

Electronic pressure switches, Performance series

Technical details



	0500 NO 0501 NC						
Transistor output:	PNP output (High-Side N-channel)						
Supply voltage:	9.6 – 32 VDC with reverse voltage protection						
Output current:	0.5 A with (≤ 0.2 A at ≥ 50 °C) short-circuit and overvoltage protection						
Idle power consumption:	< 30 mA						
Adjustment range p_{nom} :	0 - 2 bar (0 - 29 psi)	0 - 4 bar (0 - 58 psi)	0 - 10 bar (0 - 145 psi)	0 - 16 bar (0 - 232 psi)	0 - 40 bar (0 - 580 psi)	0 - 100 bar (0 - 1,450 psi)	0 - 250 bar (0 - 3,625 psi)
Max. overpressure: ¹⁾	4 bar (58 psi)	10 bar (145 psi)	20 bar (290 psi)	40 bar (580 psi)	100 bar (1,450 psi)	150 bar (2,175 psi)	375 bar (5,439 psi)
Burst pressure: ¹⁾	8 bar (116 psi)	20 bar (290 psi)	35 bar (507 psi)	60 bar (870 psi)	140 bar (2,030 psi)	300 bar (4,350 psi)	500 bar (7,252 psi)
Mechanical life expectancy:	5,000,000 switching cycles at rise rates to 1,000 bar/s at p_{nom}						
Pressure rise rate:	1,450 psi (1,000 bar/s)						
Accuracy:	± 0.5 % of adjustment range p_{nom} (full scale (FS)) at room temperature						
Switching point adjustment range:	3 ... 100 % of adjustment range p_{nom} (FS), set at factory						
Hysteresis: ²⁾	2 ... 98 % FS, programmable at factory (max. tolerance ± 1.0 % of adjustment range p_{nom})						
Default-Hysteresis without order specification	2 bar (29 psi)	4 bar (58 psi)	10 bar (145 psi)	16 bar (232 psi)	40 bar (580 psi)	100 bar (1,450 psi)	250 bar (3,625 psi)
	0.1 bar (1.5 psi)	0.2 bar (3 psi)	0.5 bar (7 psi)	0.8 bar (12 psi)	2 bar (29 psi)	5 bar (72.5 psi)	10 bar (145 psi)
Operating mode:	with hysteresis or window function (see page 101), programmable at factory						
Resolution:	0.2 % of adjustment range p_{nom} (FS)						
Long term stability:	± 0.1 % of adjustment range p_{nom} (FS) per year						
Repeatability: ³⁾	± 0.1 % of adjustment range p_{nom} (FS)						
Switching time:	< 4 ms						
Switch-on / - off delay:	Adjustable between 0 and 2 s (please specify when ordering, otherwise default 0 s is set)						
Temperature error: ³⁾	± 0.04 % of adjustment range p_{nom} (FS) / °C						
Compensated temperature range:	0 °C ... +70 °C (+32 °F ... +158 °F), total error ≤ 2 %						
Temperature range ambient:	-30 °C ... +100 °C (-22 °F ... +212 °F)						
Temperature range media:	with TPE seal:		-22 °F ... +230 °F (-30 °C ... +110 °C)				
	with NBR seal:		-22 °F ... +212 °F (-30 °C ... +100 °C)				
	with EPDM seal:		-22 °F ... +257 °F (-30 °C ... +125 °C)				
	with FKM seal: ⁴⁾		-4 °F ... +257 °F (-20 °C ... +125 °C)				
Wetted parts material	Housing:	Stainless steel (1.4305 / AISI 303)					
	Messuring cell:	Ceramic					
	Seal material:	TPE, NBR, EPDM or FKM ⁴⁾					
Insulation resistance:	> 100 M Ω (35 VDC)						
Vibration resistance:	20 g; at 4 ... 2000 Hz sine wave, DIN EN 60068-2-6						
Shock resistance:	500 m/s ² , 11 ms half sine wave; DIN EN 60068-2-27						
Protection class:	IP65: DIN EN 175301-803-A IP67: M12x1, AMP-Superseal®, cable connector IP67 and IP6K9K: Bayonet ISO 15170-A1-4.1, Deutsch DT04-3P						
Electromagnetic compatibility:	EMV 2014/30/EU, EN 61000-6-2:2005, EN 61000-6-3:2007						
Cable output thread size:	For DIN EN 175301: PG9 (outside diameter of cable 6 to 9 mm)						
Weight:	approx. 80 g (DIN EN 175301 approx. 110 g)						

¹⁾ Static pressure, dynamic pressure 30 to 50 % lower. Values refer to the hydraulic or pneumatic part of the electronic pressure switch.

²⁾ 3 ... 98 % with programming device PPD05 (see page 133).

³⁾ Within the compensated temperature range.

⁴⁾ FKM sealings are only suitable for pressure ranges up to 0-16 bar.



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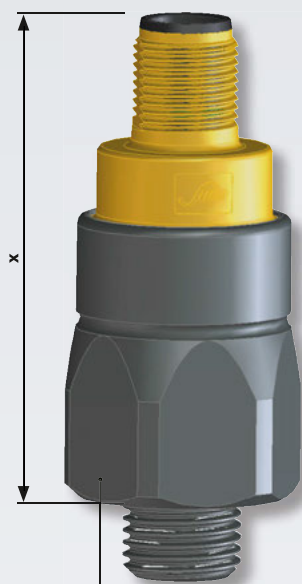
hex 24

Performance

adjustable at factory

0500 / 0501

Electrical connectors and threads



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NO / NC	
(UV+)	
(Gnd)	
(U _{out})	

DIN EN 175301-803-A	
Pin	Assignment
1	U _{V+}
2	Gnd
3	U _{out}
PE	
IP65	
x ~ 60 mm without socket device x ~ 77 mm with socket device	
Connection code: 013	

M12 – DIN EN 61076-2-101 A	
Pin	Assignment
1	U _{V+}
2	nc
3	Gnd
4	U _{out}
IP67	
x ~ 54 mm	
Connection code: 002	

ISO 15170-A1-4.1	
Pin	Assignment
1	U _{V+}
2	Gnd
3	U _{out}
4	nc
IP67, IP6K9K	
x ~ 56 mm	
Connection code: 004	

AMP Superseal 1.5 [®]	
Pin	Assignment
1	U _{out}
2	Gnd
3	U _{V+}
IP67	
x ~ 61 mm	
Connection code: 007	

Deutsch DT04-3P	
Pin	Assignment
A	U _{V+}
B	Gnd
C	U _{out}
IP67, IP6K9K	
x ~ 61 mm	
Connection code: 010	

Cable connection	
Pin	Assignment
red	U _{V+}
white	U _{out}
black	Gnd
IP67	
x ~ 47 mm (+ 25 mm bend relief) Cable length ~ 2 m	
Connection code: 011	

Thread code: 41

Thread code: 09



0500 / 0501

Order matrix for electronic pressure switches

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Performance
factory adjustable



	Type	Adjustment range	Pressure connection	Seal material	Electrical connection
Type	↓	↓	↓	↓	↓
Normally open (NO), PNP, set point - adjustment made by factory ¹⁾	0500				
Normally closed (NC), PNP, set point - adjustment made by factory ¹⁾	0501				

Max. overpressure ²⁾	Burst pressure	Pressure range ¹⁾	
4 bar (58 psi)	8 bar (115 psi)	0 - 2 bar (approx. 29 psi)	200
10 bar (145 psi)	20 bar (290 psi)	0 - 4 bar (approx. 58 psi)	400
20 bar (290 psi)	35 bar (500 psi)	0 - 10 bar (approx. 145 psi)	101
40 bar (580 psi)	60 bar (870 psi)	0 - 16 bar (approx. 230 psi)	161
100 bar (1,450 psi)	140 bar (2,000 psi)	0 - 40 bar (approx. 580 psi)	401
150 bar (2,175 psi)	300 bar (4,350 psi)	0 - 100 bar (approx. 1,450 psi)	102
375 bar (5,439 psi)	500 bar (7,252 psi)	0 - 250 bar (approx. 3,626 psi)	252

Pressure connection	
1/4 BSPP – ISO 1179-2 (DIN 3852), form E, male thread	41
NPT 1/4	09

Seal material – Application areas		
NBR (BunaN)	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Break fluid, ozone, acetylene, hydrogen, oxygen, etc.	2
FKM (Viton®) ³⁾	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
TPE	Mineral oil, HFC, HFD, water, water-salt solutions, methanol	7

Electrical connection	
DIN EN 175301-803-A (DIN 43650-A); socket device included	013
M 12x1 - DIN EN 61076-2-101-A	002
Bayonet ISO 15170-A1-4.1 (DIN 72585-A1-4.1)	004
AMP Superseal 1.5®	007
Deutsch DT04-3P	010
Cable connection (length of cable 6.5 ft / 2 m standard)	011

Order number:	05XX	XXX	XX	X	XXX
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- 1) Please state switching point and hysteresis when ordering.
- 2) Static pressure, dynamic pressure 30 to 50% lower. Values refer to the hydraulic or pneumatic part of the electronic pressure switch.
- 3) FKM sealings are only suitable for pressure ranges up to 0-16 bar.



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hex 24

Performance

adjustable at factory

Electronic pressure switches, Performance series

adjustable at factory or programmable with programming device PPD05



- Very attractively priced electronic pressure switches, particularly for high volume deployment
- High overpressure protection (up to 2 x)
- Small, compact electronic switches with ceramic sensor
- Differential adjustable within a wide range (2 % – 98 %, set at factory)
- Programming of switching points and switching delay time possible via PPD05 (see Chapter E.7, page 133)
- Monitoring of a pressure range due to window function
- High level of adaptability to your requirements (custom solutions)
- Available as 'plasma cleaned for oxygen applications'¹⁾

¹⁾ For oxygen applications, the EPDM diaphragm can only be used up to 250 bar and a media temperature of max. +60°C.