E.1

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
- Hysteresis 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.

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 – 4 bar	0 – 10 bar	0 – 16 bar	0 – 40 bar	0 – 100 bar	0 – 250 bar
Max. overpressure[1]:		4 bar	10 bar	20 bar	40 bar	100 bar	150 bar	375 bar
Burst pressure[1]:		8 bar	20 bar	35 bar	60 bar	140 bar	300 bar	500 bar
Mechanical life expectancy:		5,000,000 switching cycles at rise rates to 1,000 bar/s at p_{nom}						
Pressure rise rate:		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	4 bar	10 bar	16 bar	40 bar	100 bar	250 bar
		0.1 bar	0.2 bar	0.5 bar	0.8 bar	2 bar	5 bar	10 bar
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						
ompensated 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: -30 °C … +110 °C (-22 °F … +230 °F)						
		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:	Stainess steel (1.4305 / AISI 303)						
	Messuring cell:	Ceramic						
	Seal material:	TPE, NBR, EPDM or FKM						
Insulation resistance:		> 100 MΩ (35 VDC)						
Vibration resistance:		20 g; at 4…2000 Hz sine wave, DIN EN 60068-2-6						
Shock resistance:		500 m/s², 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.

E.1

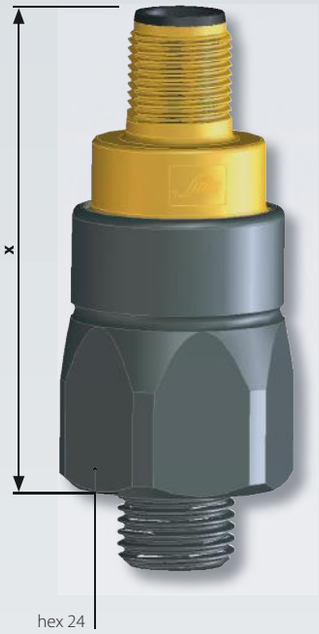
hex 24

Performance

adjustable at factory

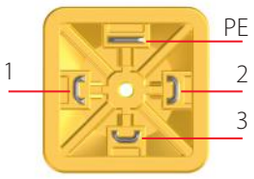
0500 / 0501

Electrical connectors and threads



NO / NC	
(Uv+)	
(Gnd)	
(U_{out})	

DIN EN 175301-803-A



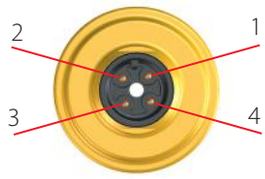
Pin	Assignment
1	Uv+
2	Gnd
3	U_{out}
PE	⏚

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	Uv+
2	nc
3	Gnd
4	U_{out}

IP67

x ~ 54 mm

Connection code: 002

ISO 15170-A1-4.1

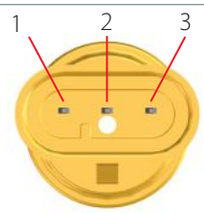
Pin	Assignment
1	Uv+
2	Gnd
3	U_{Out}
4	nc

IP67, IP6K9K

x ~ 56 mm

Connection code: 004

AMP Superseal 1.5 ®



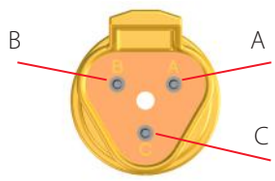
Pin	Assignment
1	U_{out}
2	Gnd
3	Uv+

IP67

x ~ 61 mm

Connection code: 007

Deutsch DT04-3P



Pin	Assignment
A	Uv+
B	Gnd
C	U_{out}

IP67, IP6K9K

x ~ 61 mm

Connection code: 010

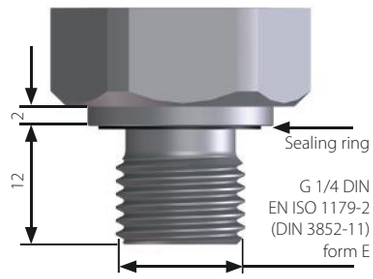
Cable connection

Pin	Assignment
red	Uv+
white	U_{out}
black	Gnd

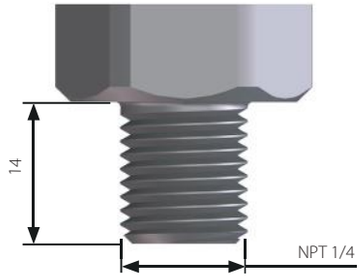
IP67

x ~ 47 mm
(+ 25 mm bend relief)
Cable length ~ 2 m

Connection code: 011



Thread code: 41



Thread code: 09

RoHSII compliant

CE

0500 / 0501

Article matrix for electronic pressure switches

	Type	Adjustment range	Pressure connection	Seal material	Electrical connection

Type

Normally open (NO) , PNP, switching points programmed at factory[1]	**0500**
Normally closed (NC), PNP, switching points programmed at factory[1]	**0501**

Max. overpressure[2]	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**
150 bar	300 bar	0 - 100 bar (approx. 1,450 PSI)	**102**
375 bar	500 bar	0 - 250 bar (approx. 3,625 PSI)	**252**

Pressure connection

G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11), form E	**14**
NPT 1/4	**09**

Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	**1**
EPDM	Break fluid, ozone, acetylene, hydrogen, oxygen, etc.	**2**
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	**3**
TPE	Hydraulic / machine oil, air, nitrogen, water, acetylene, etc.	**7**

Electrical connection

DIN EN 175301-803-A (DIN 43650-A); socket device included	**013**
M12x1 - 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 (standard lenght = 2 m)	**011**

Article number:	050X	XXX	XX	X	XXX

[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.

RoHSII compliant