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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 DIN 60770

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 316 Ti/316 L
 for range ≥ 60 bar:
 Stainless steel 316 Ti/630

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% MSP (measuring span)

Thermal hysteresis
 ≤ ± 0.5 % max. MSP
 (within compensated temperature range)
 ≤ ± 1 % max. for ranges
 0 to 0.25 bar
 0 to 0.4 bar
 0 to 0.6 bar

Ambient temperature error
 within range 0 to 100 °C
 (compensated temperature range)
 for ranges 0.25 and 0.4 bar
 zero: ≤ 0.03 %/°C typical,
 ≤ 0.05 %/°C max.
 measuring span: ≤ 0.02 %/°C typical,
 ≤ 0.04 %/°C max.
 for ranges above 0.6 bar
 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 % MSP (limit point adjustment)
 with basic type extension 023:
 ≤ 0.2 % MSP (limit point setting)

Hysteresis
 ≤ 0.1 % MSP

Repeatability
 ≤ 0.05 % MSP

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 % MSP



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 require-
 ments 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 B¹
 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 304

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

1 The product is suitable for industrial use as well as for households and small businesses.

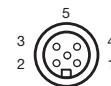
Electrical connection

Connection		Terminals		
		Plug	Cable	M12 × 1
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 -	white grey	1+ 3-
		Proportional current 4 to 20 mA in voltage supply		
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



Cable box M12 × 1

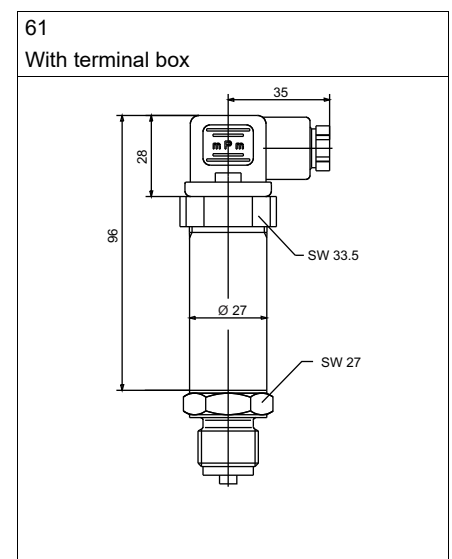
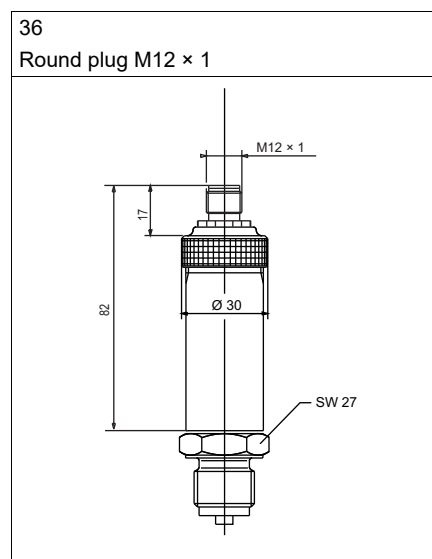
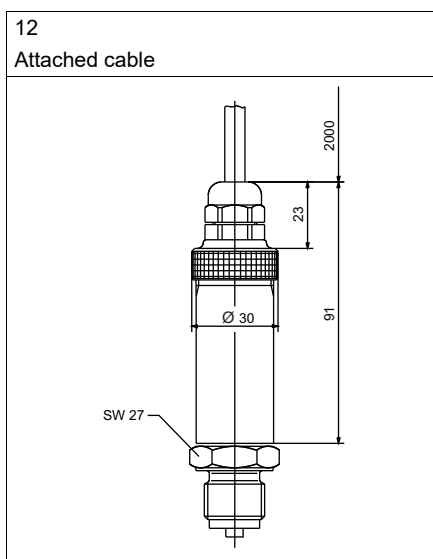


Color assignment: Cable box

1 WH	White
2 BN	Brown
3 GN	Green
4 YE	Yellow
5	Pressure compensation

Dimensions

Electrical connection



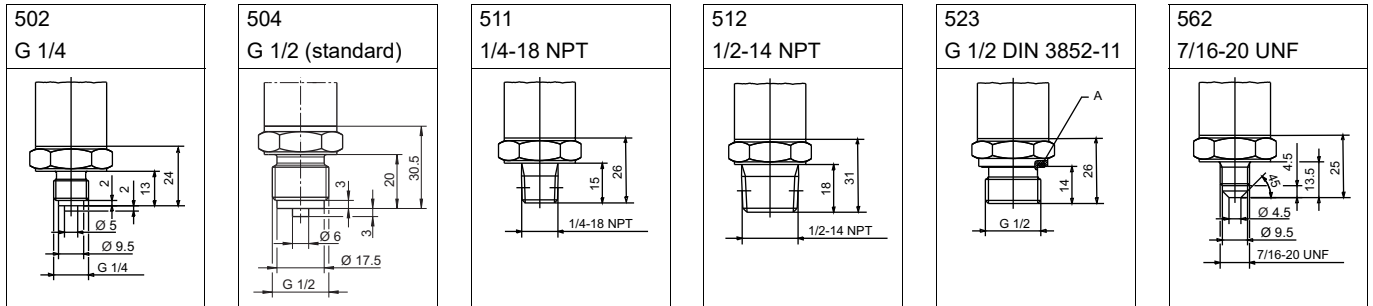
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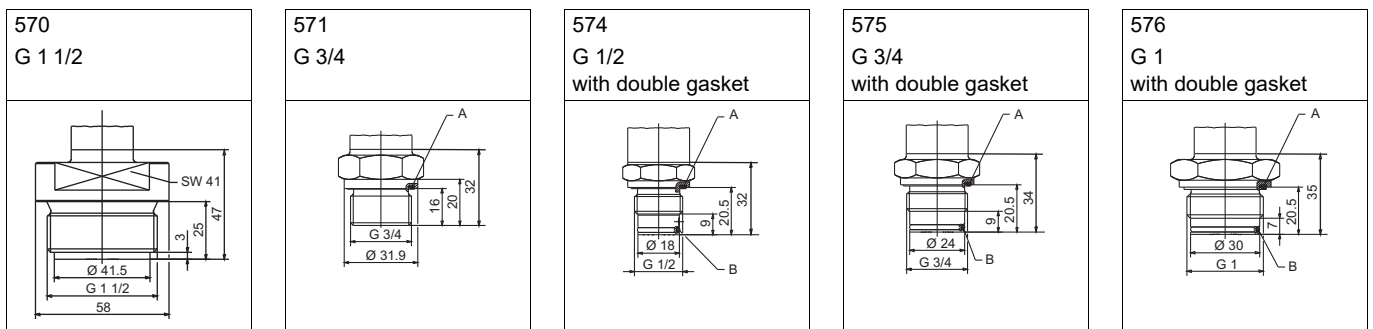


Process connections, not front-flush



A Profile seal

Process connections, front-flush

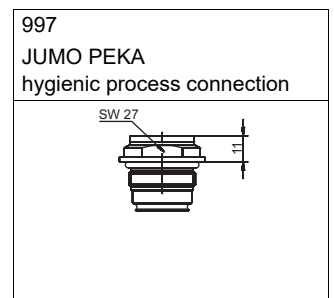
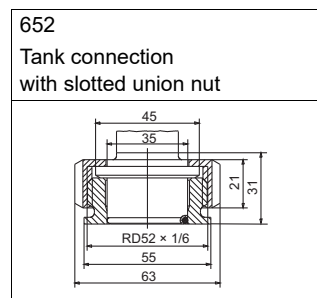
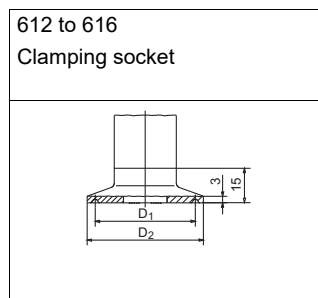
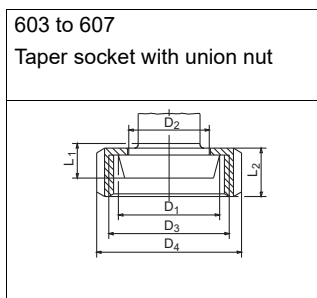


A Profile seal

A Profile seal
 B O-ring 14 × 1.78

A Profile seal
 B O-ring 20.35 × 1.78

A Profile seal
 B O-ring 26.7 × 1.78



Process connection	DN	Ø D ₁	Ø D ₂	Ø D ₃	Ø D ₄	Ø L ₁	Ø L ₂
603	20	36.5	30	RD44 × 1/6	54	13	21
604	25	44	35	RD52 × 1/6	63	15	
605	32	50	41	RD58 × 1/6	70		
606	40	56	48	RD65 × 1/6	78		
607	50	68.5	61	RD78 × 1/6	92	16	

Process connection	DN DIN 32676	DN (Zoll)	Nominal size ISO 2852	Ø D ₁	Ø D ₂
612	10		18	27.5	34
	15		10		
	20		15		
613	25	1	20	43.5	50.5
	32	1,5	25		
	40		32		
616	50	2	40	56.5	64

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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 0.25 bar relative pressure
452	0 to 0.4 bar relative pressure
453	0 to 0.6 bar 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

