

ES-2.. ELECTRONIC SAFETY SWITCHING DEVICE FOR PRESSURE MONITORING

ES-20

Pressure limiter | Pressure switch | Safety pressure limiter | Pressure regulator

Monitoring of up to four independent pressure circuits

- ✓ Easy and highly precise limit value setting
- ✓ Robust and fail-safe design with integrated self-test functions for industrial applications
- ✓ Indication of measurements and alarms via display
- ✓ Wide range of service functions and data logging
- ✓ On-site operation on the unit and via smartphone



Technical data

Characteristics

Operating voltage	16...32 V DC (max. 5.9 W)
Dimensions	150 x 60 x 42 mm (L x W x H)
Housing	Anodised aluminium
Parts in contact with the medium	Stainless steel (relative pressure version)
Protection class	IP65

Operating conditions

Pressure type	Relative pressure Differential pressure
Media temperature	-40...+125 °C
Ambient temperature	-20...+65 °C

Process connection

Relative pressure version	G 1/4" internal thread
Differential pressure version	G 1/8" internal thread

Adapter available upon request

Electrical connections

Analogue current output	1 x 4...20 mA
Digital inputs/outputs	Configurable as 2 x alarm or 1 x alarm and 1 x remote unlocking

Load capacity of the switching contacts

DC1/DC13: 16 A (24 V)	AC1: 16 A
2 A (40 V)	AC3: 10 A
0.3 A (200 V)	AC16: 8 A

	Relative pressure	Differential pressure
Measuring range nominal pressure	-1...500 bar freely selectable	0...1 mbar 0...10 mbar 0...50 mbar 0...100 mbar 0...250 mbar 0...1,000 mbar
Overload pressure	2 x nominal pressure	10 x nominal pressure
Bursting pressure	4 x nominal pressure	15 x nominal pressure
Setting accuracy	0.1 % of nominal pressure	

Other measuring ranges available upon request

Possible applications

- ✓ Refrigeration systems and heat pumps
- ✓ Ventilation, heating and climate technology
- ✓ Filter and pump monitoring
- ✓ Hot water and steam boiler monitoring
- ✓ Process measurement technology
- ✓ Mechanical and plant engineering

Technical modifications reserved.

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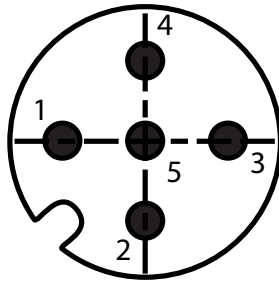
Wiring diagram of the cable sockets and connectors

Connector 1: 5-pin M12

A-coded

Pin assignment (male):

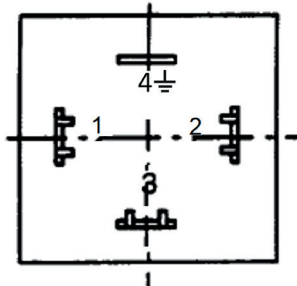
- 1: GND
- 2: 16...32 V DC (max. 3.2 W)
- 3: Digital I/O 1 (configurable)
- 4: Current output (4...20 mA)
- 5: Digital I/O 2 (configurable)



Connector 2: Rectangular connector, according to EN 175301 form A

Pin assignment:

- 1 and 2: Switching channel 1
- 3 and 4: Switch channel 2 or, with cable bridge in connector, to switch channel 1 for automated switch channel self test



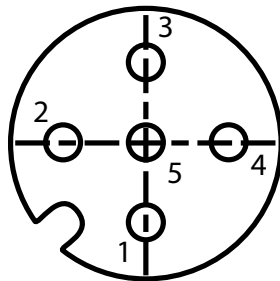
Achtung Kontakt 4 \perp nicht mit Erde verbinden

Connector 3: 5-pin M12

A-coded

Pin assignment (female):

- 1: GND
- 2: Supply for ZT-S...
- 3: Digital I/O (communication to ZT-S...)
- 4: n.c. / not connected
- 5: n.c. / not connected



Smartphone App



- ✓ Retrieval of setting and test protocols
- ✓ Comfortable limit value & delay time setting
- ✓ Configuration of the device
- ✓ Management of multiple devices

More information: www.zila.de/es20

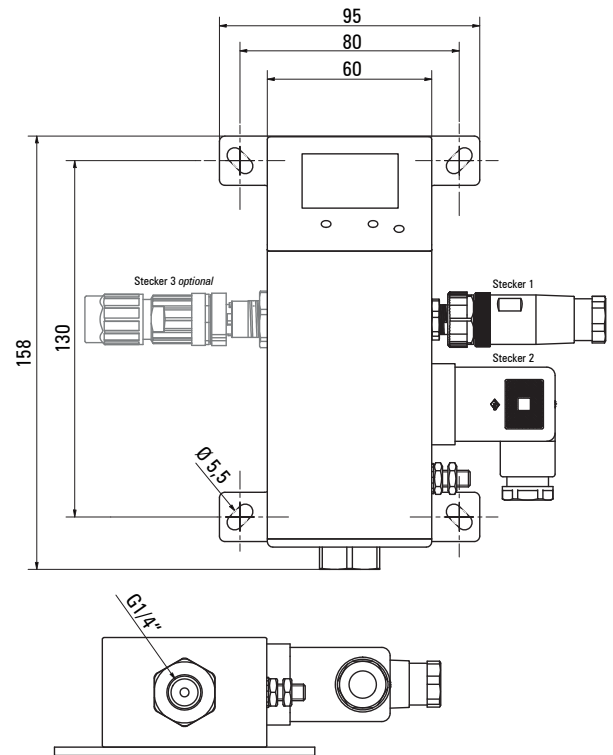
Test the app now!

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Device design and dimensions



Model number

Basic designation

Measurand

- D = Pressure
- DD = Differential pressure

Safety function 1

- A = DKW (pressure switch)
- B = DBK (pressure limiter)
- C = SDBK (safety pressure limiter)

Safety function 2

- A = DKW (pressure switch)
- B = DBK (pressure limiter)
- C = SDBK (safety pressure limiter)

Direction of action

- (HH) = Rising/maximum
- (LL) = Falling/minimum
- (HL) = Max / min combined
- (LH) = Min / max combined

Measuring range

- = e.g. 60 for 60 bar

Optionally: Ex version

- Ex-i = Intrinsically safe

Optionally: Extension measuring channel, switching channel

- Not specified = No extension intended
- /E = Additional switching channels with extension unit (ESE)
- /1...3 = Number of additional measuring channels via ZT-S sensors
- /E1...3 = Number of additional measuring channels and additional switching channels

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