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# JUMO MIDAS DR Pressure Transmitter for cabinet mounting

## 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 limit<sup>1</sup>

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

### Bursting pressure<sup>1</sup>

for the pressure transmitter  
 0 – 16 bar  $\leq 5$  x full scale

### Parts in contact with medium<sup>2</sup>

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 error<sup>3</sup>

$< 1.5\%$  of full scale<sup>4</sup>

### 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  $\leq 3$  msec  
 for voltage output:  $\leq 10$  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  $\pm 0.5$  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  
 $\leq 20$  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 mm<sup>2</sup>

flexible 0.2 – 2.5 mm<sup>2</sup>

stripped length: 8mm

screw terminals

### Operating position

unrestricted

### Mounting

snaps onto DIN rail  
 35 mm to EN 60 715

### Weight

100 gm

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

<sup>2</sup> The customer must check the compatibility with the medium being measured.

<sup>3</sup> 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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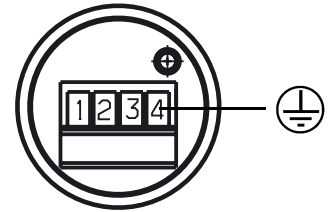
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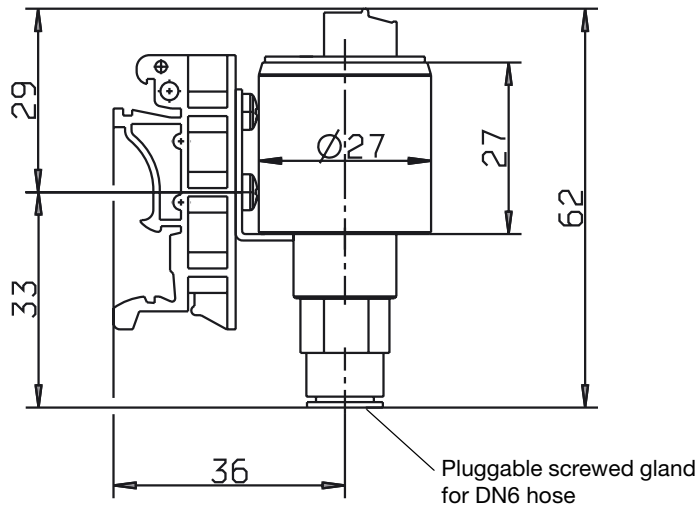
**Electrical connection**

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

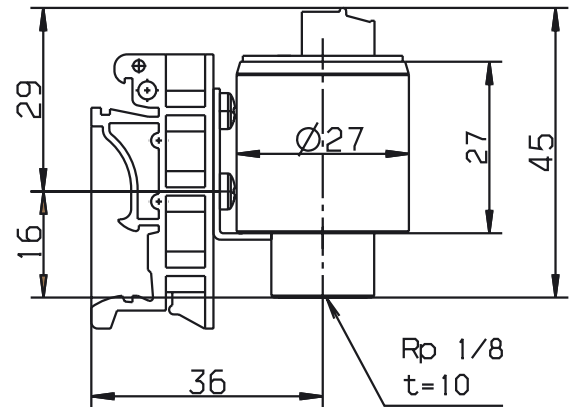


**Dimensions**

Process connection 383



Process connection 547



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## Order details

- 401009 **(1) Basic type**  
JUMO MIDAS DR Pressure transmitter
- (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, DN6<sup>1</sup>  
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)								
<b>Order code</b>																	
<b>Order example</b>	401009	/	000	-	459	-	405	-	383	-	20	-	601	-	06	/	000

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