D-42607 Solingen
D-42659 Solingen
Phone +49 212 81 40 45-46
e-Mail: mail@juchheim-solingen.de
Internet: www.juchheim-solingen.de

Postfach 10 07 08
Ritterstr. 87-89
Fax +49 212 81 55 00

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Temperatur · Druck · Feuchte

Pressure transmitter MIDAS

Type 401001

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

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

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 (Al_2O_3) 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, (Al_2O_3) 96%
seal: Viton®(FPM) or Isolast®(FFPM)

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

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 mm^2
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

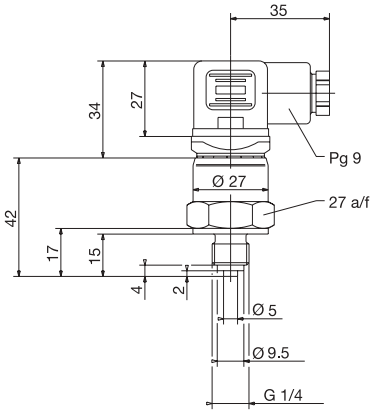
Electrical connection

Connection			Terminals		
			Terminal box	Cable	M12x1
Supply 10 — 30 V DC 11.5 — 30 V DC 5 V DC	(with output) (1 — (5)6 V) (0 — 10 V) (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 10 — 30 V DC	(with output) (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 — 20 mA in supply		

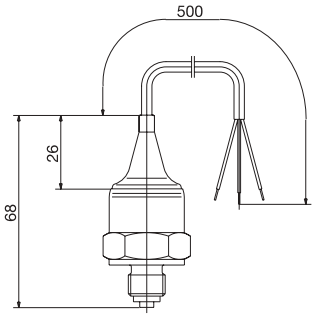
Terminal assignment

Dimensions

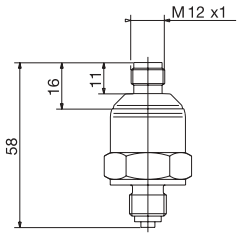
401001/000-XXX-XXX-502-20-601-61



401001/000-XXX-XXX-502-20-601-11

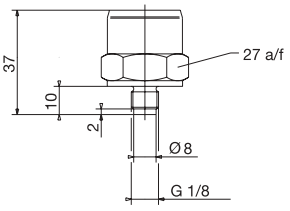


401001/000-XXX-XXX-502-20-601-36



Process connections

501



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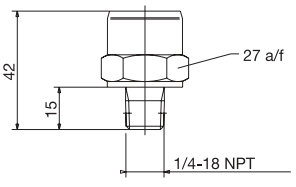

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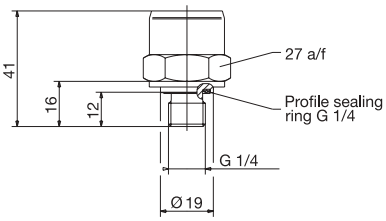
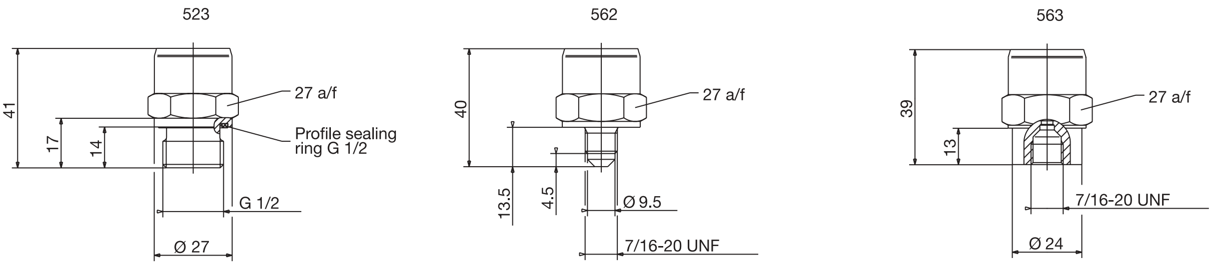


Process connections



Order details

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        Basic type
401001  Pressure transmitter 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)
  |       |     |     |     |     |    604  Isolast® (FPM, material properties are similar to PTFE)
  |       |     |     |     |     |    999  special material
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I	I	I	I	I	I	I		**Electrical connection**
I	I	I	I	I	I	I	11	attached cable 0.5 m
I	I	I	I	I	I	I	36	circular connector M 12 x 1
I	I	I	I	I	I	I	61	terminal box
I	I	I	I	I	I	I	I	

401001 / [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] **Order code**

Accessories

Designation	**Sales No.**
4-pole straight socket M12x1 with 2 m PVC cable	40/00404565
4-pole angled socket M12x1, with 2m PVC cable	40/00409334