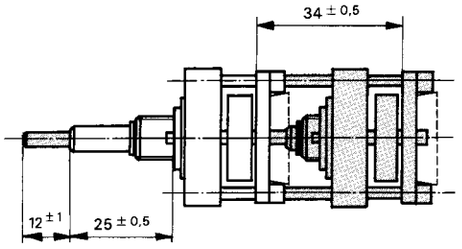

**Hollow shaft**

Available for switches up to 5 wafers; inner shaft (ø 3 mm) to be ordered separately.
Please complete order form on page 106.



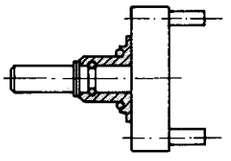

**Inner shaft**

For switches with mounting plate or hollow shaft, inner shafts must be ordered separately. Please state exact length on page 106.




**Switches with 2 drive shafts**

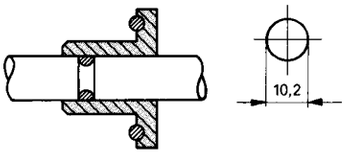
Consisting of a hollow outer plus and inner shaft. The inner shaft driving a maximum of 3 wafers with 6 wipers each. Please give type description of each switch.
Please complete order form on page 106.

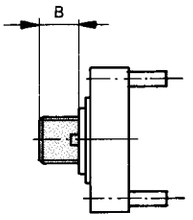


**Waterproof**

To prevent water penetrating behind the front panel and into the mechanism.
Waterproof up to 1 bar (IP 68).
Please complete order form on page 106.

Front panel cut out




**Shortened bushing**

Please state dimension B = min. 3 mm.
Specify dimensions on page 106.



1 mm = 0.04 inch 1 inch = 25.4 mm

# Special Options
# to Rotary Switches Type 04

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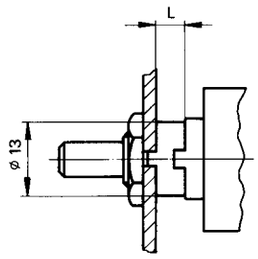
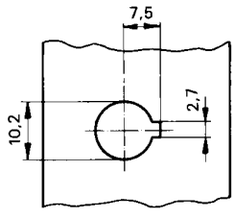
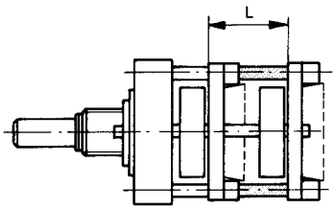



**Spacer pieces**

Can be used in many cases in place of shortened bushes; made of glass-fibre reinforced plastic to compensate the front panel thickness; available in 2 standard lengths.




| Length L | Packet of | Order Numbers |
|---|---|---|
| 3,5 mm | 10 pieces | 4124-31 |
| 3,5 mm | 100 pieces | 4124-30 |
| 5,5 mm | 10 pieces | 4124-36 |
| 5,5 mm | 100 pieces | 4124-35 |



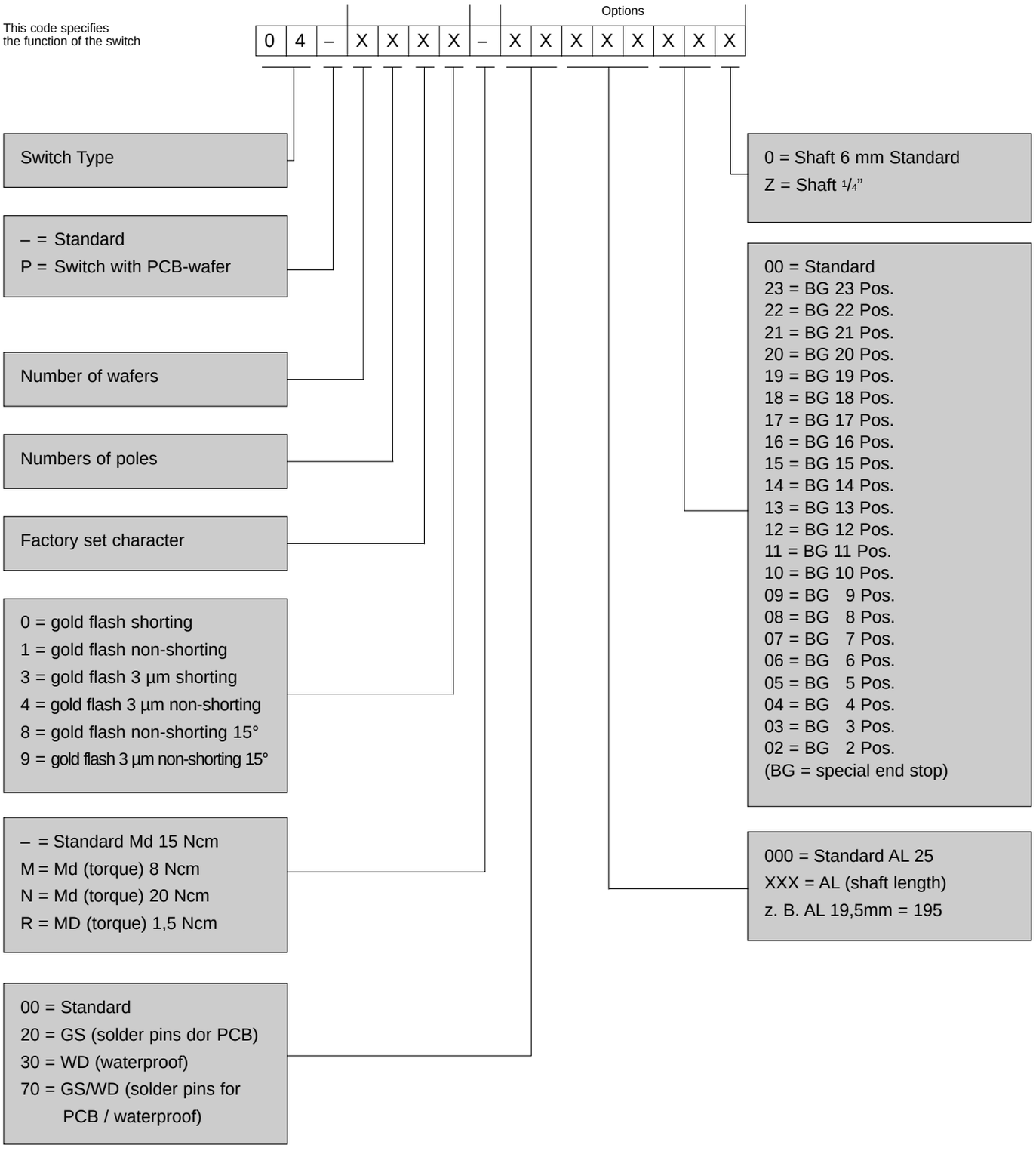

**Special wafer spacing**

Our spacers allow the following wafer spacing:
L = 21,3 mm or 25,5 mm
Please complete order form on page 106.

**Number of wafers**

Special versions with 5 and more wafers. 7 and more wafers fitted with support-bracket.

# Ordering Code
## to Rotary Switches Type 04




Md = Switching torque
AL = Shaft length
BG = Special end stop
WD = Waterproof
GS = With solder pins for PCB mounting



1 mm = 0.04 inch 1 inch = 25.4 mm

# Order Form for Special Options
## for Rotary Switches Type 04

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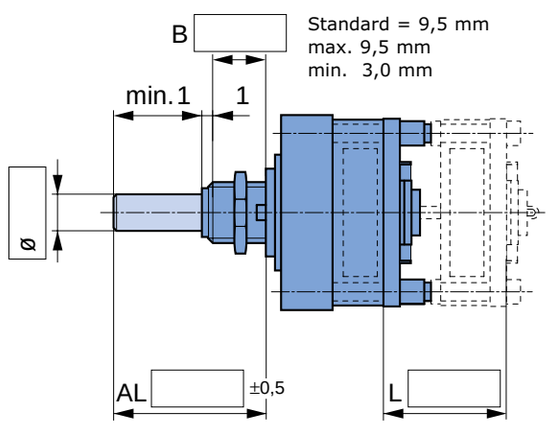
**Copy – Fill in – Fax** ☐ **Quote request** ☐ **Order**

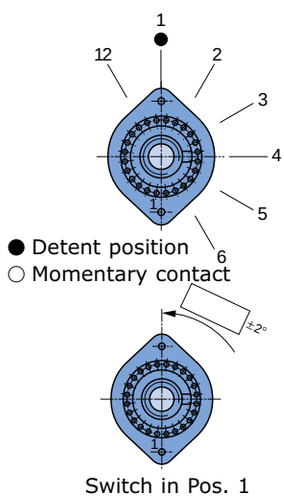
| | |
|---|---|
| Company | Customer No. |
| Address | |
| | Phone |
| Name | Fax |
| | e-mail |
| Quantity | Requested delivery date |
| Similar to order No. | Function = Pol x Pos. |
| Number of wafers | Special stop from Pos. to Pos. |
| With solder eyelets ☐ | Contact material gold flash ☐ gold 3 µm) ☐ |
| With pins for PCB mounting ☐ | Switching torque (1 wafer/1 pole) |
| | Standard 15 Ncm ☐ spec. 8 Ncm ☐ spec. 20 Ncm ☐ |
| Waterproof version IP68 (Front panel side) ☐ | |
| Indexing angle 15 ° shorting ☐ | Shaft diameter 6 mm Standard ☐ |
| Indexing angle 15 ° non-shorting ☐ | Shaft diameter 1/4" (6,35 mm) special ☐ |
| Indexing angle 30 ° non-shorting ☐ | |
| Indexing angle 30 ° non-shorting/moment. ☐ | |

Switch with 2 drive shafts ☐ Switch with hollow shaft ø 6mm ☐ Inner shaft length ☐

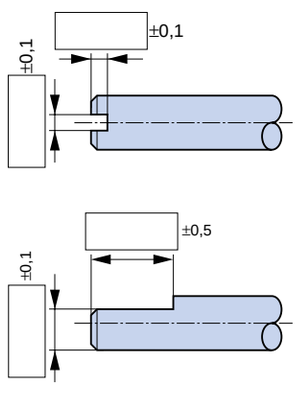
**Special shaft length/ Shortened bushing**




**Momentary function**




**Machined shaft**




**Sketch** (additional technical requirements / comments)

1 mm = 0.04 inch 1 inch = 25.4 mm