



## XMP ci

**Process Pressure Transmitter with** HART®-communication

Ceramic Sensor

accuracy according to IEC 60770: 0.1 % FSO

#### **Nominal pressure**

from 0 ... 160 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 Al<sub>2</sub>O<sub>3</sub> 99.9 %

#### **Optional versions**

- explosion protection flameproof equipment (d)
- with integrated display and operating module
- several process connections (thread, flange, DRD etc.)

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











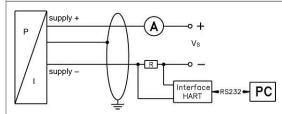
### Process Pressure Transmitter

Pressure ranges <sup>1</sup>								
Nominal pressure gauge	[bar]	0.16	0.4	1	2	5	10	20
Overpressure	[bar]	4	6	8	15	25	35	45
Permissible vacuum	[bar]	-0.3		0.5		-1		
On customer request we adju-					Within the turn-c		arting at 0.02 ba	r).
Output signal / Supply	01 1170 1101		. u.o roganou j	procedire rangeer		om poonimy (on	artirig at 0.02 ≥a	.,.
2-wire: 4 20 mA		standard: intr	insic safety	(ia) with HART®	-communicati		V <sub>2</sub> = 1	2 28 V <sub>DC</sub>
with explosion protection				ipment (d) with				3 28 V <sub>D</sub>
Current consumption		max. 25 mA	neproor equ	iipineni (u) wiin	HART -COMM	unication	V <sub>S</sub> = 1	3 20 VDC
·		max. 25 mA						
Performance								
Accuracy <sup>2</sup>		nominal pressu		≤ ± 0.2 % FS				
		nominal pressu		≤ ± 0.1 % FS		. (0.0 /	()	
				es from 0.16 bar			TD-1) x 0.02) <sup>c</sup>	
				es from 1 bar up		, ,	TD-1) x 0.01) 9	% FSO
				ressure range /			5	
Permissible load		$R_{\text{max}} \leq [(V_S - V)]$				ng HART®-comm		$_{\rm n}$ = 250 $\Omega$
nfluence effects		supply: 0.05 %				le load: 0.05 %	FSO / kΩ	
ong term stability				ference conditio				
Response time				eration of electro	onic damping		measurin	ig rate 5/se
Adjustability		electronic dam		00 sec				
		offset 0 80 %						
				5 (span min. 0.0				
accuracy according to IEC 60		t point adjustment	(non-linearity,	hysteresis, repea	tability)			
Thermal effects (offset an	id span)							
Tolerance band		≤ ± 1 % FSO						
in compensated range		-20 80 °C						
Permissible temperatures	;							
Permissible temperatures <sup>3</sup>	l	without display	: medium:	-25 125 °C	environme	ent: -40 70 °C	storage:	-40 80° (
, , , , , , , , , , , , , , , , , , , ,		with display:		-25 125 °C		ent: -20 70 °C		-30 80° (
for pressure port in PVDF the	medium t	emperature is -25	60 °C					
Electrical protection		·						
Short-circuit protection		permanent						
Reverse polarity protection		no damage, bu	ıt also no fur	nction				
Electromagnetic compatibil		<u> </u>		cording to EN 61	226			
	ity	emission and i	illillullity acc	ording to LIV or	320			
Mechanical stability		l = /						
Vibration		5 g RMS (20				ding to DIN EN 6		
Shock		100 g / 11 mse	C		accor	ding to DIN EN 6	60068-2-27	
Materials								
Pressure port		standard:		stainless stee	el 1.4404 (316	L)		
		optionally for G						
Housing				r-coated or stair	less steel 1.4	404 (316L)		
Cable gland		brass, nickel p	lated					
Viewing glass		laminated safe	ty glass					
Seals (media wetted)		FKM; EPDM		others on rec	uest			
Diaphragm		ceramics Al <sub>2</sub> O <sub>3</sub>	99.9 %					
Media wetted parts		pressure port,		aam				
Explosion protection			,	-9				
· · · · · · · · · · · · · · · · · · ·		intrincia cafat	v IDEVILOS	- ATEV 1106 V				
Approval AX12-XMP ci				5 ATEX 1106 X	alumi	nium dia aaat aa		
	stainless steel	-	•		nium die cast ca		01	
		zone 0/1 4: II 1			zone	0/1 ⁵: II 1/2G Ex		GD
			1/2G Ex ia IIC 2G Ex ia IIC				a IIB T4 Gb	_
					zone	20: II 1D Ex ia	a IIIC T85 °C E	Ja
			D Ex ia IIIC			. ta aba		
		safety techn. m				techn. maximur		0 0 - 5
				$680 \text{ mW}, C_i = 0$		$18 \text{ V, I}_{i} = 98 \text{ mA},$		$C_i = 0 \text{ nF},$
Approval AV47 VMD at		L <sub>i</sub> = 0 µH, C <sub>GNE</sub>		h aluminium di-		$\mu$ H, $C_{GND} = 33 \text{ n}$		
Approval AX17-XMP ci		•	I <b>closure</b> with 2G Ex db IIC		casi case IB	ExU 12 ATEX 1	∪45 A	
Parminaible temperatures f	or				to 1.1 har			
Permissible temperatures for springer	Uľ	in zone 0: -20 60 °C with p <sub>atm</sub> 0.8 bar up to 1.1 bar						
environment		in zone 1 or hig		40 70°C				
		intrinsic safe	ιy.	-40 70° C				
			nologura	20 70 00				
<b>T</b> (, 4)(1				-20 70 °C				
		al pressure range.	Nominal press	sure ranges ≤160			ith 1G"	
The designation depends on t Nominal pressure ranges > 16 The designation depends on t	60 mbar aı	al pressure range. nd ≤10 bar are ma	Nominal press rked with "1/20	sure ranges ≤160 i G". Nominal press	ure ranges > 10	bar are marked wi	ith "1G".	



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-segement 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 million load cycles	
CE-conformity	EMC Directive: 2014/30/EU	
ATEX Directive	2014/34/EU	

#### Wiring diagram



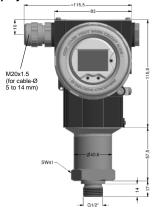
#### Pin configuration

	aluminium die cast case:	stainless steel field housing:
Electrical connections	terminal clamps	terminal clamps
	(clamp section: 2.5 mm²)	(clamp section: 1.5 mm²)
Supply +	IN+	IN+
Supply –	IN-	IN-
Test	Test	-
Shield	<b>(b)</b>	<b>(b)</b>

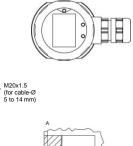
#### Housing designs <sup>6</sup> (dimensions in mm)

#### aluminium die cast case with display





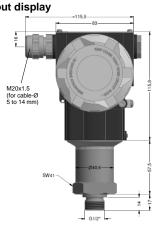
# stainless steel field housing with display



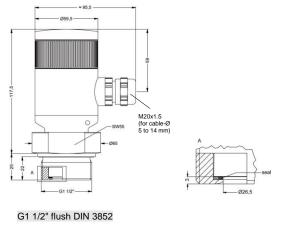
G1 1/2" flush DIN 3852

#### aluminium die cast case without display

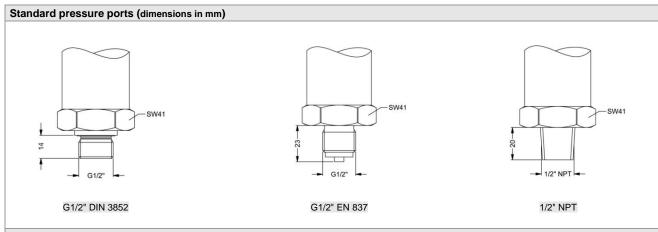




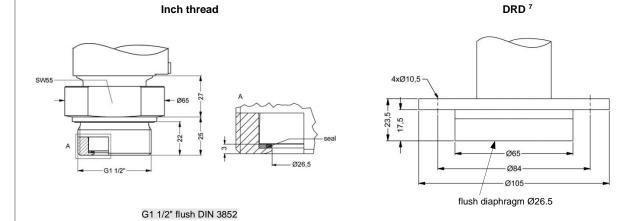
#### stainless steel field housing without display



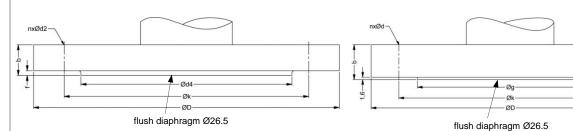
<sup>6</sup> aluminium die cast case is horizontally rotatable as standard



#### Process connections (dimensions in mm)



#### Flange (DIN 2501)



	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		
DN	≤ 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	
DN	≤ 10 bar	≤ 10 bar	

Flange (ANSI)

BD SENSORS
pressure measurement

XMP ci\_E\_231120

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<sup>&</sup>lt;sup>7</sup> mounting flange is included in the delivery (already pre-assembled) HART® is a registered trademark of HART Communication Foundation; Windows® is a registered trademark of Microsoft Corporation



#### Ordering code XMP ci XMP ci Pressure 5 1 E gauge [bar] 🗥 Input 0 0 0.16 6 0 0 0 1 0 1 4 0 0.40 1 0 1 0 2 0 1 0 2 0 5 5 10 0 1 2 0 0 2 9 9 9 20 customer consult Aluminium die cast case with display 0 without display N Stainless steel field housing with display ٧ without display Ν customer 9 9 consult Output intrinsic safety (ia) 4 ... 20 mA / 2-wire with HART®-communication flameproof equipment (d) 4 ... 20 mA / 2-wire with HART®-communication <sup>1</sup> G customer 9 consult p<sub>N</sub> < 1 bar: 0.2 % FSO В p<sub>N</sub> ≥ 1 bar: 0.1 % FSO customer 9 consult Electrical connection terminal clamp alu housing A K 0 8 8 0 terminal clamp field housing 9 9 9 customer consult Mechanical connection standard pressure connections: G1/2" DIN 3852 0 G1/2" EN 837 0 0 1/2" NPT Ν 0 0 process connections: G 1 1/2" DIN flush (DIN 3852) 0 flange DN 25 / PN 40 (DIN 2501) F 2 0 flange DN 50 / PN 40 (DIN 2501) 2 flange DN 80 / PN 16 (DIN 2501) 1 4 flange DN 2" / 150 lbs (ANSI B16.5) <sup>2</sup> 3 flange DN 3" / 150 lbs (ANSI B16.5) <sup>2</sup> 3 3 DRD Ø 65 mm <sup>3</sup> D R D customer 9 9 9 consult Diaphragm ceramics Al<sub>2</sub>O<sub>3</sub> 99,9 % customer 9 consult FKM 1 **EPDM** 3 customer 9 consult Pressure port standard: stainless steel 1.4404 (316L) option for G 1 1/2" flush: PVDF 4 В customer 9 consult Special version 0 0 9 9 standard customer consult

#### $\underline{\Lambda}$ if setting range shall be different from nominal range please specify in your order

- <sup>1</sup> only possible in combination with aluminium die cast case
- $^2$  2"/150 lbs and 3"/150 lbs only possible for nominal pressure ranges  $p_N\,\leq 10$  bar
- <sup>3</sup> mounting flange is included in the delivery (already pre-assembled)
- $^{\rm 4}$  for pressure port in PVDF the operation medium temperature is -25  $\dots$  60  $^{\rm o}{\rm C}$

HART® is a registered trade mark of HART Communication Foundation

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modifications to the specifications and

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time of publishing.

represent the state of engineering at the

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