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Pressure Transmitter

JUMO dTRANS p30

Type 404366

General application

Pressure transmitters are used to measure the relative (gauge) and absolute pressures in liquids or gases. The measuring device for the transmitter is a piezo-resistive element or a thin-film strain gauge. The pressure is converted into an electrical signal.



Technical data

Reference conditions

as per DIN 16 086 and IEC 770/5.3

Ranges

see order details

Overload limit

ranges

0 – 25 bar 3 x full scale

ranges

0 – 40 to 0 – 250 bar 2 x full scale

ranges

0 – 400 to 0 – 600 bar 1.5 full scale

Bursting pressure

ranges

0 – 40 bar ≤ 4 x full scale

ranges

0 – 60 to 0 – 100 bar 8 x full scale

ranges

0 – 160 to 0 – 400 bar 5 x full scale

ranges

0 – 600 bar 3 x full scale

Parts in contact with medium

normally:

st. steel, Mat. Ref. 1.4571 / 1.4435

for range ≥ 60 bar:

Mat. Ref. 1.4571 / 1.4542

Output

0 – 20 mA

3-wire burden ≤ (U_B-12 V) / 0.02A

4 – 20 mA

2-wire burden ≤ (U_B-10 V) / 0.02A

4 – 20 mA

3-wire burden ≤ (U_B-12 V) / 0.02A

0.5 – 4.5 V burden ≥ 50 kΩ

1 – 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

± 0.5% max. of full scale

(within compensated temperature range)

± 1% max. for ranges 0 – 250 mbar

0 – 400 mbar

0 – 600 mbar

Ambient temperature error

within range 0 to +100°C

(compensated temperature range)

for ranges 250 and 400 mbar

zero: ≤ 0.03%/°C typical,

≤ 0.05%/°C max.

span: ≤ 0.02%/°C typical,

≤ 0.04%/°C max.

for ranges above 600 mbar

zero: ≤ 0.02%/°C typical,

≤ 0.04%/°C max.

span: ≤ 0.02%/°C typical,

≤ 0.04%/°C max.

with basic type extension 024:

zero: ≤ 0.01%/°C

Deviation from characteristic

≤ 0.5% of full scale

(limit point adjustment)

with basic type extension 023:

≤ 0.2% of full scale

(limit point setting)

Hysteresis

≤ 0.1% of full scale

Repeatability

≤ 0.05% of full scale

Response time

with current output (output 402, 405 or

406):

≤ 3 msec max.

with voltage output (output 412, 415, 418

or 420):

≤ 10 msec max.

Stability per year

≤ 0.5% of full scale

Supply

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

5 V DC (output 0.5 – 4.5 V)

11.5 – 30 V DC (output 0 – 10 V)

11.5 – 30 V DC (output 0(4) – 20 mA)

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)

in proportion for supply 5 V DC (±0.5 V)

Permissible ambient temperature

-20 to +100°C

Storage temperature

-40 to +125°C

Permissible temperature of medium

-30 to +120°C

Electromagnetic compatibility

EN 61 326

interference emission: Class B

noise immunity: industrial requirements

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

(connecting cable diameter 5 mm min., 7 mm max.)

with connecting cable

IP67 to EN 60 529

with circular connector M12 x 1

P67 to EN 60 529

Housing

stainless steel, Mat. Ref. 1.4301
polycarbonate GF

Pressure connection

see order details;
other connections on request

Electrical connection

see order details
terminal box to DIN 43 650,
Form A,
conductor cross-section up to 1.5 mm²;
or
attached 4-core PVC cable, length 2 m
other lengths on request

Nominal position

unrestricted

Weight

200 g

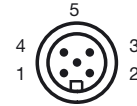
Electrical connection

| Connection | | Terminals | | |
|--|--|--------------|---|----------|
| | | Plug | Cable | M12 x 1 |
| Supply 10 – 30 V DC 11.5 – 30 V DC 5 V DC | | 1 L+ 2 L- | white grey | 1+ 3- |
| Output 1 – 6 V 0 – 10 V 0.5 – 4.5 V | | 2 - 3 + | grey yellow | 3- 4+ |
| Output 4 – 20 mA, 2-wire | | 1 + 2 - | white grey proportional current 4 to 20 mA in supply | 1+ 3- |
| Output 0(4) – 20 mA, 3-wire | | 2 - 3 + | grey yellow | 3- 4+ |
| Protective earth | | | | |
| Screen | | | black | 2 |

Caution

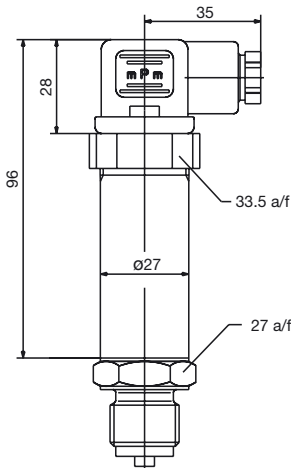
Earth instrument!
(pressure connection and / or or screen

Pin assignment M12 x 1

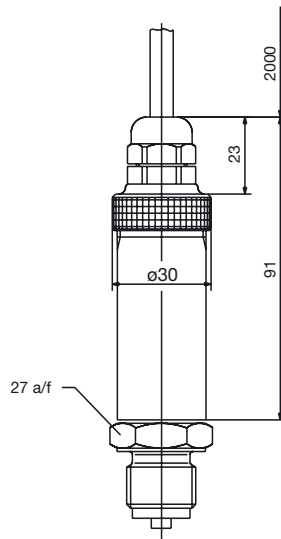


Dimensions

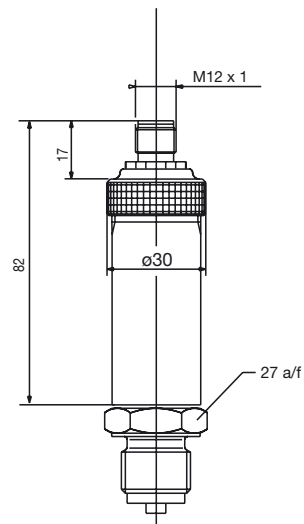
Electrical connection
with terminal box
(61)



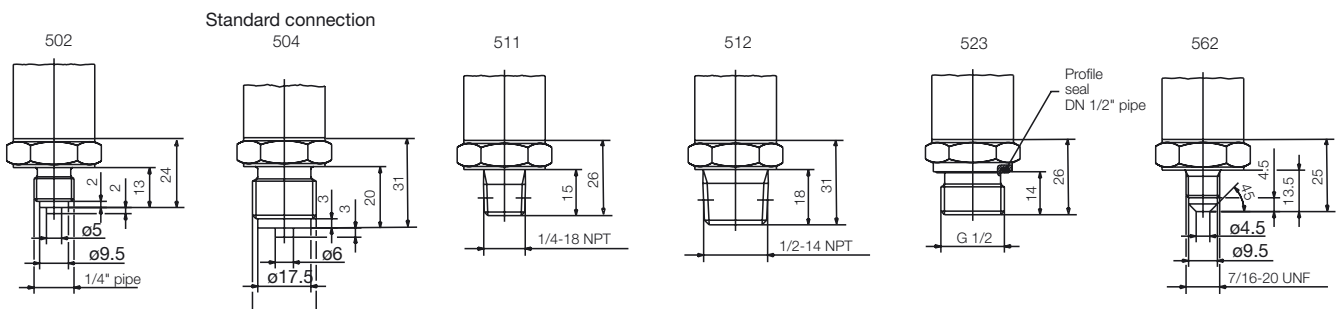
Electrical connection
with attached cable
(12)



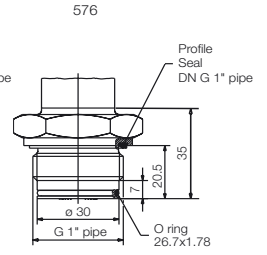
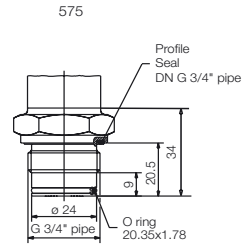
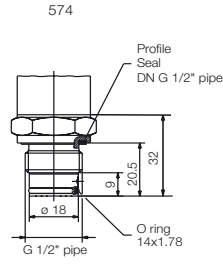
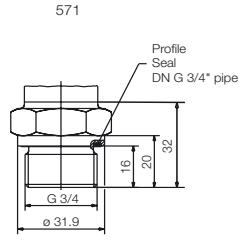
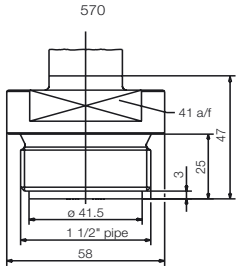
Electrical connection
with circular connector M12 x 1
(36)



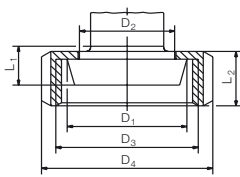
Connections (not front-flush)



Front-flush connections

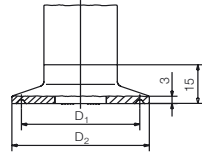


603-607
Cone nipple with slotted union nut to DIN 11 851



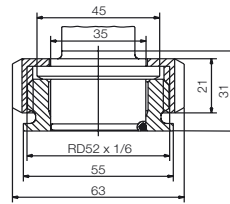
| | DN | øD ₁ | øD ₂ | øD ₃ | øD ₄ | L ₁ | L ₂ |
|--|-----|-----------------|-----------------|-----------------|-----------------|----------------|----------------|
| | 603 | 20 | 36.5 | 30 | RD 44x1/6 | 54 | 13 |
| | 604 | 25 | 44 | 35 | RD 52x1/6 | 63 | 21 |
| | 605 | 32 | 50 | 41 | RD 58x1/6 | 70 | |
| | 606 | 40 | 56 | 48 | RD 65x1/6 | 78 | |
| | 607 | 50 | 68.5 | 61 | RD 78x1/6 | 92 | |

612-616
Clamp connection to DIN 32676

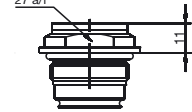


| | DN DIN 32676 | DN (Zoll) | Nominal Size ISO 2852 | øD ₁ | øD ₂ |
|--|-----------------|----------------|-----------------------------|-----------------|-----------------|
| | 612 | 20 15 | 12 12.7 17.2 21.3 | 27.5 | 34 |
| | 613 | 25 32 40 | 1" 1.5" | 33.7 38 | 43.5 50.5 |
| | 616 | 50 | 2" | 40 51 | 56.5 64 |

652



997
Suitable for the JUMO PEKA adapter system, see data sheet 40.9711



Order details

Basic type

404366 Pressure transmitter JUMO dTRANS p30

| | | |
|--|------|--|
| | | Basic type extensions |
| | /000 | none |
| | /023 | reduced deviation from characteristic ¹ |
| | /024 | reduced ambient temperature error ² |
| | /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 |
| | | 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 |
| | | 465 0 – 160 bar gauge pressure |
| | | 466 0 – 250 bar gauge pressure |
| | | 467 0 – 400 bar gauge pressure |
| | | 468 0 – 600 bar gauge pressure |
| | | 478 -1 – 0 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 |
| | | 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 range absolute pressure |
| | | 999 special range gauge pressure |
| | | Output |
| | | 402 0 to 20 mA 3-wire |
| | | 405 4 to 20 mA 2-wire |
| | | 406 4 to 20 mA 3-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 | 1/4" pipe to EN 837 |
| | | | | 504 | 1/2" pipe to EN 837 (standard connection) |
| | | | | 511 | 1/4"-18 NPT to DIN 837 |
| | | | | 512 | 1/2"-14 NPT to DIN 837 |
| | | | | 523 | 1/2" pipe to DIN 3852 T11 |
| | | | | 562 | 7/16"-20 UNF |
| | | | | 998 | suitable for connecting to pressure separator |
| | | | | | Process connection (front-flush) |
| | | | | 570 | 1 1/2" pipe ⁴ |
| | | | | 571 | 3/4" pipe ⁴ |
| | | | | 574 | 1/2" pipe with front seal ³ |
| | | | | 575 | 3/4" pipe with front seal ⁴ |
| | | | | 576 | 1" pipe with front seal ⁴ |
| | | | | 603 | taper pressure connection with slotted nut to DIN11 851, DN20 ⁴ |
| | | | | 604 | taper pressure connection with slotted nut to DIN 11 851, DN25 ⁴ |
| | | | | 605 | taper pressure connection with slotted nut to DIN 11 851, DN32 ⁴ |
| | | | | 606 | taper pressure connection with slotted nut to DIN 11 851, DN40 ⁴ |
| | | | | 607 | taper pressure connection with slotted nut to DIN 11 851, DN50 ⁴ |
| | | | | 612 | clamp pressure connection to DIN 32 676, DN20 ⁴ |
| | | | | 613 | clamp pressure connection to DIN 32 676, DN25 ⁴ , DN32 ⁴ and DN40 ⁴ |
| | | | | 616 | clamp pressure connection to DIN 32 676, DN50 ⁴ |
| | | | | 652 | tank connection with slotted union nut ⁴ |
| | | | | 997 | JUMO PEKA ⁶ |
| | | | | | Material of process connection |
| | | | | 20 | stainless steel |
| | | | | | Electrical connection |
| | | | | 12 | with attached cable (cable length in plain text) |
| | | | | 36 | with circular connector M12 x 1 |
| | | | | 61 | with terminal box |
| | | | | | Extra code |
| | | | | 000 | none |
| | | | | 591 | throttle in pressure duct ⁵ |
| | | | | 630 | enlarged pressure duct ⁵ |

404366 / [] - [] - [] - [] - 20 - [] / [] **Order code**

¹ only for 4 to 20 mA 2-wire output
 only for ranges between 0.6 and 40 bar
 not with process connection 574.
² only for spans between 4 and 25 bar
 only for output 0 to 10 V or 4 to 20 mA 2-wire or 0(4) to 20 mA 3-wire
 not with process connection 574
³ only for ranges from 1 to 400 bar
⁴ only for ranges up to 25 bar
⁵ only with process connections that are not front-flush
⁶ suitable process connection adapter, see data sheet 40.9711