SELECTOR SWITCH TYPE 08

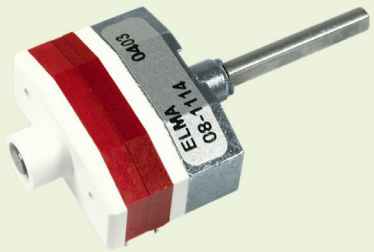
MAIN FEATURES

HORIZONTAL, MULTI WAFER, PCB MOUNTING, UP TO 12 POSITIONS

- For PCB mounting
- 25'000 switching cycles with up to 9 Ncm switching torque
- Gold plated contacts: 3 micron
- Robust metal housing with metal shaft
- Operating temperature range: -40° to +85°
- Various options and customizations

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

TYPE 08



PRODUCT VARIETY

- From 1 x 12 to 4 x 3 poles x positions per wafer
- Up to 8 wafers
- Shorting or non-shorting
- Switching torque 3, 6 or 9 Ncm
- Configurable End-Stops

POSSIBLE CUSTOMIZATIONS

- Shaft dimension and shape
- Switching torque
- Hollow shaft, inner shaft (see page 106)
- Others

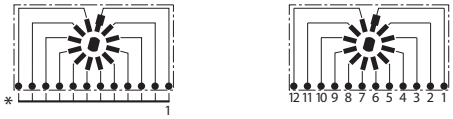
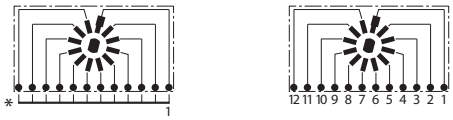
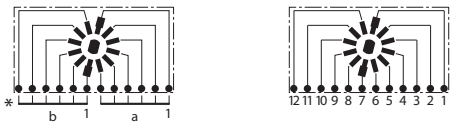
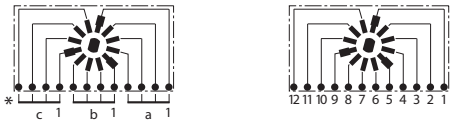
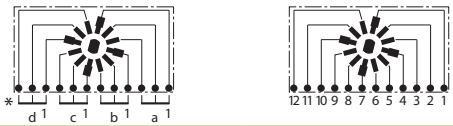
TYPICAL APPLICATIONS

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

SELECTOR SWITCH TYPE 08

1 PREFERENCE TYPES SELECTION CHART

[1] For other types/options, see type key.

CONTACT ARRANGEMENT		NUMBER OF WAFERS	FUNCTION (POLES X POSITIONS)	PART NUMBER	
COMMON WAFER PART CONTACT	SWITCHING WAFER PART CONTACT			SHORTING	NON-SHORTING
		1	1 x 12, endless rotating	08-1103	08-1104
		2	2 x 12, endless rotating	08-2103	08-2104
		3	3 x 12, endless rotating	08-3103	08-3104
		4	4 x 12, endless rotating	08-4103	08-4104
		1	1 x 12	08-1113	08-1114
		2	2 x 12	08-2113	08-2114
		3	3 x 12	08-3113	08-3114
		4	4 x 12	08-4113	08-4114
		1	2 x 6	08-1263	08-1264
		2	4 x 6	08-2263	08-2264
		3	6 x 6	08-3263	08-3264
		4	8 x 6	08-4263	08-4264
		1	3 x 4	08-1343	08-1344
		2	6 x 4	08-2343	08-2344
		3	9 x 4	08-3343	08-3344
		4	12 x 4	08-4343	08-4344
		1	4 x 3	08-1433	08-1434
		2	8 x 3	08-2433	08-2434
		3	12 x 3	08-3433	08-3434
		4	16 x 3	08-4433	08-4434

* Common interconnection to be made on PCB.

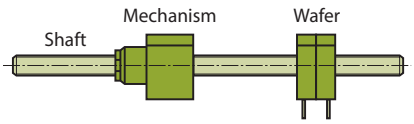
STOP AND FIXING SCREWS

Configurable stop screws can be set at any position between 2 and the maximum. Stop screws have to be ordered separately.

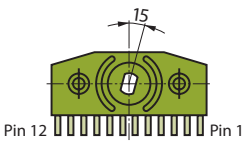
	PACKAGING SIZE	PART NUMBER
Stop screw M1.2	10 pcs.	4224-11
Stop screw M1.2	100 pcs.	4224-10
Fixing screw M2 x 6	10 pcs.	4224-01

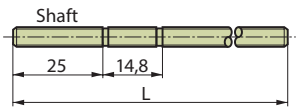
AVAILABLE IN KIT FORM

Mechanism, wafer and shaft are supplied separately. This offers more possibilities to place the switch onto the PC-board.



View of wafer from front side





WAFER

FUNCTIONS (POLES X POSITIONS)	PART NUMBER SHORTING	PART NUMBER NON-SHORTING
1 x 12	4217-10	4218-10
2 x 6	4217-11	4218-11
3 x 4	4217-13	4218-13
4 x 3	4217-12	4218-12

SWITCH MECHANISM

NUMBER OF POLES	POSITIONS	TORQUE	PART NUMBER
≤ 6	12	6 Ncm	4214-10
> 6	12	9 Ncm	4214-12

SHAFT INCLUDING ASSEMBLY MATERIAL

LENGTH L	NO. OF HOUSINGS	PART NUMBER
75 mm	3	4211-05
100 mm	5	4211-10
125 mm	7	4211-15
150 mm	9	4211-20

SPECIFICATIONS

MECHANICAL DATA

Resolution:	12 positions max. (30° indexing)
Switching torque (new condition):	3, 6 or 9 Ncm (+/- 25%), additional wafers may increase switching torque
Rotational life:	25'000 switching cycles min.
Fastening torque of nut:	200 Ncm max.

ELECTRICAL DATA

Function:	From 1 x 12 to 4 x 3 poles/positions per wafer
Switching mode:	Shorting or non-shorting
Load current:	1.5 A max. (resistive load)
Switching voltage:	42 VDC max.
Contact resistance (new condition):	20 mΩ max.
Insulation resistance (new condition):	10^{13} Ω min. (contact to contact / housing)
Switching capacity:	1 pF max. (contact to contact)
Dielectric withstanding voltage:	500 VDC during 60 seconds

MATERIAL DATA

Shaft:	Stainless steel
Bushing/housing:	Zinc diecast, zinc plated and passivated
Contact plating:	Gold; 3 µm
Insulation material:	Wafer: PA6/6T, rotor: Polyacetal (POM)
Soldering leads:	Alloy copper, tin plated

ENVIRONMENTAL DATA

Operating/storage temperature range:	-40° to +85°C
IP sealing:	IP60 shaft/front panel sealing
Vibration:	10 G_{rms} max. @ 10 to 2000 Hz
Flammability:	UL94-HB

PACKAGING QUANTITY

Tray:	10 pcs.

SOLDERING CONDITIONS

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

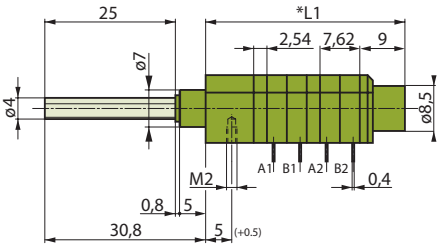
SWITCHING MODES

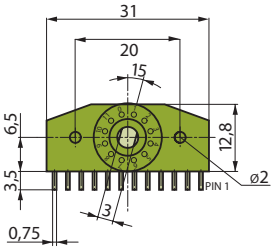
For information about switching mode please see t**echnical explanations** at the end of the catalog

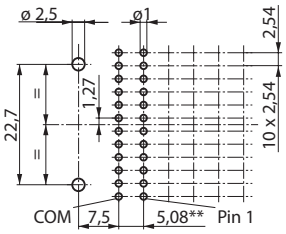
DRAWINGS

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

SWITCH WITH 2 WAFERS



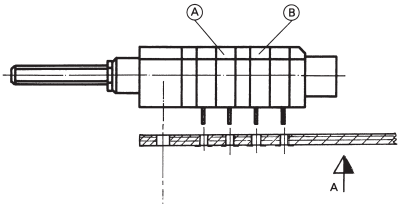




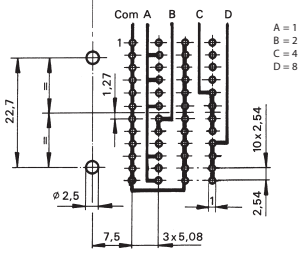
Ax = Common contact water of x
Bx = Switching contact wafer of x

* L - 1 wafer 28.25 mm ± 0.3 mm
2 wafers 38.32 mm ± 0.3 mm
3 wafers 48.40 mm ± 0.3 mm
4 wafers 58.45 mm ± 0.3 mm
per additional wafer + 10.08 mm
** All further steps are in 5.08 mm pitch

SWITCH WITH BCD CODING



Bottom view:



BCD CODING

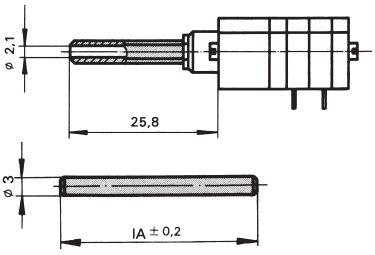
For 12 positions, the coding will be made according to the layout on the left (on the printed circuit). If the switch is composed of component parts, the housings A (3 x 4) and B (1 x 12) have to be ordered. Limiting to 10 positions (BCD) is done with a stop screw M1.2 x 2.5.

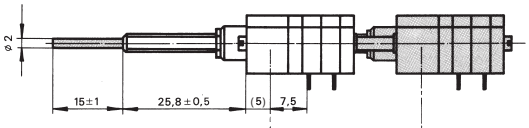
BCD Coding

	8	4	2	1
1				
2				On
3			On	
4			On	On
5		On		
6		On		On
7		On	On	
8		On	On	On
9	On			
10	On			On
11	On		On	
12	On		On	On

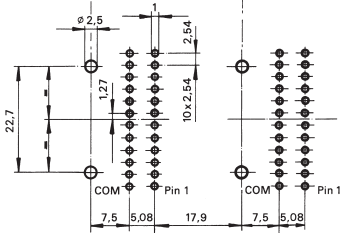
On
Off

HOLLOW SHAFT SYSTEM (CUSTOMIZED SOLUTION)





Top view:



HOLLOW SHAFT

Available for switches up to 4 wafers;
inner shaft (Ø 2 mm) to be ordered separately.

INNER SHAFT

Must be ordered separately for switches with hollow shaft.

SWITCH WITH CONCENTRIC SHAFTS

Consisting of a hollow outer and inner shaft, the inner shaft driving a maximum of 3 wafers with 4 wipers each. Please indicate type of each switch.

ELMA
Your Solution Partner

TYPE KEY

08	-	_	_	_	_	-	_	_	_	_	_

PART NUMBER

(see page 108)

NUMBER OF WAFERS

(max. 8)
> 8 on request

NUMBER OF POLES

Number of poles per wafer

FACTORY SET CHARACTER

Defined by Elma
(see page 108, is composed of switching mode, poles and positions))

SWITCHING MODE

3 Shorting
4 Non-shorting

TORQUE

- 6 Ncm
M 3 Ncm
N 9 Ncm

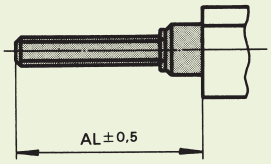
FACTORY SET END-STOP

00 12 pos. (standard)
11 11 pos.
10 10 pos.
09 09 pos.
08 08 pos.
07 07 pos.
06 06 pos.
05 05 pos.
04 04 pos.
03 03 pos.
02 02 pos.

SHAFT LENGTH (AL)

000 30.8 mm
[1]xxx Custom
(e.g. 18.5 mm = 185)

[1] Customized shaft length
Shaft length (AL) description measured from mounting face (see picture below).



Max. shaft length (AL): 30.8mm