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JUMO Instrument Co. Ltd.
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JUMO Process Control, Inc.
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JUMO MIDAS SI OEM-Pressure Transmitter

Brief description

This pressure transmitter can be used for measuring the relative (gauge) and absolute pressures in liquids and gases. The pressure transmitter operates on the piezoresistive measuring 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

for ranges up to
 0 – 25 bar 3 x full scale

Bursting pressure

for ranges up to
 0 – 25 bar ≤ 4 x full scale

Parts in contact with medium

standard: stainless steel, Mat. Ref. 1.4571,
 1.4435

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 signal deviation

≤ 0.3% of full scale

Thermal hysteresis

≤ ± 0.5% of full scale
 (within compensated temperature range)
 ≤ ± 1% for ranges
 0 – 250 mbar
 0 – 400 mbar
 0 – 600 mbar

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

≤ 0.1% of full scale

Repeatability

≤ 0.05% of full scale

Response time

≤ 3 msec max.

Stability over 1 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 out-
 side the limits 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 connector:
 -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



Type 401006/000-xxx-xxx-xxx-20-61



Type 401006/000-xxx-xxx-xxx-20-36

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

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Protection

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

Housing

stainless steel, Mat. Ref. 1.4301
 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, 0.5 m long,
 other lengths on request
 or 4-pole circular connector
 M 12 x 1

Nominal position

unrestricted

Weight

120 gm

Electrical connection

Connection		Terminal assignment		
		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 4 to 20 mA current in supply				

Pin assignment



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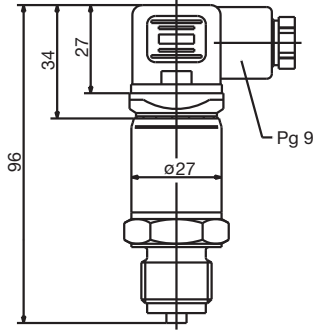
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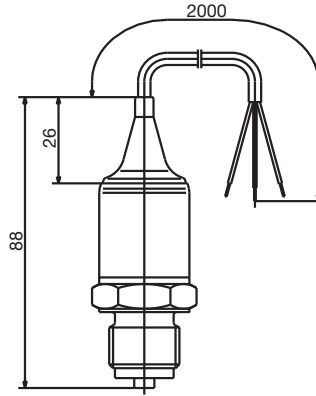


Dimensions

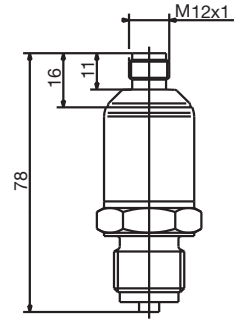
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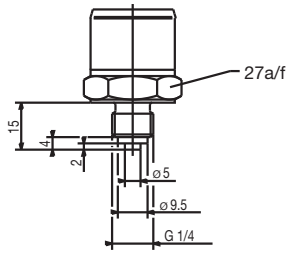


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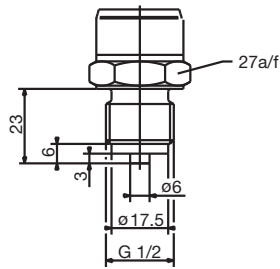


Process connections

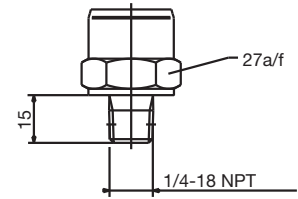
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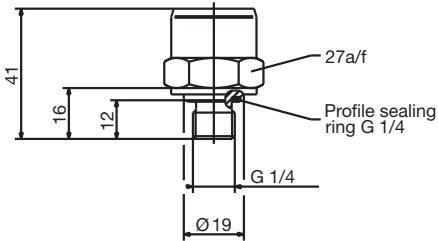
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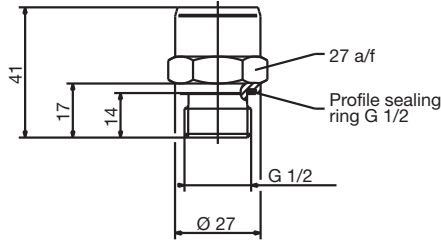
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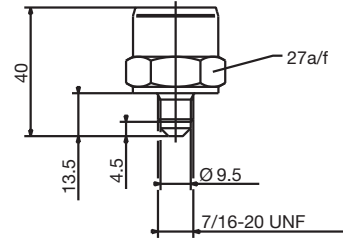
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523



562



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Order details

Basic type

401006 Pressure transmitter JUMO MIDAS SI

Basic type extension

/000 none
 /999 special version

Input

451 0 0.25 bar gauge pressure
 452 0 0.4 bar gauge pressure
 453 0 0.6 bar gauge pressure
 454 0 1.0 bar gauge pressure
 455 0 1.6 bar gauge pressure
 478 -1 0 bar gauge pressure
 479 -1 0.6 bar gauge pressure
 487 0 0.6 bar absolute pressure
 488 0 1.0 bar absolute pressure
 489 0 1.6 bar absolute pressure
 490 0 2.5 bar absolute pressure
 491 0 4 bar absolute pressure
 492 0 6 bar absolute pressure
 493 0 10 bar absolute pressure
 494 0 16 bar absolute pressure
 495 0 25 bar absolute pressure
 998 special absolute pressure range
 999 special gauge pressure 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)

502 G 1/4 to EN 837
 504 G 1/2 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

Material of process connection

20 stainless steel

Electrical connection

11 by attached cable 2 m
 36 by circular connector M 12 x 1
 61 by terminal box

Extra codes

000 none
 591 Restrictor in pressure channel

401006 / [] - [] - [] - [] - [] - [] / [] Order code

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