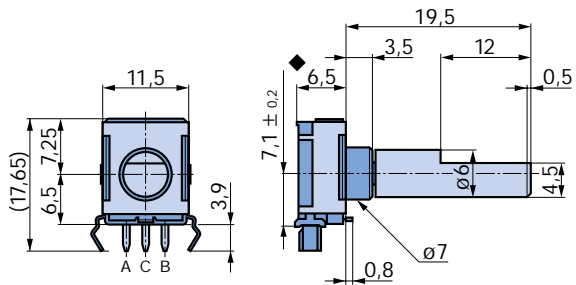


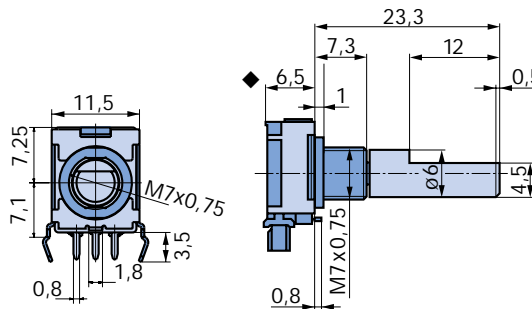
Mechanical Encoders

Incremental Encoder Type E27

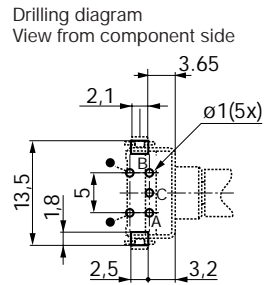
Horizontal



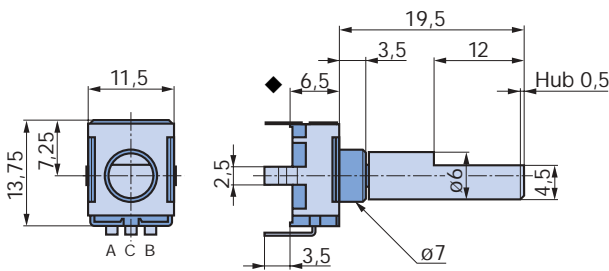
for panel mounting (nut supplied)



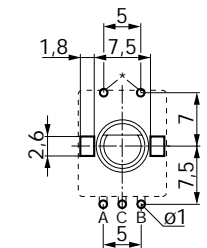
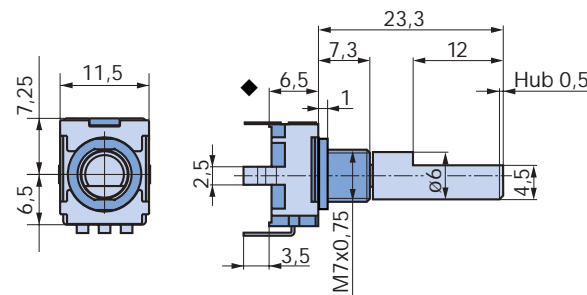
Drilling diagram View from component side



Vertical



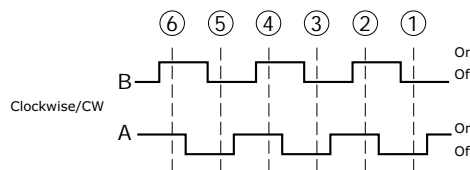
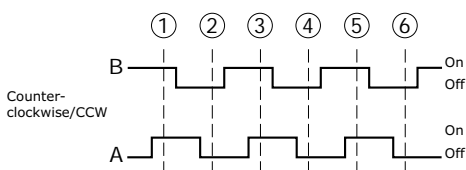
for panel mounting (nut supplied)



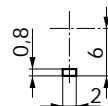
◆ Applicable only on the version with integrated pushbutton-function. Height of switch housing is reduced to 5.3 mm from 6.5 mm for the version without integrated pushbutton-function.

* Applicable only with integrated pushbutton-function.

Puls diagram



Front-panel cut out locating lug



Description

Incremental encoder with 16 or 30 pulses per rotation.
CW/CCW identified by the phase lag of the two signals.

With or without push button actuation.

Modifiable aluminium shaft.

Washable (only with o-ring)

Positive positioning indexing with high rotational life.

Contact material
Au

Indexing
with position indexing 16 or 30
(available without indexing)

Mechanical Encoders

Incremental Encoder Type E27

ELMA
Your Solution Partner

Technical information encoder

Mechanical data

Indexing mechanism

22,5° = 16 positions

12° = 30 positions

(without stop)

Switching torque (new)

Standard:

1,5Ncm / 2,5Ncm +/- 50%

Max. admissible tightening torque for nuts

max. 50 Ncm

Vibration resistance

10 – 500 Hz / 50 g

Temperature range

Storage temperature:

- 55 °C to + 90 °C

Operating temperature:

- 40 °C to + 85 °C

Mechanical life

> 100 000 (1,5Ncm)

> 10000 (2,5Ncm)

Material data

Retention Clip

Tinned steel

Shaft

Aluminium

Insulation

Thermoplast UL-94-VO

Fixed contacts

Alloy nickel cromings gold plated

Sliding contacts

Alloy copper, gold plated

Pins

Tinned

Soldering data

Handsoldering

Plastic wafer ≤ 3 s / ≤ 300 °C

Machine soldering

Wave ≤ 4 s / ≤ 260 °C

Reflow ≤ 5 s / ≤ 260 °C (on request)

Electrical data

Output signal

Encoder: increment

Push button: pulse

Encoder

16 position: 8 pulses / 360°

30 position: 15 pulses / 360°

Switching voltage

≤ 5 V

Switching current

min. 1 mA

max. 10 mA

Contact bouncing (new)

max. 2 ms at 60 U/min

Difference of phase (new)

min. 6 ms at 60 U/min

Insulation resistance 250 V DC

≥ 100 M Ω

Contact resistance

< 100 m Ω in new condition

< 500 m Ω after 100 000 rotations

Various

IP protection degree

IP 65 with O-Ring

IP 50 without O-Ring

Technical information push-button

Mechanical data

Push-button travel

0,5 mm (+ 0,4/- 0,3 mm)

Operating force

3 N or 6 N +/- 50%

Push/pull strength on shaft

max. 50 N/10 s

Temperature range

Storage temperature:

- 55 °C to + 90 °C

Operating temperature:

- 40 °C to + 85 °C

Life

> 100 000 travels

Electrical data

Switching voltage

≤ 16 V

Switching current

min. 10 mA

max. 300 mA

Insulation resistance at 250 V

≥ 100 M Ω

Contact resistance

< 100 m Ω in new condition

< 200 m Ω after 100 000 travels

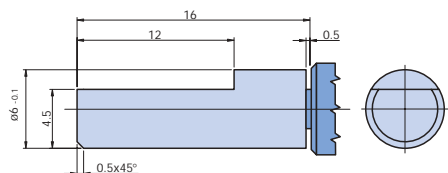
Special Options

Incremental Encoder Type E27

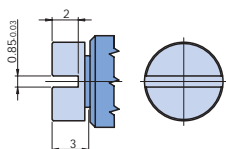
Special Options to Incremental Encoder Type E27

To order a special option please use the order form on page 88. Please specify your requirements and fax it to your local contact or to Elma.

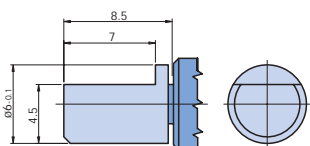
Special shafts (existing ones)



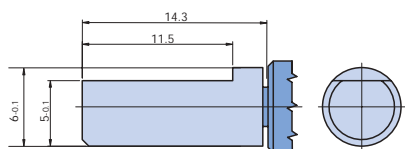
Standard (D-shaft) No. 1



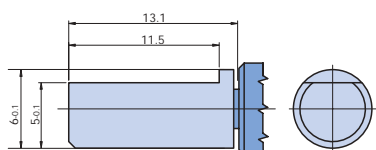
With slot for screw driver No. 2



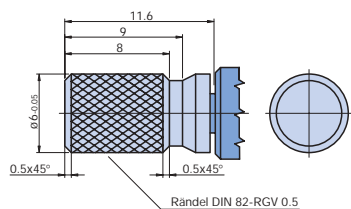
D-shaft 8 mm No. 3



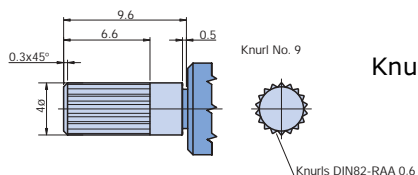
D-shaft 13,8 mm No. 5



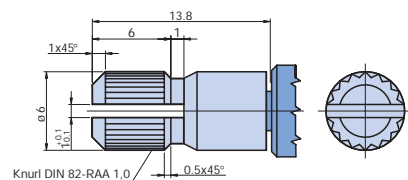
D-shaft 12,6 mm No. 6



Cross-knurl No. 7

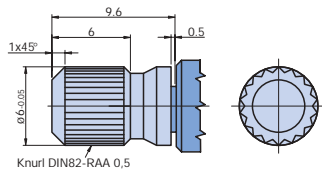


Knurl No. 8

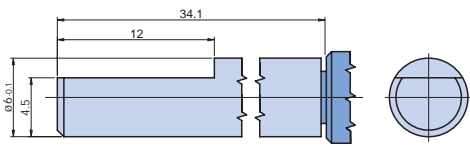


Knurl No. 9

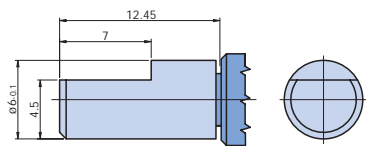
Special Options Type E27



Knurl No. H



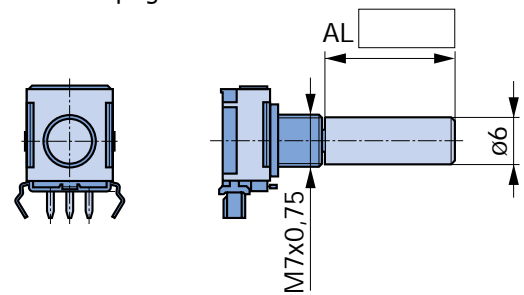
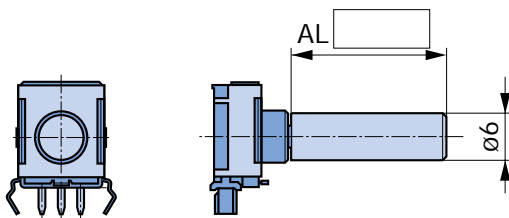
D-Shaft 33,6 mm No. I



D-Shaft 11,95 mm No. M

Special machined shafts

Specially machined shafts are available.
Please specify dimensions on page 88.



Ordering Code Type E27

E 2 7 - 0 - X X X X X AL X X X

Encoder Type

Number of detent position
 0 = 30 position
 1 = 16 position

Switch version
 1 = horizontal version DIL/THT
 2 = vertical version DIL/THT

Push-button
 0 = without push button
 1 = with push button 6N
 2 = with push button 3N

Detent
 0 = without detent
 1 = detent 1,5 Ncm torque
 2 = detent 2,5 Ncm torque

Housing version
 0 = housing
 ø7mm x 3,5mm (high)
 without bushing












 5 = housing M7x7,3mm
 for panel mounting

Packaging
 1 = palette (max. 80 pcs.)

Utilities
 0 = without utilities standard
 1 = with nut M7x0,75
 2 = with nut and washer

Sealing
 0 = without O-ring
 1 = with O-ring (IP65)
 2 = without O-ring and
 with gasket
 3 = with O-ring (IP65)
 and gasket

Shaft-conductivity
 resistance to voltage
 AL = aluminum AL standard
 AE = aluminium,
 electric insulated (2kV)

| <i>Shaft version</i> | | <i>For housing version</i> | |
|---|-----------------------|----------------------------|---|
| | | 0 | 5 |
| 1 =  | Standard (D-Shaft) | X | X |
| 2 =  | Slot for screw driver | X | |
| 3 =  | D-Shaft 8 mm | X | X |
| 5 =  | D-Shaft 13,8 mm | X | |
| 6 =  | D-Shaft 12,6 mm | X | X |
| 7 =  | Cross-knurl | X | X |
| 8 =  | Knurl | X | |
| 9 =  | Parallel-knurl | X | X |
| H =  | Knurl | X | |
| I =  | D-Shaft 33.6 mm | X | |
| M =  | D-Shaft 11,95mm | X | |

