

**DESCRIPTION**

ASZ 3410 p is an electronic pressure switch with PNP (high side) outputs. Ceramic thick film sensor makes it a great choice for the aggressive(\*) media. Flush ceramic diaphragm and the open port options are available for the viscous and/or abrasive media. Microcontroller based electronic board provide a highly flexible and configurable solution for local equipment control. User is able to choose from a wide variety of relay triggering algorithms and adjust setpoints and hysteresis values (\*\*). Additionally, 1-5 V analog output is provided, thus ASZ 3410 p is a pressure switch and a transmitter at the same time, making this model stand out in comparison to conventional mechanical switches.

**SPECIFICATIONS**

Pressure ranges: 0.6 bar up to 600 bar

Setpoints, hysteresis: adjustable (\*\*)

Accuracy:  $\pm 0.5\%$

Switch outputs: PNP (high side), 2 pcs

Analog output: 1...5V (3-wire);

Sensor: ceramic thick film

Pressure port: G 3/4" (for flush diaphragm); G1/2"; G1/4"; 1/4" NPT; M20x1.5; etc

Pressure port materials: stainless steel (for abrasive media), plastic (for aggressive media);

Media temperatures: -20...+125 °C

Ambient temperatures: -40...+70 °C

**APPLICATIONS**

Aggressive media(\*)

Viscous media

Tank liquid level maintaining

Abrasive media

Sewage, waste water, sludge

(\*) please consult the manufacturer for particular media compatibility

(\*\*) set points and other parameters can be set either by factory or by user via PCON 200 adapter (sold separately)

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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	3.0	4.0	0...25	0...25	100	125
0...1.0	0...1.0	3.0	4.0	0...40	0...40	100	125
0...1.6	0...1.6	6.0	8.0	0...60	0...60	200	250
0...2.5	0...2.5	6.0	8.0	0...100	0...100	200	250
0...4.0	0...4.0	15	20	0...160	0...160	400	500
0...6.0	0...6.0	15	20	0...250	0...250	800	1000
0...10	0...10	20	25	0...400	0...400	800	1000
0...16	0...16	40	50	0...600	0...600	900	1100

### PERFORMANCE

Accuracy, % of span*	±0.5
Temperature effect, (% of span / 10 °C)	±0.2
Compensated range	-25...+85 °C
Power supply effect (rated supply voltage - 24 V ± 10%)	≤ ±0.05% of span / 10 V
Long term stability	≤ ±0.3% of span / year
Response time (10...90%)	≤ 5 ms
Startup time (after powering up)	less than 0.2 s

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

### OPERATING CONDITIONS

Medium temperature (depends on seal)	-25...+135 °C
Ambient temperature	-40...+85 °C
Storage temperature	-50...+85 °C
Vibration resistance	5 g RMS, 10 - 500 Hz
Shock resistance	100 g
Pressure sensor service life	> 100×10 <sup>6</sup> cycles
Contacts switch cycles	> 100×10 <sup>6</sup>

\* Except for devices used with aggressive media.

## 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 304L (1.4301)	
Seal (operating temperature)	EPDM (-20...+135 °C), NBR (-20...+100 °C), FKM (-20...+135 °C)	
Diaphragm	ceramics Al <sub>2</sub> O <sub>3</sub> 96 %	
Wetted parts	Diaphragm, pressure port, seals	
Pressure port	Stainless steel	PVC, PVDF
	M20x1.5 EN 837; G 1/2" EN 837; G 1/4" DIN 3852; G 1/4" EN 837; 1/2" NPT; 1/4" NPT	G 1/2" DIN 3852 open port; G 3/4" DIN 3852 flush
Electrical connection	M12x1 (5 pin)	
Cable diameter	6...8 mm	
Wire cross section	0.75 mm	
Ingress protection (GOST 14254)	IP65	
Dimensions, mm, max	Ø28x95, Ø31x95 (for G 1/2" DIN 3852 open port), Ø37x95 (for G 3/4" DIN 3852 flush)	
Weight, max	0.15 kg	

## ELECTRICAL SPECIFICATIONS

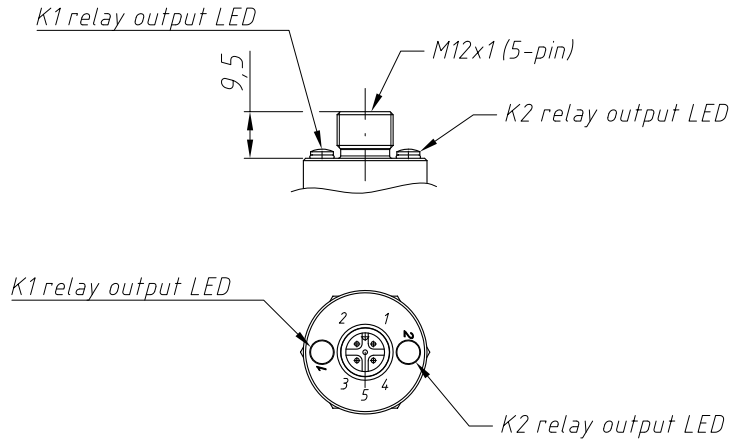
Power supply (U <sub>power</sub> ), V	from 12 to 36 (rated 24 V)
Power consumption, max	10 mA (with outputs disabled)
Analog output:	
Output signal	1...5 V
Emergency output mode	0.8 V and 5.5 V
Load resistance (R <sub>L</sub> )	≥ 10 kOhm
Galvanic isolation resistance to case, min.	100 MOhm (at a voltage of 100 V)
Relay outputs (PNP):	
Number of relay outputs	from 1 to 2 (independent)
Output type (configurable)	direct/inverse
Max switching current	400 mA, short-circuit protection
Switch operating modes (configurable)	hysteresis/window/pulse
Relay outputs accuracy	≤ ±0.25% of span
Switching frequency, max	200 Hz
Switching delay (programmable)	0...650 s
UART interface (modified semiduplex):	
Number of interfaces	1
Data transfer rate, bit/s	9600
Protocol	P-Conf
Communication cable length, m, max	5

## ELECTRICAL CONNECTIONS / PIN ASSIGNMENT

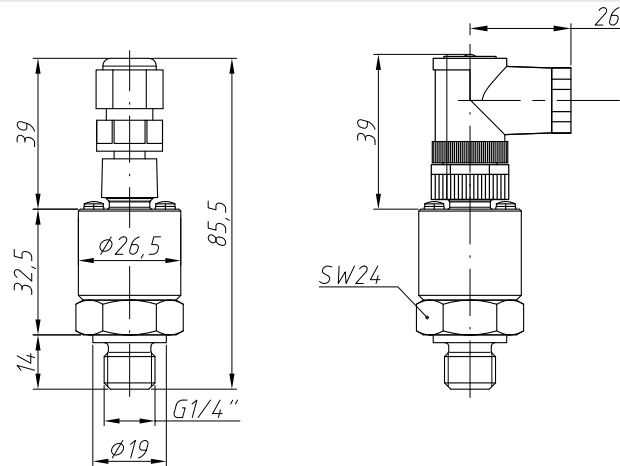
M12x1 circuits (5 pin)		Connector pins
Power +	U <sub>s</sub>	1
Switch 2	K2	2
Power -	COM	3
Analogue output/ Communication interface	U <sub>out</sub> /DIO	4
Switch 1	K1	5

## ELECTRICAL CONNECTIONS, DIMENSIONS (mm)

M12x1



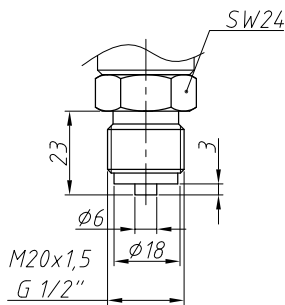
## DIMENSIONS (mm)



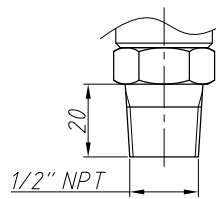
Housing of transmitter with welded sensor is 8 mm longer

## PRESSURE PORTS, DIMENSIONS (mm)

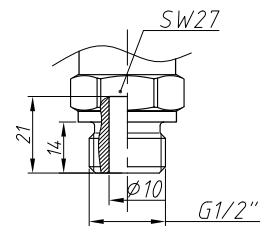
M20x1.5; G1/2" EN 837



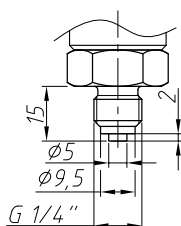
1/2" NPT



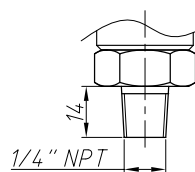
G1/2" DIN 3852



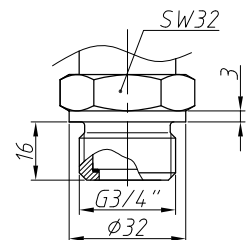
G1/4" EN 837



1/4" NPT



G3/4" DIN 3852



**ORDERING CODE**

ASZ 3410 p		-X	-X	-XXXX	-X	-X	-XX	-X	-XXX	-X	-XX
<b>MEASUREMENT TYPE</b>											
	Gauge	G									
	Absolute	A									
	Vacuum, LRL = -1 bar	V									
<b>UNIT OF MEASUREMENT</b>											
	bar	B									
	kg/cm <sup>2</sup>	S									
	mWC	W									
	kPa	K									
	MPa	M									
	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>											
						0.50%	D				
						Other (specify when ordering)	X				
<b>NUMBER OF SWITCH OUTPUTS</b>											
						1 switch output	1				
						2 switch outputs	2				
<b>ELECTRICAL CONNECTION</b>											
						M12x1, straight connector	30				
						M12x1, angular connector	31				
						Other (specify when ordering)	XX				
<b>OUTPUT SIGNAL</b>											
						1...5 V / 3-wire	F				
						Other (specify when ordering)	X				

## ORDERING CODE (CONTINUED)

	ASZ 3410 p	-X	-X	-XXXX	-X	-X	-XX	-X	-XXX	-X	-XX
<b>PRESSURE PORT</b>											
							M20x1.5 EN 837 (standard)		201		
							G1/2" EN 837 (standard)		721		
							G1/4" DIN 3852 (standard)		740		
							G1/4" EN 837		741		
							G 3/4" DIN 3852 flush diaphragm		735		
							G 1/2" DIN 3852 open port		726		
							1/4" NPT		840		
							1/2" NPT		820		
							Other (specify when ordering)		XXX		
<b>SEAL</b>											
							FKM (-20...+135 °C) (standard)		F		
							NBR (-20...+100 °C)		N		
							EPDM (-20...+125 °C)		E		
							Other (specify when ordering)		X		
<b>VERSION</b>											
										Standard	00
										Other (specify when ordering)	XX

Example: ASZ 3410 p-G-B-1601-D-2-30-F-201-F-00

## ACCESSORIES

				
DZ 10 Pressure snubber	PZ 1024 Power supply unit	PCON 200 Programming adapter	P-conf Software	

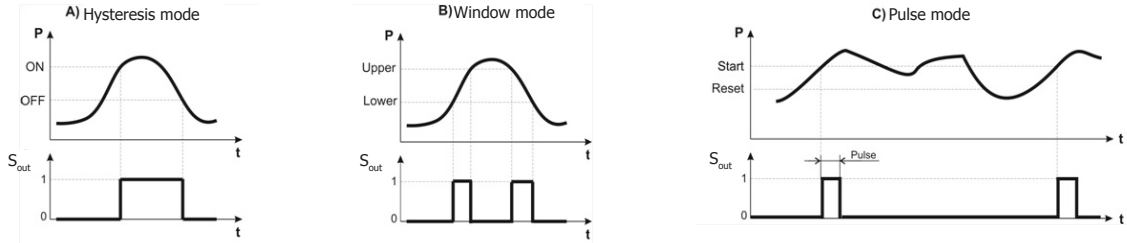
## PRESSURE SWITCH ORDER FORM

### ORDERING CODE

<b>ASZ 3410 p</b>	-X	-X	-XXXX	-X	-X	-XX	-X	-XXX	-X	-XX
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### CONFIGURABLE FEATURES AND FUNCTIONS

Relay outputs operation logic ( $S_{out}$ ) depending on input pressure (P).



Note:

The default mode is A.

In normal (non-inverse) mode,  $S_{out}$  at „1“/ „0“ means that the relay output is active/not active, respectively.

In inverse mode (Mode inverted),  $S_{out}$  graph mirror-inverts along the horizontal axis: „0“ is „1“, „1“ is „0“.

Switch outputs operating mode parameters (one mode selected):

Mode	Parameter	Factory settings for switches K1 and K2	Ordered settings	
			Switch K1	Switch K2
A: Hysteresis Mode	Level ON	55 % of span		
	Level OFF	50 % of span		
	Delay ON	0 ms		
	Delay OFF	0 ms		
B: Window Mode	Upper level	–		
	Lower level	–		
	Delay Upper	–		
	Delay Lower	–		
C: Pulse Mode	Start level	–		
	Reset level	–		
	Delay Pulse	–		
	Pulse width, must be $\geq 20$ ms	–		
Output mode	Mode inverted	no		

### Customer

Order number:

Company:

Phone / fax / e-mail:

Contact person

Position:

Full name: