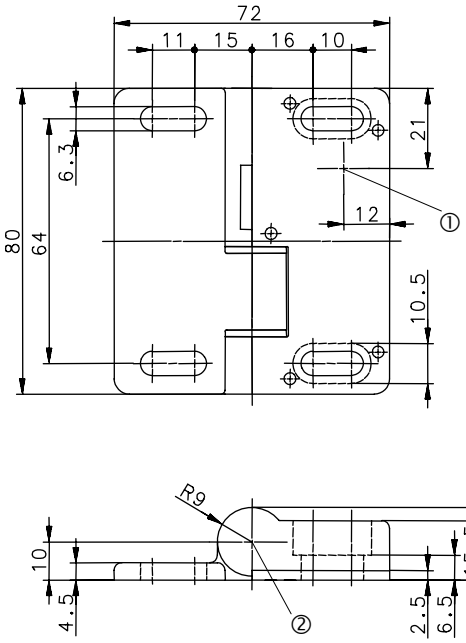
Safety Hinge Switch SHS



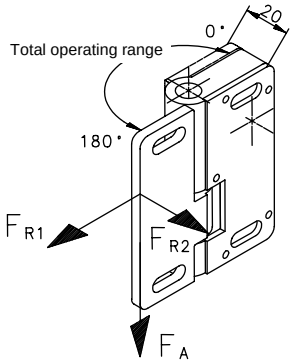
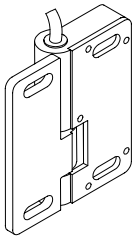


Illustration with fixed shaft and sheared-off set screw.

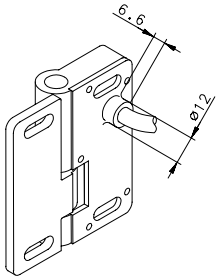
① Position of the connection variants 2, 5 and 6.
② Position of the connection variants 1, 3 and 4.

Connection variant 1



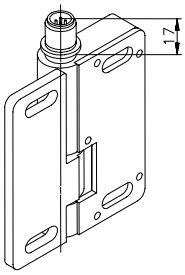
Cable, PVC

Connection variant 2



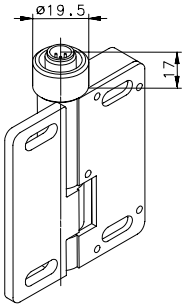
Cable, PVC

Connection variant 3



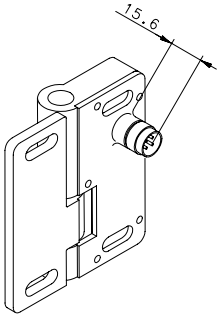
Plug M12x1, metal thread

Connection variant 4



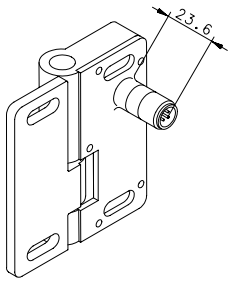
Plug M12x1, metal thread,
with manipulation guard

Connection variant 5



Plug M12x1,
Plastic thread

Connection variant 6



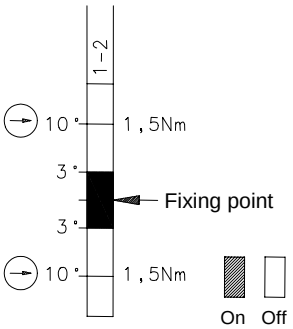
Plug M12x1, metal thread

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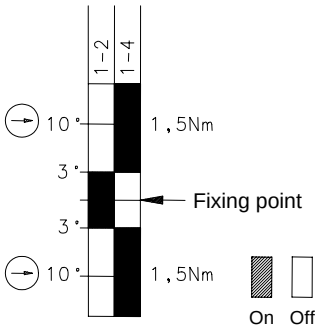
Article number	Description	Connection variant	Contact type	Operating diagram	Voltage type	Surface / colour	Protection class	EC-Type Examination Certificate
6019261011	SHS-A1Z-KA 5	1	1 N.C. contact	A	AC/DC	galvanised / blue	I	BG
6019261014	SHS-A1Z-KR 5	2	1 N.C. contact	A	AC/DC	galvanised / blue	I	BG
6119261005	SHS-A1Z-KR 5	2	1 N.C. contact	A	AC/DC	Finish: RAL 9006 (white aluminium)	I	BG
6019261009	SHS-A1Z-SA	3	1 Change over contact	C	AC/DC	galvanised / blue	I	-
6019261010	SHS-A1Z-SR	5	1 Change over contact	B	DC	galvanised / blue	SELV	-
6019261015	SHS-A1Z-SA	3	1 Change over contact	B	DC	galvanised / blue	SELV	-
6019261016	SHS-A1Z-SR	6	1 Change over contact	C	AC/DC	galvanised / blue	I	-
6019261017	SHS-A1Z-SA-BG	4	1 N.C. contact	D	AC/DC	galvanised / blue	I	BG
6019261018	SHS-A1Z-SR-BG	6	1 N.C. contact	D	AC/DC	galvanised / blue	I	BG

Operating diagram

1 N.C. contact
(Form B)

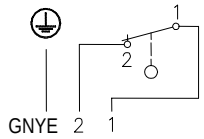


1 Change over contact
(Form C)

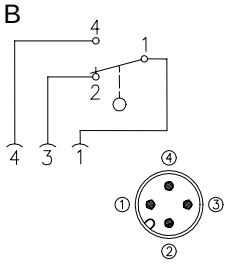


Circuit diagram

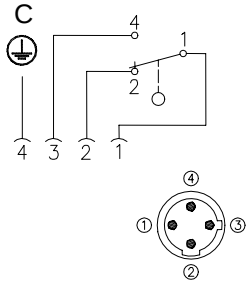
A



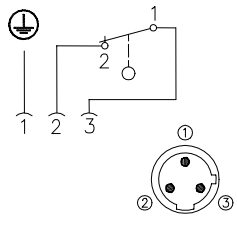
B



C



D



Fixing point in the range 0° ... 180° freely selectable

Tolerance, switching angle (opening) +2,0 ° / -1,5 °
Tolerance, direct opening torque 10 %
Tolerance, direct opening angle +0,5 ° / -3 °

Switching angle hysteresis (closing the N.C. contact –1,0 °) from the hinge's typical switch-off point

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Common characteristic data

The characteristic data refers to SHS with a fixed switching point.
The data marked ◘ also applies to the empty hinges (see Page 4).

Electrical data			
Rated insulation voltage	U_i	250 V	
Rated impulse withstand voltage	U_{imp}	2,5 kV	
Conv. thermal current	I_{the}	3 A	
Rated operational voltage	U_e	230 V AC / 60 V DC	
Utilization category		AC-15, 230 V AC / 1,5 A, DC-13, 60 V DC / 0,5 A	
Direct opening action	⊖	nach IEC/EN 60947-5-1, Anhang K	
Short-circuit protection device		fusible link 4 A gL/gG	
Mechanical data			
Enclosure		GD-Zn	◘
Cover		GD-Zn	◘
Wing		GD-Zn	◘
Ambient air temperature		-25 °C to +70 °C (cable securely laid)	◘
Mechanical life		10^6 operating cycles	◘
Switching frequency		Max. 1200 switching operations / hour	
Attachment		4 x M6 screws DIN 7984 or DIN 6912	◘
Connection type (connection variant 1, 2)		Fixed connecting cable 3 x 0,5 mm² x 5 m (AWG20)	
		Minimum bending radius = 25 mm	
(connection variant 3, 4, 5, 6)		M12 plug	
Weight		approx. 0,7 kg (variant 1, 2)	
		approx. 0,4 kg (variant 3, 4, 5 and empty hinge)	◘
Installation position		Any	◘
Protection type		IP 67 in acc. with IEC/EN 60529	
Switching angle		+/- 3 ° from fixing point	
Direct opening angle		+/- 10 ° from fixing point	
Direct opening torque		1,5 Nm	
Mechanical load		F_{R1}= max. 1000 N	◘
(see dimensioned drawing for the introduction direction of the forces)		F_{R2}= max. 500 N	◘
		F_A = max. 750 N	◘
Standards		VDE 0660 T100, DIN EN 60947-1, IEC 60947-1	
		VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-1	
EU conformity		CE	
Approvals			
		BG (see overview)	
		$_C$CSA$_{US}$ C300	

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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 (see below) can be used as the support element.

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 electrical connection for a SHS with BG inspection certificate is only permitted with the following cable couplings (Bernstein range; cable length: 5 m):
3251103234 (with straight plug) or 3251103236 (with angled plug)

In the case of 6019261018, the fastening nut of the connecting cable coupling must be in a closed area after assembly that can only be opened with a tool (manipulation guard; e.g. hollow profile, machine stand, frame,...).

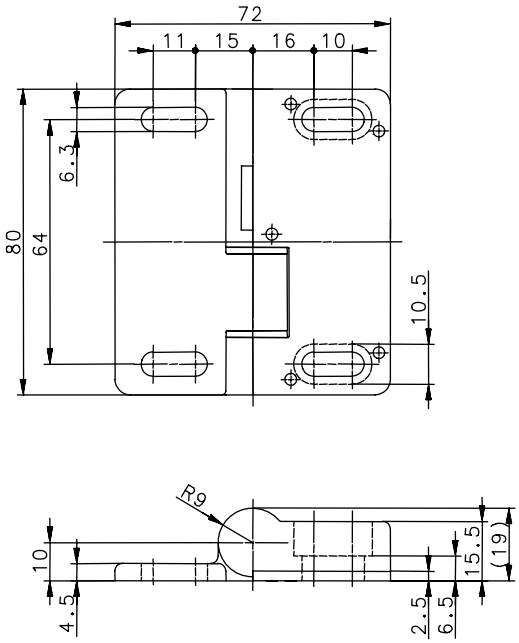
The manufacturer / supplier of the machine / system is obligated to observe the applicable standards for the size of the safety intervals between the separating safety fixture and the hazard point.
These regulations include: EN 294, EN 349, EN 953, EN 1088, ...

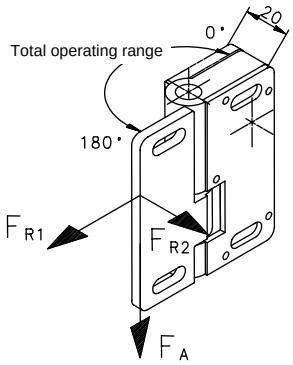
The switch may not be used as a stop.

For a CSA/UL application it is essential to use CSA/UL approved cable for connection versions 3,5 and 6.

The suggested protection type (IP code), referred to the connection variants 3, 4, 5 and 6, applies only when at least an equivalent cable coupling is used.

Empty hinge SHS





Swivel frequency: max. 1200/hour
Swivel angle: 0 ° to 180 °

Article number	Description	Surface / colour
6019291013	SHS-0Z	Galvanised: blue passivated
6119291006	SHS-0Z -9006-	Finish: RAL 9006 (white aluminium)

The mechanical data corresponds to the safety hinge switches (see Page 3, identification □).

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