

**DESCRIPTION**

ASZ 3420 p is an electronic pressure switch with PNP (high side) outputs. High quality silicon piezoresistive sensor and a microcontroller based electronic board provide highly flexible and configurable solution for local equipment control. User can 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 3420 p is a pressure switch and pressure transmitter at the same time, making this model stand out in comparison to conventional mechanical switches.

**SPECIFICATIONS**

Pressure ranges: 40 mbar to 600 bar  
Setpoints, hysteresis: adjustable\*  
Basic accuracy:  $\pm 0.25\%$   
Switch outputs: PNP (high side), 2 pcs  
Analog output: 1...5V (3-wire);  
Sensor: silicon piezoresistive  
Pressure port: M20x1.5; G1/2"; G1/4"; 1/4" NPT; other.  
Media temperature: -40...+125 °C  
Ambient temperature: -40...+85 °C

**APPLICATIONS**

Industrial equipment protection  
Pressure monitoring and control  
Tank liquid level control  
Pumps, fans local control

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

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

PERFORMANCE	P > 0.4 bar	P ≤ 0.4 bar
Accuracy, % of span*	≤ ±0.25	≤ ±0.5
Temperature effect (% of span / 10 °C)	≤ ±0.1	≤ ±0.2
Compensated range	-20...+80 °C	0...+80 °C
Power supply effect (rated supply voltage: 24 V ± 10%)	≤ ±0.05% of span / 10 V	
Long-term stability	≤ ±0.1% 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)	-40...+125 °C
Ambient temperature	-40...+85 °C
Storage temperature	-40...+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)
Housing material	stainless steel 304L (1.4301)
Seal	EPDM (-40...+125 °C), NBR (-25...+100 °C), FKM (-25...+125 °C), welded (-40...+125 °C)
Diaphragm	stainless steel 1.4435 (316L)
Wetted parts	Diaphragm, pressure port, seal
Pressure port	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
Electrical connection	M12x1 (5 pin)
Cable diameter	6...8 mm
Wire cross section	0.75 mm
Ingress protection	IP65
Dimensions, mm, max	Ø28x95
Weight, max	0.15 kg

## ELECTRICAL SPECIFICATIONS

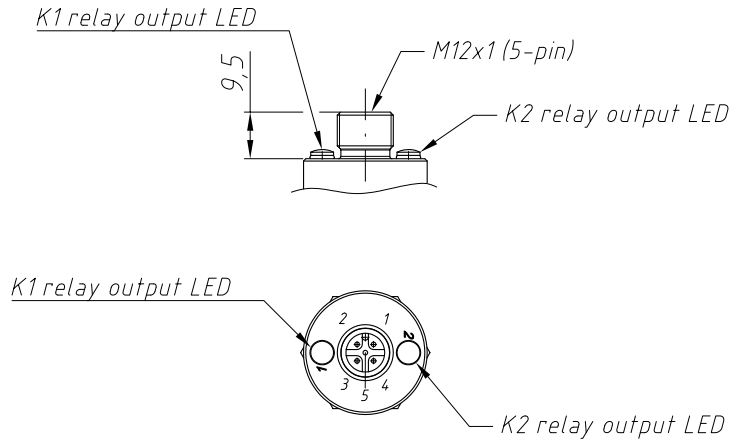
Power supply (U <sub>s</sub> ), V	12 to 36 (rated 24 V)
Power consumption, max	10 mA (with outputs disabled)
Analog output:	
Output signal	1...5 V
Fault mode	0.8 V and 5.5 V
Load resistance (R <sub>L</sub> )	≥ 10 kOhm
Galvanic isolation resistance to case, min.	100 MOhm (at a voltage of 100 V)
Relay outputs (PNP):	
Number of relay outputs	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

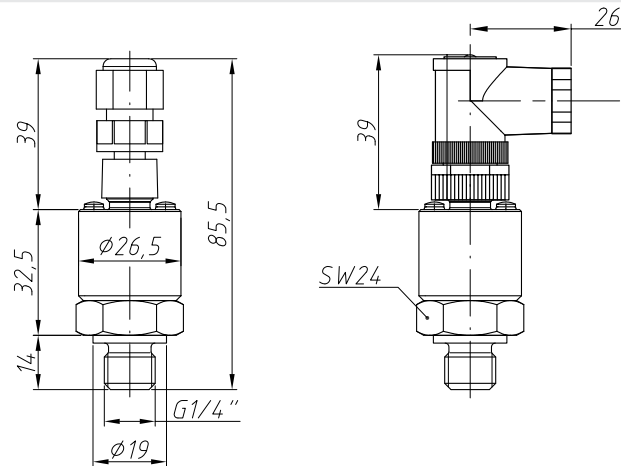
M12x1 circuits (5 pin)		Connector pins
Power +	U <sub>s</sub>	1
Switch 2	K2	2
Power -	COM	3
Analog output / Communication interface	U <sub>out</sub> /DIO	4
Switch 1	K1	5

## ELECTRICAL CONNECTIONS, DIMENSIONS (mm)

M12x1



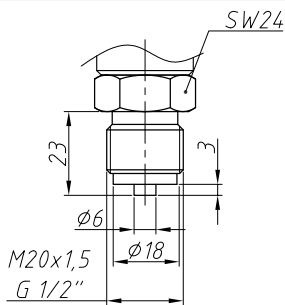
## DIMENSIONS (mm)



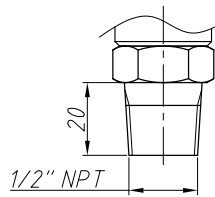
Housing of transmitter with welded sensor is 8 mm longer

## PRESSURE PORTS, DIMENSIONS (mm)

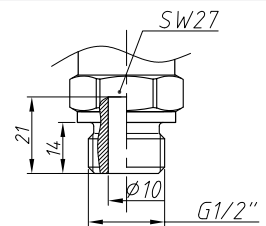
M20x1.5; G1/2" EN 837



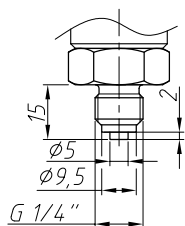
1/2" NPT



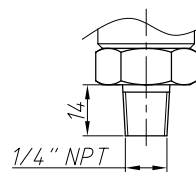
G1/2" DIN 3852



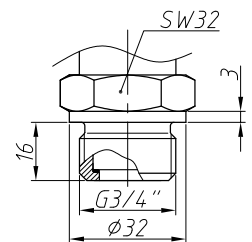
G1/4" EN 837



1/4" NPT



G3/4" DIN 3852



## ORDERING CODE

ASZ 3420 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									
mH <sub>2</sub> O		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					
0.04	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				
<b>ACCURACY</b>											
0.25% (P > 0.4 bar) (standard)		C									
0.50% (P ≤ 0.4 bar) (standard)		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 3420 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>SEALS</b>										
								FKM (-25...+125 °C) (standard)	F	
								NBR (-25...+100 °C)	N	
								EPDM (-40...+125 °C)	E	
								Welded sensor (no seal -40...+125 °C)	W	
								Other (specify when ordering)	X	
<b>VERSION</b>										
									Standard	00
									Other (specify when ordering)	XX

Example: ASZ 3420 p-G-B-6002-C-2-30-F-201-W-00

## ACCESSORIES

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

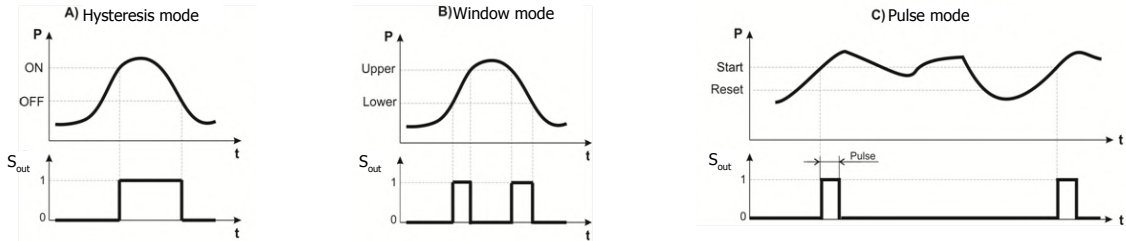
## PRESSURE SWITCH ORDER FORM

### ORDERING CODE

ASZ 3420 p    -X    -X    -XXXX    -X    -X    -XX    -X    -XXX    -X    -XX

### CONFIGURABLE FEATURES AND FUNCTIONS

Switching 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: