



Pressure Transmitter

JUMO MIDAS HP

Type 401005

Brief description

This pressure transmitter is used for measuring the relative (gauge) pressure in liquids and gases. The pressure transmitter incorporates the thin-film strain gauge measurement principle. The pressure is converted into an electrical signal.

Technical data

Reference conditions

to DIN 16 086 and IEC 770/5.3

Measurement ranges

see Order details

Overload limit

ranges

0 – 100 bar to 0 – 250 2 x full scale
ranges

0 – 400 to 0 – 600 bar 1.5 x full scale

Bursting pressure

ranges up to 160 – 250 bar 5 x full scale
range

0 – 600 bar 3 x full scale

Parts in contact with medium

standard: stainless steel Mat. Ref. 1.4571
and 1.4542

Output

4 – 20 mA

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

0.5 – 4.5 V burden $\geq 20 \text{ k}\Omega$

1 – (5)6 V burden $\geq 10 \text{ k}\Omega$

0 – 10 V burden $\geq 10 \text{ k}\Omega$

Burden error

< 0.5% max.

Zero offset

$\leq 0.3\%$ of full scale

Thermal hysteresis

$\leq \pm 0.8\%$ of full scale

Ambient temperature error

within range -20 to +85°C

(compensated temperature range)

zero: $\leq 0.02\%/^{\circ}\text{C}$ typical,

$\leq 0.04\%/^{\circ}\text{C}$ max.

span: $\leq 0.02\%/^{\circ}\text{C}$ typical,

$\leq 0.04\%/^{\circ}\text{C}$ max.

Deviation from characteristic

$\leq 0.5\%$ of full scale

(limit setting)

Hysteresis

$\leq 0.2\%$ of full scale

Repeatability

$\leq 0.1\%$ of full scale

Settling time

$\leq 3 \text{ msec}$ max.

Stability per year

$\leq 1\%$ of full scale

Supply

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

5 V DC (output 0.5 – 4.5 V)

11.5 – 30 V DC (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

$\leq 0.02\%$ per V

(nominal supply voltage 24 V DC)

ratiometric with supply voltage

5 V DC ($\pm 0.5 \text{ V}$)

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

(as per IEC 68-2-27)

100 g/1 msec

Mechanical vibration

(to IEC 68-2-6)

20 g max. at 15 – 2000 Hz



Type 401005/000-xxx-xxx-xxx-xx-61/000



Type 401005/000-xxx-xxx-xxx-xx-61/000

Enclosure 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 M12 x 1
IP67 to EN 60 529

Housing

stainless steel, Mat. Ref. 1.4571

PBT

Pressure connection
see Order details;
other connections on request

Nominal position
unrestricted

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 M12 x 1

Weight
100 g

Electrical connection

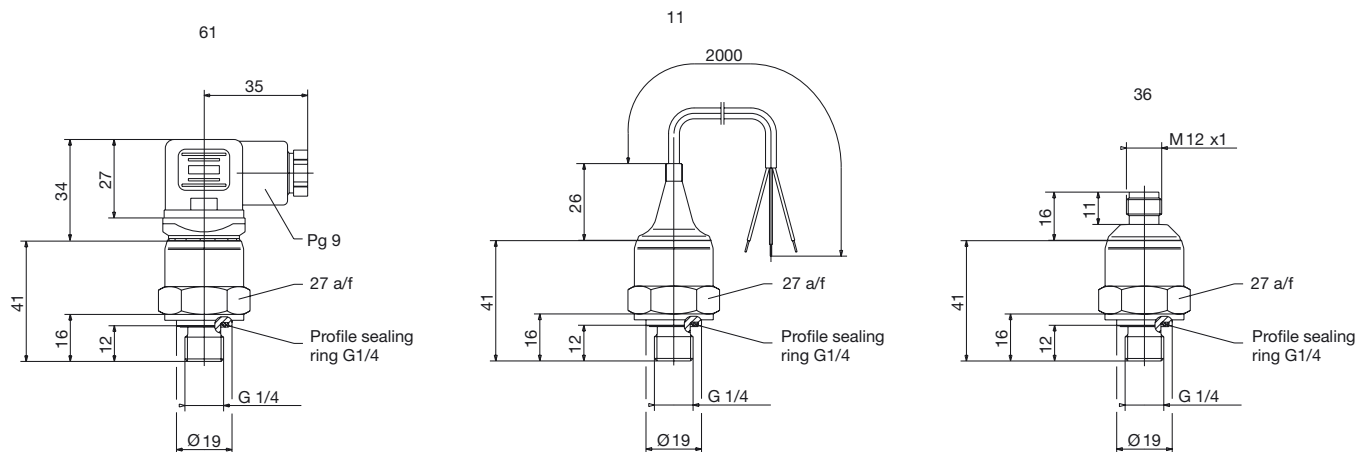
Connection		Terminals		
		Terminal box	Cable	M12x1
Supply (for output) 10 – 30 V DC (1 – (5)6 V) 11.5 – 30 V DC (0 – 10 V) 5 V DC (0.5 – 4.5 V)		1 L+ 2 L-	white brown	1+ 2-
Output 1 – (5)6 V 0 – 10 V 0.5 – 4.5 V		2 - 3 +	brown yellow	2- 3+
Supply (for output) 10 – 30 V DC (4 – 20 mA, 2-wire)		1 L+ 2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

Pin assignment

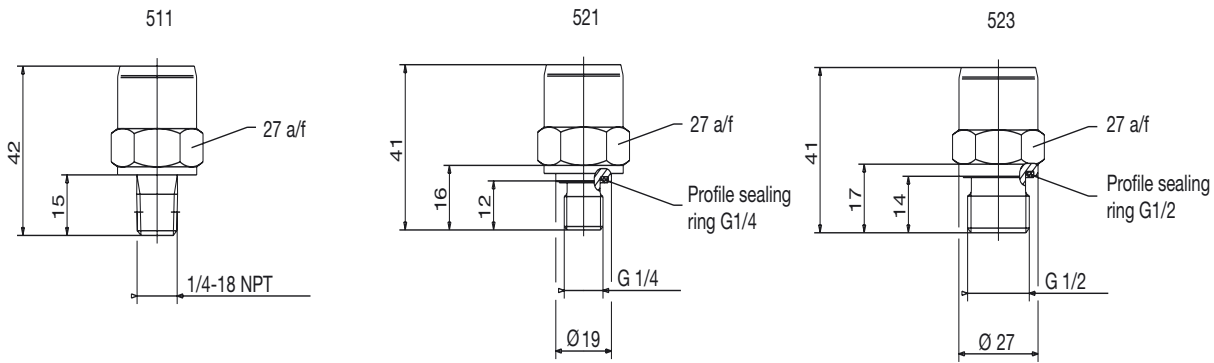


Dimensions

Electrical connection



Process connections



Order details

Basic type

401005 Pressure transmitter JUMO MIDAS

Basic type extension

- | /000 none
- | /999 special version

Input

- | | 464 0 – 100 bar gauge pressure
- | | 465 0 – 160 bar gauge pressure
- | | 466 0 – 250 bar gauge pressure
- | | 467 0 – 400 bar gauge pressure
- | | 468 0 – 600 bar gauge pressure
- | | 999 special range

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

Process connection (not front-flush)

- | | | | 511 1/4-18 NPT to EN 837
- | | | | 521 G 1/4 to DIN 3852 T11
- | | | | 523 G 1/2 to DIN 3852 T11

Material of process connection

- | | | | | 20 stainless steel

Electrical connection

- | | | | | 11 attached cable 2 m
- | | | | | 36 circular connector M12 x 1
- | | | | | 61 terminal box

Extra Codes

- | | | | | | 000 none
- | | | | | | 591 throttle in pressure duct

401005 / [] - [] - [] - [] - [] - [] / [] **Order code**

Accessories

Designation

- 4-pole straight socket M12x1 with 2m PVC cable
- 4-pole angled socket M12x1 with 2 m PVC cable

Sales No.

- 40/00404585
- 40/00409334