Hinge safety switch

TESK

SCHMERSAL

Safe solutions for your industry

Securing rotating protective equipment

In 1996 the Schmersal Group first presented a new type of safety switch that was designed to monitor the position of revolving mounted doors, protection flaps and protective covers: the Safety Hinge Switch. This allowed the monitoring of the protection equipment directly at the hinge.

This principle has proven to be successful because it offers decisive benefits.

- Optimal integration in the surrounding construction
- Minimal assembly effort, especially with the common aluminium profile systems
- Principally hardly any mechanical wear
- Considerable protection against manipulation
- Suitable for use with shuttle valves

Now with the TESK the fourth generation of hinged safety switches are available. The switching angle is freely adjustable over the whole working range. The user can select different contact variants with up to four contacts and between cable connection and plug connection. For use on transparent protection doors for example out of PC and PMMA there is a version with extended plug connection available. The appearance of the TESK is also completely convincing. Therefore the new hinged safety switch is the ideal solution for position monitoring of protection doors on design-oriented machines. A mounting tool provides quick alignment on doors and posts.

Fields of application

- Packing machines
- Printing and paper machines
- Tool machines and metal working industry
- Electrical industry
- Special machine construction
- Measurement technology, process engineering, testing and laboratory equipment
- Plastics processing machinery
- Enclosures / profile systems
- Food processing machinery

Technical data	
Standards:	IEC 60947-5-1; EN ISO 13849-1; EN 1088; BG-GS-ET-15
Enclosure:	Zinc diecast, enclosure cover self-extinguishing thermoplastic
Hinge bolt:	Galvanised steel / zinc die-cast C45
Contact type:	Change-over contact with double break Zb
Switching system:	⊖ IEC 60947-5-1; slow action, positive break NC contact
Connection:	Connector plug M12 or cable
Connector plug:	M12, 5 or 8 pin, A - coded
Switching angle:	3° from the set zero point
Positive break angle:	10° from the set zero point
Max. swivel angle:	270°
Actuating speed:	max. 180° / 0.3 s
Mechanical life:	> 1 million operations
Ambient temperature:	−25 °C … +65 °C
Protection class:	IP 65 to IEC/EN 60529
Utilisation category:	AC-15, DC-13
Ie/Ue:	2 A / 230 VAC cable versions 1 A / 24 VDC cable and built-in connector versions
Ui:	300 V cable versions 30 V M12 - plug 8 - pin (PELV corresponds to DIN EN 60204-1) 60 V M12 - plug 5 - pin
U_{imp}:	2.5 kV cable versions 0.8 kV plug 5-pin
Ithe:	2.5 A
U_e max:	230 V cable versions 30 V plug 8-pin 60 V plug 5-pin
Switching of low voltages:	1 mA / 3VDC
Dimensions H x W x D:	TESK-S... 20 x 78 x 116 mm ; TESK-L... 20 x 98 x 116 mm

Ordering code

Hinged safety switches

TESK-①②-③④⑤

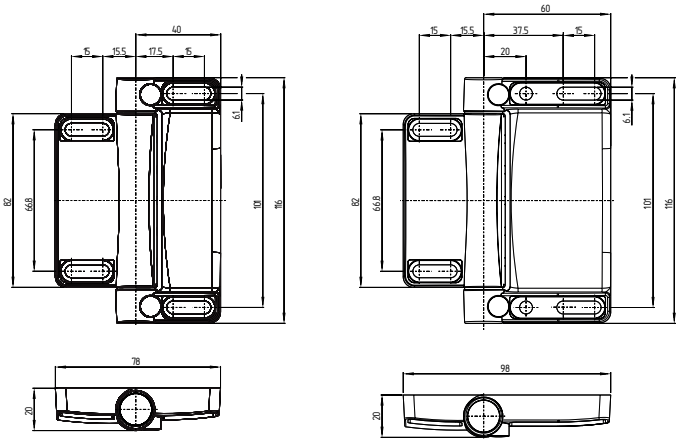
No.	Option	Description
①	S	Standard hinge
	L	Long hinge half
②	A	preset for outside assembly
	I	preset for inside assembly
	U	freely adjustable switching angle
③	02	2 NC contacts
	11	1 NO contact / 1 NC contact
	12	1 NO contact / 2 NC contacts
	13	1 NO contact / 3 NC contacts
	22	2 NC contacts / 2 NO contacts
④	L1	Cable downwards
	L2	Cable upwards
	ST1	Connector plug bottom
	ST2	Connector plug top
⑤	3M	Cable length 3 meters (only L1 / L2)
		other cable lengths upon request

Additional hinge

TESK-①

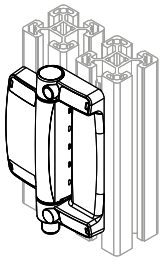
No.	Option	Description
①	ZS	Standard additional hinge
	ZL	Additional hinge long hinge half

Dimensional drawings

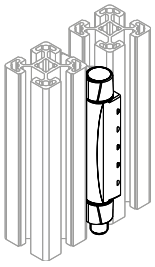


The additional hinges have the same appearance and the same dimensions

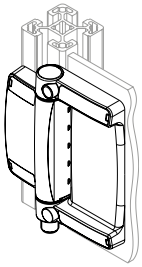
Mounting possibilities



Mounting:
Standard hinge
outdoor mounting



Mounting:
Standard hinge
indoor mounting



Mounting:
Long hinge half for plastic and metal doors as well as flaps for outdoor assembly

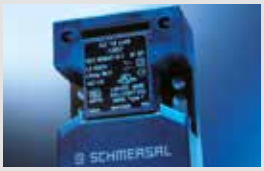
The Schmersal Group

For many years the privately owned Schmersal Group has been developing and manufacturing products to enhance occupational safety. What started out with the development and manufacture of a very wide variety of mechanical and non-contact switchgear has now become the world's largest range of safety systems and solutions for the protection of man and machine. Over 1,500 employees in more than 50 countries around the world are developing safety technology solutions in close cooperation with our customers, thus contributing to a safer world.

Motivated by the vision of a safe working environment, the Schmersal Group's engineers are constantly working on the development of new devices and systems for every imaginable application and requirement of the different industries. New safety concepts require new solutions and it is necessary to integrate new detection principles and to discover new paths for the transmission and evaluation of the information provided by these principles. Furthermore, the set of ever more complex standards, regulations and directives relating to machinery safety also requires a change in thinking from the manufacturers and users of machines.

These are the challenges which the Schmersal Group, in partnership with machinery manufacturers, is tackling and will continue to tackle in the future.

Product ranges



Safe switching and monitoring
- Guard door monitoring safety switches
- Command devices with safety function
- Tactile safety devices
- Optoelectronic safety devices

Safe signal processing
- Safety monitoring modules
- Safety controllers
- Safety bus systems

Automation
- Position detection
- Command and signalling devices

Industries

- Elevators and escalators
- Packaging
- Food
- Machine tools
- Heavy industry

Services

- Application advice
- CE conformity assessment
- Risk assessment in accordance with the Machinery Directive
- Stop time measurements
- Training courses

Competences

- Machine safety
- Automation
- Explosion protection
- Hygienic design

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