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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<sub>B</sub>-12 V) ÷ 0.02 A  
 4 to 20 mA, two-wire,  
 burden ≤ (U<sub>B</sub>-10 V) ÷ 0.02 A  
 4 to 20 mA, three-wire,  
 burden ≤ (U<sub>B</sub>-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 B<sup>1</sup>  
 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 mm<sup>2</sup>; 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.

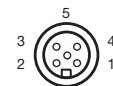
**Electrical connection**

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**

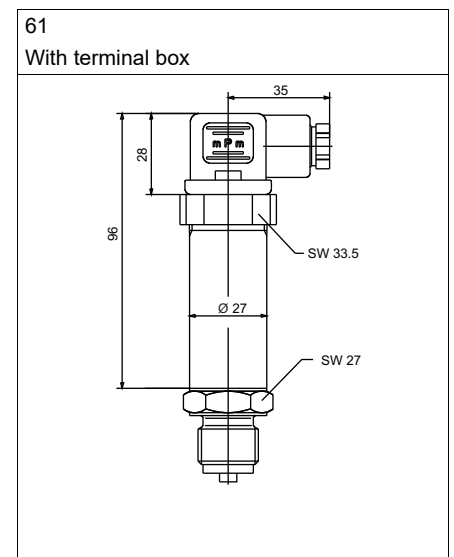
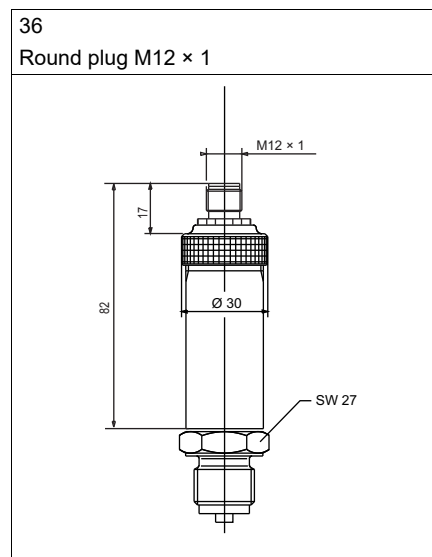
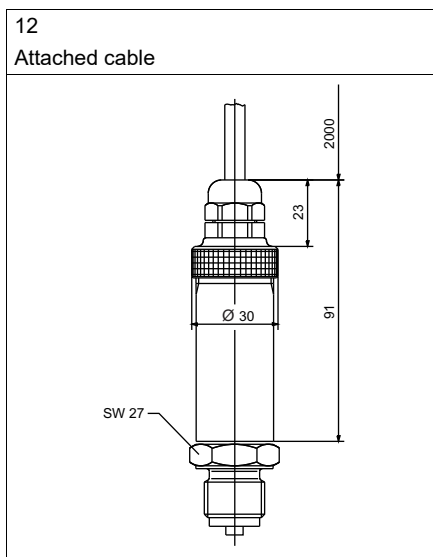


**Color assignment: Cable box**

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

**Dimensions**

**Electrical connection**



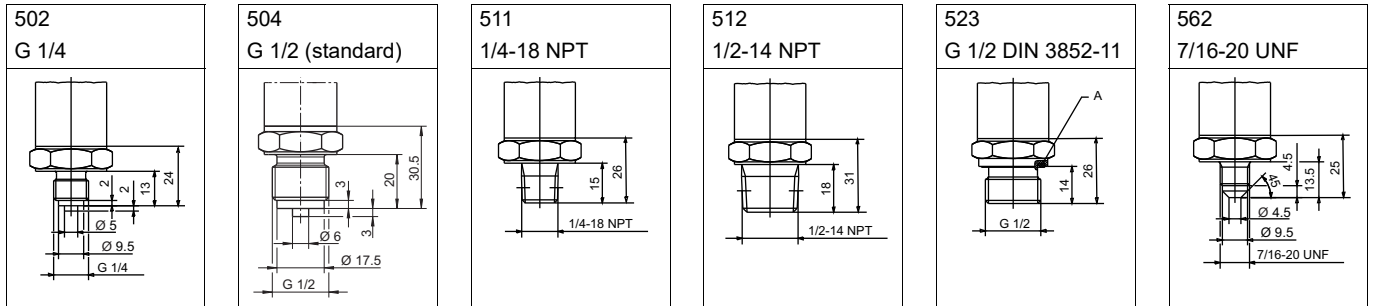
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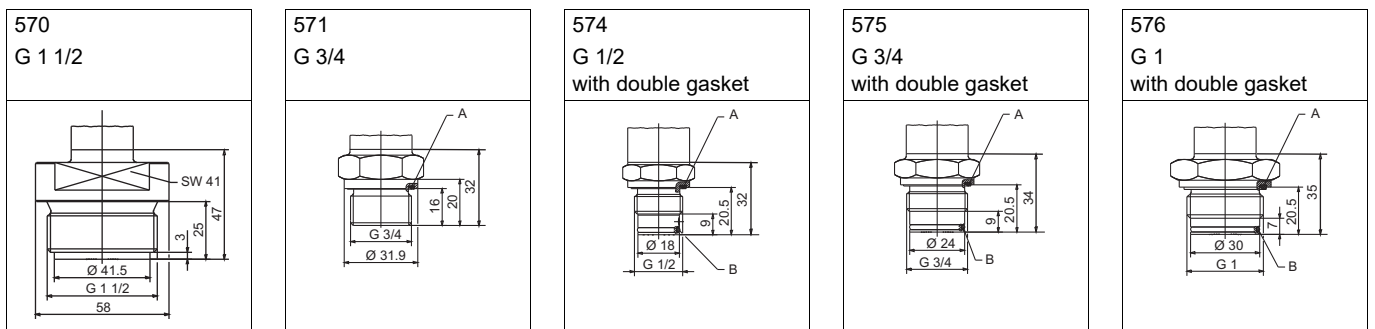


**Process connections, not front-flush**



A Profile seal

**Process connections, front-flush**

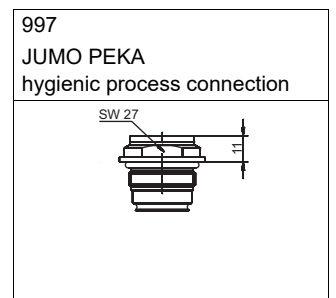
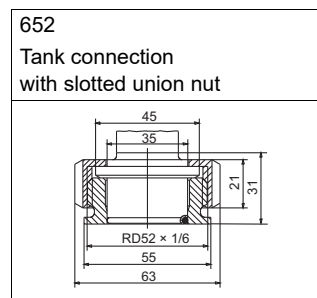
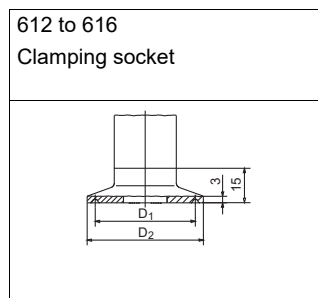
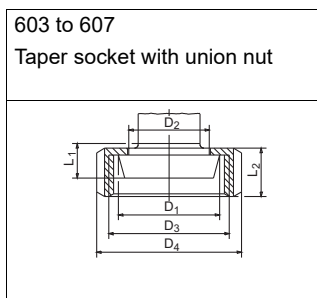


A Profile seal

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 <sub>1</sub>	Ø D <sub>2</sub>	Ø D <sub>3</sub>	Ø D <sub>4</sub>	Ø L <sub>1</sub>	Ø L <sub>2</sub>
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 <sub>1</sub>	Ø D <sub>2</sub>
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**

	<b>(1) Basic type</b>
404366	JUMO dTRANS p30 – Pressure Transmitter
	<b>(2) Basic type extension</b>
000	None
023	reduced deviation of characteristic line <sup>a</sup>
024	reduced influence of ambient temperature <sup>b</sup>
999	Special version
	<b>(3) Input</b>
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
	<b>(4) Output</b>
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

