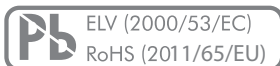


Product description

MAIN FEATURES

RUGGED

- › Gray, Hex or BCD coding 2 to 16 positions
- › Ruggedised stainless steel 6 mm tapped shaft
- › Switching torque: 4.5 Ncm
- › Switching mode: Shorting or non-shorting
- › Gold plated contacts, nickel silver bushing
- › THT vertical or horizontal
- › IP68 front panel sealing (up to 5 bar)
- › Operating temperature range: -40 to +85 °C
- › Various options and customizations



M07



PRODUCT VARIETY

- Vertical or horizontal mounting
- BCD, Hex or Gray coding (shorting or non-shorting)
- Number of positions
- Switching torque BDC: 2.2 or 4 Ncm
- Switching torque Hex and Gray: 3.2 or 4.5 Ncm
- With end stop or endless rotating
- IP60 or IP68 front panel sealing

POSSIBLE CUSTOMIZATIONS

- Shaft dimension and shape
- Bushing, mounting
- Switching torque
- High / low torque function «on» / «off»
- Others

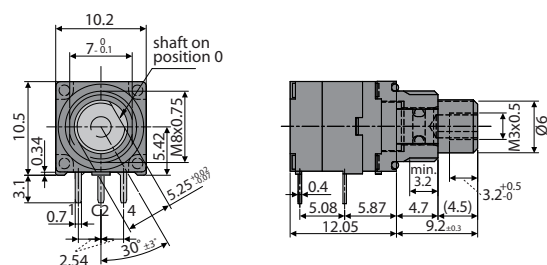
TYPICAL APPLICATIONS

- Frequency and channel selection for two way radios
- Target aiming devices
- Aircraft transponders
- Portable medical equipment
- Industrial automation
- Vision and optical products
- Mobile PCs

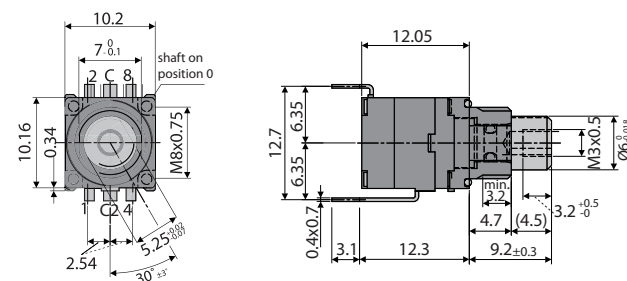
Dimensions and pin assignment

SWITCH DESIGN AND PIN ASSIGNMENT

HORIZONTAL



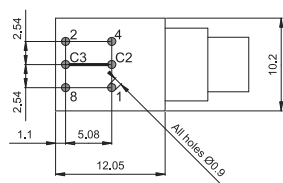
VERTICAL



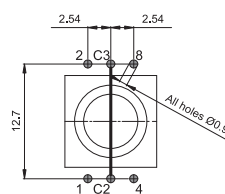
DRILLING DIAGRAM AND FOOTPRINT

HORIZONTAL

View from component side of the PCB

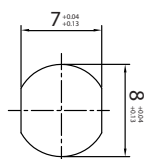


VERTICAL

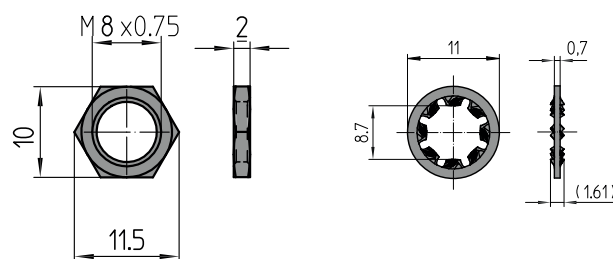


Commons (C2, C3) must be connected together on the PCB

FRONT PANEL CUT OUT



NUT AND LOCK WASHER (SUPPLIED)



Dimensions in mm

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

Ordering information

ORDERING CODE

M07	-	-	-	-	-	-	-	-	-	-	-
-----	---	---	---	---	---	---	---	---	---	---	---

STYLE

- 1** Horizontal
- 3** Vertical

END STOP

- 0** Endless rotating
- 1** With end stops

CODING

- 3** BCD (max. 10 positions)
- 4** BCD complementary (max. 10 positions)
- 5** Hex
- 6** Hex complementary
- 7** Gray

Explanation see chapter «Technical explanations»

SWITCHING MODE¹

- 3** Shorting
- 4** Non-shorting

Explanation see chapter «Technical explanations»

¹ Non-shorting not possible with Gray code, BCD complementary and Hex complementary

NUMBER OF POSITIONS

- 0** Standard (10 or 16 positions)
- E** 15 positions (0 – E)
- D** 14 positions (0 – D)
- C** 13 positions (0 – C)
- B** 12 positions (0 – B)
- A** 11 positions (0 – A)
- 9** 10 positions (0 – 9)
- 8** 9 positions (0 – 8)
- 7** 8 positions (0 – 7)
- 6** 7 positions (0 – 6)
- 5** 6 positions (0 – 5)
- 4** 5 positions (0 – 4)
- 3** 4 positions (0 – 3)
- 2** 3 positions (0 – 2)
- 1** 2 positions (0 – 1)

SHAFT STYLE

- 000** Basic style shaft: See drawing

IP SEALING

- 20** IP60
- 30** IP68

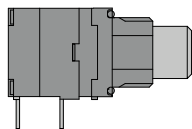
TORQUE | PACKAGING

- H** 4.5 Ncm (BCD: 4 Ncm) (50 or 200 pieces)
- 3.2 Ncm (BCD: 2.2 Ncm) (50 or 200 pieces)

Ordering information

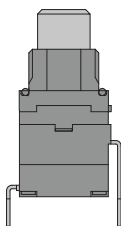
PREFERENCE TYPES SELECTION CHART¹

HORIZONTAL



IP SEALING	CODING	SWITCHING MODE	INDEXING ANGLE POSITIONS	TORQUE	PART NUMBER	
					WITH END STOP	ENDLESS ROTATING
IP60	Gray	Shorting	22.5° 16	3.2 Ncm	M07-1173-200000	M07-1073-200000
				4.5 Ncm	M07-1173H200000	M07-1073H200000
	BCD	Shorting	36° 10	2.2 Ncm	M07-1133-200000	M07-1033-200000
				4.0 Ncm	M07-1133H200000	M07-1033H200000
IP68	Gray	Shorting	22.5° 16	3.2 Ncm	M07-1173-300000	M07-1073-300000
				4.5 Ncm	M07-1173H300000	M07-1073H300000
	BCD	Shorting	36° 10	2.2 Ncm	M07-1133-300000	M07-1033-300000
				4.0 Ncm	M07-1133H300000	M07-1033H300000

VERTICAL



IP SEALING	CODING	SWITCHING MODE	INDEXING ANGLE POSITIONS	TORQUE	PART NUMBER	
					WITH END STOP	ENDLESS ROTATING
IP60	Gray	Shorting	22.5° 16	3.2 Ncm	M07-3173-200000	M07-3073-200000
				4.5 Ncm	M07-3173H200000	M07-3073H200000
	BCD	Shorting	36° 10	2.2 Ncm	M07-3133-200000	M07-3033-200000
				4.0 Ncm	M07-3133H200000	M07-3033H200000
IP68	Gray	Shorting	22.5° 16	3.2 Ncm	M07-3173-300000	M07-3073-300000
				4.5 Ncm	M07-3173H300000	M07-3073H300000
	BCD	Shorting	36° 10	2.2 Ncm	M07-3133-300000	M07-3033-300000
				4.0 Ncm	M07-3133H300000	M07-3033H300000

PACKAGING

Foam polystyrene box:

50 or 200 pieces (depending on shipment quantity)

ACCESSORIES AND SPARE PARTS

Hex nut M8 x 0.75:

Part number 4024-81 (10 pieces / bag), brass, nickel plated

Lock washer:

Part number 5708-06 (1 pieces / bag, MOQ 10 pieces)

¹ For other types | options see type key

Specifications

MECHANICAL DATA

Detent angle positions:	22.5° detent angle 16 positions 36° detent angle 10 positions
Rotary limitation end stop:	Configurable
Switching torque:	22.5°: 3.2 or 4.5 Ncm (±25 % in new condition) 36°: 2.2 or 4 Ncm (±25 % in new condition)
Rotational life:	> 10'000 cycles (tested at room temperature)
Rotational stop strength:	22.5° detent angle: > 35 Ncm 36° detent angle: > 45 Ncm
Fastening torque of nut (front panel mounting):	M8 x 0.75: < 100 Ncm

ELECTRICAL DATA

Electrical connections:	Pins 0.4 x 0.7 mm
Switching voltage:	< 15 VDC (resistive load)
Switching current:	< 10 mA (resistive load)
Contact resistance:	< 50 mΩ (in new condition)
Signal coding:	10 positions: BCD or BCD complementary 16 positions: Hex, Hex complementary or Gray
Switching mode:	Shorting or non-shortening (non-shortening with Gray, BCD complementary and Hex complementary not 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:	Nickel silver, fiber enforced high performance plastic
Contact surface:	Cu alloy (Au plated)
Soldering leads:	Cu alloy (tin plated)
Hex nut:	Brass (nickel plated)
O-rings:	NBR (nitrile rubber), 70 shore A

ENVIRONMENTAL

Operating temperature:	-40 to +85 °C (IEC 60068-2-14)
Storage temperature:	-40 to +85 °C (IEC 60068-2-14)
IP sealing against front panel:	IP60 without sealing IP68 with shaft and front panel sealing (5 bar, 4 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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