



### DESCRIPTION

APZ 3410 is based on a ceramic oil-free sensor to withstand aggressive\* media. Optionally, plastic process connection is available for certain alkalis and acids. Flush ceramic diaphragm and open port options are available for the viscous and/or abrasive media. Oil-free dry pressure cell makes APZ 3410 suitable for environments with high oxygen levels and allows to measure gases with high O<sub>2</sub> concentrations.

### SPECIFICATIONS

Pressure ranges: 0.6 bar to 600 bar

Accuracy:  $\pm 0.5\%$

Outputs: 4...20 mA (option – Ex ia); 0...20 mA; 0...10 V; 0...5 V; 0.5...4.5 V (option – Ex ia)

Sensor: ceramic thick film

Pressure port: G3/4" (Flush diaphragm); G1/2"; G1/4"; 1/2" NPT; 1/4" NPT; M20x1.5; other

Pressure port materials: stainless steel (for abrasive media), PVDF or PVC (for aggressive media)

Media temperature: -20...+135 °C\*\*

Ambient temperature: -40...+85 °C\*\*

Optional: field housing with/without graphics display

### APPLICATIONS

Certain alkalis and acids

Aggressive media\*

Viscous media

Abrasive media

Sewage, waste water, sludge

Oxygen

Level monitoring in tanks

\* please consult the manufacturer for particular media compatibility

\*\* plastic housing and port offer reduced temperature range

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		
0...0.6	0...0.6	2.0	4.0	0...25	0...25	40	50
0...1.0	0...1.0	2.0	4.0	0...40	0...40	100	120
0...1.6	0...1.6	4.0	5.0	0...60	0...60	100	120
0...2.5	0...2.5	4.0	5.0	0...100	0...100	200	250
0...4.0	0...4.0	10	12	0...160	0...160	400	500
0...6.0	0...6.0	10	12	0...250	0...250	600	650
0...10	0...10	20	25	0...400	0...400	600	650
0...16	0...16	40	50	0...600	0...600	800	900

### PERFORMANCE

Accuracy, % of span*	≤ ±0.5
Temperature effect (% of span / 10 °C)	≤ ±0.2
Compensated range	-25...+85 °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	≤ ±0.3% of span / year
Response time (10 ... 90%)	≤ 1 ms

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

### OPERATING CONDITIONS

Medium temperature (depends on seal)	-20...+135 °C		
Ambient temperature	-40...+85 °C		
Storage temperature	-40...+85 °C		
Approval	0Ex ia IIC T6...T4 Ga X		
Temperature class	T4	T5	T6
Ambient temperature	-40...+80 °C	-40...+60 °C	-40...+50 °C
Vibration resistance	10 g RMS, 20–2000 Hz		
Shock resistance	100 g / 11 ms		
Service life	> 100 x 10 <sup>6</sup> cycles		

### MECHANICAL SPECIFICATIONS

Pressure port material	stainless steel 316L (1.4404), PVC (-10...+50 °C, up to 10 bar), PVDF (-20...+70 °C, up to 25 bar)		
Housing material	stainless steel 316L (1.4404), PVC, PVDF		
Seal	EPDM (-20...+135 °C); NBR (-20...+100 °C); FKM (-20...+135 °C); FFKM (-20...+135 °C)		
Diaphragm	ceramics Al <sub>2</sub> O <sub>3</sub> 96 %		
Wetted parts	Diaphragm, pressure port, seal		
Pressure port	<b>Stainless steel</b>		<b>PVDF, PVC</b>
	M20x1.5 DIN 3852; M20x1.5 EN 837; M20x1.5 DIN 3852 Open port; M20x1.5 DIN 3852 Flush diaphragm; G1/2" DIN 3852; G1/2" EN 837; G1/2" DIN 3852 Open port; G1/2" DIN 3852 Flush diaphragm; G1/4" DIN 3852; G1/4" EN 837; M10x1 DIN 3852; M12x1 DIN 3852; M12x1 EN 837; M12x1.5 DIN 3852; M12x1.5 EN 837; M16x1.5 DIN 3852; M16x1.5 EN 837; G3/4" DIN 3852 Flush diaphragm; 1/4" NPT; 1/2" NPT		M20x1.5 DIN 3852 Open port; G1/2" DIN 3852 Open port; G3/4" DIN 3852 Flush diaphragm;
<b>Electrical connection</b>	<b>Ingress protection</b>	<b>Cross section, max</b>	<b>Cable diameter</b>
DIN 43650A (4 pin)	IP65	1.5 mm <sup>2</sup>	6...8 mm
Binder 723 (5 pin)	IP67	0.75 mm <sup>2</sup>	6...8 mm
M12x1 (5 pin)	IP67	0.75 mm <sup>2</sup>	6...8 mm
Buccaneer (4 pin)	IP68	1.5 mm <sup>2</sup>	6...8 mm
Cable gland, M12x1.5	IP67	0.14 mm <sup>2</sup>	5 mm
Cable gland, stainless steel	IP68	0.14 mm <sup>2</sup>	7.5 mm
Field housing, cable gland M20x1.5	IP67	1.5 mm <sup>2</sup>	7...10 mm

## DIGITAL DISPLAY (only for field housing version)

Display type	OLED 128x64 pixels (30x16 mm)
Displayed units	bar, mbar, MPa, kPa, Pa, psi, mmHg, mWc, ftH2O, %, mA, user
Displayed values range	-1999...9999
Display accuracy	0.1 % of span $\pm$ 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 18...42 V (with display)	$\leq [(U_s - 12 \text{ V}) / 0.02 \text{ A}] \text{ Ohm}$ $\leq [(U_s - 18 \text{ V}) / 0.02 \text{ A}] \text{ Ohm (with display)}$	$\leq 26 \text{ mA}$
4...20 mA / 3-wire 0...20 mA / 3-wire 0...10 V / 3-wire 0...5 V / 3-wire	12...36 V	$\leq 500 \text{ Ohm}$ $\geq 10 \text{ kOhm}$	
0.5...4.5 V / 3-wire 0.5...4.5 V / 3-wire		5 V 6...15 V	$\geq 5 \text{ kOhm}$ $\leq 2 \text{ mA}$ $\leq 7 \text{ mA}$

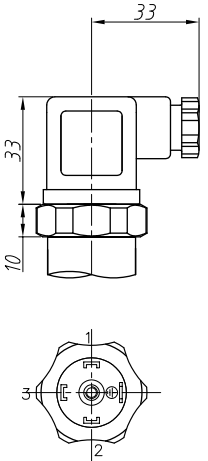
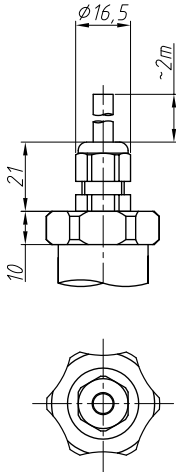
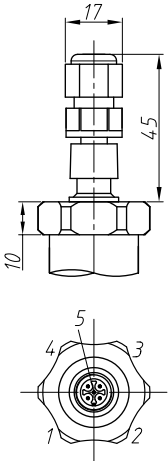
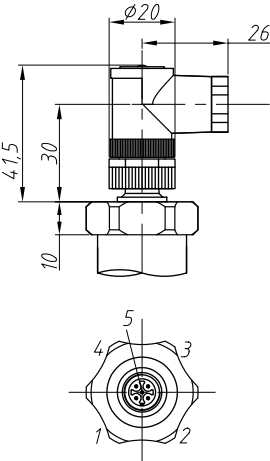
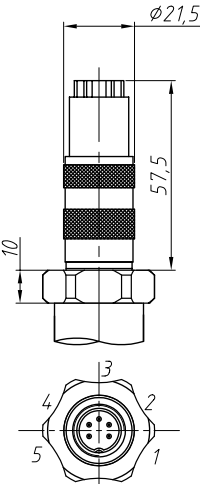
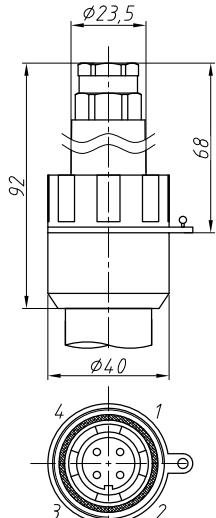
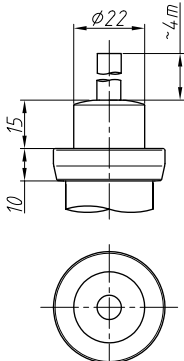
Safe values for intrinsically safe design 0Ex ia IIC T6...T4 Ga X:

Parameter	2-wire	3-wire, 4-wire
Maximum voltage, $U_i$	28 V	6 V
Maximum current, $I_i$	93 mA	60 mA
Maximum power, $P_i$	660 mW	100 mW
Maximum internal inductance, $L_i$	10 $\mu\text{H}$	10 $\mu\text{H}$
Maximum internal capacitance, $C_i$	15 nF	500 nF

## ELECTRICAL CONNECTIONS / PIN ASSIGNMENT

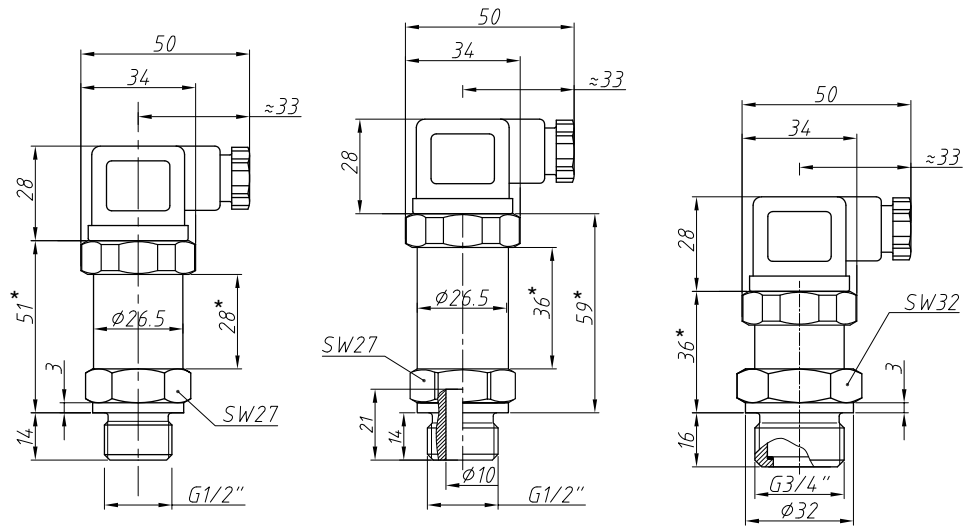
Circuits		DIN 43650	M12x1	Binder 723	Buccaneer	Cable gland	Field housing with M20x1.5 cable gland
2-wire	power +	1	1	3	1	white	2
	power -	2	2	4	2	brown	3
	shield	GND	4	5	4	yellow-green	1
3-wire	power +	1	1	3	1	white	2
	power -	2	2	4	2	brown	3
	signal +	3	3	1	3	green	4
	shield	GND	4	5	4	yellow-green	1

## ELECTRICAL CONNECTIONS, DIMENSIONS (mm)

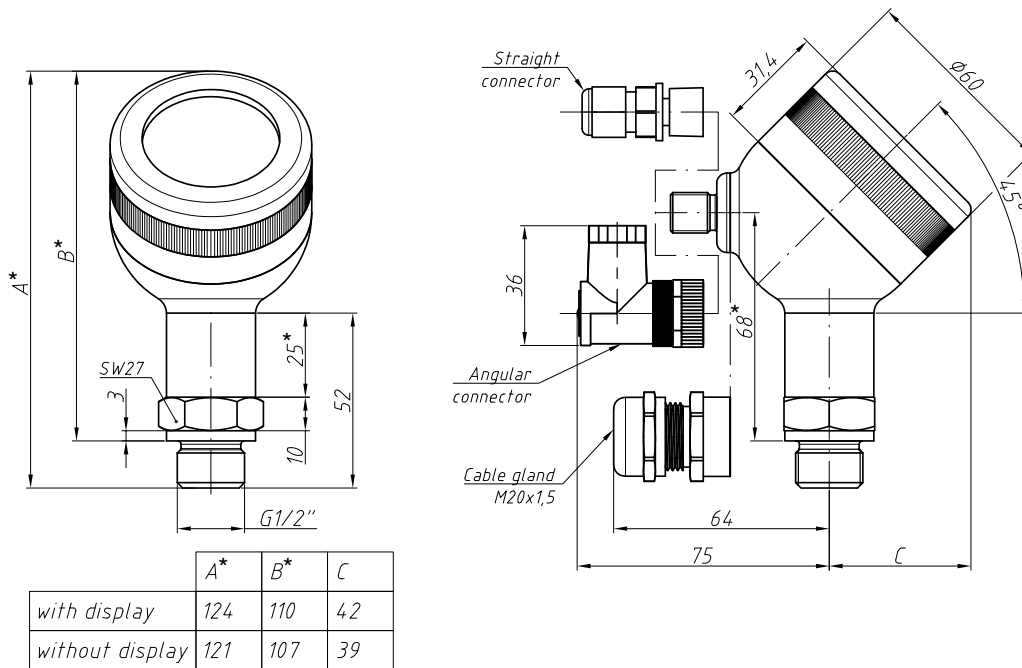
DIN 43650A (IP65)	Cable gland M12x1.5 (IP67)	M12x1 straight connector (IP67)	M12x1 angular connector (IP67)
			
Binder 723 (IP67)	Buccaneer (IP68)	Stainless steel cable gland (IP68)	
			

## DIMENSIONS (mm)

### Standard

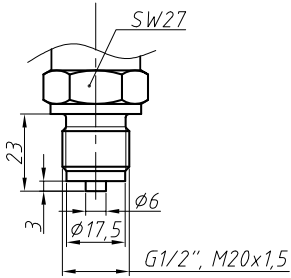
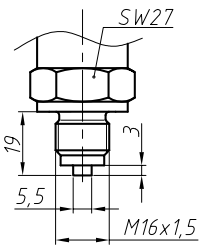
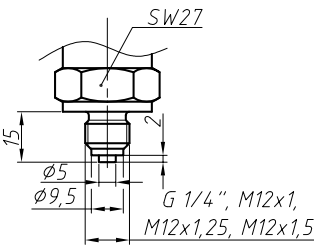
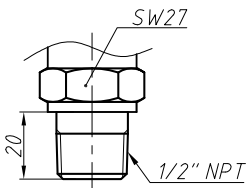
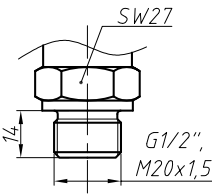
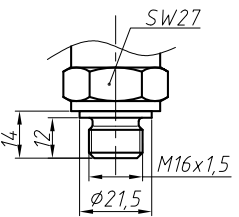
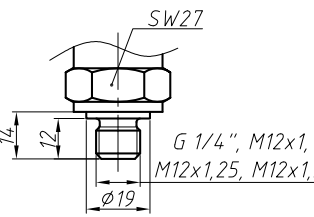
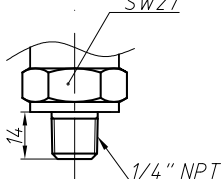
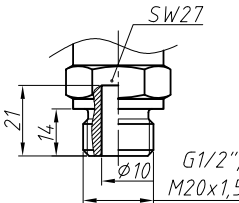
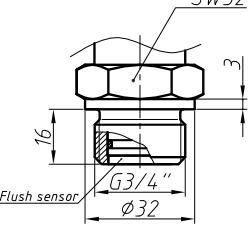
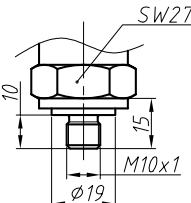
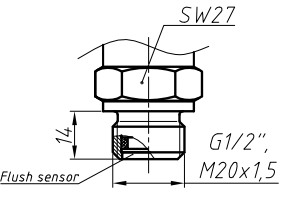


### Field housing



\* Housing of Ex ia version is 25 mm longer.

## PRESSURE PORTS, DIMENSIONS (mm)

M20x1.5; G1/2" EN 837	M16x1.5 EN 837	G1/4"; M12x1; M12x1.25 M12x1.5 EN 837	1/2" NPT
 <p>SW27 23 3 6 17.5 G1/2", M20x1,5</p>	 <p>SW27 19 3 5.5 M16x1,5</p>	 <p>SW27 15 5 9.5 G 1/4", M12x1, M12x1,25, M12x1,5</p>	 <p>SW27 20 1/2" NPT</p>
M20x1.5; G1/2" DIN 3852	M16x1.5 DIN 3852	G1/4"; M12x1; M12x1.25 M12x1.5 DIN 3852	1/4" NPT
 <p>SW27 14 17.5 G1/2", M20x1,5</p>	 <p>SW27 14 12 21.5 M16x1,5</p>	 <p>SW27 14 12 19 G 1/4", M12x1, M12x1,25, M12x1,5</p>	 <p>SW27 14 1/4" NPT</p>
M20x1.5; G1/2" DIN 3852 Open port	G3/4" DIN 3852 Flush diaphragm	M10x1 DIN 3852	M20x1.5 DIN 3852 Flush diaphragm
 <p>SW27 21 14 10 G1/2", M20x1,5</p>	 <p>SW32 16 32 32 Flush sensor G3/4"</p>	 <p>SW27 10 15 19 M10x1</p>	 <p>SW27 14 14 10 Flush sensor G1/2", M20x1,5</p>

## ORDERING CODE

APZ 3410		-X	-X	-XXXX	-X	-XX	-X	-XXX	-X	-X	-XX
<b>MEASUREMENT TYPE</b>											
Gauge		G									
Absolute		A									
Vacuum pressure, LRL = -1		V									
<b>UNIT OF MEASUREMENT</b>											
bar		B									
kg/cm <sup>2</sup>		S									
mH <sub>2</sub> O		W									
kPa		K									
Other (specify when ordering)		X									
<b>UPPER RANGE LIMIT (URL)</b>											
bar, kg/cm <sup>2</sup>		mH <sub>2</sub> O		kPa		MPa					
0.6	0600	6.0	6000	60	6001	0.06	0060				
1.0	1000	10	1001	100	1002	0.10	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	0.40	0400				
6.0	6000	60	6001	600	6002	0.60	0600				
10	1001	100	1002	1000	1003	1.0	1000				
16	1601	160	1602			1.6	1600				
25	2501	250	2502			2.5	2500				
40	4001	400	4002			4.0	4000				
60	6001					6.0	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				
<b>ACCURACY</b>											
										0.5% (standard)	D
										Other (specify when ordering)	X
<b>ELECTRICAL CONNECTION</b>											
										DIN 43650A	10
										Binder 723	20
										M12x1, straight connector	30
										M12x1, angular connector	31
										Cable gland M12x1.5 + cable 2 m	40
										Stainless steel cable gland + cable 4 m	41
										Buccaneer	50
										Field housing without display, cable gland M20x1.5	60
										Field housing with display, cable gland M20x1.5	67
										Field housing with display, straight connector M12x1	64
										Field housing with display, angular connector M12x1	65
										Other (specify when ordering)	XX
<b>OUTPUT SIGNAL</b>											
										4...20 mA / 2-wire	A
										4...20 mA / 2-wire, 0Ex ia IIC T6...T4 Ga X	Q
										4...20 mA / 3-wire	B
										0...20 mA / 3-wire	C
										0...10 V / 3-wire	D
										0...5 V / 3-wire	E
										0.5...4.5 V / 3-wire, 0Ex ia IIC T6...T4 Ga X	R
										Other (specify when ordering)	X

## ORDERING CODE (CONTINUED)

	APZ 3410	-X	-X	-XXXX	-X	-XX	-X	-XXX	-X	-X	-XX
<b>PRESSURE PORT</b>											
					M20x1.5 DIN 3852 (standard)			200			
					M20x1.5 EN 837 (standard)			201			
					G1/2" DIN 3852 (standard)			720			
					G1/2" EN 837 (standard)			721			
					G1/4" DIN 3852 (standard)			740			
					G1/4" EN 837			741			
					M10x1 DIN 3852			100			
					M12x1 DIN 3852			120			
					M12x1 EN 837			121			
					M12x1.5 DIN 3852			122			
					M12x1.5 EN 837			123			
					M16x1.5 DIN 3852			160			
					M16x1.5 EN 837			161			
					M20x1.5 DIN 3852 flush diaphragm (P ≤ 40 bar)			205			
					M20x1.5 DIN 3852 open port*			206			
					G1/2" flush diaphragm (P ≤ 40 bar)			726			
					G1/2" DIN 3852 open port*			726			
					G3/4" DIN 3852 flush diaphragm*			735			
					1/4" NPT			840			
					1/2" NPT			820			
<b>SEALS</b>											
					FKM (-20...+135 °C, standard)			F			
					NBR (-20...+100 °C)			N			
					EPDM (-20...+135 °C)			E			
					FFKM (-20...+135 °C)			K			
					Other (specify when ordering)			X			
<b>PRESSURE PORT MATERIAL</b>											
					Stainless steel 316L			A			
					PVC (-10...+50 °C, up to 10 bar)			P			
					PVDF (-20...+70 °C, up to 25 bar)			F			
					Other (specify when ordering)			X			
<b>VERSION</b>											
					Standard			00			
					Zero trim (requires ZCON 100 configurator)			01			
					Oxygen version (only with FKM seal and for P ≤ 250 bar)			DG			
					Housing and pressure port material - stainless steel 904L			MS			
					Compound filled version			16			
					Other (specify when ordering)			XX			

\* The pressure ports marked are available in PVDF (-20...+70 °C, up to 25 bar) and PVC (-10...+50 °C, up to 10 bar)

Example: APZ 3410-G-B-4001-D-10-A-100-F-A-00

## ACCESSORIES

				
DZ 10 Pressure snubber	ZCON 100 Zero trim and range selection device	ANZ 200 Plug-in display for transmitters with 4-20 mA output	PZ 1024 Power supply unit	BZ 05 / BZ 10 Dry air junction box for submersible transmitters