

JUMO GmbH & Co. KG

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JUMO Instrument Co. Ltd.

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JUMO Process Control, Inc.

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JUMO MIDAS DR OEM-Pressure Transmitter - 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 (Al_2O_3) 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 16 086 and EN 60770

Measuring ranges

see order details

Overload limit¹

for the pressure transmitter

0 – 16 bar 3 x full scale

Bursting pressure¹

for the pressure transmitter

0 – 16 bar ≤ 5 x full scale

Parts in contact with medium²

as standard: st. steel, Mat.Ref. 1.4305
 Al_2O_3 96%
pluggable screwed gland brass (CuZn)
seal: FPM

Output

4 – 20 mA
2-wire burden $\leq (U_B - 10 V) / 0.02A$
0.5 – 4.5 V
ratiometric burden $\geq 20 k\Omega$
1 – (5)6 V burden $\geq 10 k\Omega$
0 – 10 V burden $\geq 10 k\Omega$

Overall error³

$< 1.5\%$ of full scale⁴

Deviation from characteristic

$\leq 0.5\%$ of full scale
(limit point setting)

Burden error

$< 0.5\%$

Zero offset

$\leq 0.3\%$

Thermal hysteresis

(within compensated range -20 to $+80^\circ C$)
 $\leq \pm 0.8\%$

Step response

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

Long-term stability per year

$\leq 1\%$

Supply voltage

10 – 30 V DC (for outputs 4 – 20 mA
and 1 – (5)6 V)

5 V DC ± 0.5 V (for output 0.5 – 4.5 V)

11.5 – 30 V DC (for output 0 – 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

$\leq 0.02\%$ per V
(nominal supply voltage 24 V DC)
ratiometric with output 0.5 – 4.5 V

Operating temperature

ambient: -20 to $+80^\circ C$

medium: -15 to $+60^\circ C$

storage: -40 to $+80^\circ C$

Electromagnetic compatibility (EMC)

as per EN 61 326

interference emission: Class B

Interference immunity: to industrial
requirements

Mechanical shock

as per EN 60068-2-27
100 g/1 msec

Mechanical vibration

as per EN 60068-2-6
 ≤ 20 g at 15 – 2000 Hz

Enclosure protection

IP40 as per EN 60 529

Housing

stainless steel, Mat. Ref. 1.4305

Process connection

see order details;
other connections on request

Electrical connection

4-pole terminal block, grid dim. 5 mm
conductor cross-section:

rigid 0.2 – 4 mm²

flexible 0.2 – 2.5 mm²

stripped length: 8mm

screw terminals

Operating position

unrestricted

Mounting

snaps onto DIN rail
35 mm to EN 60 715

Weight

100 gm

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 $+80^\circ C$.

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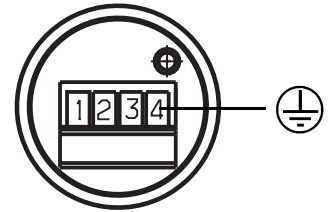
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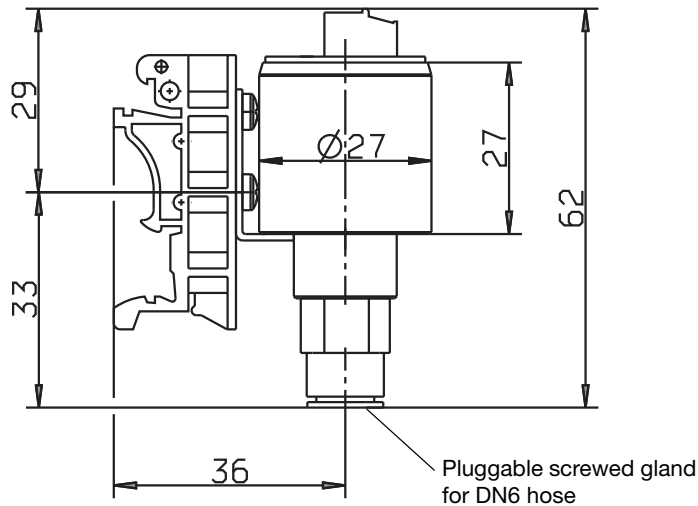
Electrical connection

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

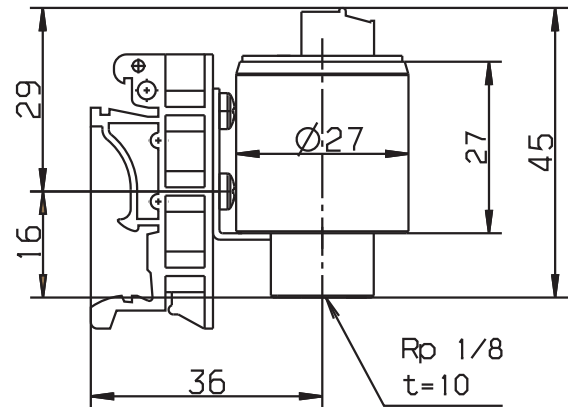


Dimensions

Process connection 383



Process connection 547



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Order details

- 401009 **(1) Basic type**
JUMO MIDAS DR OEM-Pressure transmitter - Cabinet
- /000 **(2) Basic type extensions**
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.