developing solutions

FISCHER
MESS- UND REGELTECHNIK

Data sheet

DE41

Digital differential pressure transmitter

09015464 • DB_EN_DE41_LCD • Rev. ST4-A • 02/25

1 Product and functional description

1.1 Performance characteristics

Typical applications

- Air-conditioning technology
- Ventilation technology
- Environmental technology

Main features

- Robust, resistant to overpressure and maintenance-free
- Measuring range switching
- Current or voltage output
- LCD display

1.2 Use as intended

The DE41 differential pressure transmitter is suitable for measuring positive, negative and differential pressures in gaseous and liquid media.

Please contact the manufacturer before using this unit with dirty or aggressive media because the media compatibility of the unit needs to be checked.

1.3 Function diagram

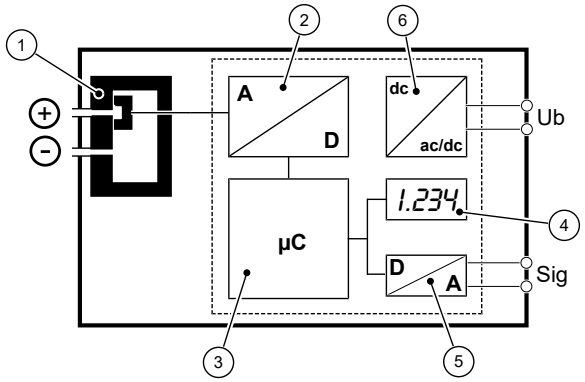


Fig. 1: Function diagram

1	Ceramic sensor	2	Signal converter
3	Micro-controller	4	LCD
5	Analogue output	6	Auxiliary energy

1.4 Design and mode of operation

This switching device is based on a ceramic sensor element that is suitable for measuring positive, negative and differential pressures.

The pressures to be measured act directly on a ceramic diaphragm fitted with resistors. Changes in pressure generate changes in resistance, which are evaluated by the device's electronics and transformed into a display and output signal.

2 Technical data

2.1 General

General information	
Type designation	DE41
Pressure type	Relative pressure
Measurement principle	Piezoresistive, Wheatstone bridge

Reference conditions (acc. to IEC 61298-1)		
Temperature	+15 … +25 °C	
Relative humidity	45 … 75 %	
Air pressure	86 … 106 kPa	860 … 1060 mbar
Installation position	User-defined	

2.2 Input variables

Order codes	W1		W2	
Measuring ranges [bar]	0...1.0	0...2.5	0...4.0	0...6.0
Jumper position	L	H	L	H
One-sided load limit	5 bar		12 bar	
Static overpressure	16 bar		16 bar	

2.3 Output variables

Output signal	4 … 20 mA	0 … 10 V
Jumper position	U	I
Working resistance	$R_L \leq 500\ \Omega$	$R_L \geq 2700\ \Omega$
Type of connection	3-conductor	

2.4 Measuring accuracy

Measurement deviation	2.5 % FS

- Incl. linearity and hysteresis at 25 °C
- FS:= Full Scale

2.5 Auxiliary energy

Rated voltage	24 V AC/DC
Permitted op. voltage	15 … 32 V AC/DC
Power consumption	2 W/VA

2.6 Operating conditions

Ambient temperature range	-20 to 70 °C
Storage temperature range	-20 to 70 °C
Medium temperature range	-20 to 100 °C
IP protection class	IP 65 acc. to DIN EN 60529
EMC	DIN EN IEC 61326-1:2022-11 EN IEC 61326-1:2021
	DIN EN IEC 61326-2-3:2022-11 EN IEC 61326-2-3:2021
RoHS	DIN EN IEC 63000:2019-05 EN IEC 63000:2018
REACH	The article DE41 does not contain any SVHC substances.

2.7 Construction design

Process connection	Cutting ring screw connection in brass for 6 or 8 mm pipe
Electrical connection	M12 round plug connector for supply and analogue output signal (5-pin, male)
Installation position	User-defined
Dimensions	90 x 120 mm
Weight	<todo>

2.7.1 Materials

Materials of parts in contact with medium	
Sensor element	Ceramic, Parylene
Seal	FKM
Sensor housing	Brass
Process connection	Aluminium, nickel-plated brass

Materials of parts in contact with surroundings	
Housing	Polyamide PA 6.6
Process connection	Aluminium, nickel-plated brass

2.7.2 Dimension drawings

All dimensions in mm unless otherwise stated

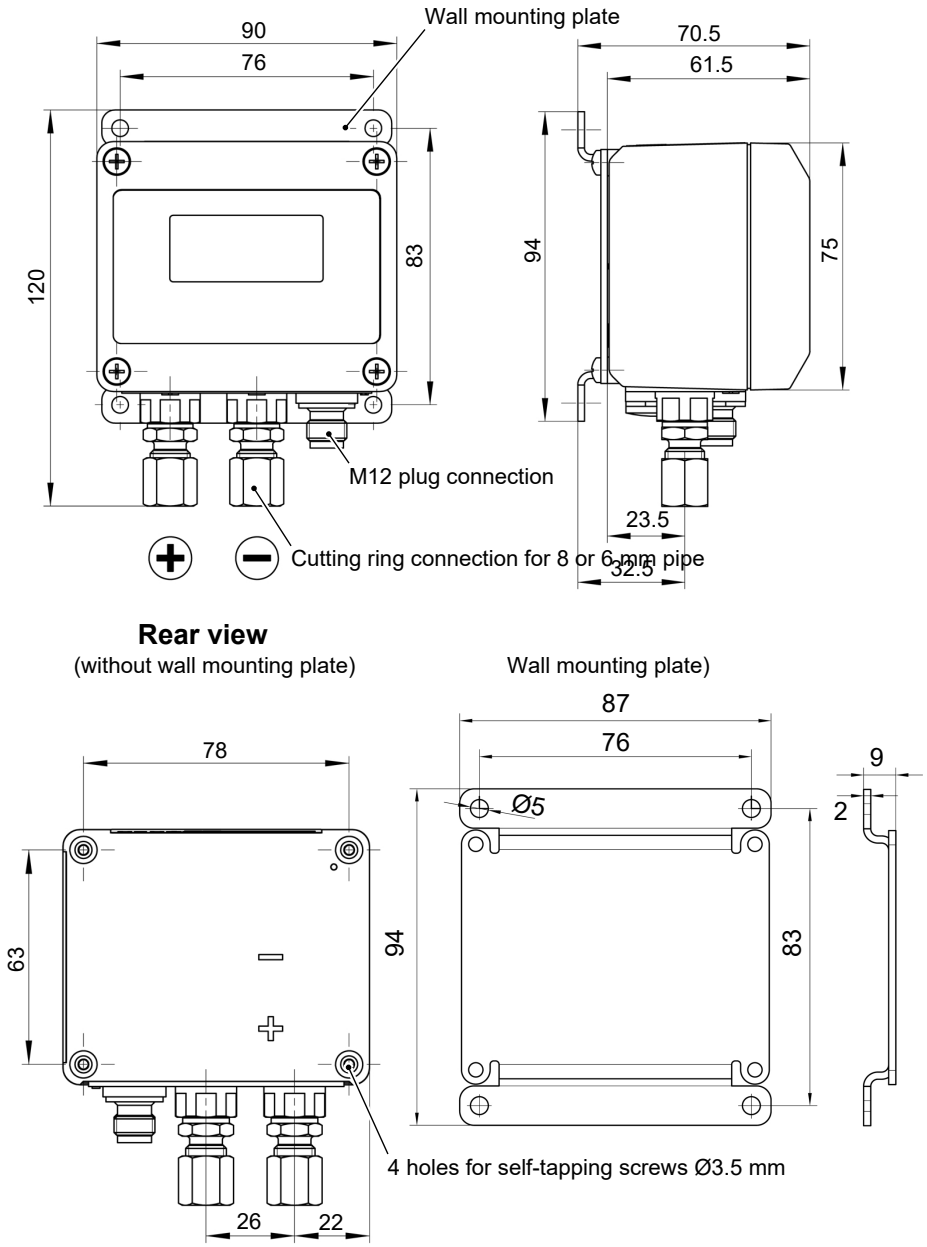
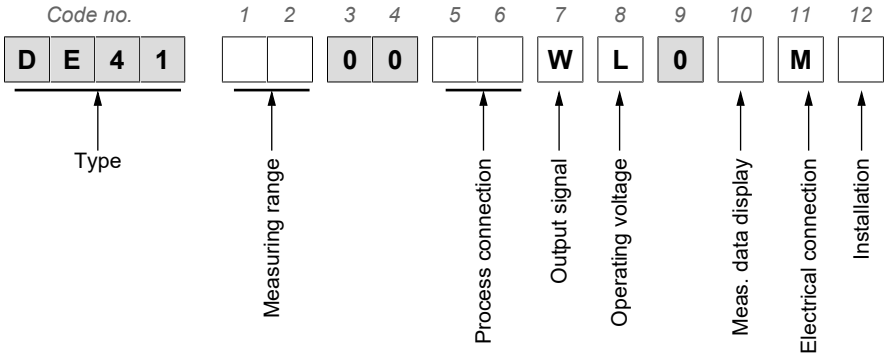


Fig. 2: Dimension drawing

Assembly of the mounting rails

3 Order codes



[1.2]	Measuring range *)
W1	0 ... 1.0 bar or 0 ... 2.5 bar
W2	0 ... 4.0 bar or 0 ... 6.0 bar

*) The measuring range can be selected using the coding switch.

[5.6]	Process connection
28	Cutting ring screw connection in brass for 6 mm pipe
29	Cutting ring screw connection in brass for 8 mm pipe

[7]	Analogue output *)
W	0 ... 10 V or 4 ... 20 mA

*) The output signal can be selected using the coding switch.

[8]	Operating voltage
L	24 V AC/DC

[10]	Meas. data display
0	without display
F	LC display

[11]	Electrical connection
M	M12 plug connection

[12]	Installation
0	Attachment boreholes on rear side (default)
W	Wall mounting

3.1 Zubehör

Best. No.	Designation	Number of poles	Length
06401995	M12 connection cable for supply/signal	5-pin	2 m
06401996	M12 connection cable for supply/signal	5-pin	5 m
06401564	M12 connection cable for supply/signal	5-pin	7 m
06401573	M12 connection cable for supply/signal	5-pin	10 m

3.2 Information about the document

This document contains all technical data about the device. Great care was taken when compiling the texts and illustrations. nevertheless, errors cannot be ruled out.

Subject to technical amendments.

Notes

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