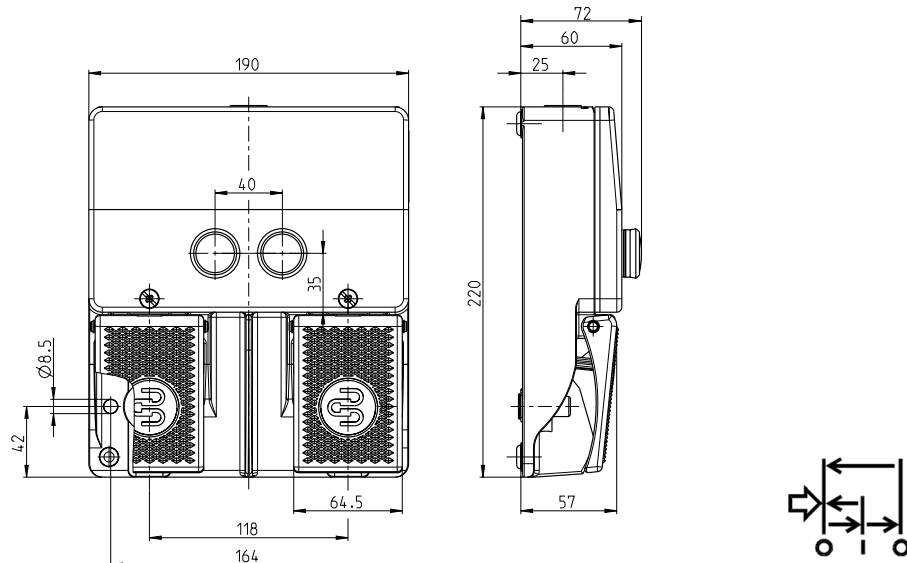


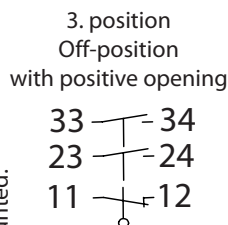
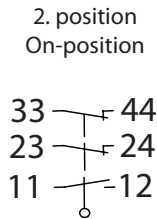
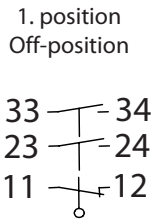
Foot-switch Series F2

Description **F2-ZSP3D/ZSP3D**

Article number **6162000813**

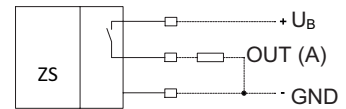


**Switching symbol (applies to both pedals)
(Three-Step-Safety Switch)**



To reach the 3rd position,
the tactile touch has to be
surmounted.

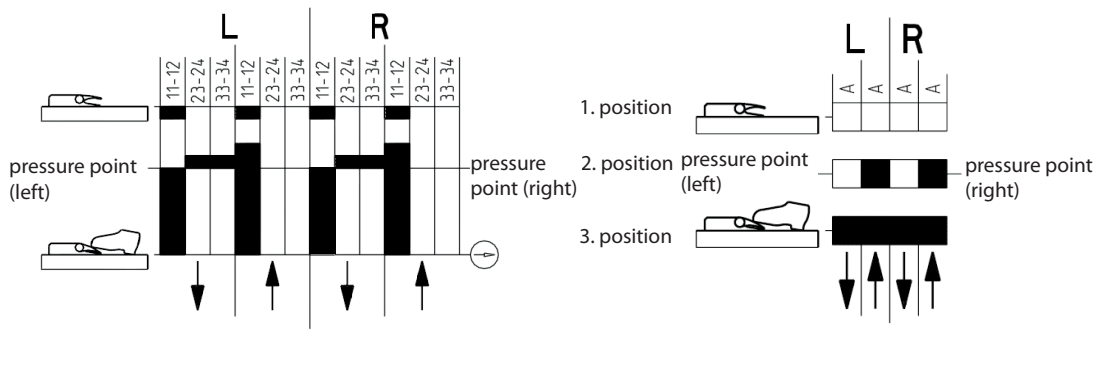
Wiring diagram PNP additional board
(applies to both pedals)



2 telltale lamp



Operating diagramme



Electrical Data telltale lamp		
Rated operational voltage	U_e	24 V AC / DC

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
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 (each pedal)	1 NC, 2 NO. (Zb)
Operating force (pedal centre) (each pedal)	1. position 10 N 2. position 25 N
Pressure point (each pedal)	≈ 200 N
Mechanical life (each pedal)	
Sequence of the switching position: 1 – 2 – 1	10 x 10 ⁶ operating cycles
or: 1 – 2 – 3 – 1	1 x 10 ⁶ operating cycles
Switching frequency	max. 30/min
Assembly	2 x M8
Connection	screw connections (M3,5)
Protection ground	2 x M4
Conductor cross-sections	Solid: 0,14 ... 1,5 mm ² Litz wire with ferrules: 0,25 ... 1 mm ² Litz wire with ferrules with plastic sleeve 0,25 ... 1,5 mm ²
Cable entrance	1 x M20 x 1,5
Weight	≈ 2,3 kg
Protection type	IP67 in accordance with IEC/EN 60529

ID for safety engineering
B10d
Sequence of the switching position: 1 – 2 – 1 10 x 10 ⁶ cycles or: 1 – 2 – 3 – 1 1 x 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

EU Conformity
acc. to directive 2014/35/EU (Low-Voltage-Directive)

Function
<p>Normally open contacts: 23 – 24, 33 – 44; Signalling contact: 11 – 12</p> <ul style="list-style-type: none"> • 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) <p>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.</p>

Notes

Unused threaded holes and openings for internals must be permanently closed with threaded plugs or the corresponding internals. The specified degree of protection (IP code) only applies when cover is closed and a cable gland of at least equal value is used with the corresponding cable, threaded plug, internals or sealing plug.