

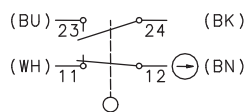
# Safety switch

## Series Safety Hinge Switch SHS3Z

Description **SHS3Z-U1Z-SR-R**

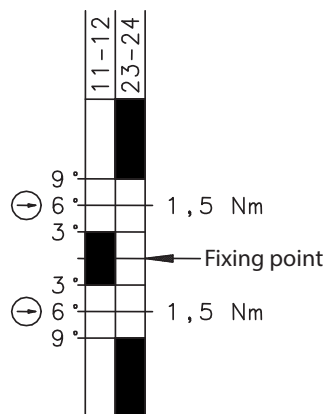
Article number **6019490059**

### Operating symbol



The colour allocation refers to the plug-in-cables which we have in our range.

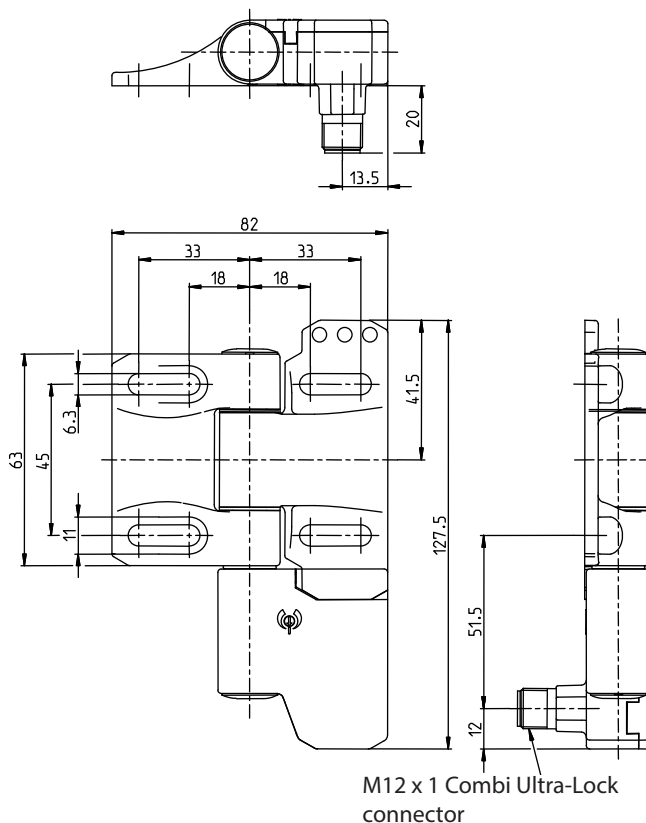
### Operating diagram



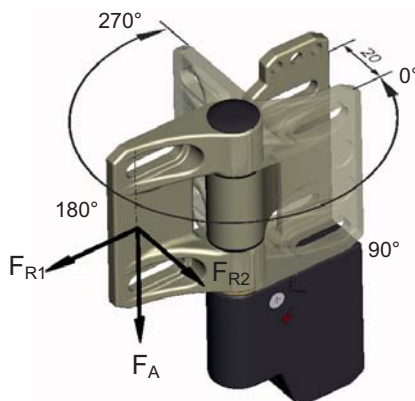
Fixing point in the range 0° ... 270° freely selectable



Tolerances:  
 switching angle (opening)  $\pm 1,5^\circ$  ;  
 direct opening torque 10 % ,  
 direct opening angle  $+ 2^\circ$



### Swivel angle



4-pin connector (A-coded) M12x1 with jiggle protection and molded cable			
Article number	Description	cable length x	Version
3251004310	AN-KAB.SHS3 4P 2M GERADE	2 m	straight
3251004311	AN-KAB.SHS3 4P 5M GERADE	5 m	straight
3251004312	AN-KAB.SHS3 4P 10M GERADE	10 m	straight
3251004313	AN-KAB.SHS3 4P 2M WINKEL	2 m	angled
3251004314	AN-KAB.SHS3 4P 5M WINKEL	5 m	angled
3251004315	AN-KAB.SHS3 4P 10M WINKEL	10 m	angled

Connector straight	Connector angled

4-pin connector (A-coded) M12x1 with Ultra Lock quick-connect terminal and moulded cable			
Article number	Description	cable length x	Version
3251004316	AN-KAB.SHS3 4P U.L. 2M GERADE	2 m	straight
3251004317	AN-KAB.SHS3 4P U.L. 5M GERADE	5 m	straight
3251004318	AN-KAB.SHS3 4P U.L. 10M GERADE	10 m	straight
3251004319	AN-KAB.SHS3 4P U.L. 2M WINKEL	2 m	angled
3251004320	AN-KAB.SHS3 4P U.L. 5M WINKEL	5 m	angled
3251004321	AN-KAB.SHS3 4P U.L. 10M WINKEL	10 m	angled

Connector straight	Connector angled

Electrical Data		
Rated insulation voltage	$U_i$	250 V
Conv. thermal current	$I_{the}$	4 A
Rated operational voltage	$U_e$	230 V AC; 24 V DC
Utilization category		AC-15, $U_e / I_e$ 230 V / 3 A; DC-13, $U_e / I_e$ 24 V / 1 A
Direct opening action	$\ominus$	acc. to IEC/EN 60947-5-1, annex K
Short-circuit protective device		Fuse 4 A gG
Protection class		II (protective insulation)

Mechanical data	
Enclosure	PBT
Hinge	zinc die cast / nickel matt
Ambient air temperature	-25 °C to +70 °C (connecting cable permanently mounted; no freezing over / no condensation)
Contact type	Slow make and break contacts (1 N.C., 1 N.O.)
Mechanical life	1 x 10 <sup>6</sup> operating cycles
Switching frequency	max. 300 switching operations / hour
Attachment	4 x M6 screws DIN EN ISO 7984 (on flat and stiff ground)
Connection type	4-pin connector M12x1 or Ultra-Lock connection Equivalent connecting cable available as accessory
Weight	≈ 0,4 kg
Installation position	operator definable
Protection type	IP 67 in acc. with IEC/EN 60529
Switching angle	+/- 3 ° from fixing point for the N.C. contacts and 9° for the N.O. contact
Forced disconnect angle	6°+2° from fixation point in both directions (for 0°-3° only in Plus-direction, for 267°-270° only in Minus-direction)
Forced disconnect torque	1,5 Nm
Mechanical load (see dimensioned drawing for the introduction direction of the forces)	F <sub>R1</sub> = max. 1200 N F <sub>R2</sub> = max. 500 N F <sub>A</sub> = max. 1200 N

ID for safety engineering	
B10d	2 x 10 <sup>6</sup> cycles

Standards	
	VDE 0660 T100, DIN EN 60947-1, IEC 60947-1
	VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1
	DIN EN ISO 13849-1

EU Conformity	
	acc. to directive 2006/42/EC

Approvals	
	DGUV
	CCC
	cCSA <sub>US</sub> B300

Notes	
<p>The safety guard shall always be mounted using two SHS3Z at least! See max. load. If the risk assessment of the machine permits a single-channel monitoring a blank hinge can be used as bearing element. High forces, unfavourable force application as well as dynamic loads can shorten the service life. In case that the SHS3Z is used at an ambient temperature of 70° an accelerated ageing of the connecting cable can occur. The connecting cable shall be protected against mechanical damages. The installation of the connecting cable can be done via pipes or cable ducts. The manufacturer / supplier of the machine / equipment is obliged to take the applicable standards for the calculation of the safety distances of separating safety guards to hazardous areas into account. Especially these standards apply: DIN EN 349, DIN EN 953, DIN EN ISO 14119, DIN EN ISO 13857, ... The switch shall not be used as a mechanical stop.</p>	