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JUMO Instrument Co. Ltd.
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JUMO Process Control, Inc.
 8 Technology Boulevard
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JUMO MIDAS HP OEM-Pressure Transmitter - High pressure

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

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

Bursting pressure

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

0 to 600 bar 3 x full scale

Parts in contact with medium

standard: stainless steel Mat. Ref. 1.4571
 and 1.4542

Output

4 to 20 mA

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

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

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

0 to 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 to 30 V DC (output 4 to 20 mA and
 1 to (5)6 V)

5 V DC (output 0.5 to 4.5 V)

11.5 to 30 V DC (output 0 to 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 to 2000 Hz



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



Type 401005/000-xxx-xxx-xxx-xx-36/000

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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

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 2 m
other lengths on request
or 4-pole circular connector M12 x 1

Nominal position

unrestricted

Weight

100 g

Electrical connection

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

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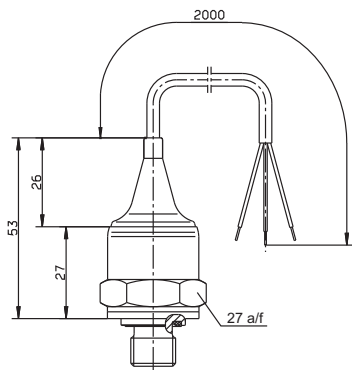
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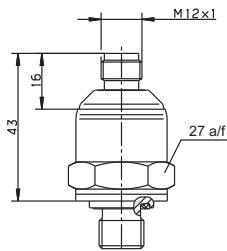


Dimensions

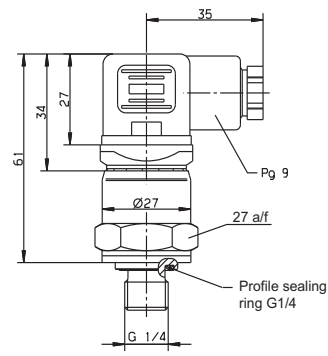
Electrical connection



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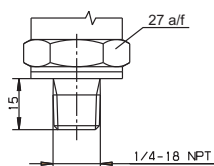
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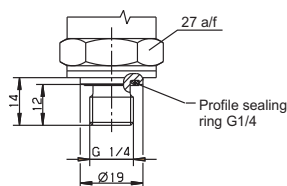
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Process connection

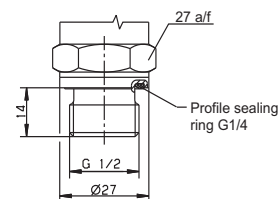
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**Order details**

- (1) Basic type**
401005 Pressure transmitter JUMO MIDAS HP
- (2) Basic type extension**
000 none
999 special version
- (3) Input**
464 0 to 100 bar gauge pressure
465 0 to 160 bar gauge pressure
466 0 to 250 bar gauge pressure
467 0 to 400 bar gauge pressure
468 0 to 600 bar gauge pressure
999 special 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 (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
- (6) Material of process connection**
20 stainless steel
- (7) Electrical connection**
11 attached cable 2 m
36 circular connector M12 x 1
61 terminal box
- (8) Extra Code**
000 none
591 throttle in pressure duct

Order code (1) (2) (3) (4) (5) (6) (7) (8)
 401005 / 000 - 466 - 405 - 523 - 20 - 11 / 000

Accessories**Designation**

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

Part No.

00404585
00409334