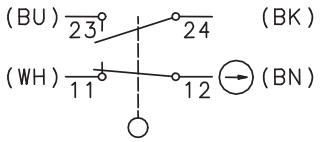
Safety switch
Series Safety Hinge Switch SHS3

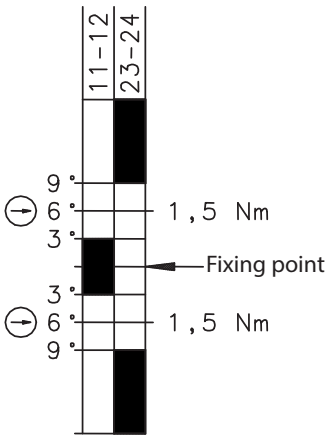
Description **SHS3-U1Z-SA-R** Article number **6019390042**

Operating symbol



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

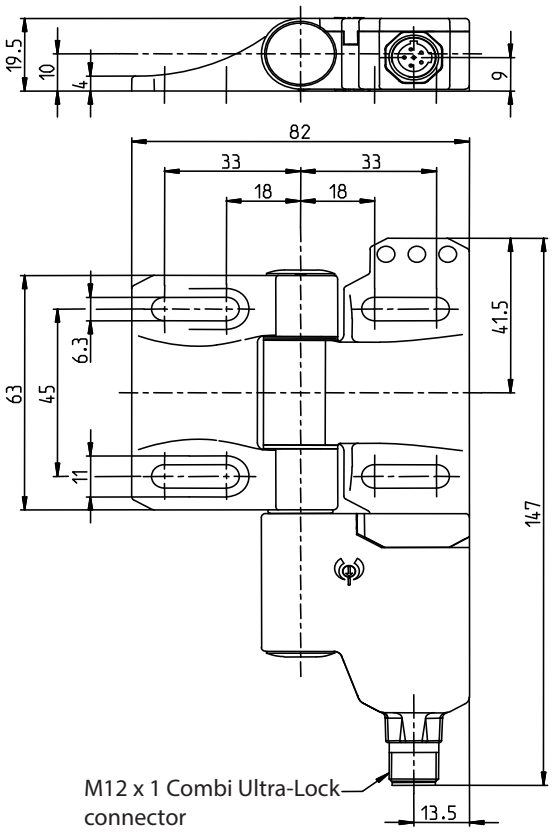
Operating diagram



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

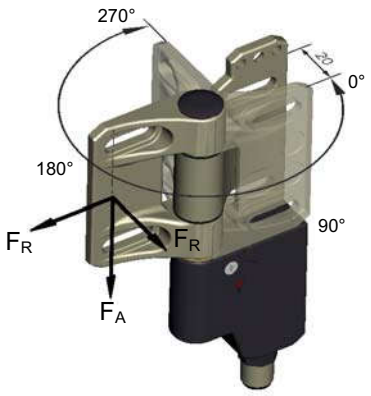
ON OFF

Tolerances:
switching angle (opening) ±1,5 °,
direct opening torque 10 %,
direct opening angle + 2 °



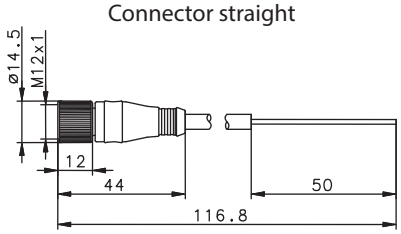
M12 x 1 Combi Ultra-Lock connector

Swivel angle 0° to 270°

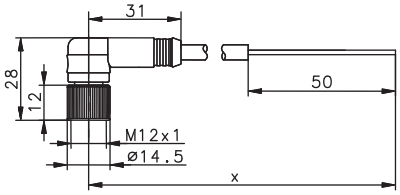


4-pin connector (A-coded) M12x1 with jiggle protection and molded cable			
Article number	Description	cable length x	Version
3251004310	AN-KAB.SHS3 4P 2M GERADE	2 m	straight
3251004311	AN-KAB.SHS3 4P 5M GERADE	5 m	straight
3251004312	AN-KAB.SHS3 4P 10M GERADE	10 m	straight
3251004313	AN-KAB.SHS3 4P 2M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

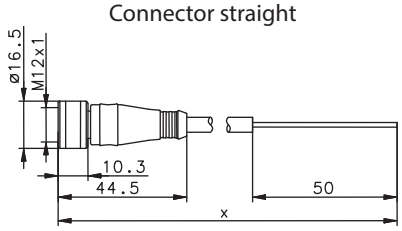


Connector angled

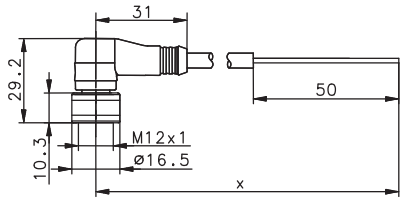


4-pin connector (A-coded) M12x1 with Ultra Lock quick-connect terminal and moulded cable			
Article number	Description	cable length x	Version
3251004316	AN-KAB.SHS3 4P U.L. 2M GERADE	2 m	straight
3251004317	AN-KAB.SHS3 4P U.L. 5M GERADE	5 m	straight
3251004318	AN-KAB.SHS3 4P U.L. 10M GERADE	10 m	straight
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	⊖	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	Cast stainless steel
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 10^6 operating cycles (High forces, unfavourable force application as well as dynamic loads can shorten the service life.)
Switching frequency	max. 300 switching operations / hour
Attachment	4 x M6 screws DIN EN ISO 7984 (on flat and stiff ground)
Connection type	M12 plug connector / Ultra-Lock connector, A coded
Weight	≈ 0,45 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	F_{R1}= max. 1800 N
(see dimensioned drawing for the	F_{R2}= max. 750 N
introduction direction of the forces)	F_A = max. 1800 N

ID for safety engineering	
B10d	2 x 10^6 switching 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
	$_C$CSA$_{US}$ B300

Notes
The safety fixture must always be attached by at least two SHS! See max. load. If the risk assessment of the machine permits a single-channel evaluation, an empty hinge can be used as the support element. High forces, unfavourable force application as well as dynamic loads can shorten the service life. If the SHS is used at an ambient temperature of 70 °C, it is possible that the connecting cable will age more rapidly! The connecting cable must be protected against mechanical damage. The cable can be installed in tubes or cable ducts. The manufacturer / supplier of the machine / system is obligated to observe the applicable standards for the size of the safety intervals between the separating safety fixture and the hazard point. These regulations include: DIN EN 349, DIN EN 953, DIN EN ISO 14119, DIN EN ISO 13857, ... The switch may not be used as a stop. For a CSA/UL application it is essential to use CSA/UL approved cable for connection. The suggested protection type (IP code), applies only when at least an equivalent cable coupling is used.