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JUMO MIDAS DR

Pressure transmitter for control cabinet

Brief description

This pressure transmitter can be used for measuring the relative (gauge) pressure in liquid or gaseous media. The transmitter operates on the thick-film strain gauge measurement principle. The pressure sensor features an aluminium-oxide ceramic (Al₂O₃) base material. The pressure is converted into an electrical signal.



Type 401009/000

Technical data

Unless further specified, all the following percentage value details refer to the measurement span.

Reference conditions

as per DIN 16086 and EN 60770

Measuring ranges

see order details

Overload limit¹

for the pressure transmitter
 0 to 16 bar 3 x full scale

Bursting pressure¹

for the pressure transmitter
 0 to 16 bar ≤ 5 x full scale

Parts in contact with medium²

as standard: st. steel, mat. ref. 1.4305,
 Al₂O₃ 96 %
 pluggable screwed gland: brass (CuZn)
 seal: FPM

Output

4 to 20 mA
 2-wire burden ≤ (U_B-10 V)/0.02A
 0.5 to 4.5 V
 ratiometric burden ≥ 20 kΩ
 1 to (5)6 V burden ≥ 10 kΩ
 0 to 10 V burden ≥ 10 kΩ

Overall error³

< 1.5 % of full scale⁴

Deviation from characteristic

≤ 0.5 % of full scale (limit point setting)

Burden error

< 0.5 %

Zero offset

≤ 0.3 %

Thermal hysteresis

(within compensated range -20 to +80 °C)
 ≤ ±0.8 %

Step response

for current output ≤ 3 msec
 for voltage output: ≤ 10 msec

Long-term stability per year

≤ 1 %

Supply voltage

DC 10 to 30 V (for outputs 4 to 20 mA
 and 1 to (5)6 V)
 DC 5 V ±0.5 V (for output 0.5 to 4.5 V)
 DC 11.5 to 30 V (for output 0 to 10 V)
 Ripple: the voltage peaks must not go
 outside the limits specified for the supply.
 Max. current drawn: approx. 25 mA

Supply voltage error

≤ 0.02 % per V
 (nominal supply voltage DC 24 V)
 ratiometric with output 0.5 to 4.5 V

Operating temperature

Ambient: -20 to +80 °C
 Medium: -15 to +60 °C
 Storage: -40 to +80 °C

Electromagnetic compatibility (EMC)

As per DIN EN 61326
 Interference emission: Class B
 Interference immunity: to industrial
 requirements

Mechanical shock

As per DIN EN 60068-2-27
 100 g/1 msec

Mechanical vibration

As per DIN EN 60068-2-6
 ≤ 20 g at 15 to 2000 Hz

Enclosure protection

IP40 as per DIN EN 60529

Housing

Stainless steel, mat. ref. 1.4305

Process connection

See order details;
 other connections upon request

Electrical connection

4-pole terminal block, grid dim. 5 mm
 Conductor cross-section:
 rigid 0.2 to 4 mm²
 flexible 0.2 to 2.5 mm²
 Stripped length: 8 mm
 Screw terminals

Operating position

Unrestricted

Mounting

Snaps onto DIN rail, 35 mm to DIN EN 60715

Weight

100 g

¹ Depending on the process connection and pressure line used by the customer, the overload limits or bursting pressure may deviate from the assured values.

² The customer must check the compatibility with the medium being measured.

³ The overall error includes errors due to linearity, hysteresis, reproducibility and temperature drift within the range from -20 to +80 °C.

⁴ From end value

Approvals and approval marks (see technical data)



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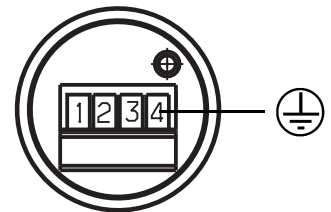


Approvals and approval marks

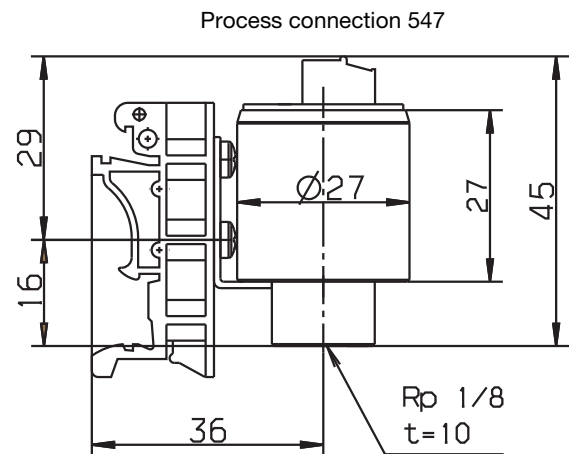
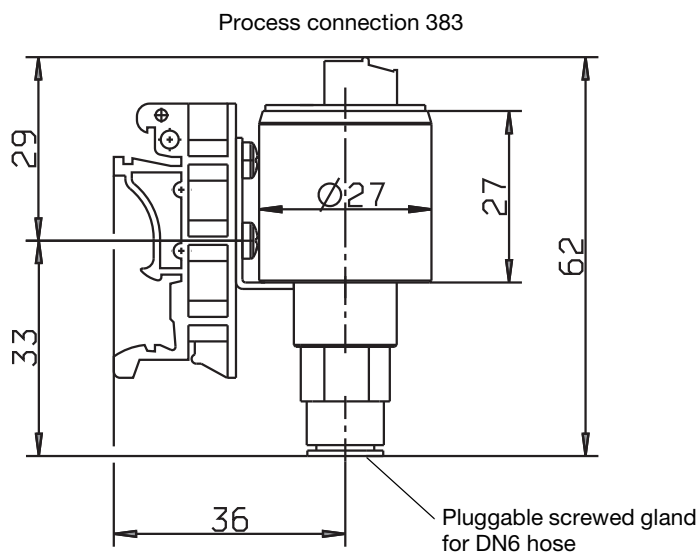
EAC	Testing agency	«Промтехконтроль»
	Certificates/certification numbers	EAЭС N RU Д-DE.РА01.В.80830/21
	Inspection basis	TR TS 020/2011
	Valid for	Type 401009

Electrical connection

Connection		Terminal assignment
		Terminal block
Supply (with output) DC 10 to 30 V DC 11.5 to 30 V DC 5 V	(1 to (5)6 V) (0 to 10 V) (0.5 to 4.5 V)	1 L+ 2 L-
Output 1 to (5)6 V 0 to 10 V 0.5 to 4.5 V		2 - 3 +
Supply (with output) DC 10 to 30 V	(4 to 20 mA, 2-wire)	1 L+ 2 L-
Output 4 to 20 mA, 2-wire		1 + 2 - Proportional 4 to 20 mA current in supply
PE (protective earth conductor)		4



Dimensions



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Order details

- 401009 **(1) Basic type**
 JUMO MIDAS DR – Pressure transmitter for control cabinet
- (2) Basic type extensions**
- /000 None
- /999 Special version
- (3) Input for gauge pressure**
- 455 0 to 1.6 bar
- 456 0 to 2.5 bar
- 457 0 to 4 bar
- 458 0 to 6 bar
- 459 0 to 10 bar
- 460 0 to 16 bar
- 479 -1 to 0.6 bar
- 480 -1 to 1.5 bar
- 481 -1 to 3 bar
- 482 -1 to 5 bar
- 483 -1 to 9 bar
- 484 -1 to 15 bar
- 999 Special measuring range
- (4) Output**
- 405 4 to 20 mA, 2-wire
- 412 0.5 to 4.5 V, 3-wire
- 415 0 to 10 V, 3-wire
- 418 1 to 5 V, 3-wire
- 420 1 to 6 V, 3-wire
- (5) Process connection**
- 383 DN6 pluggable screwed gland for pipe/hose 6x4, DN6¹
- 547 Rp 1/8 internal
- (6) Housing material**
- 20 Stainless steel
- (7) Seal material**
- 601 FPM
- 999 Special material
- (8) Electrical connection**
- 06 4-pole terminal block
- (9) Extra codes**
- 000 None

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)								
Order code																	
Order example	401009	/	000	-	459	-	405	-	383	-	20	-	601	-	06	/	000

¹ Only suitable for negative gauge pressure (partial vacuum) up to -0.95 bar.