Safety Switches for Hinged Protective Equipment

I88 VKS, -VKW, -AHDB; GC VKS, -VKW; Ti2 AHDB

I88-AHDB

I88-VKW

Safety switches for hinged protective equipment

These switches are suitable for applications where SHS switches cannot be used. They are used for safety monitoring of safety gates, safety guards and protective equipment. Two different types of actuator are available for this type of safety switch. The actuators also differ in terms of their attachment to the safety guards.

The AHDB actuator is available in the Ti2 and I88 families. The switch is attached in such a way that a spindle on the safety guard or on the hinge can enter the hole in the safety switch. The safety contact is opened by turning the spindle when opening the safety guard. The switch can be actuated in both directions without a limit stop.

The VKS and VKW actuators are part of the I88 and GC families. The switch is mounted next to the safety guard. The lever fixture is mounted on the safety guard and opens the safety contact as it moves. The integrated longitudinal guide compensates for different pivot radii.

Two different actuator functions are available to facilitate use in varied applications:

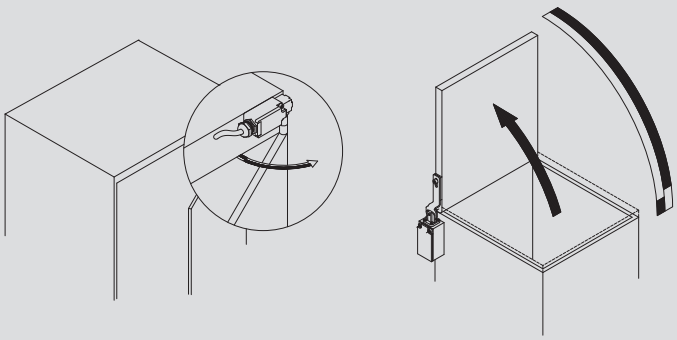
- **VKS with vertical setting**

  The safety contact is opened when the lever fixture is moved out of its vertical setting in one of the two possible pivot directions.

- **VKW with horizontal setting**

  The safety contact is opened as the lever fixture moves out of its horizontal setting. A distinction is made between VKW RE (right) and VKW LI (left) in connection with I88 switches. This designation makes it possible to identify whether the switch can be mounted on the right-hand or left-hand side of the safety guard. The GC family only contains switches for mounting on the left-hand side.

Both variants allow maximum pivot movements of 180°.



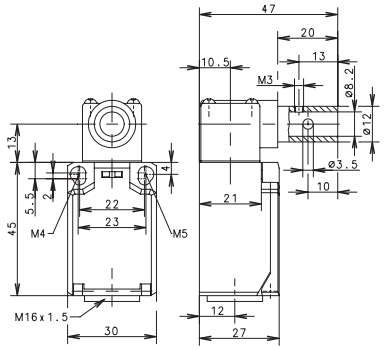
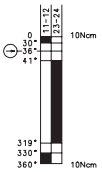
GC-VKS

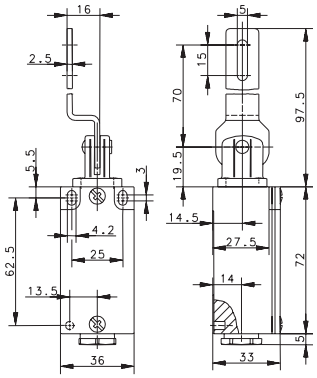
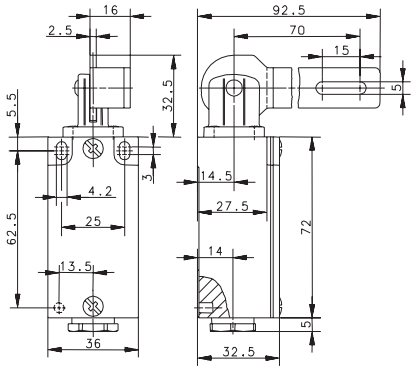
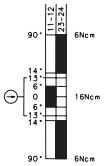
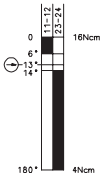
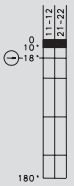
Technical data

			Ti2 AHDB	I88 AHDB	I88	GC
Electrical data						
Rated insulation voltage	U_i		250 V AC	250 V AC	250 V AC	400 V AC
Conventional thermal current	I_{the}	U1Z A2Z	10 A –	10 A 5 A	10 A 5 A	10 A 5 A
Rated operating voltage	U_e		240 V	240 V	240 V	240 V
Utilization category		U1Z A2Z	AC15, 240 V/3 A, –	AC-15, U_e /I_e 240 V / 3 A AC-15, U_e /I_e 240 V / 1.5 A	AC-15, U_e /I_e 240 V / 3 A AC-15, U_e /I_e 240 V / 1.5 A	AC-15, U_e /I_e 240 V / 3 A –
Positive opening action NC contacts	⊖		As per IEC/EN 60947-5-1, Addendum K	As per IEC/EN 60947-5-1, Addendum K	As per IEC/EN 60947-5-1, Addendum K	As per IEC/EN 60947-5-1, Addendum K
Short-circuit protection			Fuse 6A gL/gG	Fuse 10A gL/gG	Fuse 10A gL/gG	Fuse 10A gL/gG
Protection class			II, Insulated	II, Insulated	II, Insulated	I
Mechanical data						
Enclosure			PBT, glass fibre-reinforced	Thermoplastic, glass fibre-reinforced (UL 94-V0)	Thermoplastic, glass fibre-reinforced (UL 94-V0)	Aluminium pressure die-casting
Cover			PA6.6, black	Thermoplastic, glass fibre-reinforced (UL 94-V0)	Thermoplastic, glass fibre-reinforced (UL 94-V0)	Sheet aluminium
Actuation			Axis lever enclosure, lever (metal)	Axis lever enclosure, lever (metal)	Lever (metal)	Lever (steel)
Ambient temperature			–30°C to + 80°C	–30°C to + 80°C	–30°C to + 80°C	–30°C to + 80°C
Mechanical service life			1 x 10^6 switching cycles	1 x 10^6 switching cycles	1 x 10^6 switching cycles	1 x 10^6 switching cycles
B10d			2 mill.	2 mill.	2 mill.	2 mill.
Switching frequency			≤ 50 / min.	≤ 50 / min.	≤ 50 / min.	≤ 20 / min.
Mounting			2 x M4 or 2 x M5 fixed positioning for safety applications	2 x M4	2 x M4	2 x M4
Type of connection			Screw connections	Screw connections	Screw connections	Screw connections
Conductor cross sections			Single-wire 0.5 – 1.5 mm^2 or Stranded wire with ferrule 0.5 – 1.5	Single-wire 0.5 – 1.5 mm^2 or Stranded wire with ferrule 0.5 – 1.5	Single-wire 0.5 – 1.5 mm^2 or Stranded wire with ferrule 0.5 – 1.5	Single-wire 0.5 – 1.5 mm^2 or Stranded wire with ferrule 0.5 – 1.5
Cable entry			1 x M20 x 1,5	1 x M20 x 1,5	1 x M20 x 1,5	1 x M20 x 1,5
Installation position			Any	Any	Any	Any
Protection class			IP65 as per EN 60529	IP65 as per EN 60529	IP65 as per EN 60529	IP65 as per EN 60529
Standards						
VDE 0660 T100, DIN EN 60947-1, IEC 60947-1 VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1						

① Depending on switching system. See Table on Pages 72 – 75.

Safety Switches for Hinged Protective Equipment

	Ti2 AHDB	
		
Switching operation	**Slow-action** **Snap-action**	**Slow-action** **Snap-action**
1 NC / 1 NO contact	**6188100030** TI2-U1Z AHDB 	
2 NC contact		
2 NO contacts		
1 NC / 1 NO contact Overlapping		
Approvals		
	Replacement actuator: –	**Replacement actuator: –**
	Special features / variants (on request)	**Special features / variants** (on request) ● Available in different actuation directions

	GC VKS	GC VKW
		
Switching operation	**Slow-action** **Snap-action**	**Slow-action** **Snap-action**
1 NC / 1 NO contact	**6121100622** GC-U1Z VKS 	**6121100623** GC-U1Z VKW 
2 NC contact		**6121800835** GC-A2Z VKW 
2 NO contacts		
1 NC / 1 NO contact Overlapping		
Approvals		
	Replacement actuator: 3912001277	**Replacement actuator: 3912001278**
	Special features / variants (on request)	**Special features / variants** (on request)