



XMP ci

Process Pressure Transmitter with HART[®]-communication

Ceramic Sensor

accuracy according to IEC 60770:
0.1 % FSO

Nominal pressure

from 0 ... 60 mbar up to 0... 20 bar

Output signals

2-wire: 4 ... 20 mA
others on request

Special characteristics

- ▶ turn-down 1:5
- ▶ two chamber aluminium die cast case or stainless field housing
- ▶ internal or flush mounted capacitive ceramic sensor
- ▶ HART[®]-communication
- ▶ IS-version:
Ex ia = intrinsically safe version
- ▶ diaphragm Al₂O₃ 99.9 %

Optional versions

- ▶ IS-version: Ex d = flameproof enclosure
- ▶ with integrated display and operating module
- ▶ several process connections (thread, flange, DRD etc.)

The process pressure transmitter XMP ci measures the pressure of gases, steam and fluids. The special-developed capacitive ceramic sensor for this transmitter has a high overpressure capability and excellent media stability.

Several process connections e.g. thread or flange are available. The transmitter is as a standard equipped with HART[®]-communication, the customer can choose between a two chamber aluminum die cast case or a stainless field housing.

Preferred areas of use are



Oil and gas industry



Chemical and petrochemical industry

Preferred using in



Fuel and Oil



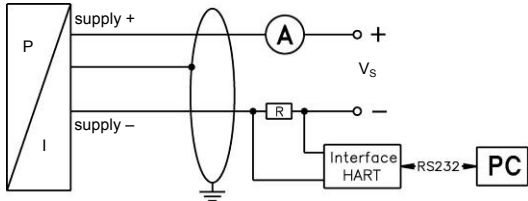
aggressive Media



Pressure ranges¹										
Nominal pressure gauge	[bar]	0.06	0.16	0.4	1	2	5	10	20	
Overpressure	[bar]	2	4	6	8	15	25	35	45	
Permissible vacuum	[bar]	-0.2	-0.3	-0.5			-1			
¹ On customer request we adjust the devices by software to the required pressure ranges. Within the turn-down-possibility (starting at 0.02 bar).										
Output signal / Supply										
Standard	2-wire: 4 ... 20 mA intrinsically safe version with HART®-communication / V _S = 12 ... 28 V _{DC}									
Option	IS version flameproof enclosure / V _S = 13 ... 28 V _{DC}									
Current consumption	max. 25 mA									
Performance										
Accuracy ²	nominal pressure < 1 bar: ≤ ± 0.2 % FSO									
	nominal pressure ≥ 1 bar: ≤ ± 0.1 % FSO									
	for nominal pressure ranges: from 0.06 bar up to 0.4 bar				≤ ± (0.2 + (TD-1) x 0.02) % FSO					
	for nominal pressure ranges: from 1 bar up to 20 bar				≤ ± (0.1 + (TD-1) x 0.01) % FSO					
with turn-down = nominal pressure range / adjusted range										
Permissible load	R _{max} ≤ [(V _S - V _{S min}) / 0.02 A] Ω				load during HART®-communication: R _{min} = 250 Ω					
Influence effects	supply: 0.05 % FSO / 10 V				permissible load: 0.05 % FSO / kΩ					
Long term stability	≤ ± 0.1 % FSO / year at reference conditions									
Response time	200 msec – without consideration of electronic damping						measuring rate 5/sec			
Adjustability	electronic damping: 0 ... 100 sec									
	offset 0 ... 80 % FSO									
	turn-down of span: max. 1:5 (span min. 0.02 bar)									
² accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)										
Thermal errors / Permissible temperatures										
Thermal error	≤ ± (0.02 x turn-down) % FSO / 10 K in compensated range -20 ... 80 °C									
Permissible temperatures ³	without display:		medium: -25 ... 125 °C		environment: -40 ... 70 °C		storage: -40 ... 80 °C			
	with display:		medium: -25 ... 125 °C		environment: -20 ... 70 °C		storage: -30 ... 80 °C			
³ for pressure port of PVDF the minimum permissible temperature is -30°C										
Electrical protection										
Short-circuit protection	permanent									
Reverse polarity protection	no damage, but also no function									
Electromagnetic compatibility	emission and immunity according to EN 61326									
Mechanical stability										
Vibration	5 g RMS (20 ... 2000 Hz)									
Shock	100 g / 11 msec									
Materials										
Pressure port Standard	stainless steel 1.4404 (316L)									
	Optionally for G1 1/2" flush PVDF									
Housing	aluminium die cast, powder-coated or stainless steel 1.4404 (316L)									
Cable gland	brass, nickel plated									
Viewing glass	laminated safety glass									
Seals (media wetted)	FKM (permissible temperature: -25 ... 125 °C) EPDM (permissible temperature: -40 ... 125 °C) others on request									
Diaphragm	ceramics Al ₂ O ₃ 99.9 %									
Media wetted parts	pressure port, seal, diaphragm									
Explosion protection										
Approval AX12-XMP ci (intrinsically safe version)	IBExU 05 ATEX 1106 X stainless steel field housing: zone 0/1 ⁴ : II 1/2G Ex ia IIC T4 Ga/Gb / II 1D Ex ia IIIC T85 °C Da aluminium die cast case: zone 1: II 2G Ex ia IIB T4 Gb / II 1D Ex ia IIIC T85 °C Da									
Safety techn. maximum values	U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i = 0 nF, L _i = 0 µH, C _{GND} = 27 nF									
Approval AX17-XMP ci (flameproof enclosure)	IBExU 12 ATEX 1045 X aluminium die cast case: zone 1: II 2G Ex d IIC T5 Gb									
Permissible temperatures for environment	in zone 0: -20 ... 60 °C with p _{atm} 0.8 bar up to 1.1 bar in zone 1: -25 ... 70° C (intrinsically safe version); -20 ... 70 °C (flameproof enclosure)									
⁴ The designation depends on the nominal pressure range. Nominal pressure ranges ≤ 60 mbar are marked with „2G“. For nominal pressure ranges > 60 mbar and < 10 bar see note under item 17 in the EC type-examination certificate!										

Miscellaneous	
Display (optionally)	LC-display, visible range 32.5 x 22.5 mm; 5-digit 7-segment main display, digit height 8 mm, range of indication ± 9999 ; 8-digit 14-segment additional display, digit height 5 mm; 52-segment bargraph; accuracy $0.1\% \pm 1$ digit
Ingress protection	IP 67
Installation position	any
Weight	min. 400 g (depending on housing and mechanical connection)
Operational life	$> 100 \times 10^6$ pressure cycles
CE-conformity	EMC Directive: 2004/108/EC

Wiring diagram

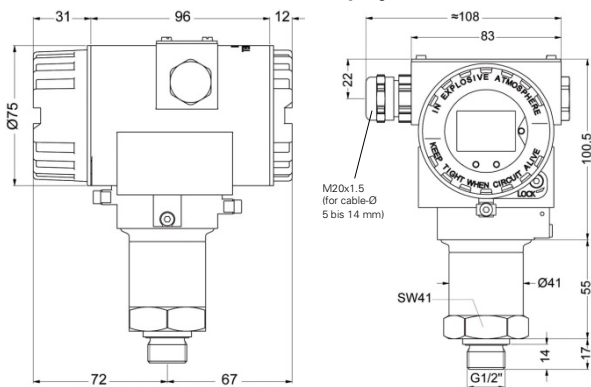


Pin configuration

Electrical connections	aluminium die cast case: terminal clamps (clamp section: 2.5 mm ²)	stainless steel field housing: terminal clamps (clamp section: 1.5 mm ²)
Supply +	IN+	IN+
Supply -	IN-	IN-
Test	Test	-
Shield		

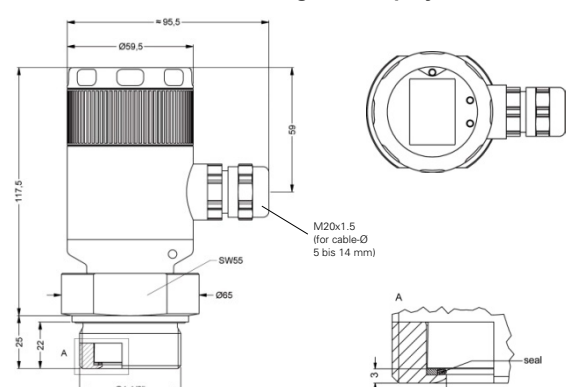
Housing designs ⁵ (dimensions in mm)

aluminium die cast case with display



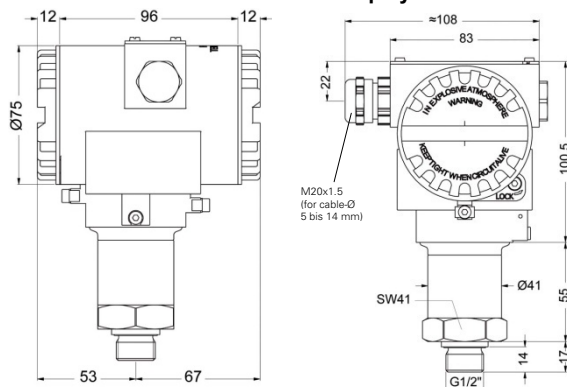
G1/2" DIN 3852

stainless steel field housing with display



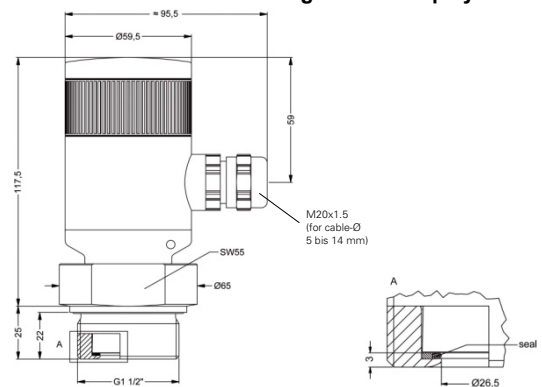
G1 1/2" flush DIN 3852

aluminium die cast case without display



G1/2" DIN 3852

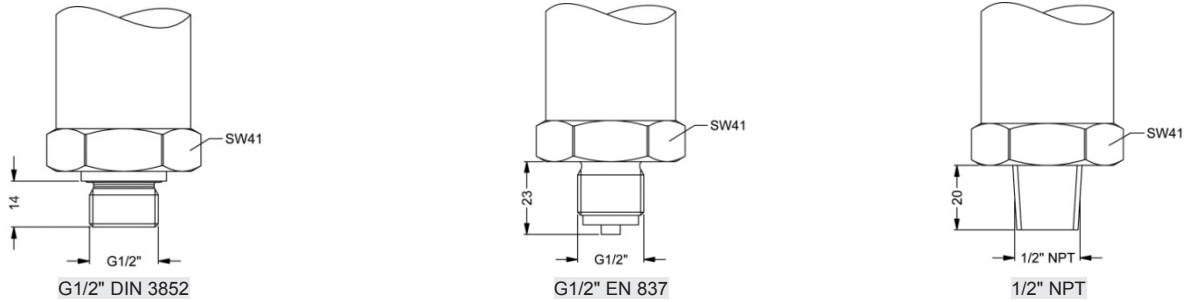
stainless steel field housing without display



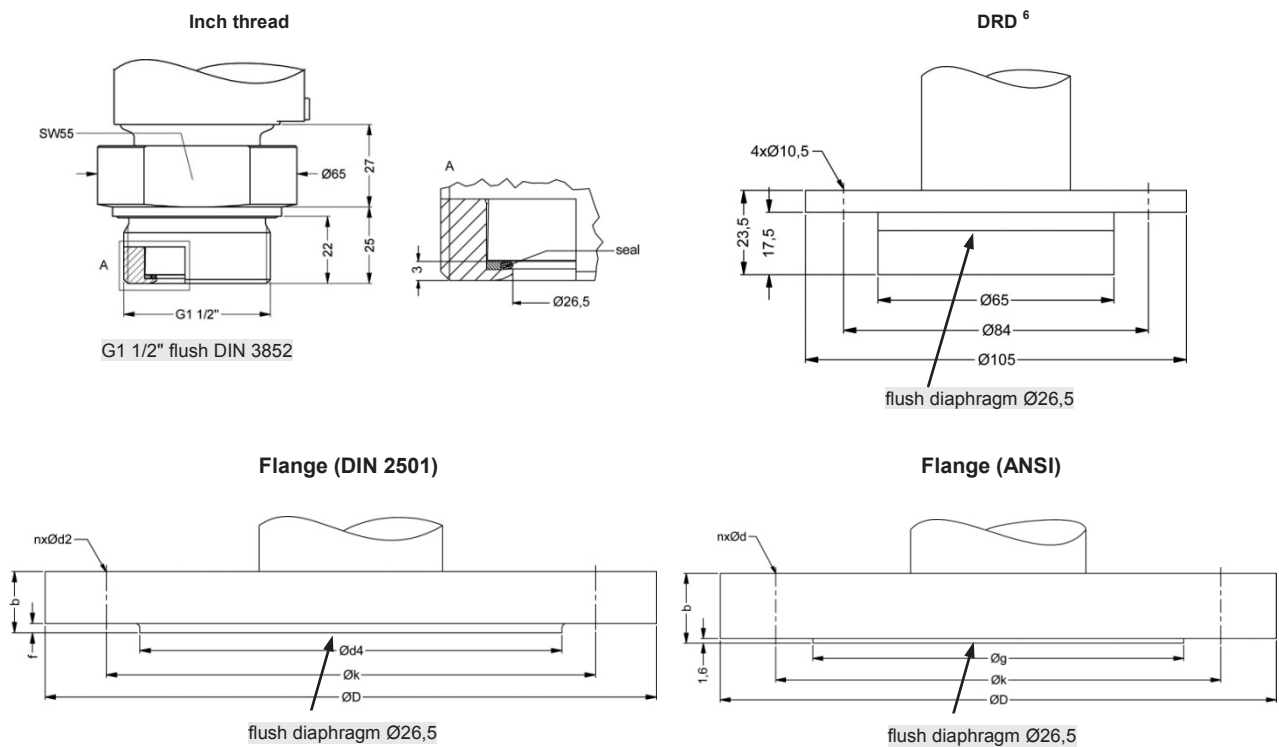
G1 1/2" flush DIN 3852

⁵ aluminium die cast case is horizontally rotatable as standard

Standard pressure ports (dimensions in mm)



Process connections (dimensions in mm)



dimensions in mm			
size	DN25	DN50	DN80
D	115	165	200
k	85	125	160
d4	68	102	138
b	18	20	20
f	2	3	3
n	4	4	8
d2	14	18	18
P _N	≤ 40 bar	≤ 40 bar	≤ 16 bar

dimensions in mm		
size	2"/150 lbs	3"/150 lbs
D	152.4	190.5
g	91.9	127
k	120.7	152.4
b	19.1	23.9
n	4	4
d	19.1	19.1
P _N	≤ 10 bar	≤ 10 bar

⁶ mounting flange is included in the delivery (already pre-assembled)
 HART® is a registered trade mark of HART Communication Foundation;
 Windows® is a registered trade mark of Microsoft Corporation

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