Data Sheet
10/18-0.15-EN

P/I signal converter TEPI11

Air pressure 0.2 ... 1 bar (3 ... 15 psi)
in 4 ... 20 mA current

- **DMS sensor for gauge pressure**
- **Compact design**
  - Small dimensions, low weight
  - Can be installed in any orientation
- **Sturdy construction and solid functionality**
  - Influence of shock and vibration < 1 % at 10 g
- **Variety of signal ranges**
  - Input 0.2 ... 1 bar (3 ... 15 psi)
  - Output 4 ... 20 mA
- **Complies with the following directives**
  - EMC Directive 89/336/EEC as of May 1989
  - CE mark meets the EC directive for the CE certificate of conformity
- **Characteristic curve (linear)**
  - Max. deviation 0.5 %
- **Supply voltage 12 ... 30 V DC**
- **Intrinsic Safety, EEx ib IIC T6**

1 Concept

The signal converter transforms the input signal 0.2 ... 1 bar (3 ... 15 psi) into the output signal 4 … 20 mA.

The pressure at the input is recorded by the DMS sensor and converted by the downstream electronics unit to the output signal in proportion to the measured value.

The electronic unit is designed for two-wire technology, i.e. the power supply and output signal flow across the same wire pair. Secondary equipment such as the display, recorder or controller must be looped into the electrical circuit.

A direct current is required for the power supply, and can be between 12 ... 30 V.

The converter can be provided for intrinsically safe operation. For supply power, a power supply unit approved for intrinsically safe operation or an approved feed separator is required.

2 Technical data

2.1 Input (pneumatic)

Sensing element
DMS sensor with silicon membrane

Input
0,2 ... 1 bar (3 ... 15 psi)

Overload limit
2 bar (30 psi)

2.2 Output (electrical)

Signal range
4 … 20 mA, two-wire technology

Load voltage
$U_B = U_S$ - 12 V (U_S = Supply voltage V)

Capacitance/Inductance
15 nF and 90 µH

2.3 Power supply (electrical)

Supply voltage
12 ... 30 V DC, ripple $U_{SS} \leq 0.2$ V

Power consumption
20 mA (at 100 % input signal)

2.4 Transmission data and influences

Characteristic
linear, direct or reverse action

Deviation
≤ 0.5 %

Hysteresis
≤ 0.15 %

Response sensitivity
≤ 0.1 %

Temperature influence (zero point and span)
≤ 1.4 % / 10 K

Power supply
≤ 0.015 % / V change in supply voltage

Mechanical vibration
≤ 0.5 % to 1 g and 80 hz

Mounting orientation
≤ 0.1 % at 90° change of position.

EMC
meets EMC directive 89/336/EEC as of May 1989 (increased EMI shielding per EN 50082-2 PR as of 11/93)

CE mark
complies with EC directive for CE certificate of conformity

2.5 Explosion protection

Intrinsic Safety EEx ib IIC T6

2.6 Environmental capabilities

Climate class
ZUF acc. to DIN 40040

Temperature	-20 … 60 °C (-4 ... 140 °F)
	-20 … 80 °C (-4 ... 176 °F)
	for operation, storage or transport
Relative humidity	75 % mean, 95 % short-term
	no condensation

2.7 Design for rail mounting

Material/protection
Housing IP 20
aluminum with plastic cap

Mounting

Rail mounting	EN 50022 - 35 x 7,5
	EN 50035 - G 32
	EN 50045 - 15 x 5

Electrical connection
2-pole screw terminal for 2.5 mm^2 (14 AWG)

Pneumatic connection
Two 1/8 NPT threads for air supply and output

Weight
0.25 kg (0.55 lb)

Dimensions
Refer to dimensional drawings

2.8 Dimensioned drawings

2.8.1 Design for control room housing unit for rail mounting

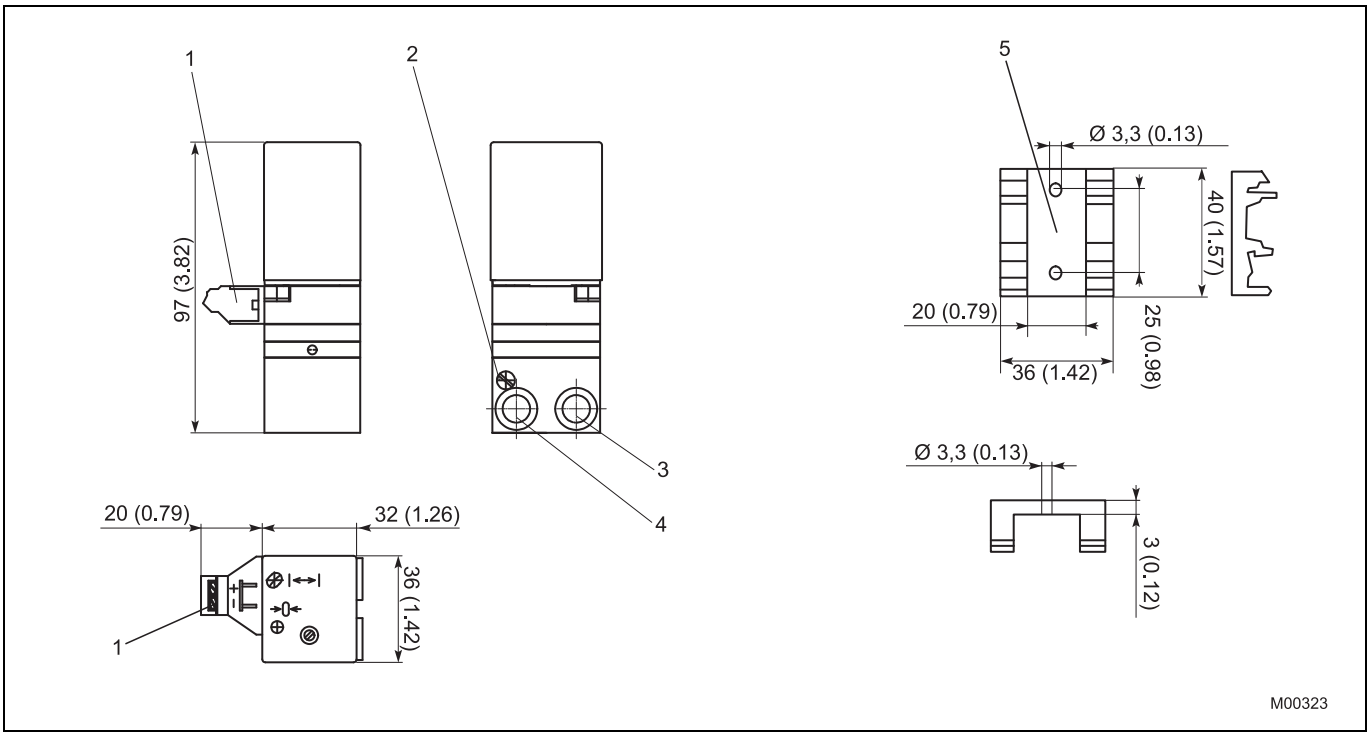

Fig. 1: Dimensions in mm (inch)

1 Electrical connections
2 Filter
3 Output
4 Supply air
5 Mounting bracket for DIN rails

3 Ordering information

P/I Converter	Variant digit No.	1 - 7	8	9	10	11	12			
TEPI11	Catalog No.	**V18321-**								
Design / Explosion protection										
Control room housing for rail mounting										
standard			1	0	0					
Intrinsic Safety EEx ib IIC			5	0	0					
Characteristic curve										
rising						1				
falling						2				
Input signal range										
0.2 ... 1 bar							1			
3 ... 15 psi							2			
(other ranges on request)										

Ex stock versions						
			Catalog No.			
P/I Converter TEPI11						
Design	Explosion protection	Input signal range				
Control room case, for rail mounting	none	0.2 ... 1 bar	V18321-10011			
		3 ... 15 psi	V18321-10012			

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