

APZ 3420 x



DESCRIPTION

APZ 3420 x is a flame proof version of our standard industrial pressure transmitter. Reliable piezoresistive sensor technology combined with fully welded stainless steel case offer a versatile yet cost-effective transmitter in Ex d compact form factor.

SPECIFICATIONS

Pressure ranges: 40 mbar to 600 bar

Pressure types: gauge, absolute

Basic accuracy: $\pm 0.25\%$

Outputs: 4...20 mA; 0...20 mA; 0...10 V; 0...5 V; HART®; RS-485 / Modbus RTU

Sensor: silicon piezoresistive

Pressure port: G1/2"; G1/4"; 1/2" NPT; 1/4" NPT; M20x1.5; other.

Media temperature: -40...+125 °C

Ambient temperature: -40...+85 °C

Optional graphics display

APPLICATIONS

Oil field equipment

Upstream oil and gas production

Gas compressors

Oil platforms

Appearance, mounting kit contents and/or specifications are subject to change without prior notice. We are constantly working on further improvement of our products. Delivery is subject to standard terms of delivery.
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TECHNICAL SPECIFICATIONS

MEASURING RANGES

Pressure range, bar		Overpressure, bar	Burst pressure, bar	Pressure range, bar		Overpressure, bar	Burst pressure, bar
Gauge	Absolute			Gauge	Absolute		
-1...0	-	3.0	4.0	0...6.0	0...6.0	15	20
0...0.04	-	0.3	1.0	0...10	0...10	30	40
0...0.06	-	0.3	1.0	0...16	0...16	60	80
0...0.10	0...0.10	1.0	1.5	0...25	0...25	60	80
0...0.16	0...0.16	1.0	1.5	0...40	0...40	100	150
0...0.25	0...0.25	1.0	1.5	0...60	0...60	100	150
0...0.40	0...0.40	1.0	1.5	0...100	0...100	150	230
0...0.60	0...0.60	3.0	4.0	0...160	0...160	300	450
0...1.0	0...1.0	3.0	4.0	0...250	0...250	530	780
0...1.6	0...1.6	6.0	8.0	0...400	0...400	1050	1580
0...2.5	0...2.5	6.0	8.0	0...600	0...600	1050	1580
0...4.0	0...4.0	15	15				

PERFORMANCE	P > 0.4 bar	0.4 ≥ P > 0.16 bar	P ≤ 0.16 bar
Accuracy, % of span*	≤ ±0.25 (standard) / 0.20 (optional)	≤ ±0.5 (standard)	≤ ±1 (standard)
Temperature effect (% of span / 10 °C)	≤ ±0.1	≤ ±0.2	≤ ±0.25
Compensated range	-20...+80 °C	0...+80 °C	0...+80 °C
Compensated range (optional)	-40...+60 °C	-40...+60 °C	-40...+60 °C
Power supply effect	≤ ±0.05% of span / 10 V		
Load resistance effect	≤ ±0.05% of span / kOhm (transmitters with current output)		
Long-term stability	≤ ±0.1% of span / year		
Response time (10...90%)	≤ 1 ms with analog output, ≤ 200 ms with digital output		

* Accuracy includes non-linearity, hysteresis and non-repeatability.

OPERATING CONDITIONS

Medium temperature (depends on seal)	-40...+125 °C		
Ambient temperature	-40...+85 °C		
Storage temperature	-50...+85 °C		
Approvals	1Ex d IIC T6...T4 Gb X		
Temperature class	T4	T5	T6
Ambient temperature	-40...85 °C	-40...70 °C	-40...60 °C
Vibration resistance	10 g RMS, 20–2000 Hz		
Shock resistance	100 g / 11 ms		
Service life	> 100 x 10 ⁶ cycles		

MECHANICAL SPECIFICATIONS

Pressure port material	stainless steel 316L (1.4404)		
Housing material	stainless steel 316L (1.4404)		
Seal	welded (-40...+125 °C)		
Diaphragm	stainless steel 316L (1.4435)		
Wetted parts	Diaphragm, pressure port, seal		
Pressure port	M20x1.5 EN 837; G1/2" EN 837; G1/4" EN 837; 1/4" NPT; 1/2" NPT; M12x1.5 EN 837; M12x1 EN 837;		
Electrical connection	Ingress protection	Cross section	Cable diameter
Field housing, cable gland M20x1.5	IP67	1.5 mm ²	6...12 mm

DIGITAL DISPLAY

Display type	OLED 128x64 pixels (30x16 mm)
Displayed units	bar, mbar, MPa, kPa, Pa, psi, mmHg, mH ₂ O, ftH ₂ O, %, mA, user
Displayed values range	-1999...9999
Display accuracy	0.1 % of span ± 1 digit
Settling time	< 1 s (with damping disabled)
Damping	0.3...30 s (programmable)

ELECTRICAL SPECIFICATIONS

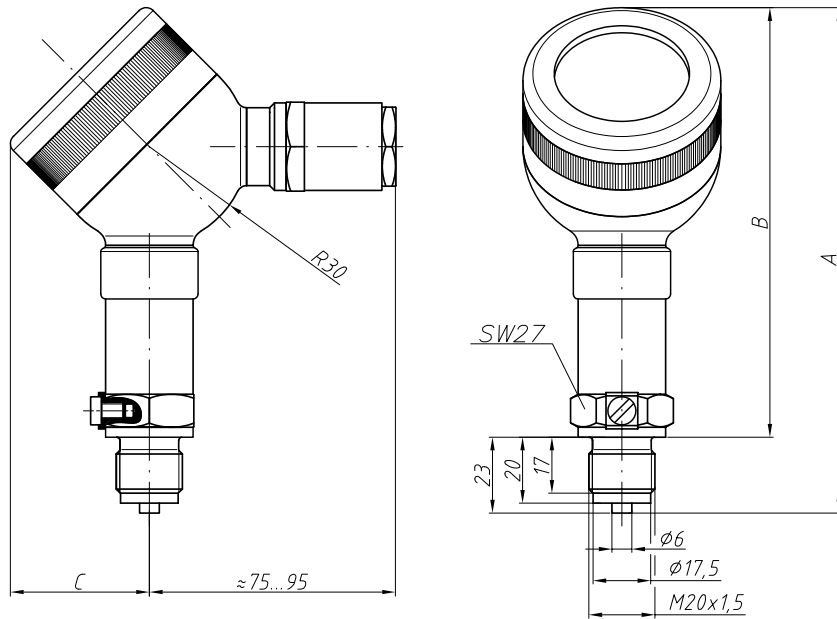
Output signal	Power supply, U _s	Load resistance, R	Power consumption
4...20 mA / 2-wire	12...36 V	≤ [(U _s - 12 V) / 0.02 A] Ohm*	≤ 26 mA
4...20 mA / HART®	18...42 V (with display)	≤ [(U _s - 18 V) / 0.02 A] Ohm* (with display)	
4...20 mA / 3-wire	12...36 V	≤ 500 Ohm	< 7 mA
0...20 mA / 3-wire		≥ 10 kOhm	
0...10 V / 3-wire		≥ 5 kOhm	
0...5 V / 3-wire	5 V	≤ 5 kOhm	≤ 2 mA
0.5...4.5 V / 3-wire	6...15 V		≤ 7 mA
0.5...4.5 V / 3-wire			
RS-485 / Modbus RTU	12...36 V	-	≤ 7 mA

* For output signal 4...20 mA / HART® minimum load resistance for digital communication: 250 Ohm.
HART® is a registered trademark of HART® Communication Foundation.

ELECTRICAL CONNECTIONS / PIN ASSIGNMENT

Circuits		Field housing without display	Field housing with display
2-wire	power +	2	2
	power -	3	3
	shield	1	1
3-wire	power +	2	-
	power -	3	-
	signal +	4	-
	shield	1	-
RS-485 4-wire	power +	2	-
	power -	3	-
	A	1	-
	B	4	-
	shield	housing	-

DIMENSIONS (mm)



	A	B	C
with display	153	130	42
without display	150	127	39

Housing of RS-485 / Modbus RTU with is 25 mm longer
Housing of HART® version is 30 mm longer

PRESSURE PORTS, DIMENSIONS (mm)

M20x1.5; G1/2" EN 837	G1/4"; M12x1; M12x1.25; M12x1.5 EN 837	1/2" NPT	1/4" NPT

ORDERING CODE


APZ 3420		-X	-X	-X	-XXXX	-X	-XX	-X	-XXX	-X	-XX
EXPLOSION-PROOF ENCLOSURE											
1Ex d IIC T6...T4 Gb X		x									
MEASUREMENT TYPE											
		Gauge	G								
		Absolute	A								
		Vacuum, LRL = -1 bar	V								
UNIT OF MEASUREMENT											
		bar	B								
		kg/cm ²	S								
		mH ₂ O	W								
		kPa	K								
		MPa	M								
		Other (specify when ordering)	X								
UPPER RANGE LIMIT (URL)											
		bar, kg/cm ²	mH ₂ O	kPa		MPa					
0.04	0040	0.4	0400	4.0	4000						
0.06	0060	0.6	0600	6.0	6000						
0.10	0100	1.0	1000	10	1001						
0.16	0160	1.6	1600	16	1601						
0.25	0250	2.5	2500	25	2501						
0.40	0400	4.0	4000	40	4001						
0.60	0600	6.0	6000	60	6001						
1.0	1000	10	1001	100	1002	0.1	0100				
1.6	1600	16	1601	160	1602	0.16	0160				
2.5	2500	25	2501	250	2502	0.25	0250				
4.0	4000	40	4001	400	4002	0.4	0400				
6.0	6000	60	6001	600	6002	0.6	0600				
10	1001	100	1002	1000	1003	1	1000				
16	1601	160	1602			1.6	1600				
25	2501	250	2502			2.5	2500				
40	4001	400	4002			4	4000				
60	6001					6	6000				
100	1002					10	1001				
160	1602					16	1601				
250	2502					25	2501				
400	4002					40	4001				
600	6002					60	6001				
Other	XXXX	Other	XXXX	Other	XXXX	Other	XXXX				
ACCURACY											
						0.20% (P > 0.4 bar)	B				
						0.25% (P > 0.4 bar) (standard)	C				
						0.50% (0.4 ≥ P > 0.16 bar) (standard)	D				
						1.0% (P ≤ 0.16 bar)	E				
						Other (specify when ordering)	X				
ELECTRICAL CONNECTION											
						Field housing without display, cable gland M20x1.5	60				
						Field housing with display, cable gland M20x1.5	67				
						Other (specify when ordering)	XX				

ORDERING CODE (CONTINUED)

APZ 3420	-X	-X	-X	-XXXX	-X	-XX	-X	-XXX	-X	-XX
OUTPUT SIGNAL										
							4...20 mA / 2-wire (standard)	A		
							4...20 mA / 3-wire	B		
							0...20 mA / 3-wire	C		
							0...5 mA / 3-wire	S		
							0...10 V / 3-wire	D		
							0...5 V / 3-wire	E		
							RS-485 / Modbus RTU	M		
							4...20 mA / HART®	H		
							Other (specify when ordering)	X		
PRESSURE PORT										
							M20x1.5 EN 837 (standard)	201		
							G1/2" EN 837 (standard)	721		
							G1/4" EN 837	741		
							M12x1 EN 837	121		
							M12x1.5 EN 837	123		
							1/4" NPT	840		
							1/2" NPT	820		
							Other (specify when ordering)	XXX		
SEALS										
							Welded (-40...+125 °C)	W		
							Other (specify when ordering)	X		
VERSION										
							Standard	00		
							Temperature compensated in the range of -40...+60 °C	46		
							Compound filled version	16		
							Other (specify when ordering)	XX		

Example: APZ 3420 x-G-B-4001-B-10-A-100-F-00

ACCESSORIES

				
DZ 10 Pressure snubber	PZ 1024 Power supply unit	BZ 05 / BZ 10 Dry air junction box for submersible transmitters		