

JUMO GmbH & Co. KG
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JUMO Instrument Co. Ltd.
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JUMO Process Control, Inc.
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JUMO dTRANS p30

Pressure Transmitter

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 16086 and IEC 770/5.3

Ranges

see order details

Overload limit

ranges 0 to 25 bar

3 x full scale

ranges "0 to 40 bar" up to "0 to 250 bar"

2 x full scale

ranges "0 to 400 bar" up to "0 to 600 bar"

1.5 full scale

Bursting pressure

ranges 0 to 40 bar

≤ 4 x full scale

ranges "0 to 60 bar" up to "0 to 100 bar"

8 x full scale

ranges "0 to 160 bar" up to "0 to 400 bar"

5 x full scale

ranges 0 to 600 bar

3 x full scale

Parts in contact with medium

normally:

stainless steel, Mat. Ref. 1.4571/1.4435

for range ≥ 60 bar:

Mat. Ref. 1.4571/1.4542

Output

0 to 20 mA, three-wire,
 burden ≤ (U_B-12 V) ÷ 0.02 A

4 to 20 mA, two-wire,
 burden ≤ (U_B-10 V) ÷ 0.02 A

4 to 20 mA, three-wire,
 burden ≤ (U_B-12 V) ÷ 0.02 A

0.5 to 4.5 V, burden ≥ 50 kΩ

1 to 6 V, burden ≥ 10 kΩ

0 to 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 to 250 mbar

0 to 400 mbar

0 to 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

Voltage supply

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

DC 5 V (output 0.5 to 4.5 V)

DC 11.5 to 30 V (output 0 to 10 V)

DC 11.5 to 30 V (output 0(4) to 20 mA)

Ripple: the voltage spikes must not go above or below the values specified for the voltage supply

Requirements: The device must be equipped with an electrical circuit that meets the requirements of EN 61010-1 with regard to "Limited-energy circuits".

max. current drawn: approx. 25 mA

Supply voltage error

≤ 0.02 % per V

(nominal supply voltage DC 24 V)

in proportion for voltage supply DC 5 V

(±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

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Mechanical shock

(to IEC 68-2-27)

100 g/1 msec

Mechanical vibration

(to IEC 68-2-6)

20 g max. at 15 to 2000 Hz

Protection

with terminal box

IP65 to EN 60529

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

with connecting cable

IP67 to EN 60529

with circular connector M12 × 1

IP67 to EN 60529

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 43650, 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

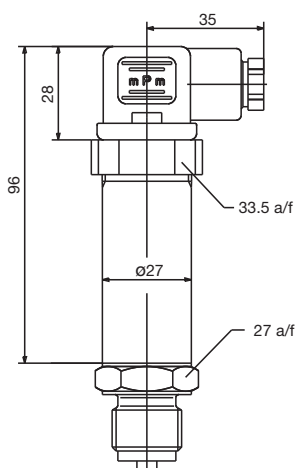
Connection		Terminals		
		Plug	Cable	M12 ×
Voltage supply DC 10 to 30 V DC 11.5 to 30 V DC 5 V		1 L+ 2 L-	white grey	1+ 3-
Output 1 to 6 V 0 to 10 V 0.5 to 4.5 V		2 - 3 +	grey yellow	3- 4+
Output 4 to 20 mA, two-wire		1 + 2 - Proportional current 4 to 20 mA in voltage supply	white grey	1+ 3-
Output 0(4) to 20 mA, three-wire		2 - 3 +	grey yellow	3- 4+
Protective conductor				
Screen			black	2
Caution: Earth device (pressure connection and/or or screen				

Pin assignment M12 × 1

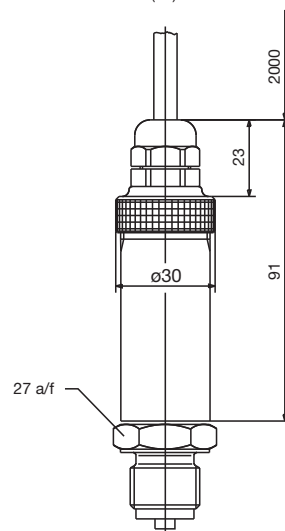


Dimensions

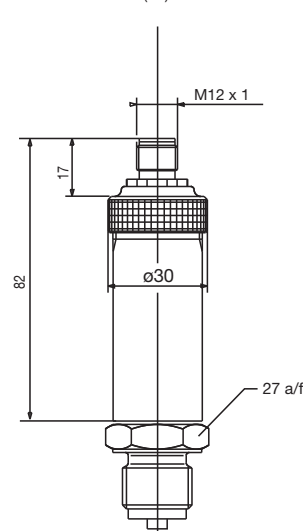
Electrical connection
with terminal box
(61)



Electrical connection
with attached cable
(12)



Electrical connection
with circular connector M12 x 1
(36)



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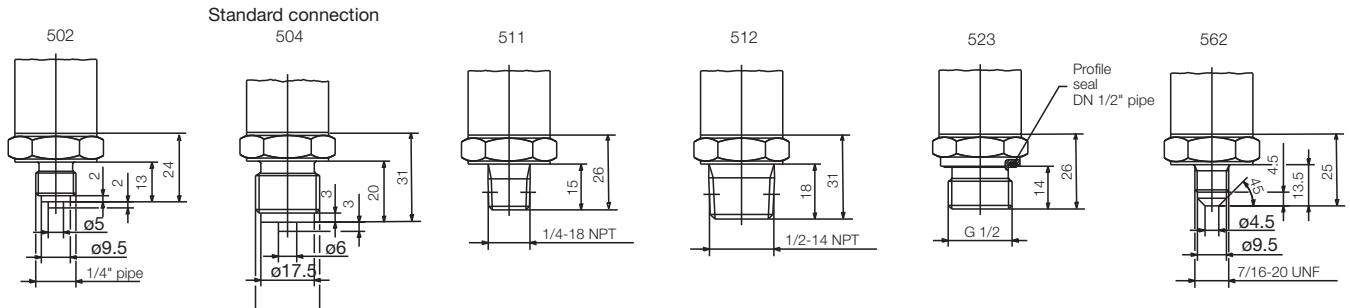
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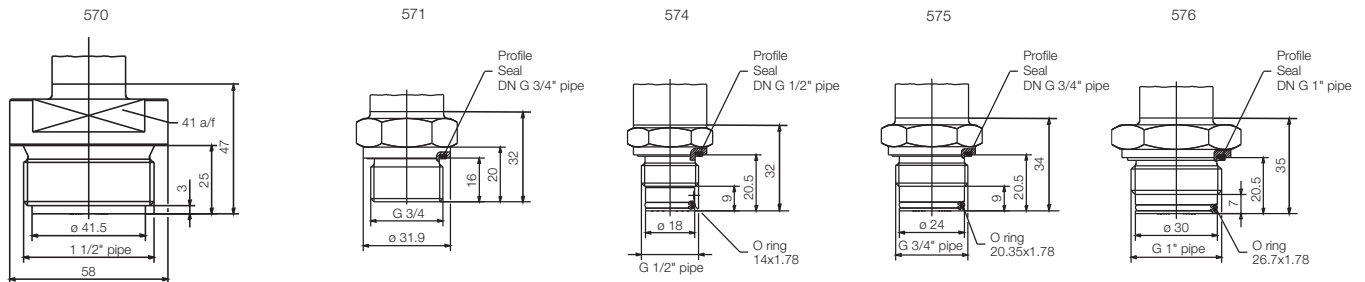
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Not front-flush connections

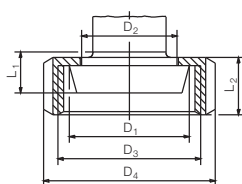


Front-flush connections



603-607

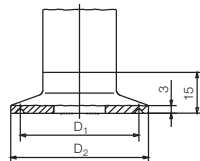
Cone nipple with slotted union nut
to DIN 11851



	DN	øD ₁	øD ₂	øD ₃	øD ₄	L ₁	L ₂
603	20	36.5	30	RD 44x1/6	54	13	21
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	22

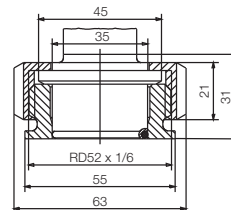
612-616

Clamp connection
to DIN 32676



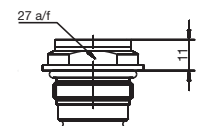
	DN DIN 32676	DN (Zoll)	Nominal Size ISO 2852	øD ₁	øD ₂
612	20 15		12 12.7 17.2 21.3	27.5	34
613	25 32 40	1" 1.5"	25 33.7 38	43.5	50.5
616	50	2"	40 51	56.5	64

652



997

Suitable for the
JUMO PEKA adapter system,
see data sheet 409711



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**Order details**

(1) Basic type	
404366	JUMO dTRANS p30 – Pressure Transmitter
(2) Basic type extension	
000	None
023	reduced deviation of characteristic line ^a
024	reduced influence of ambient temperature ^b
999	Special version
(3) Input	
451	0 to 250 mbar relative pressure
452	0 to 400 mbar relative pressure
453	0 to 600 mbar relative pressure
454	0 to 1 bar relative pressure
455	0 to 1.6 bar relative pressure
456	0 to 2.5 bar relative pressure
457	0 to 4 bar relative pressure
458	0 to 6 bar relative pressure
459	0 to 10 bar relative pressure
460	0 to 16 bar relative pressure
461	0 to 25 bar relative pressure
462	0 to 40 bar relative pressure
463	0 to 60 bar relative pressure
464	0 to 100 bar relative pressure
465	0 to 160 bar relative pressure
466	0 to 250 bar relative pressure
467	0 to 400 bar relative pressure
468	0 to 600 bar relative pressure
478	-1 to 0 bar relative pressure
479	-1 to +0.6 bar relative pressure
480	-1 to +1.5 bar relative pressure
481	-1 to +3 bar relative pressure
482	-1 to +5 bar relative pressure
483	-1 to +9 bar relative pressure
484	-1 to +15 bar relative pressure
485	-1 to +24 bar relative pressure
487	0 to 600 mbar absolute pressure
488	0 to 1 bar absolute pressure
489	0 to 1,6 bar absolute pressure
490	0 to 2,5 bar absolute pressure
491	0 to 4 bar absolute pressure
492	0 to 6 bar absolute pressure
493	0 to 10 bar absolute pressure
494	0 to 16 bar absolute pressure
495	0 to 25 bar absolute pressure
998	Special range absolute pressure
999	Special range relative pressure
(4) Output	
402	0 to 20 mA, three-wire
405	4 to 20 mA, two-wire
406	4 to 20 mA, three-wire
412	0,5 to 4,5 V, three-wire

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415	0 to 10 V, three-wire
418	1 to 5 V, three-wire
420	1 to 6 V, three-wire
(5)	Process connection
502	G 1/4 DIN EN 837
504	G 1/2 DIN EN 837
511	1/4-18 NPT DIN EN 837
512	1/2-14 NPT DIN EN 837
523	G 1/2 DIN 3852-11
562	7/16-20 UNF
570	G 1 1/2 front-flush DIN EN ISO 228-1 ^c
571	G 3/4 front-flush DIN EN ISO 228-1 ^c
574	G 1/2 front-flush, with double gasket ^d
575	G 3/4 front-flush, with double gasket ^c
576	G 1 front-flush, with double gasket ^c
603	Taper socket with union nut DN 20 DIN 11851 (dairy pipe fitting) ^c
604	Taper socket with union nut DN 25 DIN 11851 (dairy pipe fitting) ^c
605	Taper socket with union nut DN 32 DIN 11851 (dairy pipe fitting) ^c
606	Taper socket with union nut DN 40 DIN 11851 (dairy pipe fitting) ^c
607	Taper socket with union nut DN 50 DIN 11851 (dairy pipe fitting) ^c
612	Clamping socket DN 10/15/20 DIN 32676 ^c
613	Clamping socket DN 25/40 DIN 32676 ^c
616	Clamping socket DN 50 (2") DIN 32676 ^c
652	Tank connection with union nut DN 25
997	JUMO-PEKA with EHEDG certificate ^e
998	Connection for pressure separator
(6)	Material of process connection
20	CrNi (stainless steel)
(7)	Electrical connection
12	Fixed connecting cable shielded 2 m (further length on request)
36	Round plug M12 × 1
61	Cable socket DIN EN 175301-803, Form A
(8)	Extra code
000	None
452	Parts in contact with the medium electro-polished, surface roughness Ra ≤ 0.8 μm
591	Throttle in pressure duct
631	Higher humidity and vibration protection

a. Measuring devices with reduced deviation from characteristic line are not available with process connection 574, they are only available with output 405 and only for measuring spans between 0.6 to 40 bar.

b. Measuring devices with ambient temperature influence are not available with process connection 574, they are only available with outputs 402, 405, 406, 415 and only for measuring spans between 4 to 25 bar.

c. Process connections 570, 571, 575, 576, 603, 604, 605, 606, 607, 612, 613, 616 are only available for measuring spans up to 25 bar.

d. Process connection 574 is only available for measuring spans between 1 to 400 bar.

e. Suitable process connection adapters can be found on data sheet or price sheet 409711.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Order code		/		-		-		/
Order example	404366	/	000	-	461	-	405	-
					504	-	20	-
							61	/
								000

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**Stock versions**

Article	Input relative pressure	Output	Process connection	Part no.
404366/000-451-405-504-20-61/000	0 to 250 mbar	4 to 20 mA, two-wire	G 1/2	43006500
404366/000-451-405-571-20-61/000	0 to 250 mbar	4 to 20 mA, two-wire	G 3/4 front-flush	43007916
404366/000-452-405-504-20-61/000	0 to 400 mbar	4 to 20 mA, two-wire	G 1/2	43006493
404366/000-453-405-504-20-61/000	0 to 600 mbar	4 to 20 mA, two-wire	G 1/2	43008131
404366/000-454-405-504-20-61/000	0 to 1 bar	4 to 20 mA, two-wire	G 1/2	00392193
404366/000-454-405-571-20-61/000	0 to 1 bar	4 to 20 mA, two-wire	G 3/4 front-flush	43007917
404366/000-455-405-504-20-61/000	0 to 1.6 bar	4 to 20 mA, two-wire	G 1/2	43008069
404366/000-456-405-504-20-61/000	0 to 2.5 bar	4 to 20 mA, two-wire	G 1/2	00394352
404366/000-457-405-504-20-61/000	0 to 4 bar	4 to 20 mA, two-wire	G 1/2	43006501
404366/000-458-405-504-20-61/000	0 to 6 bar	4 to 20 mA, two-wire	G 1/2	43007816
404366/000-459-405-504-20-61/000	0 to 10 bar	4 to 20 mA, two-wire	G 1/2	00391647
404366/000-459-405-604-20-61/000	0 to 10 bar	4 to 20 mA, two-wire	Taper socket with union nut DN 25	43008066
404366/000-459-405-571-20-61/000	0 to 10 bar	4 to 20 mA, two-wire	G 3/4 front-flush	43008095
404366/000-459-405-574-20-61/000	0 to 10 bar	4 to 20 mA, two-wire	G 1/2 front-flush with double gasket	43008164
404366/000-459-405-613-20-61/000	0 to 10 bar	4 to 20 mA, two-wire	Clamping socket DN 25/40	43008621
404366/000-459-415-504-20-61/000	0 to 10 bar	0 to 10 V, three-wire	G 1/2	43006543
404366/000-460-405-504-20-61/000	0 to 16 bar	4 to 20 mA, two-wire	G 1/2	00391650
404366/000-461-405-504-20-61/000	0 to 25 bar	4 to 20 mA, two-wire	G 1/2	43006495
404366/000-464-405-504-20-61/000	0 to 100 bar	4 to 20 mA, two-wire	G 1/2	43006496
404366/000-466-405-504-20-61/000	0 to 250 bar	4 to 20 mA, two-wire	G 1/2	43006498
404366/000-467-405-504-20-61/000	0 to 400 bar	4 to 20 mA, two-wire	G 1/2	43006511
404366/000-478-405-504-20-61/000	-1 to 0 bar	4 to 20 mA, two-wire	G 1/2	43006494
404366/000-481-405-504-20-61/000	-1 to +3 bar	4 to 20 mA, two-wire	G 1/2	43006531

Article	Input absolute pressure	Output	Process connection	Part no.
404366/000-488-405-504-20-61/000	0 to 1 bar	4 to 20 mA, two-wire	G 1/2	43008096
404366/000-488-406-504-20-61/000	0 to 1 bar	4 to 20 mA, three-wire	G 1/2	43007910
404366/000-488-415-504-20-61/000	0 to 1 bar	0 to 10 V, three-wire	G 1/2	43007892
404366/000-489-405-504-20-61/000	0 to 1,6 bar	4 to 20 mA, two-wire	G 1/2	43008058
404366/024-491-405-504-20-61/000	0 to 4 bar	4 to 20 mA, two-wire	G 1/2	43008375
404366/024-491-402-504-20-61/000	0 to 4 bar	0 to 20 mA, three-wire	G 1/2	43006756

Accessories

Article	Part no.
Cable box (straight) with control cable, shielded, 4-pole, 5 m PVC cable, pressure compensation	00512341