



# 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



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##### 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 mm<sup>2</sup>;  
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**

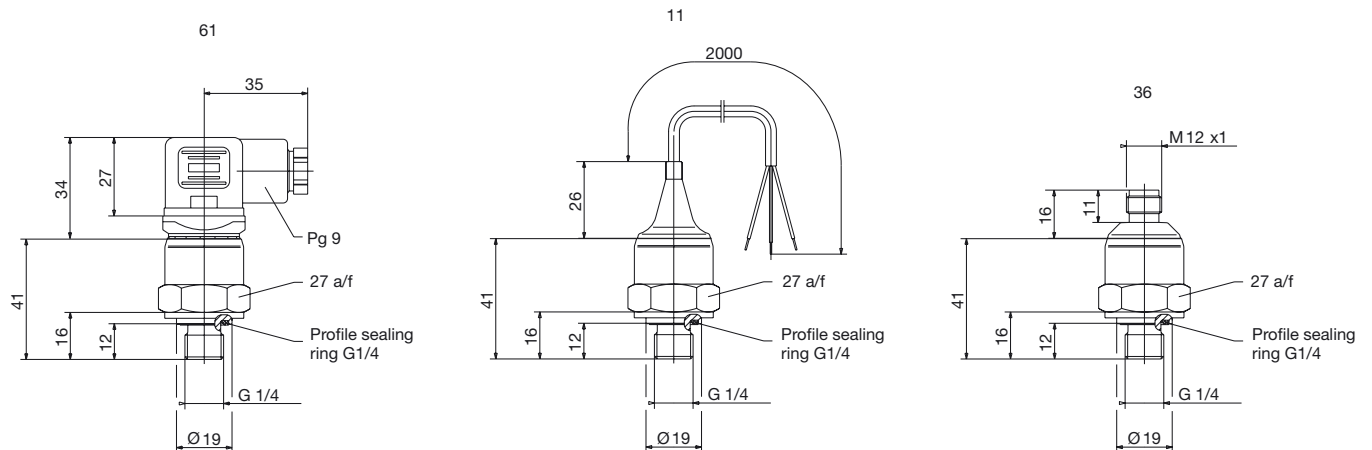
Connection		Terminals		
		Terminal box	Cable	M12x1
Supply (for output) 10 – 30 V DC (1 – (5)6 V) 11.5 – 30 V DC (0 – 10 V) 5 V DC (0.5 – 4.5 V)		1 L+ 2 L-	white brown	1+ 2-
Output 1 – (5)6 V 0 – 10 V 0.5 – 4.5 V		2 - 3 +	brown yellow	2- 3+
Supply (for output) 10 – 30 V DC (4 – 20 mA, 2-wire)		1 L+ 2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

**Pin assignment**

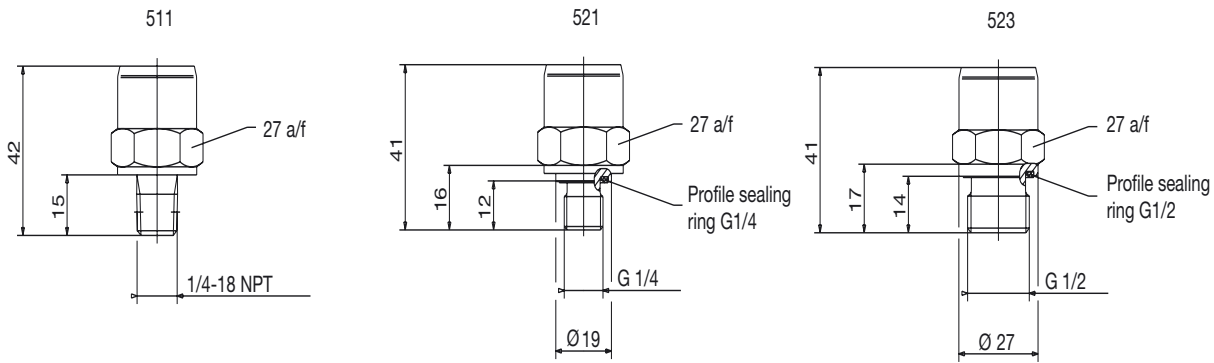


**Dimensions**

**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
- | | | | | | 519 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