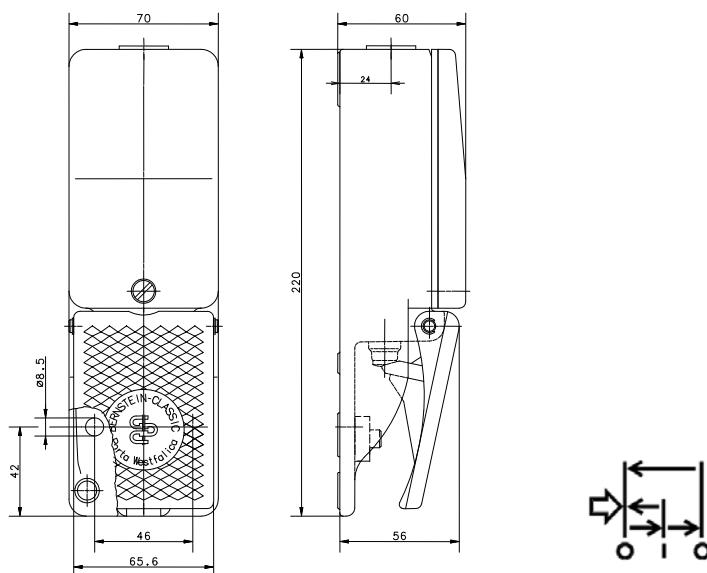
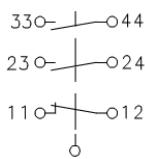
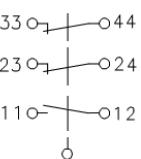
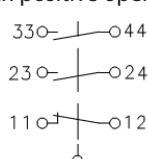
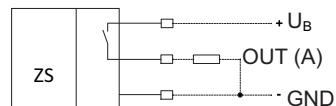
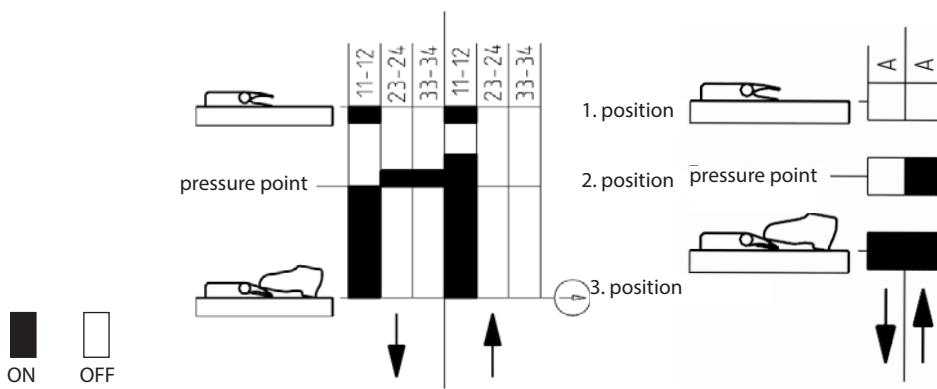


Foot-switch

Series F1

Description **F1-ZSP3D**Article number **6161500772**
Switching symbol
(Three-Step-Safety Switch)
1. position
Off-position2. position
On-position3. position
Off-position
with positive openingTo reach the 3rd position,
the tactile touch has to be
surmounted.

Wiring diagram PNP additional board

**Operating diagramme**

**Electrical data PNP additional board**

Switching element function	PNP, N.O.	
Operational voltage range	U_B	10 - 39 V DC
Switching current	400 mA	
Operational current	< 20 mA	
Voltage drop	U_d	< 3 V
Short-circuit protection	pulsed	
False polarity protection	yes	

Electromagnetic compatibility (EMC) PNP additional board

Electromagnetic field test	IEC 61000-4-3
Electrostatic discharge test	IEC 61000-4-2
Electrical fast transient immunity test	IEC 61000-4-4
Radiated disturbance field strength	EN 55011

Electrical Data

Rated insulation voltage	U_i	250 V
Conv. thermal current	I_{the}	5 A
Rated impulse withstand voltage	U_{imp}	2,5 KV
Rated operational voltage	U_e	240 V AC and 24 V DC
Utilization category		AC-15, U_e / I_e 240 V AC / 1,5 A 50-60 Hz DC-13, U_e / I_e 24 V DC/ 1,0 A
Direct opening action	⊖	acc. to IEC/EN 60947-5-1, annex K (pedal stop)
Short-circuit protective device		D-Fuse 4 A gG
Protection class		I

Mechanical data

Enclosure	AL, die-cast	
Cover	AL, die-cast (RAL 9003 - signal white)	
Actuator	Foot lever (PA)	
Ambient air temperature	Operating temperature range: -10 °C to +50 °C Storage temperature range: -25 °C to +70 °C	
Contact type	1 NC, 2 NO. (Zb)	
Operating force (pedal centre)	1. position	10 N
	2. position	25 N
Pressure point	≈ 200 N	
Mechanical life		
Sequence of the switching position: 1 – 2 – 1 or: 1 – 2 – 3 – 1	10 x 10 ⁶ operating cycles 1 x 10 ⁶ operating cycles	
Switching frequency	max. 30/min	
Assembly	2 x M8	
Connection	6 screw connections (M3,5) with square clamps	
Protection ground	2 x M4	
Conductor cross-sections	Solid: 0,5 ... 1,5 mm ² Litz wire with ferrules: 0,5 ... 1 mm ²	
Cable entrance	1 x M20 x 1,5	
Weight	≈ 1,6 kg	
Protection type	IP67 in accordance with IEC/EN 60529	

**ID for safety engineering**

B10d

Sequence of the switching position: 1 – 2 – 1 10×10^6 cycles
or: 1 – 2 – 3 – 1 1×10^6 cycles**Regulations**

VDE 0660 T100, DIN EN 60947-1, IEC 60947-1

VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1

DIN EN 61326-3-1

DIN EN ISO 13849-1

DIN EN 60947-5-8

Test principles

GS-ET-22

EU Conformity

acc. to directive 2006/42/EG

Approvals

DGUV

cUL_{us}**Function**

Normally open contacts: 23 – 24, 33 – 44; Signalling contact: 11 – 12

- Position 1: OFF position of the operating contacts (the pedal is not actuated)
- Position 2: ON position of the operating contacts (the pedal is actuated to as far as the pressure point)
- Position 3: OFF position of the operating contacts (the pedal is fully actuated)

If the three-stage enable switch is actuated in position 2, it returns to position 1 when it is released. The three-stage enable switch changes from position 2 to position 3, if it gets further pressed under after the resistance of the pressure point.

The actuation of the operating contacts is made by a positive opening.

Once the pedal is not pressed, the three-stage enable switch returns to position 1.

The operating contacts are opened in the return stroke.

Notes

The degree of protection specified (IP code) applies only to a properly closed cover and the use of an equivalent cable gland with adequate cable.