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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<sub>B</sub>-12 V) / 0.02A

4 – 20 mA  
 2-wire burden ≤ (U<sub>B</sub>-10 V) / 0.02A

4 – 20 mA  
 3-wire burden ≤ (U<sub>B</sub>-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 60529

(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 mm<sup>2</sup>;  
 or  
 attached 4-core PVC cable, length 2 m  
 other lengths on request

**Nominal position**  
 unrestricted

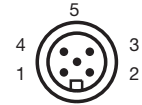
**Weight**  
 200 g

### Electrical connection

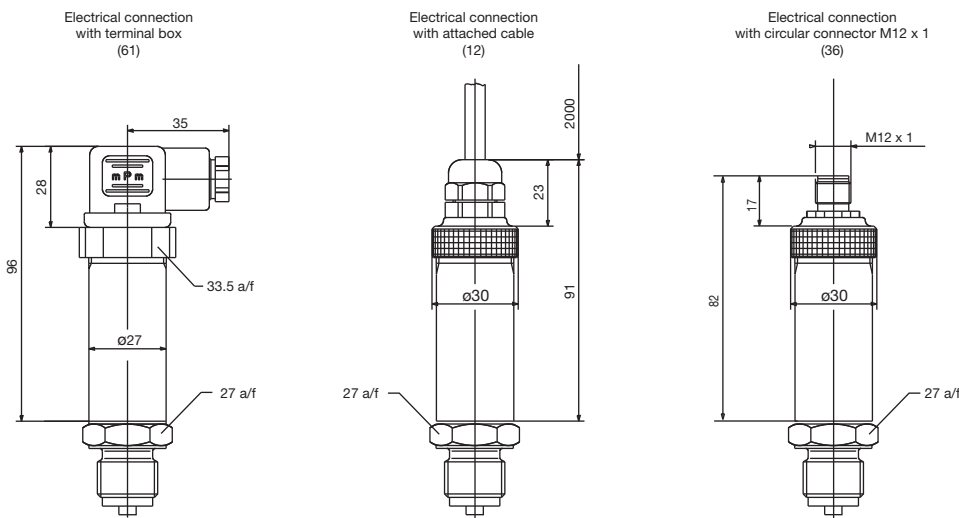
Connection		Terminals		
		Plug	Cable	M12 x 1
Supply 10 – 30 V DC 11.5 – 30 V DC 5 V DC		1 L+ 2 L-	white grey	1+ 3-
Output 1 – 6 V 0 – 10 V 0.5 – 4.5 V		2 - 3 +	grey yellow	3- 4+
Output 4 – 20 mA, 2-wire		1 + 2 -	white grey proportional current 4 to 20 mA in supply	1+ 3-
Output 0(4) – 20 mA, 3-wire		2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



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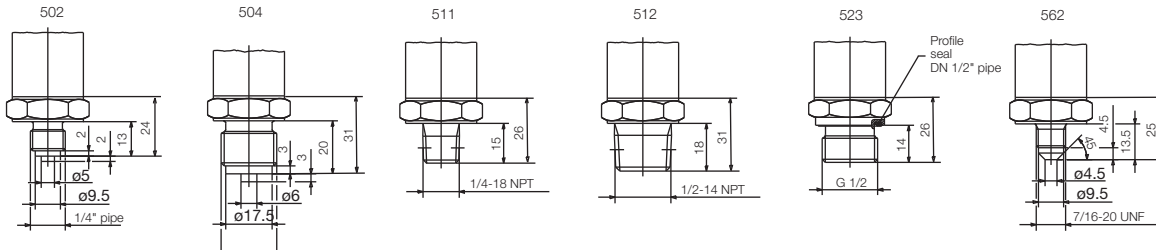
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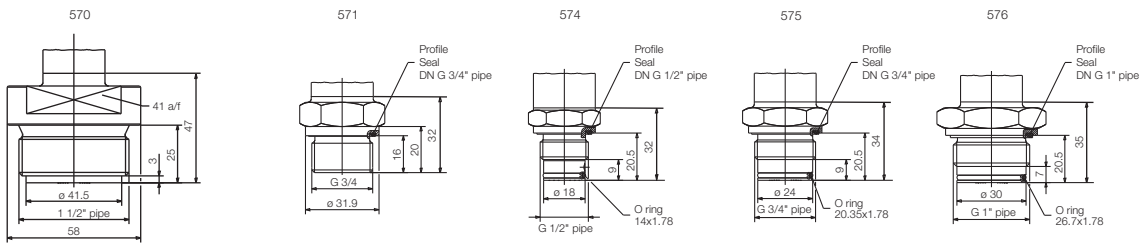


Connections (not front-flush)

Standard connection

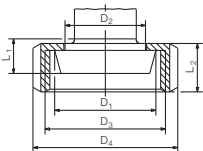


Front-flush connections



603-607

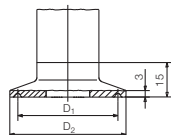
Cone nipple with slotted union nut to DIN 11 851



DN	$\phi D_1$	$\phi D_2$	$\phi D_3$	$\phi D_4$	L <sub>1</sub>	L <sub>2</sub>
603	20	36.5	30	RD 44x1/6	54	13
604	25	44	35	RD 52x1/6	63	
605	32	50	41	RD 58x1/6	70	15
606	40	56	48	RD 65x1/6	78	
607	50	68.5	61	RD 78x1/6	92	16

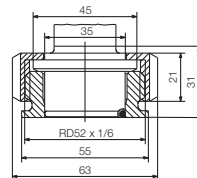
612-616

Clamp connection to DIN 32676

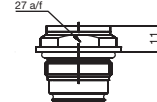


DN	DN DIN 32676	DN (Zoll)	Nominal Size ISO 2852	$\phi D_1$	$\phi D_2$
612	20	15	12	27.5	34
			12.7		
			17.2		
			21.3		
613	25	32	25	43.5	50.5
	32	1"	33.7		
	40	1.5"	38		
616	50	2"	40	56.5	64
			51		

652



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



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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 characteristic<sup>1</sup>  
/024 reduced ambient temperature error<sup>2</sup>  
/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" pipe<sup>4</sup>
- 571 3/4" pipe<sup>4</sup>
- 574 1/2" pipe with front seal<sup>3</sup>
- 575 3/4" pipe with front seal<sup>4</sup>
- 576 1" pipe with front seal<sup>4</sup>
- 603 taper pressure connection with slotted nut to DIN11 851, DN20<sup>4</sup>
- 604 taper pressure connection with slotted nut to DIN 11 851, DN25<sup>4</sup>
- 605 taper pressure connection with slotted nut to DIN 11 851, DN32<sup>4</sup>
- 606 taper pressure connection with slotted nut to DIN 11 851, DN40<sup>4</sup>
- 607 taper pressure connection with slotted nut to DIN 11 851, DN50<sup>4</sup>
- 612 clamp pressure connection to DIN 32 676, DN20<sup>4</sup>
- 613 clamp pressure connection to DIN 32 676, DN25<sup>4</sup>, DN32<sup>4</sup> and DN40<sup>4</sup>
- 616 clamp pressure connection to DIN 32 676, DN50<sup>4</sup>
- 652 tank connection with slotted union nut<sup>4</sup>
- 997 JUMO PEKA<sup>6</sup>

**(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 duct<sup>5</sup>
- 630 enlarged pressure duct<sup>5</sup>

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

- <sup>1</sup> only for 4 to 20 mA 2-wire output  
only for ranges between 0.6 and 40 bar  
not with process connection 574.
- <sup>2</sup> 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
- <sup>3</sup> only for ranges from 1 to 400 bar
- <sup>4</sup> only for ranges up to 25 bar
- <sup>5</sup> only with process connections that are not front-flush
- <sup>6</sup> suitable process connection adapter, see data sheet 40.9711