

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

## ES-22

Pressure limiter | Pressure monitor | Safety pressure limiter

Two functions combinable in one device  
Type-tested, according to 2014/68/EU

- ✓ 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



**SIL** IEC 61508  
IEC 61511

## Technical data

### Characteristics

Operating voltage	16...32 V DC (max. 5,9 W)
Dimensions	150 x 60 x 42 mm (LxWxH)
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 upon request

### Electrical connections

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

## Load capacity of the switching contacts

<b>DC 24 V:</b>	<b>AC 230 V:</b>
DC1: 16 A	AC1: 16 A
DC13: 1,5 A	AC3: 10 A
	AC15: 7 A

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

## Applied standards and approvals

- ✳️ DIN EN 378
- ✓ DIN EN 12952-11
- ✓ DIN EN 61508:2010
- ✓ DGRL 2014/68/EU
- ✓ DIN EN 12953-9
- ✓ DIN EN 12263:1998

Technical modifications reserved.

**Sales and Consulting**  
**Fluid.io Sensor + Control**

Tel.: +49-6251-8462-0  
An der Hartbrücke 6

E-Mail: info@fluidio.de  
64625 Bensheim

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## 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

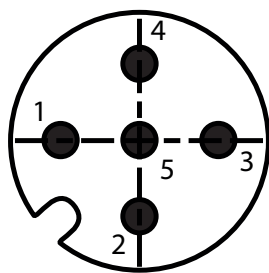
## Wiring diagram cable sockets & connectors

### Connector 1: 5-pin M12

#### A-coded

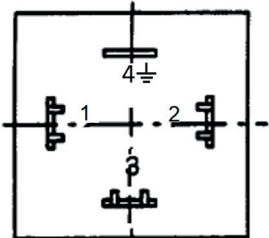
Pin assignment (male):

- 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

- 1 and 2: Switching channel 1
- 3 and 4: d.n.c. / do not connect



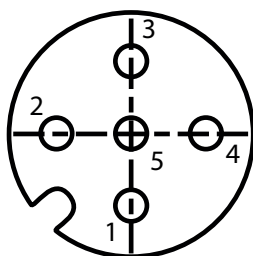
Attention: Do not connect Kontakt 4 with GND

### 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



## Smart Pressostat App

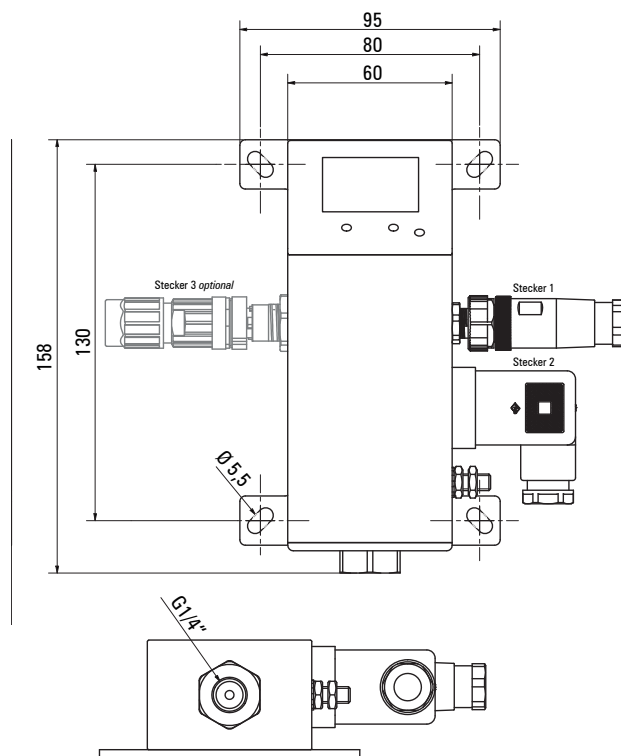


- ✓ Retrieval of settings- and test protocols
- ✓ Convenient setting of limit values & delay times
- ✓ Configuration of the device
- ✓ Management of multiple devices

More information: [www.fluidio.de/es2x](http://www.fluidio.de/es2x)



## 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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E-Mail: [info@fluidio.de](mailto:info@fluidio.de)  
64625 Bensheim