

## 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 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

pluggable screwed gland  $Al_2O_3$  96%

seal: brass (CuZn) FPM

#### Output

4 – 20 mA

2-wire burden  $\leq (U_B - 10 V) / 0.02 A$

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

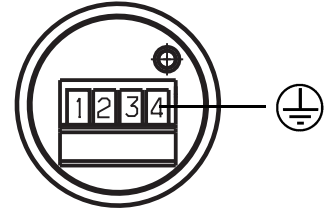
<sup>1</sup> Depending on the process connection and pressure line used by the customer, the overload limits or bursting pressure may deviate from the assured values.

<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  $+80^\circ C$ .

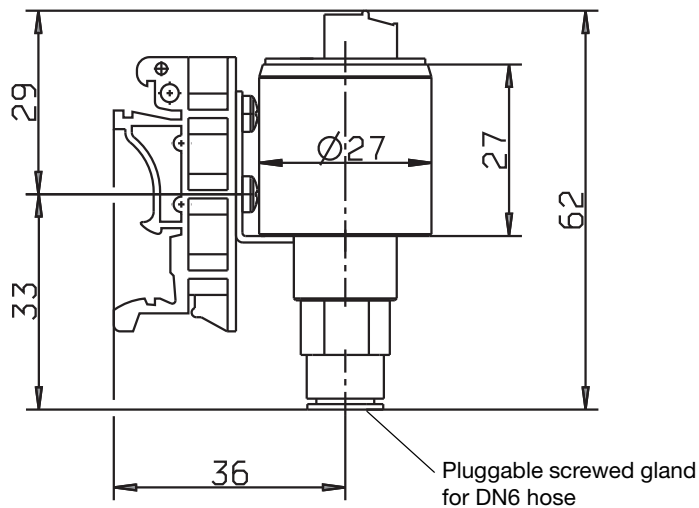
## Electrical connection

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

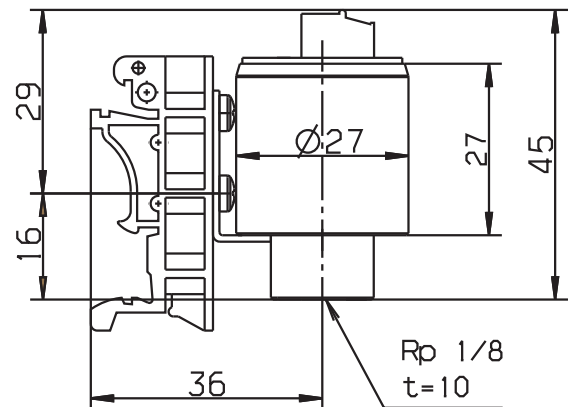


## Dimensions

Process connection 383



Process connection 547





## Order details

401009	<b>(1) Basic type</b> JUMO MIDAS DR OEM-Pressure transmitter - Cabinet
	<b>(2) Basic type extensions</b>
/000	none
/999	special version
	<b>(3) Input for gauge pressure</b>
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
	<b>(4) Output</b>
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
	<b>(5) Process connection</b>
383	DN6 pluggable screwed gland for pipe/hose 6x4, DN6 <sup>†</sup>
547	Rp 1/8 internal
	<b>(6) Housing material</b>
20	stainless steel
	<b>(7) Seal material</b>
601	FPM
999	special material
	<b>(8) Electrical connection</b>
06	4-pole terminal block
	<b>(9) Extra codes</b>
000	none

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Order code	<input type="text"/>	/ <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	/ <input type="text"/>
Order example	401009	/ 000	- 459	- 405	- 383	- 20	- 601	- 06	/ 000

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