



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
- ▶ explosion protection, intrinsic safety (ia)
- ▶ diaphragm Al₂O₃ 99.9 %

Optional versions

- ▶ explosion protection, flameproof equipment (d)
- ▶ 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 aluminium 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



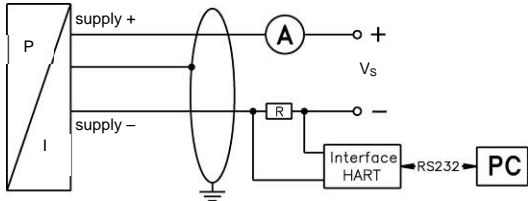
aggressive Media



Pressure ranges ¹									
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									
2-wire: 4 ... 20 mA		standard: intrinsic safety (ia) with HART®-communication						V _S = 12 ... 28 V _{DC}	
With explosion protection		option: flameproof equipment (d) with HART®-communication						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 _{Smin}) / 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							
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		stainless steel 1.4404 (316L)							
Standard		PVDF							
Optionally for G1 1/2" flush									
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 AX2-XMP ci		intrinsically safe version IBExU 05 ATEX 1106 X							
		stainless steel field housing zone 0/1 ⁴ : II 1G Ex ia IIC T4 Ga II 1/2G Ex ia IIC T4 Ga/Gb II 2G Ex ia IIC T4 Gb				aluminium die cast case zone 1 ⁵ : II 1/2G Ex ia IIB T4 Ga/Gb II 2G Ex ia IIB T4 Gb			
		zone 20: II 1D Ex ia IIC T85 °C Da							
		Safety techn. maximum values U _i = 28 V, I _i = 98 mA, P _i = 680 mW, C _i = 0 nF, L _i = 0 μH, C _{GND} = 27 nF							
Approval AX7-XMP ci		flameproof enclosure with aluminium die cast case IBExU 12 ATEX1045 X 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: -40 ... 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“.									
Nominal pressure ranges > 60 mbar and ≤ 10 bar are marked with „1/2G“. Nominal pressure ranges > 10 bar are marked with „1G“.									
⁵ The designation depends on the nominal pressure range. Nominal pressure ranges < 60 mbar are marked with „2G“.									
Nominal pressure ranges ≥ 160 mbar are marked with „1/2G“.									

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% ± 1 digit
Ingress protection	IP 67
Installation position	any
Weight	min. 400 g (depending on housing and mechanical connection)
Operational life	> 100 x 10 ⁶ pressure cycles
CE-conformity	EMC Directive: 2014/30/EU
ATEX Directive	2014/34/EU

Wiring diagram

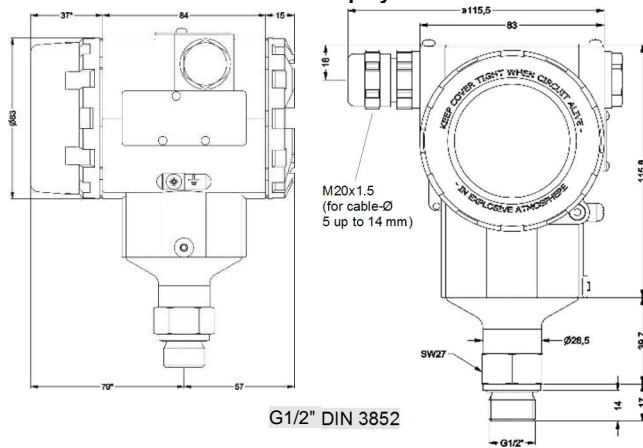


Pin configuration

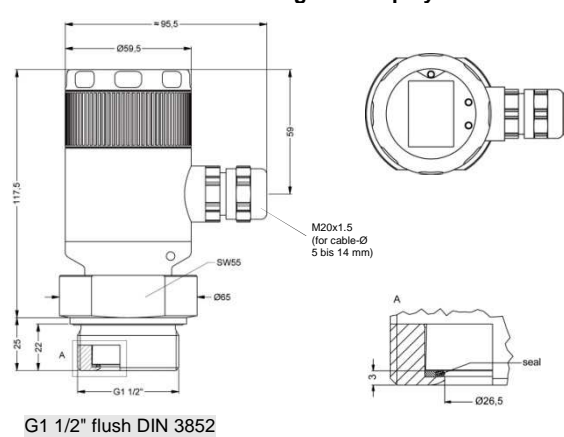
Electrical connections	aluminium die cast case: terminal clamps (clamp section: 2.5 mm ²)	stainless steel field housing: terminal clamps (clamp section: 1.5 mm ²)
Supply +	IN+	IN+
Supply -	IN-	IN-
Test	Test	-
Shield	⏏	⏏

Housing designs ⁵ (dimensions in mm)

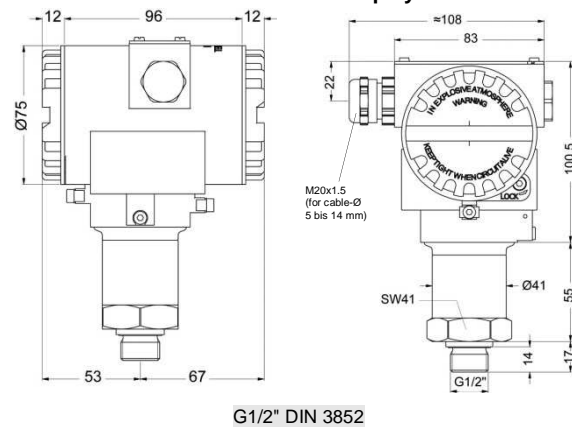
aluminium die cast case with display



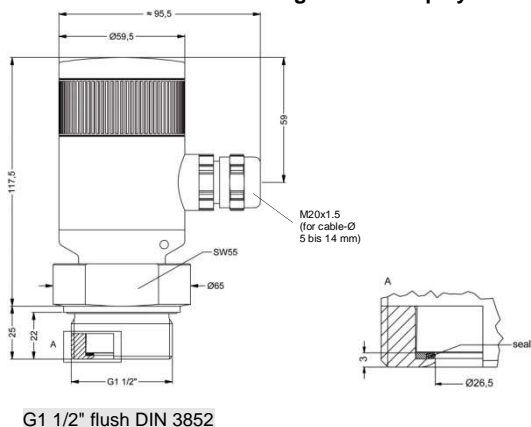
stainless steel field housing with display



aluminium die cast case without display

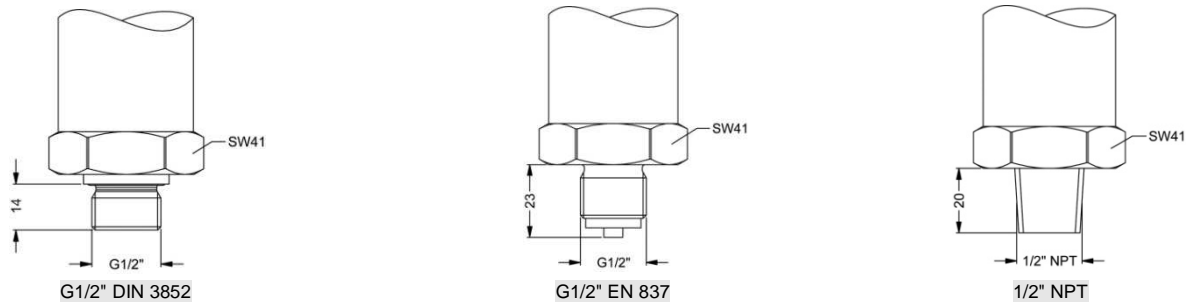


stainless steel field housing without display

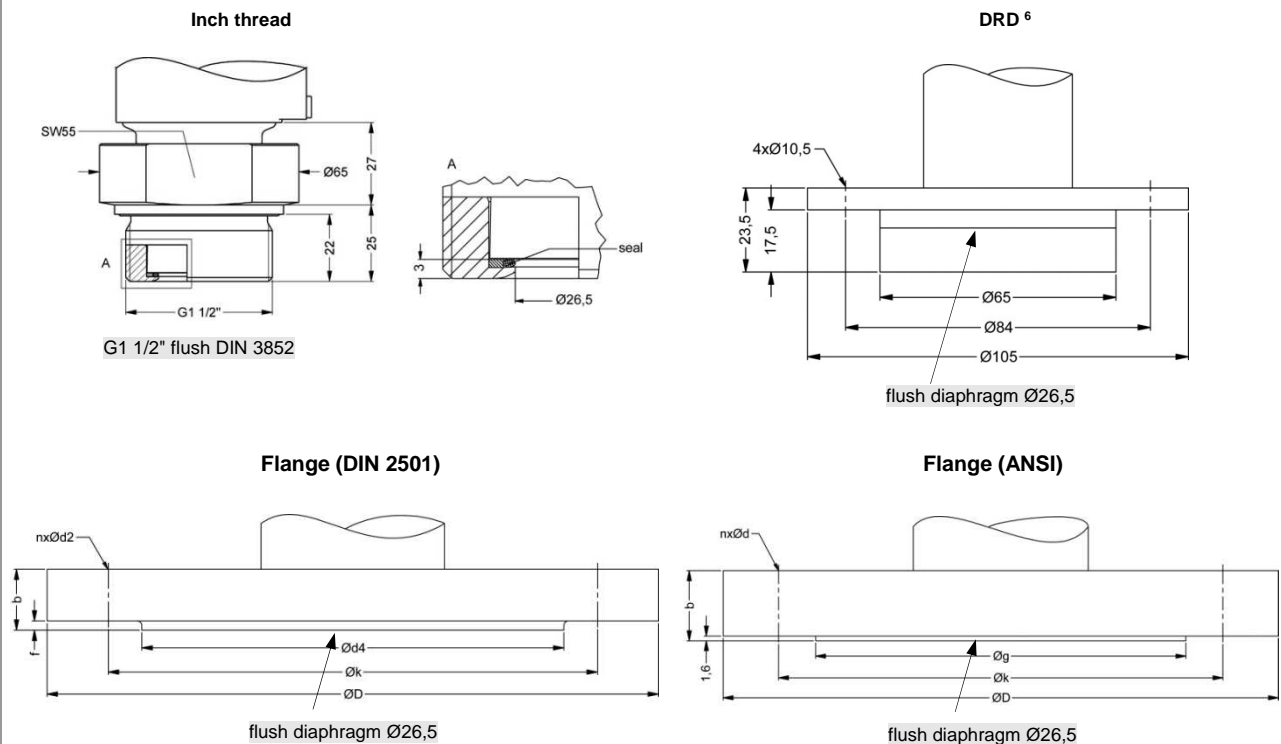


⁵ aluminium die cast case is horizontally rotatable as standard

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\"/>	
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

Accessories for aluminium cast (not a part of delivery)

Electrical connection Ex i (standard)		Electrical connection Ex d (flameproof enclosure)	
Ordering type	Ordering code	Ordering type	Ordering code
plug thread M20x1,5	1001871	plug thread M20x1,5	1001438
cable gland thread M20x1.5	1001460	cable gland thread M20x1.5	1001870

This data sheet contains product specification. Properties are not guaranteed. Subject to change without notice.