CODED SWITCH
07PL

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Product description

MAIN FEATURES

PUSH BUTTON FUNCTION

- Integrated push button function
- Push button forces up to 14 N
- 10 positions BCD coding with end stop
- 16 positions Hex or Gray coding with end stop
- Switching mode: Shorting or non-shorting
- For rugged environments
- Switching torque: Up to 3.5 Ncm
- Gold plated contacts
- THT horizontal
- IP68 front panel sealing (up to 5 bar)
- Operating temperature range: -40 to +85 °C
- Various options and customizations

07PL

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

PRODUCT VARIETY

- Shaft length
- Shorting or non-shorting
- Push button force
- Hex, Gray or BCD coding
- Switching torque: 3.2 or 3.5 Ncm
- IP60 or IP68 front panel sealing

POSSIBLE CUSTOMIZATIONS

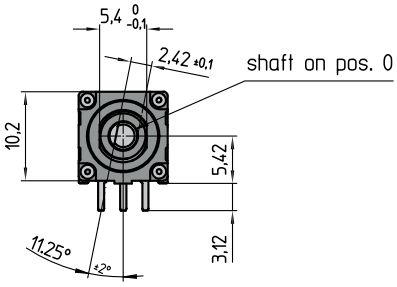
- Shaft dimension and shape
- Bushing, mounting
- IP sealing
- Push button force
- Switching torque
- BCD coding

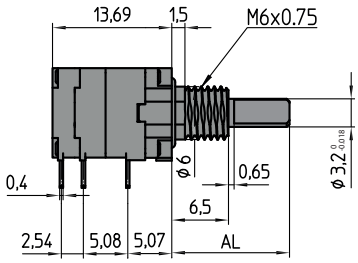
TYPICAL APPLICATIONS

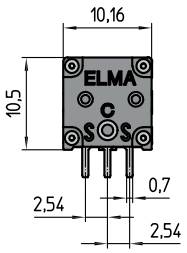
- Frequency and channel selection for two way radios
- Target aiming devices
- Aircraft transponders
- Medical equipment
- Industrial automation
- Cockpit applications

Dimensions and pin assignment

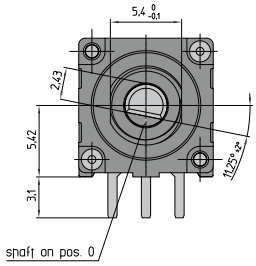
SWITCH DESIGN





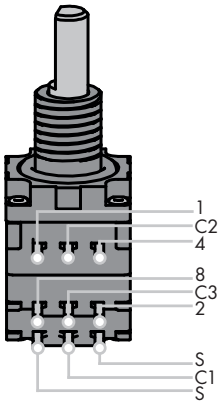


SHAFT POSITION AT BCD CODING



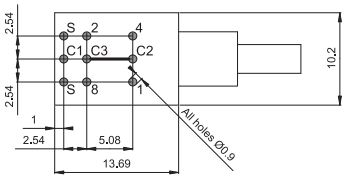
AL	13.5 mm ±0.25 mm
	15.0 mm ±0.25 mm
	16.0 mm ±0.25 mm

PIN ASSIGNMENT



DRILLING DIAGRAM AND FOOTPRINT

View from component side of the PCB

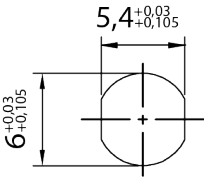


Commons (C2, C3) must be connected together on the PCB

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

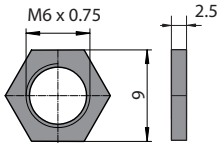
Dimensions and pin assignment

FRONT PANEL CUT OUT

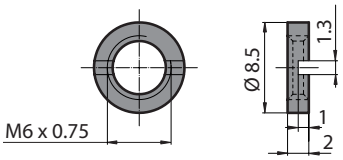


NUT

HEX NUT (SUPPLIED)

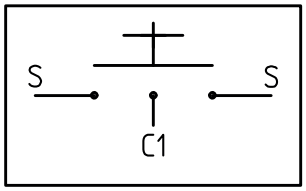


SLOTTED NUT



Circuit diagram

CONNECTIONS PUSH BUTTON



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

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Ordering informations

ORDERING INFORMATION

STANDARD: HORIZONTAL SHAFT WITH END STOP (HEX OR GRAY: 16 POSITIONS)

07PL	-	_	_	_	_	-	_	_	_	_

PUSH BUTTON FORCE

1 3 N
2 5 N
5 10 N
7 14 N

X Customized solutions on request

CODING

5 Hex
7 Gray
8 BCD

X Customized solutions on request

Explanation see chapter «Technical explanations»

BUSHING | IP SEALING | NUT

10 Threaded | IP60 | hex nut
20 Threaded | IP60 | slotted nut
30 Threaded | IP68 | hex nut
40 Threaded | IP68 | slotted nut
50 Threaded | IP60 | without nut
60 Threaded | IP68 | without nut

XX Customized solutions on request

PACKAGING

- Standard tray 50 or 200 pieces[1]
A Antistatic tray 100 pieces

[1] The packaging size depends on shipment quantity. If the shipment quantity is
< 200 pieces then standard tray 50 pieces
≥ 200 pieces then standard tray 200 pieces

SWITCHING MODE

S Shorting
N Non-shorting[2]

[2] Non-shorting not possible with Gray Code, BCD complementary, Hex complementary

D-SHAFT LENGTH

13 Standard | 13.5 mm length
15 Standard | 15 mm length
16 Standard | 16 mm length

XX Customized solutions on request

Shaft dimensions and shape see drawing

TORQUE

1 2.2 Ncm
2 3.5 Ncm

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Ordering informations

PREFERENCE TYPES SELECTION CHART[1]

STANDARD SHAFT, IP68, HEX NUT SUPPLIED, SHORTING

CODING	INDEXING ANGLES | POSITIONS	TORQUE	PUSH BUTTON FORCE	PART NUMBER
Hex	22.5° | 16 (0 – F)	3.2	3 N	07PL-1530-113S
			5 N	07PL-2530-113S
Hex complementary	22.5° | 16 (0 – F)	3.2	3 N	07PL-1630-113S
			5 N	07PL-2630-113S
Gray	22.5° | 16 (0 – F)	3.2	3 N	07PL-1730-113S
			5 N	07PL-2730-113S

PACKAGING

Foam polystyrene box:	50 or 200 pieces (depending on shipment quantity)

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 4424-30 (50 pieces / bag), stainless steel

[1] For other types | options see ordering code

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Specifications

MECHANICAL DATA

Detent angle | positions:	22.5° detent angle | 16 positions 36° detent angle | 10 positions
Rotary limitation | end stop:	Configurable
Switching torque:	2.2 or 3.5 Ncm (±25 % in new conditions)
Rotational life:	> 10'000 cycles (tested at room temperature)
Rotational stop strength:	> 35 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:	10 positions: BCD or BCD complementary 16 positions: Hex, Hex complementary or Gray
Switching mode:	Shorting or non-shorting (non-shorting with Gray, BCD complementary and Hex complementary not possible)
Dielectric strength:	1'500 VDC during 60 s (pin-to-pin, pin-to-housing and between housing and shaft)
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
O-rings:	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 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 CONDITIONS

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

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Specifications

MECHANICAL DATA FOR PUSH BUTTON

Actuation force:	3, 5, 10, 14 N (±30 % in new condition)
Travel:	0.5 (±0.2) mm
Lifecycles:	> 200'000 cycles (tested at room temperature)

ELECTRICAL DATA FOR PUSH BUTTON

Contact resistance:	< 1 Ω
Switching voltage:	< 15 VDC (resistive load)
Switching current:	< 10 mA (resistive load)
Contact bouncing:	< 2 ms (at 2 Hz)

Please contact our sales team for more details.

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