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Data Sheet 404327

Pressure transmitter for short ranges

Brief description

Pressure transmitters are used for evaluating pressures in liquids and gases. The pressure transmitter incorporates a capacitive ceramic sensor. The pressure is converted into an electrical signal.

Technical data

Reference conditions

To DIN 16086 and IEC 770/5.3

Ranges

See ordering data

Overload limit

Code	Range	Overload	
412	0 to 50 mbar	-0.3/4 bar	
414	0 to 100 mbar	-0.3/4 bar	
415	0 to 160 mbar	5 bar	
451	0 to 0.25 bar	6 bar	
452	0 to 0.4 bar	6 bar	
453	0 to 0.6 bar	10 bar	
454	0 to 1.0 bar	10 bar	

Bursting pressure

150 bar

Wetted components

Normally aluminium oxide Al₂O₃ (99.9%) stainless steel Mat. Ref. 1.4571

others to special order

Output

0.5 to 4.5~V~ min. burden 10 $\text{k}\Omega$ 4 to 20 mA $\,$ max. burden (U_B-12 V) \div 0.02A

Burden error

< 0.15 %

Zero error

 $\leq 0.3 \% MSP^1$

Output span tolerance

≤ 1.0 % MSP

Ambient temperature error

Within the range -20 to +80 °C (compensated temperature range)

less than 0.1 %/10 °C typical zero:

less than 0.3 %/10 °C max.

less than 0.1 %/10 °C typical span:

less than 0.2 %/10 °C max.

Deviation from characteristic

≤ 0.2 % MSP

(after full-scale calibration)

Response time

Stability per year

 \leq 0.2 % MSP

DC 12 to 30 V (with output 4 to 20 mA) DC 5 V \pm 0.5 V (with output 0.5 to 4.5 V) Residual ripple: The voltage peaks must not go above or below the values specified for the supply.

Max. current consumption: for DC 5 V: 2 mA max. for DC 24 V: 25 mA max.

Supply voltage error

≤ 0.01 %/V

(nominal supply voltage DC 24 V) ratiometric for voltage supply DC 5 V (±0.5 V)

Permitted ambient temperature

-20 to +80 °C

Storage temperature

-20 to +125 °C

Permitted medium temperature

-20 to +80 °C

Electromagnetic compatibility

DIN EN 61326-1 and DIN EN 61326-2-3 Interference emission: Class B²

Interference immunity: Industrial requirement

Mechanical shock

100 g/1 msec

Mechanical vibration

20 g max. at 15 to 2000 Hz

Protection

With cable socket IP65 to EN 60529 (connecting cable diameter 5 mm min., 7 mm max.)

with attached cable IP67 to EN 60529



Housing

Stainless steel, Mat. Ref. 1.4571 polycarbonate GF

Pressure connection

See ordering data,

other connections to special order

Electrical connection

See ordering data

The connection variants with cable are fitted with 2 m PVC cable (other lengths to special

cable socket to DIN EN 175301-803, Form A, max. conductor cross-section 1.5 mm²;

attached PVC cable

or

terminal head

Nominal position

flat horizontal (pressure connection to the side)

Weight

0.35 to 0.55 kg (depending on version)

V2.00/EN/00349923/2019-09-05 40432700T10Z001K000

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

¹ MSP = measuring span

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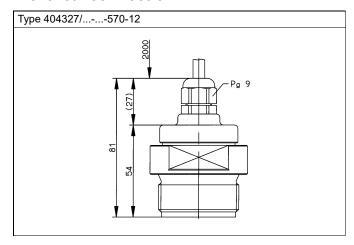


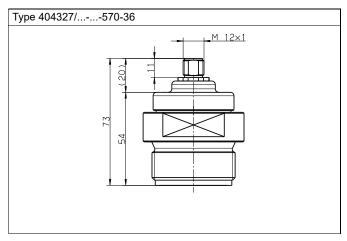
Data Sheet 404327

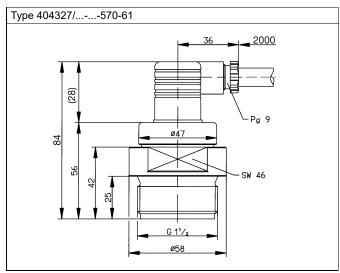
Page 2/5

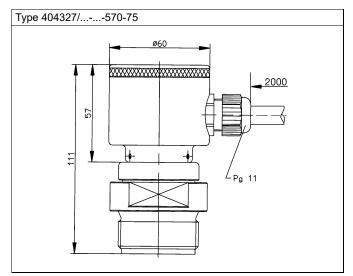
Dimensions

Elektrical connection









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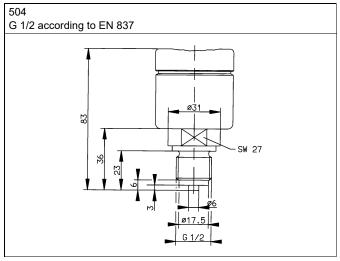
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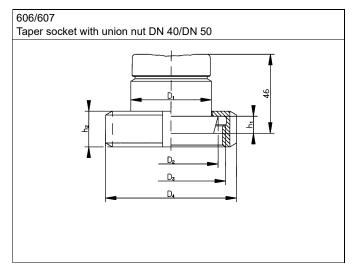
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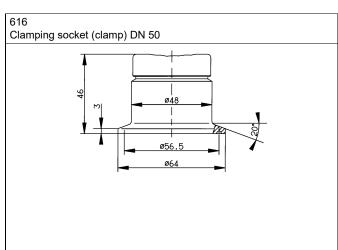


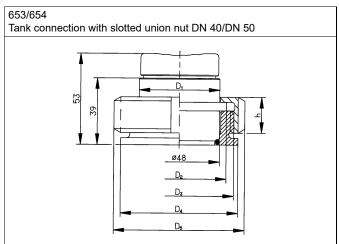
Data Sheet 404327

Process connection









Pos.	DN	D ₁	D ₂	D_3	D ₄	h ₁	h ₂
606	40	Ø 48	Ø 48	RD 65 × 1/6	Ø 78	10	21
607	50	Ø 61	Ø 68.5	RD 78 × 1/6	Ø 92	11	22

Pos.	DN	D ₁	D ₂	D_3	D_4	D_5	h
653	40	Ø 48	Ø 56	RD 65 × 1/6	Ø 70	78	21
654	50	Ø 61	Ø 68.5	RD 78 × 1/6	Ø 84	92	22

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Data Sheet 404327

Page 4/5

Connection diagram

The connection diagram in the data sheet provides preliminary information about the connection options. For the electrical connection, only use the installation instructions or the operating manual. The knowledge and the correct technical compliance with the safety information and warnings contained in these documents are mandatory for mounting, electrical connection, and startup as well as for safety during operation.

Connection	Terminal assignme	ent		
			1 2 3	4 1 3 2
	12 Attached cable	61 Cable socket	75 Terminal head	36 Round plug M12 × 1
Voltage supply DC 12 to 30 V DC 5 V	White Grey	1+ 2-	1+ 2-	1+ 3-
Output 0.5 to 4.5 V	Yellow Grey	3+ 2-		4+ 3-
Output 4 to 20 mA, two-wire	White Grey	1+ 2-	1+ 2-	1+ 3-
	Proportional current in voltage supply	4 to 20 mA		
Protection conductor		+	3	2
Screen	Black			
Warning: Earth the device (pressure connection and/or screen)!				

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Data Sheet 404327

Page 5/5

Order details

	(1)	Basic type	
404327		Pressure transmitter with capacitive ceramic sensor	
	(2)	Input	
412		0 to 50 mbar relative pressure	
414		0 to 100 mbar relative pressure	
415		to 160 mbar relative pressure	
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	
999		Special input range relative pressure	
	(3)	Output	
405		4 to 20 mA, two-wire	
412		0.5 to 4.5 V, three-wire	
	(4)	Process connection	
504		G 1/2 according to DIN EN 837	
570		G 1 1/2 front-flush DIN EN ISO 228-1	
606		Taper socket with union nut DN 40 DIN 11851 (dairy pipe fitting)	
607		Taper socket with union nut DN 50 DIN 11851 (dairy pipe fitting)	
616		Clamping socket (clamp) DN 50 DIN 32676 (2" ISO 2852)	
653		Tank connection with slotted union nut DN 40	
654		Tank connection with slotted union nut DN 50	
	(5)	Material process connection	
26		CrNi (stainless steel), matref. 1.4571	
	(6)	Electrical connection	
12		Attached cable	
36		Round plug M12 × 1	
61		Cable socket DIN EN 175301-803, form A ^a	
75		Terminal head ^b	

^a The cable socket is supplied with 2 m cable as standard.

b The terminal head is supplied with 2 m cable as standard and is only available with 4 to 20 mA (output 405).



Accessories

Description	Part No.
Socket M12, 4-pole, with 5 m control cable	00512341