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# ROTARY SWITCH COMMUTATORI ROTATIVI

# SBK12, SBL12, SBIV14

Commutatore rotativo in miniatura da circuito stampato



This miniature switch has vast possibilities and variations.

- Two different grids:  
2,54 mm according to the international standard (1/10 inch) or 2,0 mm for minimum space requirements of PC board (SBL 12 only).
- Special version according to MIL 3786 and VG 95318.
- Fixing with additional non-turn protection frame (SBL 12 only).

#### Switch SBK 12

- Plastic detent mechanism and wafers with epoxide-glass laminate.  
Special designs:
  - watertight against front panel.
  - Soldering pin bar as distance keeper to prevent short-circuits, when conducting run paths below the switch.
  - wafers with special applications.

#### Switch SBL 12

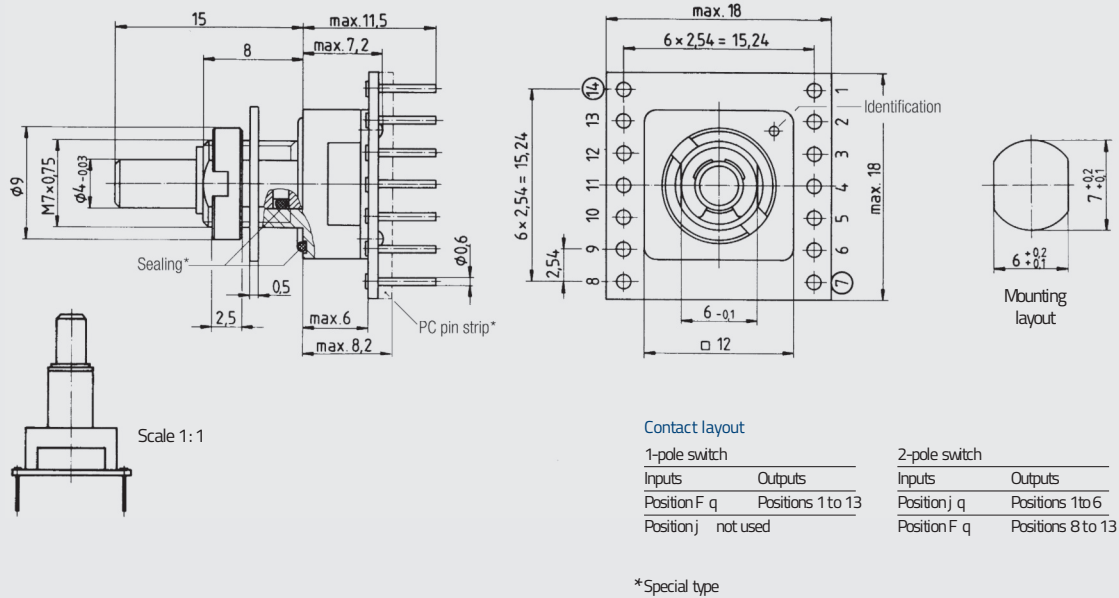
- Plastic detent mechanism with moulding wafers made of thermoplastics.
- Connection pins and contacts made of one piece for safe soldering even under adverse conditions.  
Special designs available on request.

#### Switch SBIV 14

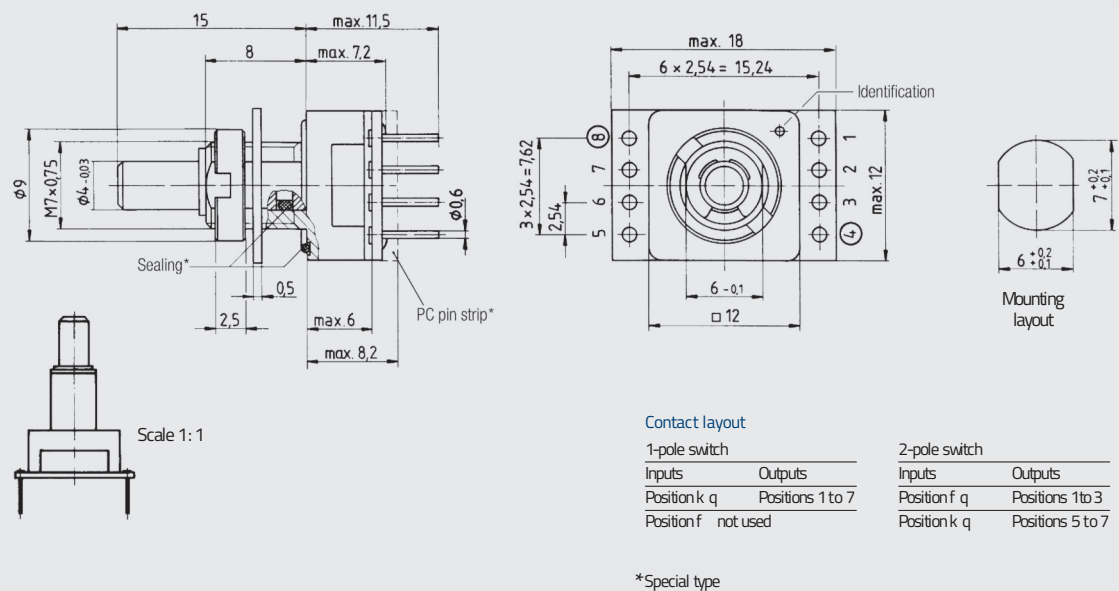
- Impulse contact, e.g. for battery test or as call contact.
- Locking possibility for free selectable switch positions, i.e. the switch can only be brought into a locked switch position if pressure is applied to the axes.
- Watertight as special design.

<b>1.0 Construction</b>		
1.1 Number of wafers max.		1 wafer
1.2 Switching combinations per wafer		—
SBK12 Design B, detent angle 60°		1x6 to 1x2; 2x6 to 2x2; module grid 2,54 mm
SBK12 Design E, detent angle 30°		1x12 to 1x2; 2x6 to 2x2; module grid 2,54 mm
SBL12 Design D, detent angle 36°		1x10 to 1x2; 2x5 to 2x2; module grid 2,0 or 2,54 mm
SBIV14 Design D, detent angle 36°		See diagram on page 13 »configuration«
1.3 Contacts		Soldering pins
1.4 Mounting		Central mounting
<b>2.0 Electrical Data</b>		
2.1 Switching power max.		1,5 VA/W
2.2 Switching voltage max.		30 VV
2.3 Switching current max.		50 mA
2.4 Rest current max. at $\Delta u$ 20 °C		0,5 A
2.5 Test voltage at 50 Hz		100 V
2.6 Life expectancy	without power	$\geq 20\,000$ cycles
	with power max.	$\geq 10\,000$ cycles
2.7 Contact resistance	Initial value	$\leq 60\,m\Omega$
	Contact resistance without electrical load	$\leq 100\,m\Omega$
	after life expectancy with electrical load	$\leq 100\,m\Omega$
2.8 Insulation resistance		$\geq 10^{10}\Omega$
2.9 Capacity between 2 contacts		$\leq 2\,pF$
	Cap acity between contact and ground	$\leq 2\,pF$
<b>3.0 Mechanical Data</b>		
3.1 Mode of switching		Shorting or non-shorting
3.2 Stops		Fixed or without stop
3.3 Operating torque		3 to 8 Ncm
3.4 Stop strength		$\geq 50\,Ncm$
3.5 Fixing torque		$\leq 70\,Ncm$
3.6 Vibratory strength		10 g, 10 to 500 Hz
3.7 Shock strength		50 g, 11ms
3.8 Dust protection		Sealed wafers
3.9 Waterproofing		As special design
<b>4.0 Other Data</b>		
4.1 Contact material	Wafer	Au with Ni insulating layer
	Bridge	Ag; Au as special design
4.2 Insulating material	Wafer SBK12, SBIV14	Epoxide glass laminate; C code EP
	Wafer SBL12	Polybutylenerephthalate PBTP; Code PB
	Rotor	Thermoplastic
4.3 Detent mechanism		Zinc die casted body with plastic mechanism
4.4 Soldering time and temperature max.		5s at 260 °C

## Dimensional Drawings · Dimensions in mm

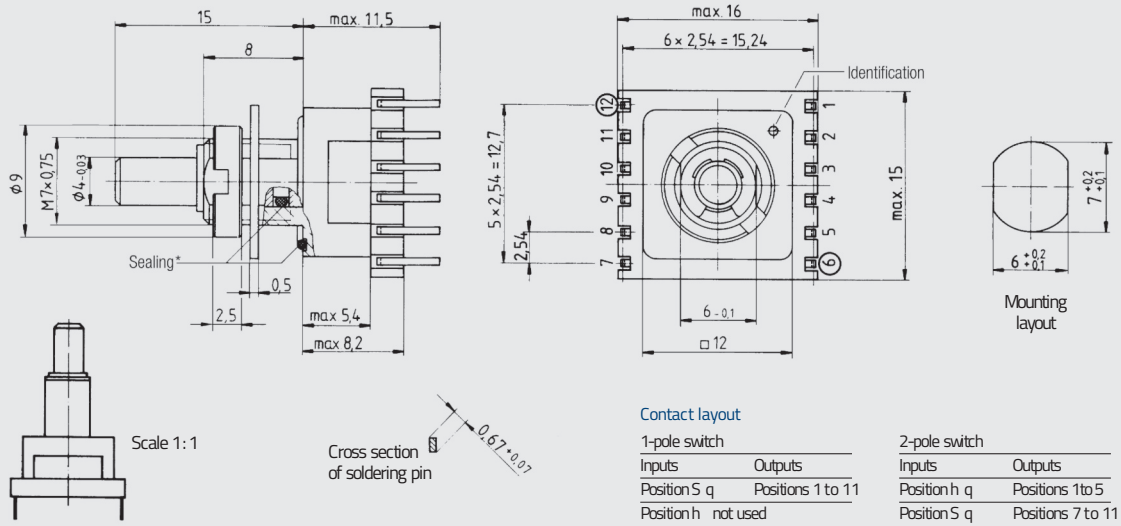


SBK 12 · Detent angle 30°; pin module grid 2,54 mm



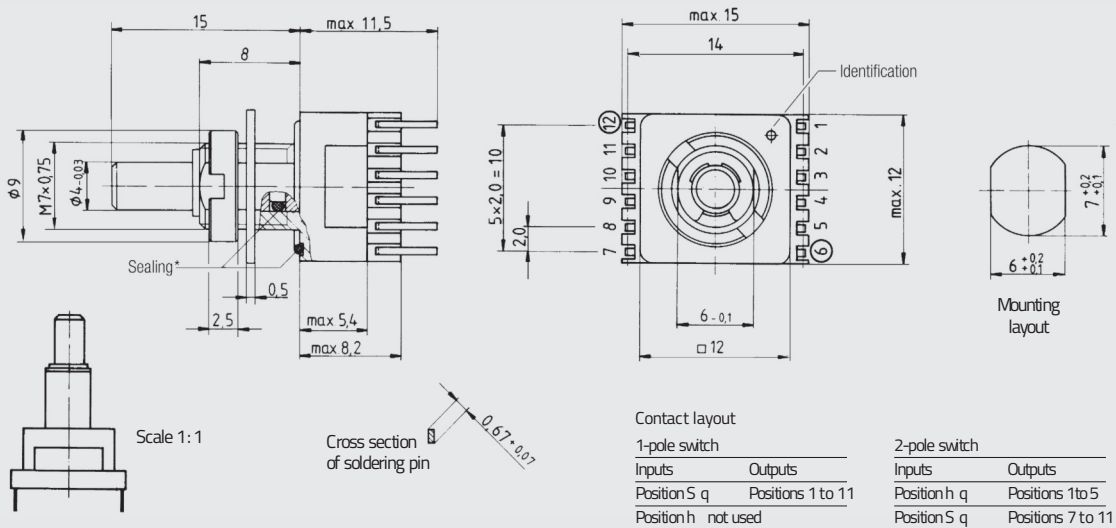
SBK 12 · Detent angle 60°; pin module grid 2,54 mm

## Dimensional Drawings · Dimensions in mm



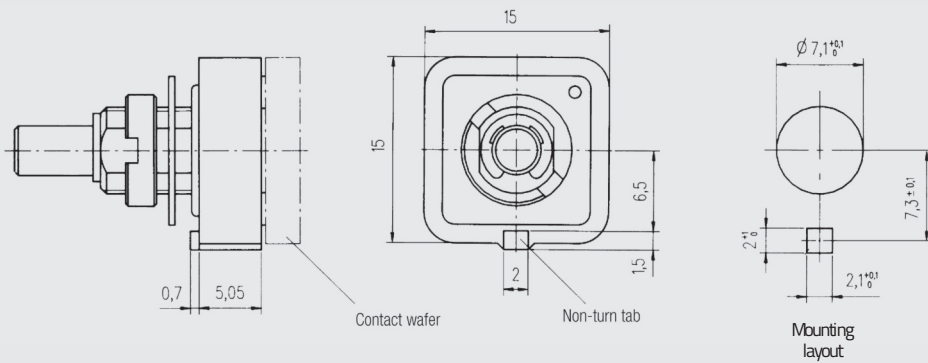
\*Special type

## SBL 12 · Detent angle 36°, pin module grid 2,54 mm



\*Special type

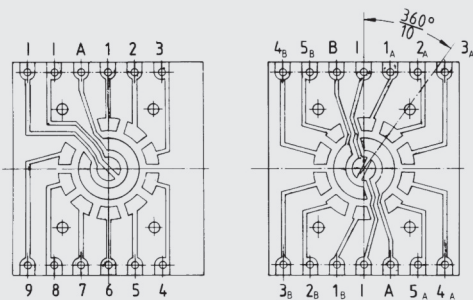
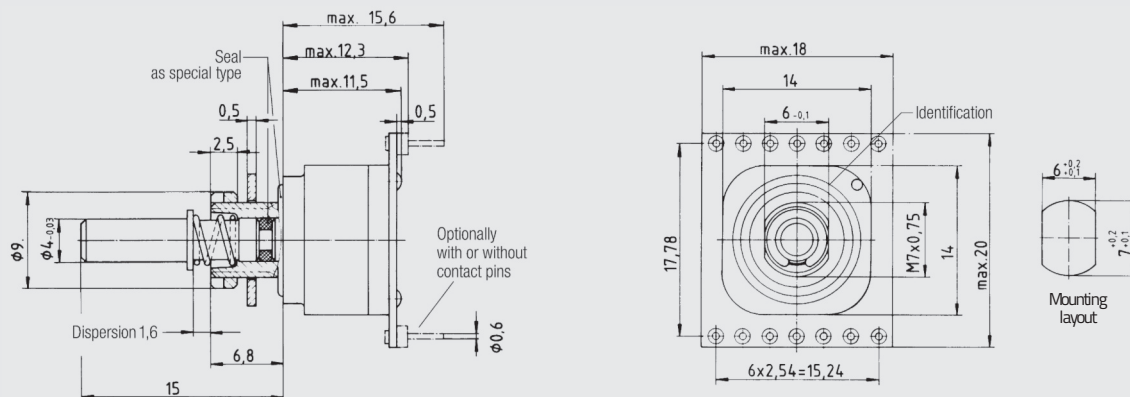
Dimensional Drawings · Dimensions in mm



The blind hole for non-turn securing is also possible with  $\varnothing 2,5 \pm 0,1$  through thread. Deep  $0,8 \pm 0,2$  at waterproof installation.

Ordering no. for non-turn protection frame 32411-9195

SBL 12 with non-turn protection frame



Contact layout, 1 pole

Contact layout, 2 poles

A, B = leads; I = impulse contacts  
1A, 2A = low tension sides

**Construction SBIV 14**

Design D, detent angle 36°	1 x 9 to 1 x 2, 2 x 5 to 2 x 2. Module grid 2,54 mm
1 circuit; 2 to 5 positions	Interlocking and momentary contact possible in each position
1 circuit; 6 to 9 positions	Momentary contact possible, not interlockable
1 circuit; 10 positions, overflowable	Interlocking possible in each position. No momentary contact
2 circuits; 2 to 5 positions	Interlocking and momentary contact possible in each position

SBIV 14 with impulse contact

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Via Monferrato, 43  
20098 San Giuliano Milanese  
ITALY

T. +39 02 55.60.61.01  
F. +39 02 55.60.71.43

[www.klemi-contact.com](http://www.klemi-contact.com)