

Pressure Transmitter Non-incendive Model N-10, standard version Model N-11, flush diaphragm

WIKA Data Sheet PE 81.26



Applications

- Gas compressors
- Flour mills
- Cement industry
- General industrial applications

Special Features

- Explosion Protection II 3G EEx nA II T6, II 3D IP65 T80°C
- Engineered to meet harsh demands
- Retrofits existing compressor applications
- Supply possible without using line transformers or Zener barriers



Fig. left Pressure transmitter N-10
Fig. right Pressure transmitter N-11

Description

Explosion protection

Type N-1X pressure transmitters are specially designed for applications in Zone 2 resp. 22 (ATEX).

As the instrument is classified as „non-incendive equipment“ (zone 2, category 3G / zone 22, category 3D), a connection via intrinsically safe line transformer is not required.

In order to meet the specific requirements of the American market, versions with FM and CSA approvals are also available. For more details please contact our sales department. See page 4 below for our contact address.

Structure

These pressure transmitters feature an industry standard 4 ... 20 mA 2-wire signal output or a 3-wire voltage output of 1 ... 5 V. They are extremely resistant to pressure spikes, vibration and moisture intrusion.

The model N-11 with flush diaphragm is particularly suitable for the measurement of viscous fluids or media containing particulates that may clog the pressure connection of standard industrial transmitters.

Each undergoes extensive quality control testing and calibration to achieve a high accuracy.

In addition, each pressure transmitter is temperature compensated to assure the accuracy when exposed to severe ambient temperature variations.

Specifications

Model N-10 / N-11

Pressure ranges	bar	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	
Over pressure safety	bar	1	1.5	2	2	4	5	10	10	17	35	35	
Burst pressure	bar	2	2	2.4	2.4	4.8	6	12	12	20.5	42	42	
Pressure ranges	bar	16	25	40	60	100	160	250	400	600	1000 ¹⁾		
Over pressure safety	bar	80	50	80	120	200	320	500	800	1200	1500		
Burst pressure	bar	96	96	400	550	800	1000	1200	1700 ²⁾	2400 ²⁾	3000		
{Vacuum, gauge pressure, compound range, absolute pressure are available}													
1) Only model N-10.													
2) For model N-11: the value specified in the table applies only when sealing is realised with the sealing ring underneath the hex. Otherwise max. 1500 bar applies.													
Materials	(other materials see WIKA diaphragm seal program)												
■ Wetted parts													
» Model N-10	Stainless steel					(> 25 bar stainless steel and Elgiloy®)							
» Model N-11	Stainless steel					O-ring: NBR {FPM/FKM or EPDM}							
■ Case	Stainless steel												
■ Internal transmission fluid	Synthetic oil (not for model N-10 with pressure ranges > 25 bar)												
Power supply UB	UB in VDC	10 < UB ≤ 30 with signal output 4 ... 20 mA, 2-wire											
		10 < UB ≤ 30 with signal output 1 ... 5 V, 3-wire {low power 6 < UB < 30}											
Signal output and maximum ohmic load R _A	R _A in Ohm	4 ... 20 mA, 2-wire					R _A ≤ (UB - 10 V) / 0.02 A						
Response time (10 ... 90 %)	ms	≤ 1											
Dielectric strength	VDC	500											
Accuracy	% of span	≤ 0.25 (BFSL)											
	% of span	≤ 0.5 ³⁾											
3) Including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement per IEC 61298-2)													
Adjusted in vertical mounting position with lower pressure connection													
Non-linearity	% of span	≤ 0.2 (BFSL) according to IEC 61298-2											
Non-repeatability	% of span	≤ 0.1											
1-year stability	% of span	≤ 0.2 (at reference conditions)											
Permissible temperature of													
■ Medium ⁴⁾	-30 ... +105 °C					-22 ... +221 °F							
■ Ambience ⁴⁾	-30 ... +80 °C					-22 ... +176 °F							
■ Storage ⁴⁾	-30 ... +105 °C					-22 ... +221 °F							
4) Also complies with EN 50178, Tab. 7, Operation (C) 4K4H, Storage (D) 1K4, Transport (E) 2K3													
Compensated temp. range	0 ... +80 °C					+32 ... +176 °F							
Temperature coefficients within compensated temp range													
■ Mean TC of zero	% of span	≤ 0.2 / 10 K (< 0.4 for pressure range ≤ 0.25 bar)											
■ Mean TC of range	% of span	≤ 0.2 / 10 K											
CE-conformity													
■ Pressure equipment directive	97/23/EC												
■ EMC directive	89/336/EEC emission (class B) and immunity according to EN 61 326												
■ Directive ATEX of equipment intended for use in potentially explosive atmospheres	94/9/EC												
Ex-protection	ATEX	II 3G EEx nA II											
		II 3D IP65 T80°C											
Ignition protection type	ATEX	EEx nA II T4					EEx nA II T5			EEx nA II T6			
Conformity specifications													
■ Power supply UB	VDC	30					30			30			
■ Medium	°C	°F	-30 ... +105		-22 ... +221		-30 ... +80		-22 ... +176		-30 ... +60		-22 ... +140
■ Ambient													
» M12x1	°C	°F	-25 ... +90		-13 ... +194		-25 ... +80		-13 ... +176		-25 ... +60		-13 ... +140
» Flying leads	°C	°F	-30 ... +80		-22 ... +176		-30 ... +80		-22 ... +176		-30 ... +60		-22 ... +140
■ Storage	°C	°F	-30 ... +105		-22 ... +221		-30 ... +105		-22 ... +221		-30 ... +105		-22 ... +221

Specifications

Model N-10 / N-11

HF-immunity	V/m	10
BURST	KV	4
Shock resistance	g	1000 according to IEC 60068-2-27 (mechanical shock)
Vibration resistance	g	20 according to IEC 60068-2-6 (vibration under resonance)
Wiring protection		
■ Short-circuit proofness		Sig+ towards UB-
■ Reverse polarity protection		UB+ towards UB-
Weight	kg	Approx. 0.2

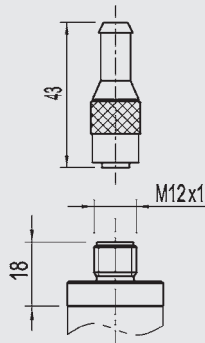
{ } Items in curved brackets are optional extras for additional price.

Dimensions in mm

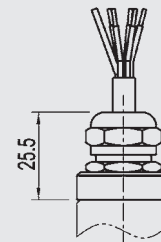
Ingress Protection IP per IEC 60529. The ingress protection classes specified only apply while the pressure transmitter is connected with female connectors that provide the corresponding ingress protection.

Electrical connections

M 12x1
Circular connector
4-pin
IP 67
(ATEX)
Order code: M4
)

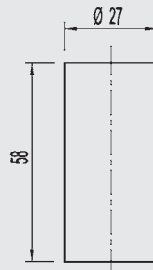


Flying leads
for conductor cross section 0.5 mm²,
AWG 20 with end splices,
conductor outer diameter 6.8 mm,
IP 68
(ATEX)
Order code: EM



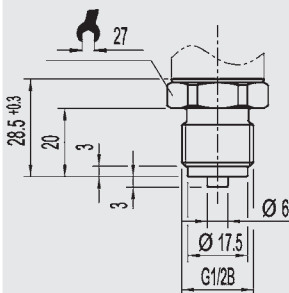
Others on request

Case

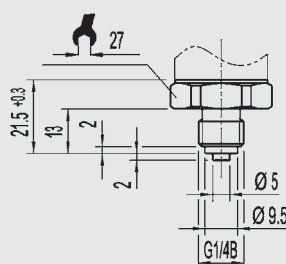


Pressure connections N-10

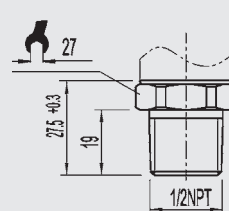
G 1/2
EN 837
Order code: GD



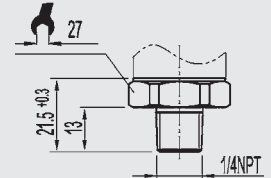
G 1/4
EN 837
Order code: GB



1/2 NPT
per „Nominal size for US
standard tapered
pipe thread NPT“
Order code: ND



1/4 NPT
per „Nominal size for US
standard tapered pipe
thread NPT“
Order code: NB



Others on request

For installation and safety instructions see the operating instructions for this product.

For tapped holes and welding sockets please see Technical Information IN 00.14 for download at www.wika.de -Service

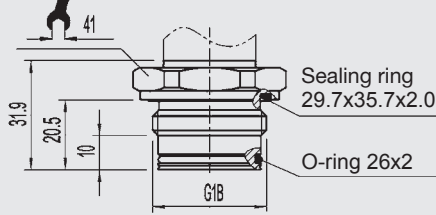
) Connectors are not included in delivery.

Pressure connections N-11, flush diaphragm

G 1 B

0 ... 0.1 up to 0 ... 1.6 bar

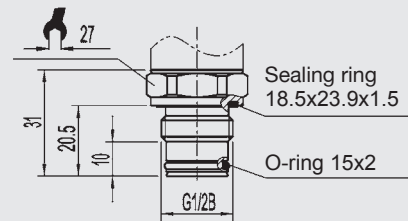
Order code: 85



G 1/2 B

0 ... 2.5 up to 0 ... 600 bar

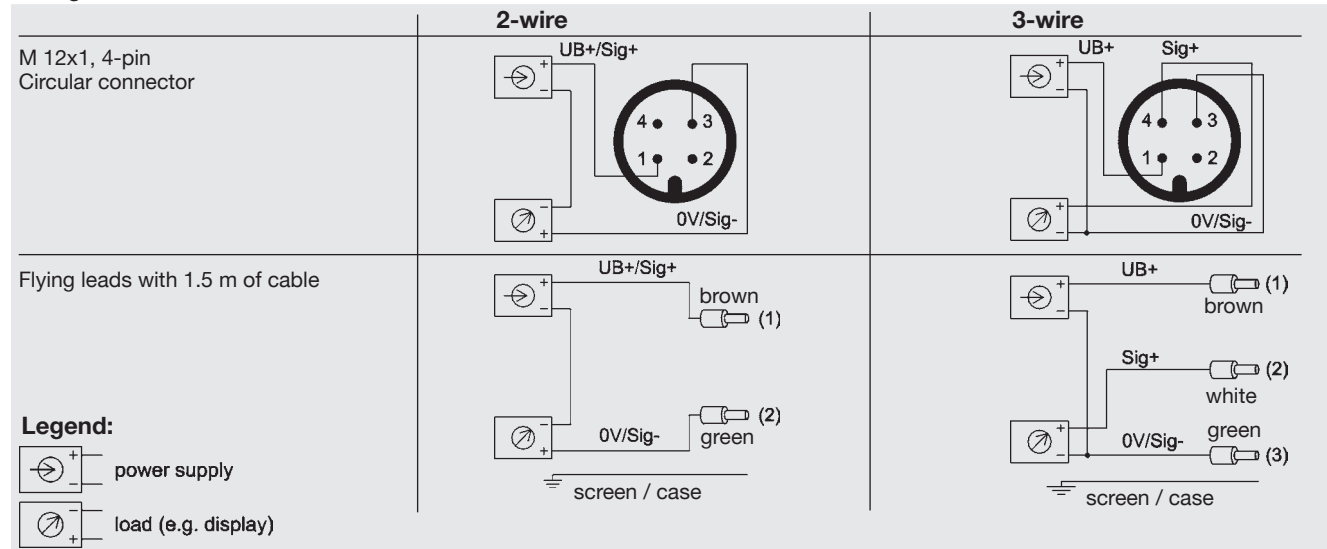
Order code: 86



For installation and safety instructions see the operating instructions for this product.

For tapped holes and welding sockets please see Technical Information IN 00.14 for download at www.wika.de -Service

Wiring details



Further information

You can obtain further information (data sheets, instructions, etc.)

via our internet address www.wika.de

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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