Intelligent pressure transducers with microprocessor DMU 12

Application
For high accuracy electronic measurement of pressure or differential pressure, with integrated digital display. The robust design renders this unit suitable for use under arduous operating conditions in the chemical industry, process technology as well as the food and feedstuffs industry.

Description
The DMU 12 pressure transducer features a calibrated, amplified sensor signal which is available as a standardised current output.

DMU 12 is available in the following versions:

- *Relative, absolute or differential pressure versions*
- *With threaded connection, flange connection EN 61518, relief/stop valve, fitted diaphragm seals*
- *Level measurement version with parameter tables*

Menu types
Refer to table on page 460.

Graphic display
Text orientated menu guide
Display modes (standard):
Measured value and pressure unit plus choice of the following:
1. *Bar chart*
2. *Sensor temperature*
3. *Measured value expressed as a percentage*
4. *Output current in mA*

Mounting position
Any position; housing can be rotated by 170° to the left or to the right, allowing the display and control panel to be factory pre-set at angles of 90°, 180° or 270°, as required.

Accuracy of measurement
< 0/200 bar ≤ ±0.2 % FSO
≥ 0/200 bar ≤ ±0.5 % FSO

Measuring ranges
Refer to table on page 460.

Range selection/range spread
User adjustable without test bed
Maximum 1:20
(differential pressure, max. 1:10)

Operating temperature range
Medium: -10 °C/+90 °C
Ambient: -10 °C/+55 °C
Storage: -20 °C/+60 °C
TC zero point:< ±0.1 %/10 K

Dynamic characteristics
Suitable for static and dynamic measurements
Measuring cycle max. 0.5 s
(0.8 s with HART protocol)

Process connection
Stainless steel 1.4404
G½B (EN 837-1/7.3)

Wetted parts
Stainless steel 1.4404

Pressure transmission liquid
Silicone oil

Output signal/supply voltage
4–20 mA DC 12–50 V
2-wire
optional with HART protocol)
Short circuit proof and polarity protected
max. ± supply voltage

Load
$$4\text{–}20\ mA \leq \frac{U_B - U_{Bmin}}{0{,}02\ A}$$

Current input
4–20 mA max. 20 mA

Housing (protection)
Stainless steel 1.4305 (IP 65), safety front glass (display)

Electrical connections
Cable gland

CE conformity (EMC)
EN 50081-1 and EN 50082-2

Options

- *HART protocol*
- *Differential pressure version*
- *Level version*
- *Fitting of diaphragm seal*
- *Bracket for wall mounting*
- *Ex version (II 2 G EEx ia II C T4/T5/T6)*

Refer to page 467 for prices

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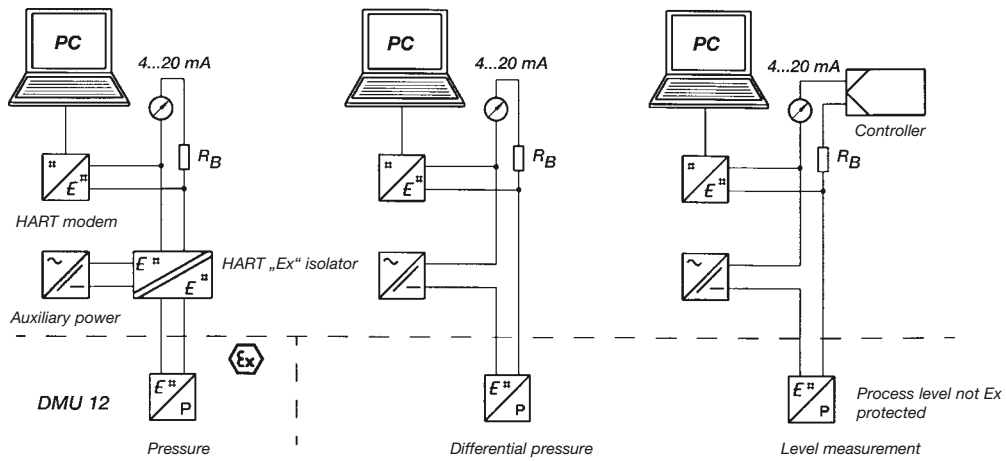
Menu types *The following menus are available for displaying information and selecting parameters:*			
Menu type	***Meaning***	***Menu type***	***Meaning***
Measuring range selection	*Specify min. and max. pressure range, without actual pressure*	*Alarm condition*	*Specify output current for fault or malfunction*
Damping	*Select signal damping*	*Calibrate*	*Specify min. and max. pressure range, with pressure*
Min./max. values	*Display of min./max. values for pressure, level measurement and temperature*	*Current balancing*	*Adapt output signal to connected instruments*
Signal evaluation	*Select transmission mode*	*Factory defaults*	*Re-set to factory defaults*
Pressure units	*Selection of physical unit with conversion*	*Security lock*	*Protection against unauthorised use*
Measurement cycle test	*Create a defined output signal*		

Measuring ranges	***Overpressure safety***	***Measuring ranges***	***Overpressure safety (on one side)***	***Max. static pressure***
Relative pressure:		*Differential pressure:*		
-1/ +1 bar	*-1/ +6 bar*	*0/ 1 bar*	*6 bar*	*75 bar*
-1/ +4 bar	*-1/ +10 bar*	*0/ 4 bar*	*10 bar*	*75 bar*
-1/ +16 bar	*-1/ +30 bar*	*0/16 bar*	*30 bar*	*75 bar*
-1/ +40 bar	*-1/ +75 bar*			
-1/+100 bar	*-1/+200 bar*			
-1/+400 bar	*-1/+500 bar*			
Absolute pressure:				
0/ 1 bar	*6 bar*			
0/ 4 bar	*10 bar*			
0/16 bar	*30 bar*			

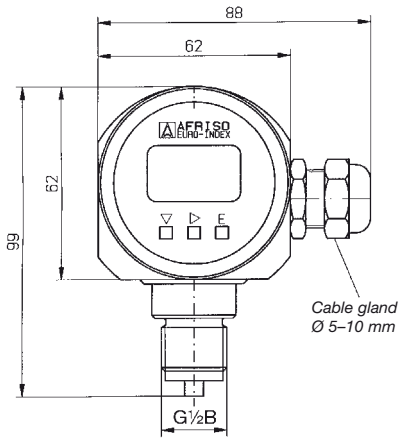
Function diagram with HART protocol

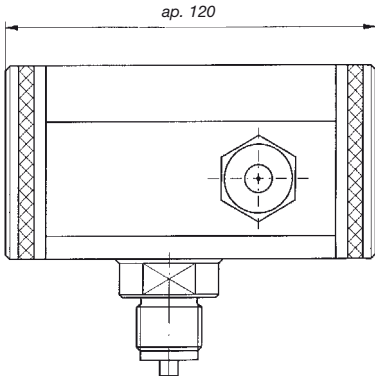


Pressure transducers DMU 12

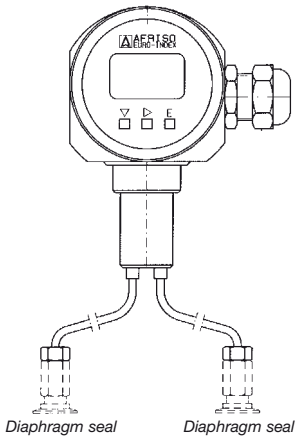
Types and dimensions (in mm)

Standard version – connection G½B

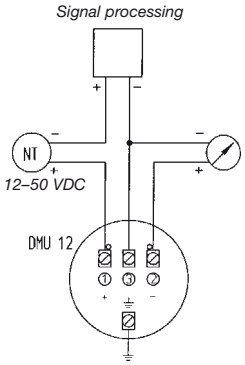




Differential pressure version – diaphragm seal fitted



Wiring diagram



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