

E.2

hex 24
Performance
adjustable by user

Electronic pressure switches, Performance series

hex 24, adjustable by user



- Very competitively priced electronic pressure switches
- High overpressure protection (up to 2 x)
- Small, compact electronic switches
- Broad diversity of electronic and mechanical connection options
- High level of adaptability to your requirements (custom solutions)
- Ceramic sensor in thick film technology
- Housing made of stainless steel (1.4305), others on request
- Easy adjustment of switching point from the outside using set screw
- Hysteresis adjustable within broad range (1 % – 98 %, set at factory)

Technical details

Type:	0510 NO 0511 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 short-circuit and overvoltage protection					
Idle power consumption:	< 30 mA					
Adjustment range p_{nom} :	0 – 2 bar	0 – 4 bar	0 – 10 bar	0 – 16 bar	0 – 40 bar	0 – 100 bar
Max. overpressure ¹⁾ :	4 bar	10 bar	20 bar	40 bar	100 bar	200 bar
Burst pressure ¹⁾ :	8 bar	20 bar	35 bar	60 bar	140 bar	300 bar
Mechanical life expectancy:	5,000,000 pulsations at rise rates to 1 bar/ms at p_{nom}					
Pressure rise:	≤ 1 bar/ms					
Accuracy:	±0.5 % of adjustment range p_{nom} (full scale (FS)) at room temperature					
Switching point adjustment range:	2 ... 100 % of adjustment range p_{nom} (FS), adjustable by user					
Hysteresis:	1 ... 98 % FS, programmable at factory (max. tolerance ±1.0 % of adjustment range p_{nom})					
Resolution:	0.1 % of adjustment range p_{nom} (FS)					
Long term stability:	±0.1 % of adjustment range p_{nom} (FS) per year					
Repeatability ²⁾ :	±0.1 % of adjustment range p_{nom} (FS)					
Switching time:	< 4 ms					
Temperature error ²⁾ :	±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 NBR seal: -30 °C ... +100 °C (-22 °F ... +212 °F)					
	with EPDM seal: -30 °C ... +125 °C (-22 °F ... +257 °F)					
	with FKM seal: -20 °C ... +125 °C (-4 °F ... +257 °F)					
Wetted parts material	Housing:	Stainless steel 1.4305 (AISI 303)				
	Measuring cell:	Ceramic				
	Seal material:	NBR, EPDM or FKM				
Insulation resistance:	> 100 MΩ (500 VDC, $R_i > 42 \Omega$)					
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:	EMC 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⁾ Within the compensated temperature range

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	no / nc	
○ 1	(+)	
○ 2	(GND)	
○ 3	(OUT)	

0510 / 0511

Electrical connectors and threads

DIN EN 175301-803-A

Pin	Assignment
1	U _{v+}
2	Gnd
3	U _{out}
PE	PE

IP65

x ~ 60 mm without coupler socket
x ~ 77 mm with coupler socket

Order number: 013

M 12 – DIN EN 61076-2-101 A

Pin	Assignment
1	U _{v+}
2	nc
3	Gnd
4	U _{out}

IP67

x ~ 54 mm

Order number: 002

ISO 15170-A1-4.1

Pin	Assignment
1	U _{v+}
2	nc
3	Gnd
4	U _{out}

IP67, IP6K9K

x ~ 56 mm

Order number: 004

AMP Superseal 1.5°

Pin	Assignment
1	U _{out}
2	Gnd
3	U _{v+}

IP67

x ~ 61 mm

Order number: 007

Deutsch DT04-3P

Pin	Assignment
A	U _{v+}
B	Gnd
C	U _{out}

IP67, IP6K9K

x ~ 61 mm

Order number: 010

G 1/4 DIN
EN ISO 1179-2
(DIN 3852-11)
form E

Thread code: 41

NPT 1/4

Thread code: 09



0510 / 0511

Order matrix for electronic pressure switches

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	Type	Adjustment range	Pressure connection	Seal material	Electrical connection
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Type

EDS, NOC, PNP, with switching point adjustment by potentiometer	0510	↓	↓	↓	↓
EDS, NCC, PNP, with switching point adjustment by potentiometer	0511				

Max. overpressure ¹⁾	Burst pressure	Adjustment range	
4 bar	8 bar	0 – 2 bar (approx. 29 PSI)	200
10 bar	20 bar	0 – 4 bar (approx. 58 PSI)	400
20 bar	35 bar	0 – 10 bar (approx. 145 PSI)	101
40 bar	60 bar	0 – 16 bar (approx. 230 PSI)	161
100 bar	140 bar	0 – 40 bar (approx. 580 PSI)	401
200 bar	300 bar	0 – 100 bar (approx. 1,450 PSI)	102

Pressure connection

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

Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, water, acetylene, hydrogen, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3

Electrical connection

DIN EN 175301-803-A (DIN 43650-A) coupler socket included in delivery	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

Order number:	05XX	XXX	XX	X	XXX
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¹⁾ Static pressure, dynamic pressure 30 to 50% lower. Values refer to the hydraulic or pneumatic part of the electronic pressure switch.



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