

# 0510 / 0511

## Order matrix for electronic pressure switches

## E.2

hex 24  
Performance  
field adjustable



	Type	Adjustment range	Pressure connection	Seal material	Electrical connection
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### Type

Normally open (NO), PNP, set point -field adjustable <sup>1)</sup>	0510
Normally closed (NC), PNP, set point -field adjustable <sup>1)</sup>	0511

Max. overpressure <sup>2)</sup>	Burst pressure	Pressure range	
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 (7,251 psi)	0 – 250 bar (approx. 3,625 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, air, nitrogen, etc.	1
EPDM	Break fluid, ozone, acetylene, hydrogen, oxygen, etc.	2
FKM (Viton®) <sup>3)</sup>	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) 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:	051X	XXX	XX	X	XXX
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- Switching points and hysteresis can also be adjusted at factory.
- Static pressure, dynamic pressure 30 to 50% lower. Values refer to the hydraulic or pneumatic part of the electronic pressure switch.
- FKM sealings are only suitable for pressure ranges up to 0-16 bar.



## Technical details

Type:	<b>0510 NO</b> <b>0511 NC</b>						
Transistor output	PNP output (High-Side N-channel)						
Supply voltage:	9.6 – 32 VDC with reverse voltage protection						
Output current:	0.5 A with ( $\leq 0.2$ A at $\geq 50$ °C) short-circuit and overvoltage protection						
Idle power consumption:	< 30 mA						
Standard pressure range $p_{nom}$ :	0 – 2 bar (29 psi)	0 – 4 bar (58 psi)	0 – 10 bar (145 psi)	0 – 16 bar (230 psi)	0 – 40 bar (580 psi)	0 – 100 bar (1,450 psi)	0 – 250 bar (3,625 psi)
Overpressure protection $p^{1)}$	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: <sup>1)</sup>	8 bar (115 psi)	20 bar (290 psi)	35 bar (500 psi)	60 bar (870 psi)	140 bar (2,000 psi)	300 bar (4,350 psi)	500 bar (7,251 psi)
Mechanical life expectancy:	5,000,000 pulsations at rise rates to 14.5 psi/ms (1 bar/ms) at $p_{nom}$						
Pressure rise:	14,503 psi (1,000 bar/s)						
Accuracy:	$\pm 0.5$ % of adjustment range $p_{nom}$ (full scale (FS)) at room temperature						
Switching point adjustment range:	3 ... 100 % of adjustment range $p_{nom}$ (FS), field adjustable						
Differential: <sup>2)</sup>	2 ... 98 % FS, programmable at factory (max. tolerance $\pm 1.0$ % 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 (580psi)	100 bar (1,450 psi)	250 bar (3,626 psi)
	0.1 bar	0.2 bar	0.5 bar	0.8 bar	2 bar	5 bar	10 bar
Resolution:	0.2% of adjustment range $p_{nom}$ (FS)						
Long term stability:	$\pm 0.1$ % of adjustment range $p_{nom}$ (FS) per year						
Repeatability: <sup>2)</sup>	$\pm 0.1$ % of adjustment range $p_{nom}$ (FS)						
Switching time:	< 4 ms						
Temperature error: <sup>2)</sup>	$\pm 0.04$ % of adjustment range $p_{nom}$ (FS) / °C						
Compensated temperature range:	+32 °F ... +158 °F (0 °C ... +70 °C), total error $\leq 2$ %						
Temperature range ambient:	-22 °F ... +212 °F (-30 °C ... +100 °C)						
Temperature range media:	with NBR (BunaN) seal: -22 °F ... +212 °F (-30 °C ... +100 °C)						
	with EPDM seal: -22 °F ... +257 °F (-30 °C ... +125 °C)						
	with FKM (Viton®) seal: -4 °F ... +257 °F (-20 °C ... +125 °C)						
	with TPE seal: -22 °F ... +230 °F (-30 °C ... +110 °C)						
Wetted parts material	Housing:	Stainless steel (AISI 303 /1.4305)					
	Measuring cell:	Ceramic					
	Seal material:	NBR (BunaN), EPDM, FKM <sup>3)</sup> (Viton®) or TPE					
Insulation resistance:	> 100 M $\Omega$ (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 <sup>2</sup> ; 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. 2.82 oz / 80 g (DIN EN 175301 approx. 3.88 oz / 110 g)						

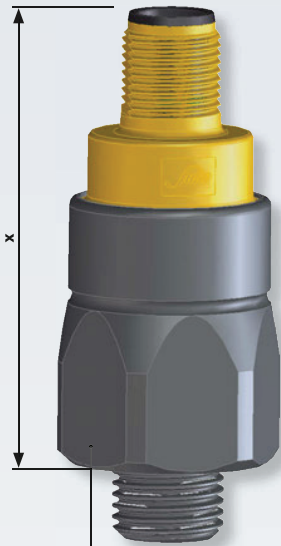
1) Static pressure, dynamic pressure 30 to 50 % lower. Values refer to the hydraulic or pneumatic part of the electronic pressure switch.

2) Within the compensated temperature range.

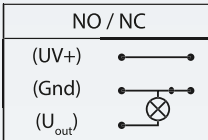
3) FKM sealings are only suitable for pressure ranges up to 0-16 bar.

# E.2

hex 24  
Performance  
adjustable by user



hex 24



# 0510 / 0511

Electrical connectors and threads

**DIN EN 175301-803-A**

Pin	Assignment
1	U <sub>V+</sub>
2	Gnd
3	U <sub>out</sub>
PE	

IP65

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

**Connection code: 013**

**M12-DINEN61076-2-101 A**

Pin	Assignment
1	U <sub>V+</sub>
2	nc
3	Gnd
4	U <sub>out</sub>

IP67

x ~ 54 mm

**Connection code: 002**

**ISO 15170-A1-4.1**

Pin	Assignment
1	U <sub>V+</sub>
2	Gnd
3	U <sub>out</sub>
4	nc

IP67, IP6K9K

x ~ 56 mm

**Connection code: 004**

**AMP Superseal 1.5®**

Pin	Assignment
1	U <sub>out</sub>
2	Gnd
3	U <sub>V+</sub>

IP67

x ~ 61 mm

**Connection code: 007**

**Deutsch DT04 - 3P**

Pin	Assignment
A	U <sub>V+</sub>
B	Gnd
C	U <sub>out</sub>

IP67, IP6K9K

x ~ 61 mm

**Connection code: 010**

**Thread code: 41**

**Thread code: 09**

# Accessories

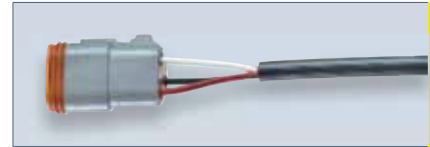
## Mating plugs

# E.7

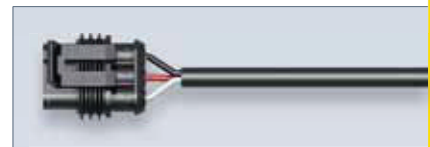
## Accessories



<p><b>Deutsch DT06-3S (for DT04-3P)</b> 3 x 0.5 mm<sup>2</sup> PUR cable 6.5 ft (2 m), IP67</p>	<p>Suitable for connector code <b>010</b> Deutsch DT04-3P</p>	<p>Order number: <b>1-1-36-653-160</b></p>
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<p><b>TE AMP Superseal 1.5®, 3-pin</b> 3 x 0.5 mm<sup>2</sup> Radox cable 6.5 ft (2 m), IP65</p>	<p>Suitable for connector code <b>007</b> AMP Superseal 1.5®</p>	<p>Order number: <b>1-1-32-653-158</b></p>
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<p><b>M12 DIN EN 61076-2-LF, 4-pin</b> 4 x 0.34 mm<sup>2</sup> PUR cable 6.5 ft (2 m), IP65</p>	<p>Suitable for connector code <b>002</b> M12 DIN EN 61076-2-101 A</p>	<p>Order number: <b>1-1-00-653-162</b></p>
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<p><b>M 12x1 DIN EN 61071-2-101 D straight, 4-pin</b> Terminals for wire diameter 0.75 mm<sup>2</sup> (AWG 18)</p>	<p>Suitable for connector code <b>002</b> M12 DIN EN 61076-2-101 A</p>	<p>Order number: <b>1-6-00-652-016</b></p>
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<p><b>Coupler socket M 12x1 DIN EN 61071-2-101 D Angled, 4-pin</b> Terminals for wire diameter 0.75 mm<sup>2</sup> (AWG 18)</p>	<p>Suitable for connector code <b>002</b> M12 DIN EN 61076-2-101 A</p>	<p>Order number: <b>1-6-00-652-017</b></p>
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## 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 with ceramic sensor
- Easy adjustment of switching point from the outside using set screw
- Differential adjustable within broad range (2 % – 98 %, set at factory)
- High level of adaptability to your requirements (custom solutions)
- Available as 'plasma cleaned for oxygen applications'<sup>1)</sup>

<sup>1)</sup> For oxygen applications, the EPDM diaphragm can only be used up to 3,626 psi (250 bar) and a media temperature of max. +140°F (+60°C).