

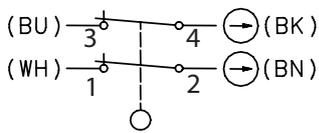
# Safety switch

## Series Safety Hinge Switch SHS3

Description **SHS3-2-SA/2-SA**

Article number **6019390046**

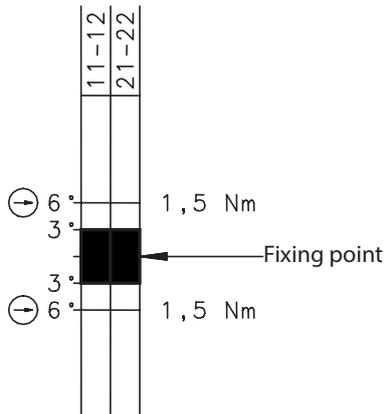
### Operating symbol



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

### Operating diagram

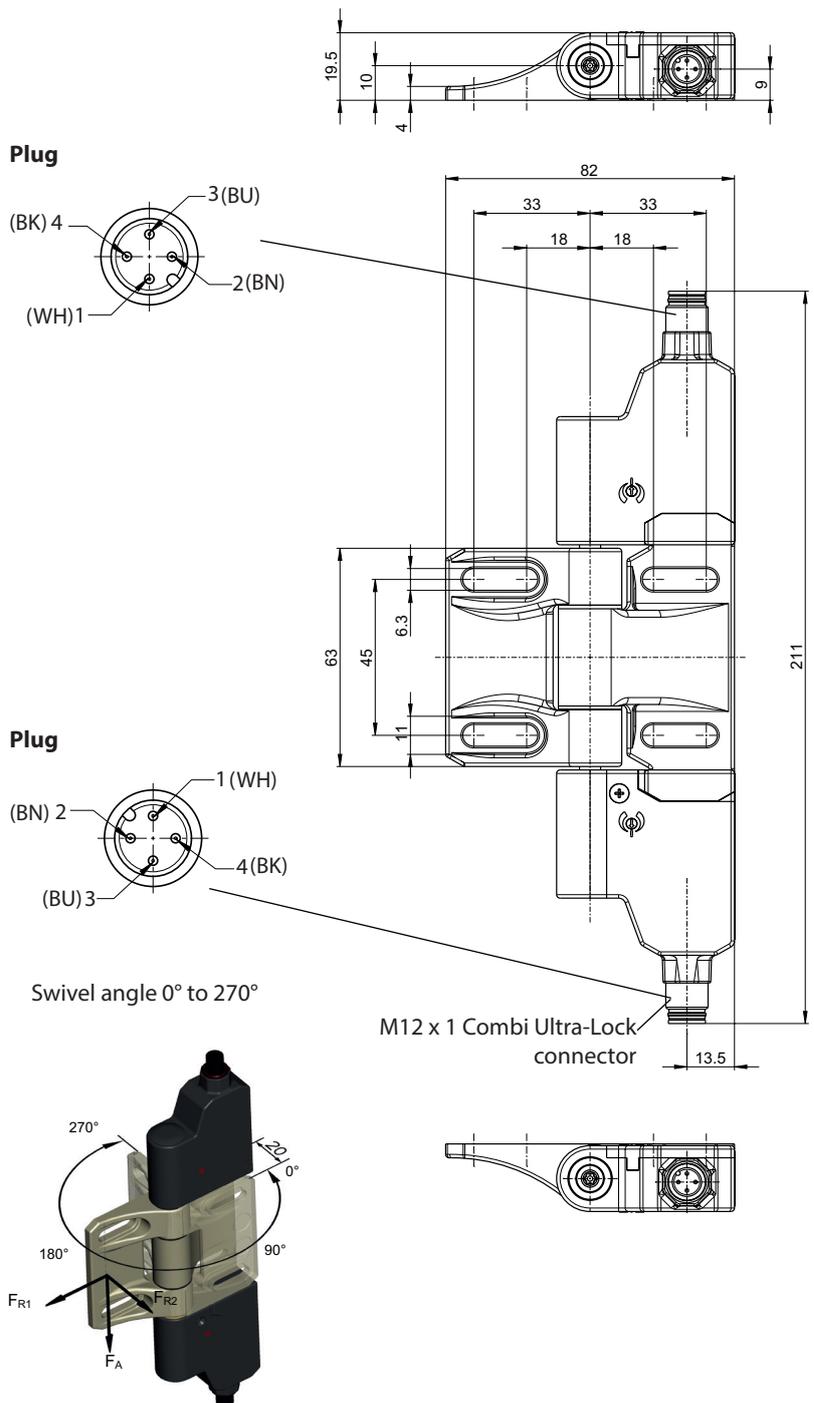
(is valid for both switches)



Point of fixation is in range of 0° ... 270° free selectable.



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



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 <sub>i</sub>	250 V
Conv. thermal current	I <sub>the</sub>	4 A
Rated operational voltage	U <sub>e</sub>	230 V AC; 24 V DC
Utilization category		AC-15, U <sub>e</sub> /I <sub>e</sub> 230 V / 3 A; DC-13, U <sub>e</sub> /I <sub>e</sub> 24 V / 1 A
Direct opening action	⊖	acc. to IEC/EN 60947-5-1, annex K
Short-circuit protective device		Fuse 4 A gG
Protection class		II (totally insulated)

Mechanical data	
Enclosure	PBT
Hinge	Cast stainless steel
Ambient air temperature	-25 °C to +70 °C (connecting cable permanently mounted; no freezing over / no condensation)
Contact type	Each switch Slow make and break contacts 2 N.C.
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)
Wiring	4-pin connector M12x1 or Ultra-Lock connector Equivalent connecting cable available as accessory
Weight	≈ 1 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
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. 1800 N F <sub>R2</sub> = max. 750 N F <sub>A</sub> = max. 1800 N

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

Standards	
	DIN EN 60947-5-1
	DIN EN ISO 13849-1

EU Conformity	
	acc. to directive 2006/42/EC (Machinery Directive)

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

Notes	
<p>The safety guard shall always be mounted using two SHS3 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.</p> <p>High forces, unfavourable force application as well as dynamic loads can shorten the service life.</p> <p>In case that the SHS3 is used at an ambient temperature of 70° an accelerated ageing of the connecting cable can occur.</p> <p>The connecting cable shall be protected against mechanical damages.</p> <p>The installation of the connecting cable can be done via pipes or cable ducts.</p> <p>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.</p> <p>Especially these standards apply: DIN EN 349, DIN EN 953, DIN EN ISO 14119, DIN EN ISO 13857, ...</p> <p>The switch shall not be used as a mechanical stop.</p>	