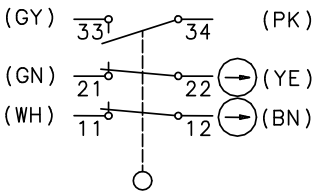
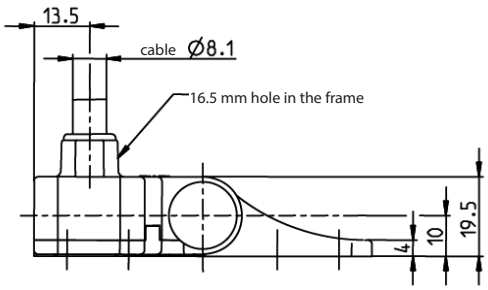
# Safety switch

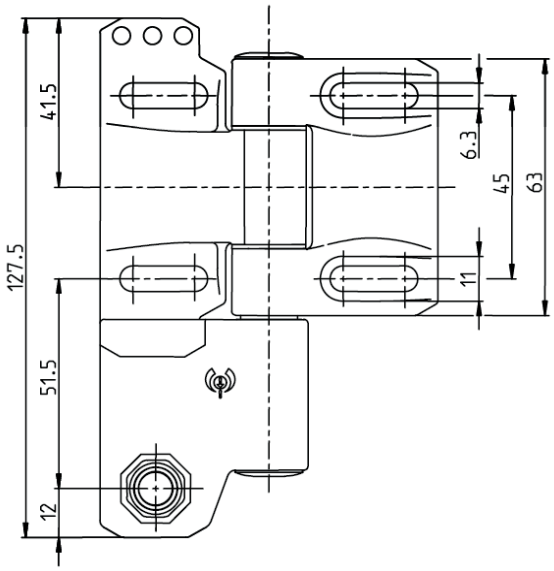
## Series Safety Hinge Switch SHS3

Description **SHS3-U15Z-KR 5 L** Article number **6019390025**

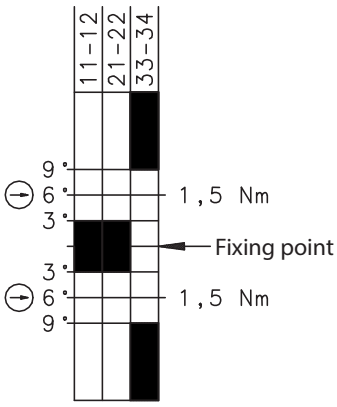
### Operating symbol




### Operating diagram

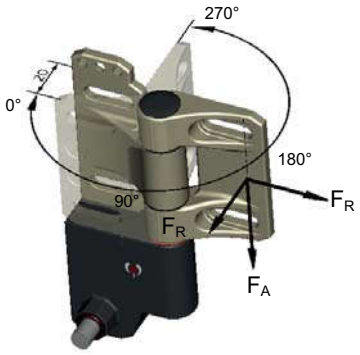



Point of fixation is in range of 0° ... 270° free selectable.

ON OFF

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

Swivel angle 0° to 270°



| Electrical Data | | |
|---|---|---|
| Rated insulation voltage | $U_i$ | 250 V |
| Conv. thermal current | $I_{the}$ | 5 A |
| Rated operational voltage | $U_e$ | 230 V AC; 24 V DC |
| Utilization category | | AC-15, $U_e$ /$I_e$ 230 V / 3 A;<br>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 (totally insulated) |

| Mechanical data | |
|---|---|
| Enclosure | PBT |
| Hinge | Cast stainless steel |
| Ambient air temperature | -25 °C to +70 °C<br>(connecting cable permanently mounted; no freezing over / no condensation) |
| Contact type | Slow make and break contacts 2 N.C., 1 N.O. |
| Mechanical life | 1 x $10^6$ operating cycles |
| Switching frequency | max. 300 switching operations / hour |
| Attachment | 4 x M6 screws DIN EN ISO 7984 (on flat and stiff ground) |
| Wiring | Fixed connecting cable 6 x 0,75 $mm^2$ x 5 m<br>Bending radius = 60 mm min. |
| Weight | ≈ 0,65 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<br>(for 0°-3° only in Plus-direction, for 267°-270° only in Minus-direction) |
| Forced disconnect torque | 1,5 Nm |
| Mechanical load<br>(see dimensioned drawing for the introduction direction of the forces) | $F_{R1}$= max. 1800 N<br>$F_{R2}$= max. 750 N<br>$F_A$ = max. 1800 N |

| ID for safety engineering | |
|---|---|
| B10d | 2 x $10^6$ 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 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 used as bearing element.<br>High forces, unfavourable force application as well as dynamic loads can shorten the service life.<br>In case that the SHS3 is used at an ambient temperature of 70° an accelerated ageing of the connecting cable can occur.<br>The connecting cable shall be protected against mechanical damages.<br>The installation of the connecting cable can be done via pipes or cable ducts.<br>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.<br>Especially these standards apply: DIN EN 349, DIN EN 953, DIN EN ISO 14119, DIN EN ISO 13857, ... .<br>The switch shall not be used as a mechanical stop. |