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JUMO Instrument Co. Ltd.
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JUMO Process Control, Inc.
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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



Type 404366
with terminal box

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 61326

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.)

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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

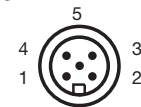
Electrical connection

Connection		Plug	Terminals 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	1+ 3-
proportional current 4 to 20 mA in supply				
Output 0(4) — 20 mA, 3-wire		2 - 3 +	grey yellow	3- 4+
Protective earth				
Screen			black	2

Caution

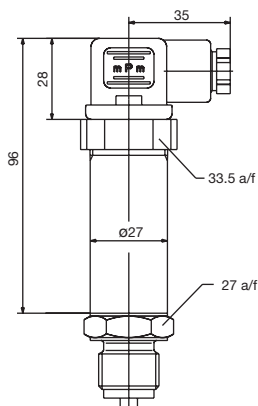
Earth instrument!
 (pressure connection and / or or screen

Pin assignment M12 x 1

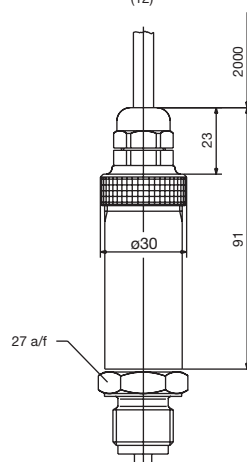


Dimensions

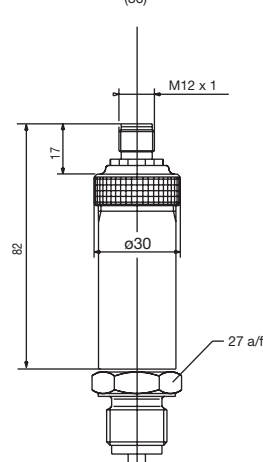
Electrical connection
 with terminal box
 (61)



Electrical connection
 with attached cable
 (12)



Electrical connection
 with circular connector M12 x 1
 (36)



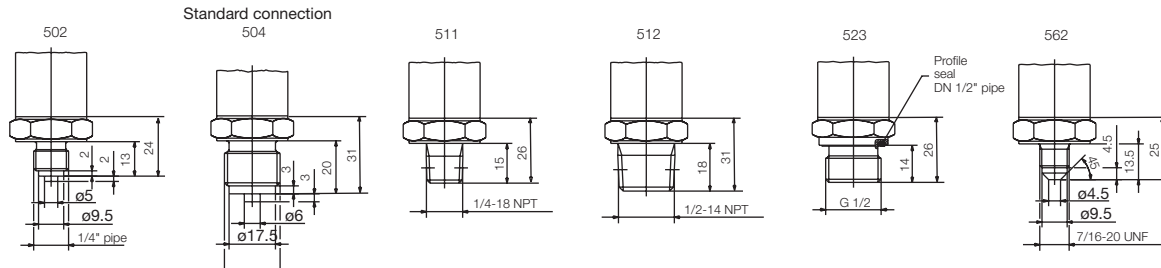
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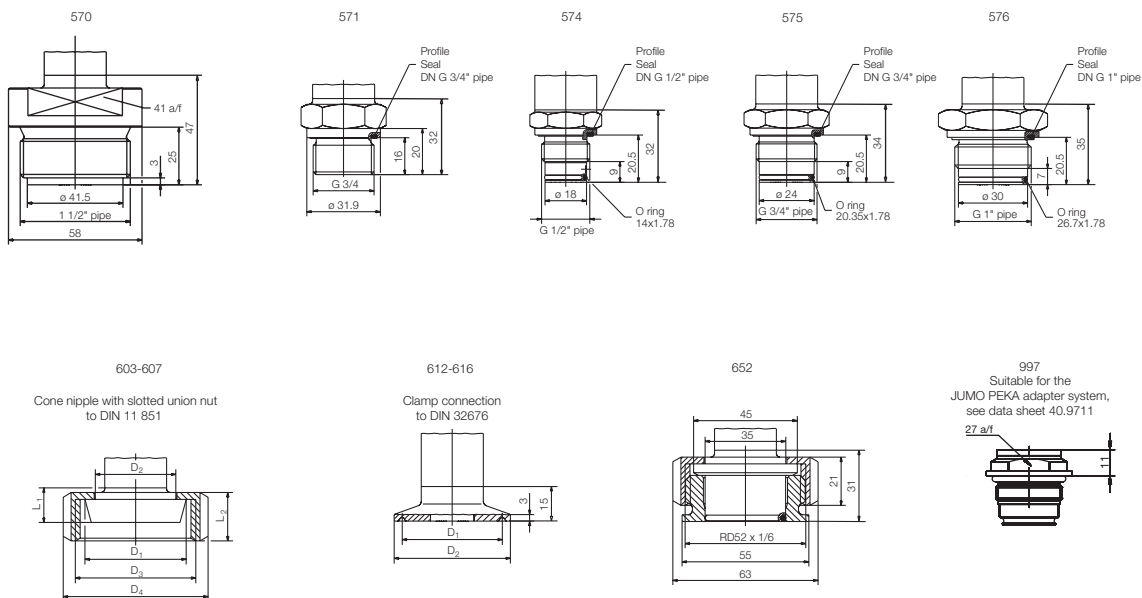
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Connections (not front-flush)



Front-flush connections



	DN	σD_1	σD_2	σD_3	σD_4	L_1	L_2
603	20	36.5	30	RD 44x1/6	54	13	21
604	25	44	35	RD 52x1/6	63	15	
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	16	22

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

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**Order details****(1) Basic type**

404366 Pressure transmitter JUMO dTRANS p30

(2) Basic type extension

/000 none
/023 reduced deviation from characteristic¹
/024 reduced ambient temperature error²
/999 special version

(3) Input gauge pressure

451 0 to 0.25 bar
452 0 to 0.4 bar
453 0 to 0.6 bar
454 0 to 1.0 bar
455 0 to 1.6 bar
456 0 to 2.5 bar
457 0 to 4 bar
458 0 to 6 bar
459 0 to 10 bar
460 0 to 16 bar
461 0 to 25 bar
462 0 to 40 bar
463 0 to 60 bar
464 0 to 100 bar
465 0 to 160 bar
466 0 to 250 bar
467 0 to 400 bar
468 0 to 600 bar
478 -1 to 0 bar
479 -1 to 0.6 bar
480 -1 to 1.5 bar
481 -1 to 3 bar
482 -1 to 5 bar
483 -1 to 9 bar
484 -1 to 15 bar
485 -1 to 24 bar
999 special range gauge pressure

(3) Input absolute pressure

487 0 to 0.6 bar
488 0 to 1.0 bar
489 0 to 1.6 bar
490 0 to 2.5 bar
491 0 to 4 bar
492 0 to 6 bar
493 0 to 10 bar
494 0 to 16 bar
495 0 to 25 bar
998 special range
999 special range absolute pressure

(4) 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

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**(5) 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

(5) Process connection (front-flush)

- 570 1 1/2" pipe⁴
- 571 3/4" pipe⁴
- 574 1/2" pipe with front seal³
- 575 3/4" pipe with front seal⁴
- 576 1" pipe with front seal⁴
- 603 taper pressure connection with slotted nut to DIN 11 851, DN20⁴
- 604 taper pressure connection with slotted nut to DIN 11 851, DN25⁴
- 605 taper pressure connection with slotted nut to DIN 11 851, DN32⁴
- 606 taper pressure connection with slotted nut to DIN 11 851, DN40⁴
- 607 taper pressure connection with slotted nut to DIN 11 851, DN50⁴
- 612 clamp pressure connection to DIN 32 676, DN20⁴
- 613 clamp pressure connection to DIN 32 676, DN25⁴, DN32⁴ and DN40⁴
- 616 clamp pressure connection to DIN 32 676, DN50⁴
- 652 tank connection with slotted union nut⁴
- 997 JUMO PEKA⁶

(6) Material of process connection

- 20 stainless steel

(7) Electrical connection

- 12 with attached cable (cable length in plain text)
- 36 with circular connector M12 x 1
- 61 with terminal box

(8) Extra code

- 000 none
- 591 throttle in pressure duct⁵
- 630 enlarged pressure duct⁵

404366 / - - - - - / 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