



Pressure transmitter

JUMO MIDAS

Type 401001

Brief description

Pressure transmitters are used for measuring the relative (gauge) pressure in liquids and gases. The pressure transmitter incorporates a thick-film strain gauge as a measuring device. The pressure sensor has an aluminium-oxide (Al₂O₃) ceramic base material. The pressure is converted into an electrical signal.

Technical data

Reference conditions

to DIN 16 086 and IEC 770/5.3

Ranges

see order details

Overload limits

for ranges

0 – 40 bar 3 x full scale

ranges

0 – 60 to 0 – 100 bar 2 x full scale

Bursting pressure

ranges 0 – 40 bar ≤ 5 x full scale

ranges

0 – 60 to 0 – 100 bar 3 x full scale

Parts in contact with medium

standard: st. steel, Mat. Ref. 1.4305,
(Al₂O₃) 96%

seal: Viton®(FPM) or Isolast®(FFPM)
or Neoprene® (CR)

Output

4 – 20 mA

2-wire burden ≤ (U_B-10 V) / 0.02A

0.5 – 4.5 V burden ≥ 20 kΩ

1 – (5)6 V burden ≥ 10 kΩ

0 – 10 V burden ≥ 10 kΩ

Burden error

< 0.5% max.

Zero offset

≤ 0.3% of full scale

Thermal hysteresis

≤ ± 0.8% of full scale

Ambient temperature error

within range -20 to +85°C
(compensated temperature range)

zero: ≤ 0.02%/°C typical,
≤ 0.04%/°C max.

span: ≤ 0.02%/°C typical,
≤ 0.04%/°C max.

Deviation from characteristic

≤ 0.5% of full scale
(limit point adjustment)

Hysteresis

≤ 0.2% of full scale

Repeatability

≤ 0.1% of full scale

Response time

≤ 3 msec max.

Stability per year

≤ 1% of full scale

Supply

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

5 V DC (for output 0.5 – 4.5 V)

11.5 – 30 V DC (for output 0 – 10 V)

Ripple: the voltage spikes must not go
above or below the values specified for the
supply

max. current drawn: approx. 25 mA

Supply voltage error

≤ 0.02% per V
(nominal supply voltage 24 V DC)
ratiometric with supply 5 V DC (±0.5 V)

Permissible ambient temperature

for version with plug:
-20 to +125°C
for version with attached cable:
-20 to +100°C

Storage temperature

-40 to +125°C
for version with attached cable
-20 to +100°C

Permissible temperature of medium

-30 to +125°C

Electromagnetic compatibility (EMC)

to EN 61 326

Mechanical shock

(to IEC 68-2-27)
100 g/1 msec

Mechanical vibration

(to IEC 68-2-6)
20 g max. at 15 – 2000 Hz



Type 401001/000-xxx-xxx-xx-xxx-61



Type 401001/000-xxx-xxx-xx-xxx-36

Protection

with terminal box
IP65 to EN 60 529
(diameter of connecting cable
5 mm min., 7 mm max.)
with connecting cable or
circular connector M 12 x 1
IP67 to EN 60 529

Housing

stainless steel, Mat. Ref. 1.4305
EPDM

Pressure connection

see order details;
other connections on request

Electrical connection

see order details
 terminal box to DIN 43 650, style A,
 conductor cross-section up to 1.5 mm²
 or
 attached 4-core PVC cable, length 0.5 m,
 other lengths on request
 or
 4-pole circular connector, M12x1

Nominal position

any

Weight

100 g

Electrical connection

Connection			Terminal box	Terminals Cable	M12x1
Supply	(with output)		1 L+	white	1+
10 – 30 V DC	(1 – 5)6 V		2 L-	brown	2-
11.5 – 30 V DC	(0 – 10 V)				
5 V DC	(0.5 – 4.5 V)				
Output			2 -	brown	2-
1 – (5)6 V			3 +	yellow	3+
0 – 10 V					
0.5 – 4.5 V					
Supply	(with output)		1 L+	white	1+
10 – 30 V DC	(4 – 20 mA, 2-wire)		2 L-	brown	3-
Output	4 – 20 mA, 2-wire		1 +	white	1+
			2 -	brown	3-
			proportional current 4 – 20 mA in supply		

Terminal assignment

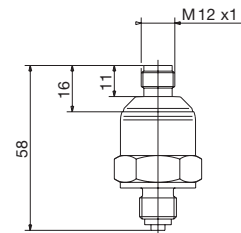
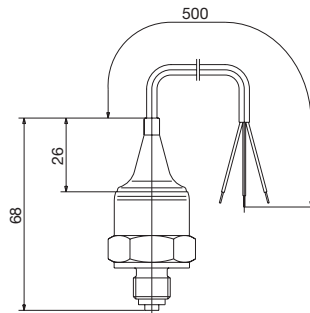
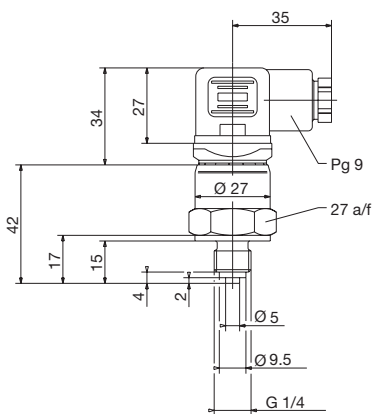


Dimensions

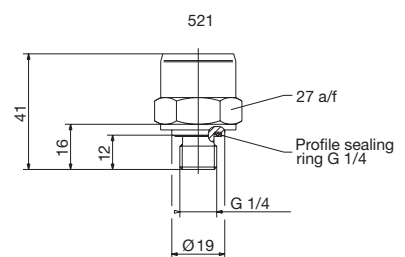
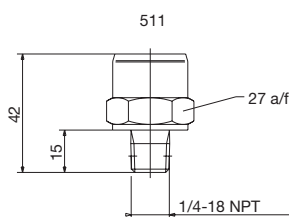
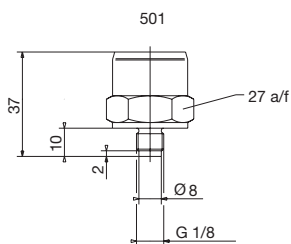
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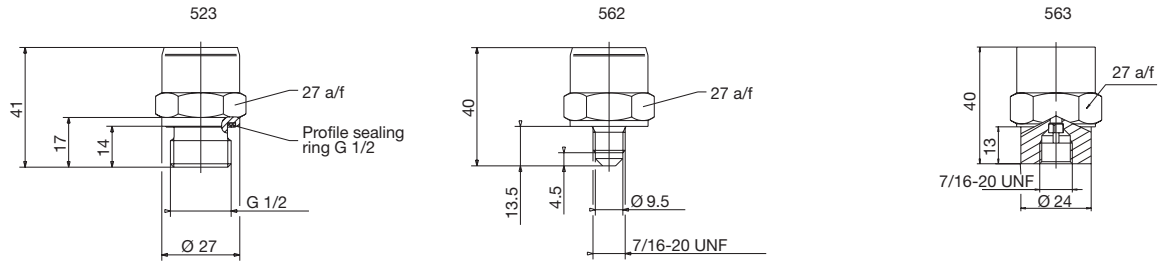
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Process connections



Process connections



Order details

Basic type

401001 Pressure transmitter JUMO MIDAS

Basic type extensions

- /000 none
- /999 special version

Input

- 455 0 1.6 bar gauge pressure
- 456 0 2.5 bar gauge pressure
- 457 0 4 bar gauge pressure
- 458 0 6 bar gauge pressure
- 459 0 10 bar gauge pressure
- 460 0 16 bar gauge pressure
- 461 0 25 bar gauge pressure
- 462 0 40 bar gauge pressure
- 463 0 60 bar gauge pressure
- 464 0 100 bar gauge pressure
- 479 -1 0.6 bar gauge pressure
- 480 -1 1.5 bar gauge pressure
- 481 -1 3 bar gauge pressure
- 482 -1 5 bar gauge pressure
- 483 -1 9 bar gauge pressure
- 484 -1 15 bar gauge pressure
- 485 -1 24 bar gauge pressure
- 999 special range

Output

- 405 4 – 20 mA 2-wire
- 412 0.5 – 4.5 V 3-wire
- 415 0 – 10 V 3-wire
- 418 1 – 5 V 3-wire
- 420 1 – 6 V 3-wire

Process connection (not front-flush)

- 501 G 1/8 to EN 837
- 502 G 1/4 to EN 837
- 511 1/4-18 NPT to EN 837
- 521 G 1/4 to DIN 3852 T11
- 523 G 1/2 to DIN 3852 T11
- 562 7/16 UNF
- 563 7/16 internal UNF, with valve seating

Material of process connection

- 20 stainless steel
- 46 brass (on request)

							Material for seal
							601 Viton® (FPM)
							602 Neoprene® (CR)
							604 Isolast® (FFPM, material properties are similar to PTFE)
							999 special material
							Electrical connection
							11 attached cable 0.5 m
							36 circular connector M 12 x 1
							61 terminal box
							Extra Codes
							000 none
							591 throttle in pressure duct
							624 free from oil and grease

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Accessories

Designation	Sales No.
4-pole straight socket M12x1 with 2 m PVC cable	40/00404585
4-pole angled socket M12x1, with 2m PVC cable	40/00409334