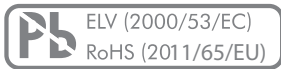


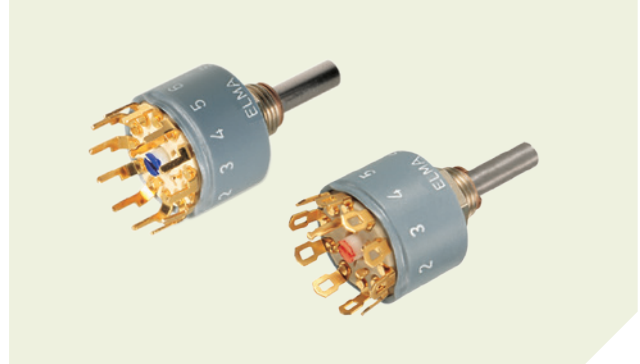
## MAIN FEATURES

COMPACT, UP TO 12 POSITIONS

- > 25'000 switching cycles with up to 6 Ncm switching torque
- > Gold plated contacts: 3 micron
- > Robust metal bushing and shaft
- > Operating temperature: up to -40° to +85°C
- > Front panel sealing: up to IP68
- > Various options and customizations



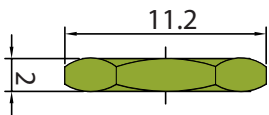
## TYPE 01



## PRODUCT VARIETY

- Soldering eyelets or pins for PCB
- From 1 x 12 to 4 x 3 poles/positions per wafer
- Single or dual wafer
- Indexing angle: 30°, 36° or 60°
- Shorting or non-shorting
- Switching torque: 2, 4 or 6 Ncm
- Front panel sealing: IP60 or IP68
- Configurable End-Stops
- Shaft diameter: 3, 4 or 6 mm
- Shaft length

## NUT (SUPPLIED)



Wrench size 10 mm  
M8 x 0.75

## Spare Part

Part Number (10 pcs. bag)  
- Brass nickel plated: 4024-81

## POSSIBLE CUSTOMIZATIONS

- Shaft dimension and shape
- Bushing dimensions
- Switching torque
- Hollow shaft, inner shaft
- Pull/push-to-turn
- Others

## TYPICAL APPLICATIONS

- Industrial controls
- Avionics, instrumentation, test systems
- Medical and audio equipment
- Construction

**1 PREFERENCE TYPES SELECTION CHART**

<sup>1</sup> For other types/options, see type key.

**INDEXING ANGLE 30°, SHORTING**

CONTACT ARRANGEMENT	NUMBER OF WAFERS	FUNCTION (POLES X POSITIONS)	PART NUMBER WITH SOLDER EYELETS	WITH PINS FOR PCB
		1 x 12, endless rotating	01-1123	01-1123-20
		2 x 12, endless rotating	01-2123	-
		1 x 12	01-1183	01-1183-20
		2 x 12	01-2183	-
		1 x 11	01-1113	01-1113-20
		2 x 11	01-2113	-
		2 x 6	01-1263	01-1263-20
		4 x 6	01-2263	-
		4 x 3	01-1433	01-1433-20
		8 x 3	01-2433	-

**INDEXING ANGLE 30°, NON-SHORTING**

CONTACT ARRANGEMENT	NUMBER OF WAFERS	FUNCTION (POLES X POSITIONS)	PART NUMBER WITH SOLDER EYELETS	WITH PINS FOR PCB
		1 x 12, endless rotating	01-1124	01-1124-20
		1 x 12	01-1184	01-1184-20
		1 x 11	01-1114	01-1114-20
		2 x 6	01-1264	01-1264-20
		4 x 3	01-1434	01-1434-20

**INDEXING ANGLE 36°, SHORTING**

CONTACT ARRANGEMENT	NUMBER OF WAFERS	FUNCTION (POLES X POSITIONS)	PART NUMBER WITH SOLDER EYELETS	WITH PINS FOR PCB
		1 x 10, endless rotating	01-1103	01-1103-20
		1 x 10	01-1193	01-1193-20

**INDEXING ANGLE 60°, NON-SHORTING**

CONTACT ARRANGEMENT	NUMBER OF WAFERS	FUNCTION (POLES X POSITIONS)	PART NUMBER WITH SOLDER EYELETS	WITH PINS FOR PCB
		1 x 6, endless rotating	01-1104	01-1104-20
		1 x 6	01-1164	01-1164-20
		2 x 3	01-1234	01-1234-20
		4 x 2	01-1424	01-1424-20

**STOP PINS**

PACKAGING UNIT	PART NUMBER
10 pcs.	4007-36
50 pcs.	4007-35

On switches with fixed end-stop, additional stops can be set, by means of a plastic pin, on any position between 2 and the maximum (stop pins to be ordered separately).

## SPECIFICATIONS

### MECHANICAL DATA

Resolution:	12 positions max. (30° indexing); shorting or non-shorting 10 positions max. (36° indexing); shorting 6 positions max. (60° indexing); non-shorting
Switching torque (new condition):	2, 4 or 6 Ncm (+/- 25%), additional wafers may increase switching torque
Rotational life:	25'000 cycles min.
End-stop strenght:	100 Ncm for 30° indexing angle 150 Ncm for 36° and 60° indexing angle
Fastening torque of nut:	300 Ncm max.

### ELECTRICAL DATA

Functions:	From 1 x 12 to 4 x 3 poles/positions per wafer (max. 2 wafers)
Switching mode:	Shorting (for 30° and 36° indexing) Non-shorting (for 30° and 60° indexing)
Load current:	2 A max. (resistive load)
Switching voltage:	42 VDC max.
Contact resistance (new condition):	10 mΩ max.
Insulation resistance:	10 <sup>11</sup> Ω min. (contact to contact / housing)
Switching capacity:	1 pF max. (contact to contact)
Dielectric withstanding voltage:	500 VDC during 60 seconds (pin to pin, pin to housing)

### MATERIAL DATA

Shaft:	Stainless steel
Bushing:	Nickel silver
Housing:	Fiber enforced plastic
Nut:	Brass with glossy nickel plating
Contact plating:	Gold; 3 μm
Insulation material:	Wafer: HF ceramic, rotor: Polybutylene
Soldering leads:	Alloy copper, gold plated

### ENVIRONMENTAL DATA

Operating/storage temperature range:	-40 to +85°C max.
IP sealing:	IP60, optional IP68 (2 bar, 1 h) shaft / front panel sealing
Vibration:	10 G <sub>rms</sub> max. @ 10 to 2000 Hz
Flammability:	UL94-HB

### PACKAGING QUANTITY

Tray:	10 pcs.
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### SOLDERING CONDITIONS

Hand soldering:	340°C max. during 2 sec max.
Wave soldering:	280°C max. peak temperature during 5 sec max.

## SWITCHING MODES

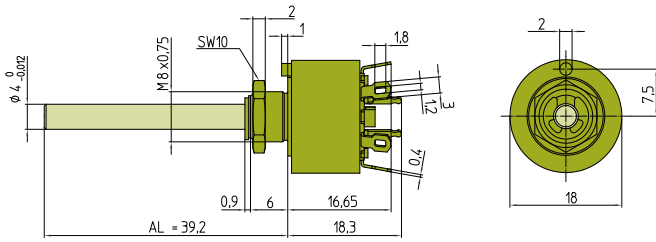
For information about switching mode please see **technical explanations** at the end of the catalog

**DRAWINGS**

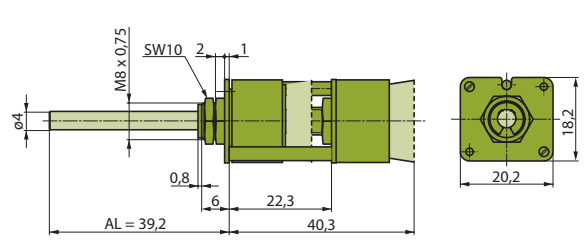
Tolerances unless otherwise specified DIN ISO 2768-1 (m)

WITH SOLDER EYELETS

**1 WAFER**

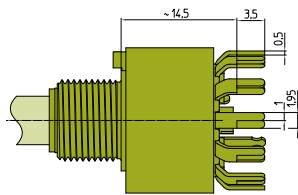


**2 WAFER**

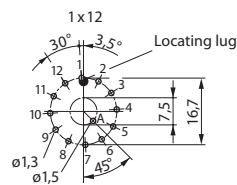


SW = key spanner

WITH PINS FOR PCB



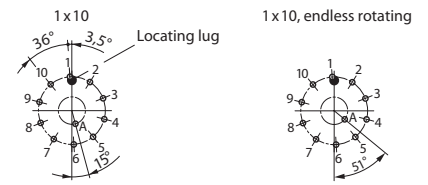
**DRILLING DIAGRAM FOR 30° INDEXING ANGLE**



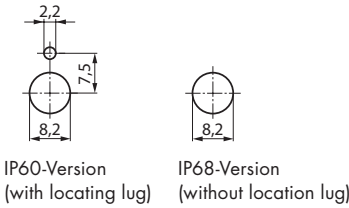
Drilling diagram view from the shaft end



**DRILLING DIAGRAM FOR 36° INDEXING ANGLE**

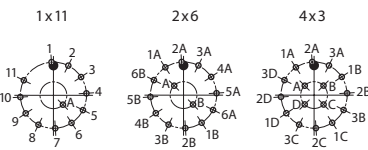


**FRONT PANEL CUT OUT**

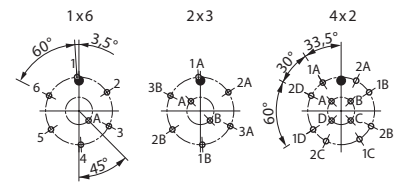


IP60-Version  
(with locating lug)

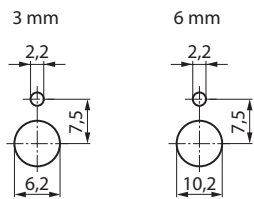
IP68-Version  
(without location lug)



**DRILLING DIAGRAM FOR 60° INDEXING ANGLE**



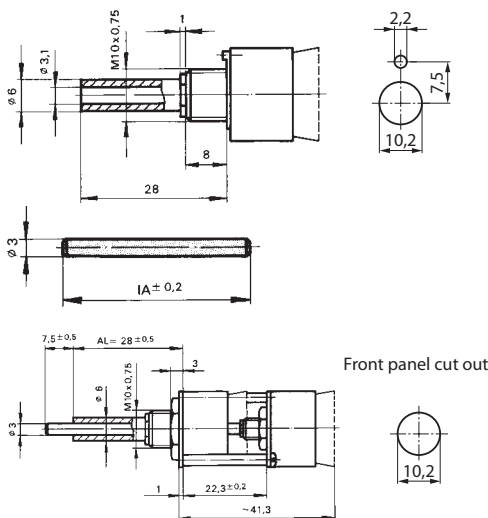
**SPECIAL SHAFT DIAMETER**



TYPE 01 switches are also available with the following shaft diameters:

$\phi$	AL (STANDARD)	BUSHING	NUT SIZE
3 mm	59 mm	M6 x 0.75 x 6.0 mm	10 mm
6 mm	28 mm	M10 x 0.75 x 8.0 mm	14 mm

**HOLLOW SHAFT SYSTEM (CUSTOMIZED SOLUTION)**



**HOLLOW SHAFT**

Hollow shaft to allow concentric operation of either two switches or, for example, a switch and a potentiometer. The inner shaft ( $\phi 3$  mm) must be ordered separately.

**INNER SHAFT**

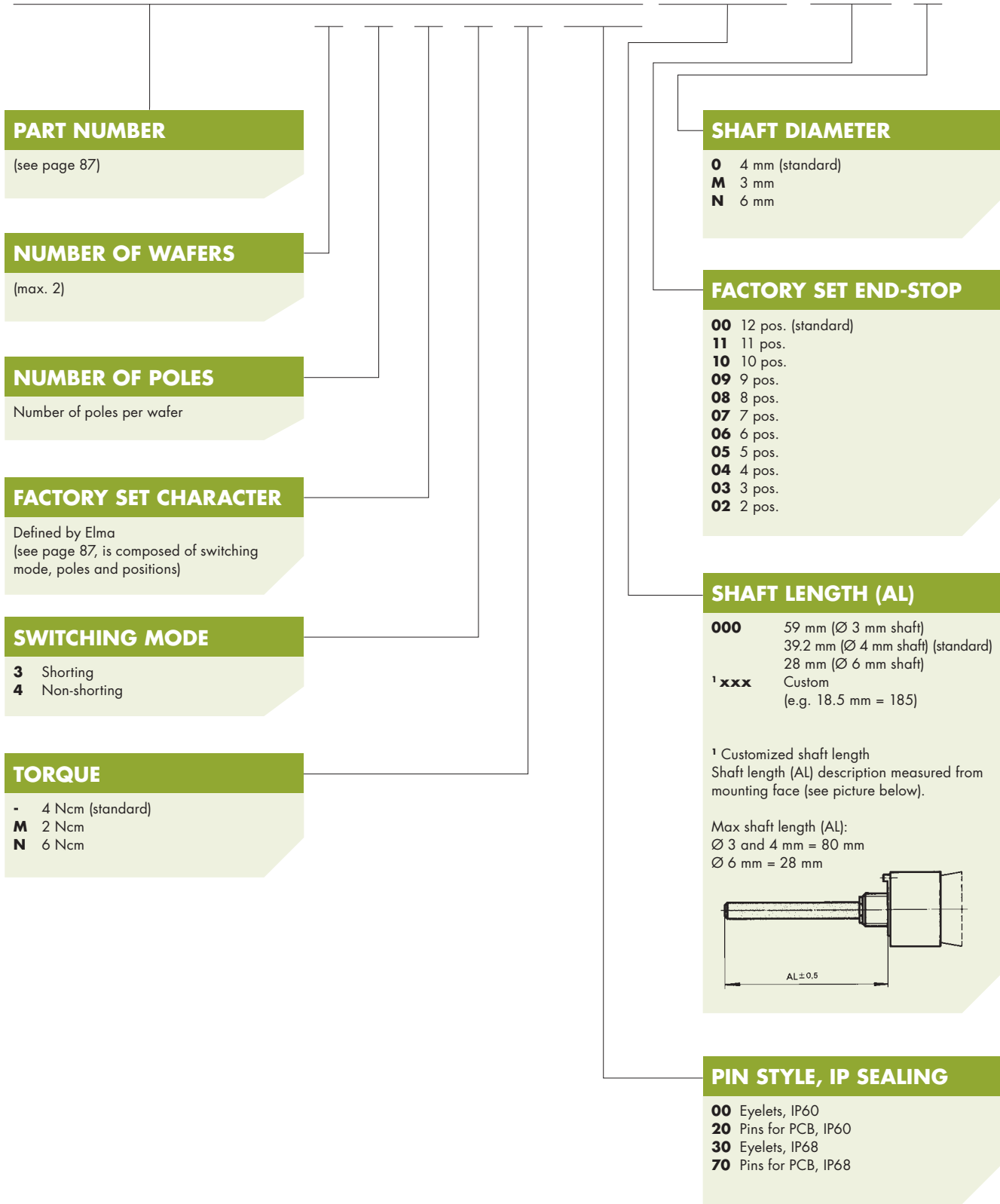
Must be ordered separately for switches with hollow shaft.

**SWITCHES WITH CONCENTRIC SHAFTS**

It is possible for two switches to be operated individually by concentric shafts on the same mounting. When ordering, the type number of each switch must be given and specified.

# SELECTOR SWITCHES TYPE 01

## TYPE KEY



**PART NUMBER**  
(see page 87)

**NUMBER OF WAFERS**  
(max. 2)

**NUMBER OF POLES**  
Number of poles per wafer

**FACTORY SET CHARACTER**  
Defined by Elma  
(see page 87, is composed of switching mode, poles and positions)

**SWITCHING MODE**  
**3** Shorting  
**4** Non-shorting

**TORQUE**  
- 4 Ncm (standard)  
**M** 2 Ncm  
**N** 6 Ncm

**SHAFT DIAMETER**  
**O** 4 mm (standard)  
**M** 3 mm  
**N** 6 mm

**FACTORY SET END-STOP**  
**00** 12 pos. (standard)  
**11** 11 pos.  
**10** 10 pos.  
**09** 9 pos.  
**08** 8 pos.  
**07** 7 pos.  
**06** 6 pos.  
**05** 5 pos.  
**04** 4 pos.  
**03** 3 pos.  
**02** 2 pos.

**SHAFT LENGTH (AL)**  
**000** 59 mm (Ø 3 mm shaft)  
39.2 mm (Ø 4 mm shaft) (standard)  
28 mm (Ø 6 mm shaft)  
**<sup>1</sup> xxx** Custom  
(e.g. 18.5 mm = 185)

<sup>1</sup> Customized shaft length  
Shaft length (AL) description measured from mounting face (see picture below).

Max shaft length (AL):  
Ø 3 and 4 mm = 80 mm  
Ø 6 mm = 28 mm

**PIN STYLE, IP SEALING**  
**00** Eyelets, IP60  
**20** Pins for PCB, IP60  
**30** Eyelets, IP68  
**70** Pins for PCB, IP68