

E.5

hex 22
High Performance
1 switching output

Electronic pressure switches, High-Performance series

hex 22 with one switching output



- Outstanding overpressure protection (up to 4 x)
- Ideal choice for mobile hydraulic applications
- Long service life even under high pressure change rates
- Wetted parts made of stainless steel and titanium ensuring excellent media compatibility
- All welded design, no elastomeric seal
- Silicon-on-sapphire technology (SoS) for highest reliability, accuracy and reliable process monitoring
- Very low temperature error and very good long-term stability
- Adjustment of switching point and hysteresis at factory

For versions with 2 switching outputs,
please refer to chapter E.6, page 126

Technical details

Type	0530 NO 0531 NC			0532 NO 0533 NC	
Number of transistor outputs:	1 PNP output (High Side N-channel MOSFET)			1 NPN output (Low Side N-channel MOSFET)	
Supply voltage:	9.6 – 32 VDC				
Idle power consumption:	< 15 mA				
Standard adjustment range p_{nom} :	0 – 10 bar	0 – 25 bar	0 – 100 bar	0 – 250 bar	0 – 600 bar
Overpressure protection p_u ¹⁾ :	40 bar	100 bar	400 bar	1,000 bar	1,650 bar
Burst pressure ¹⁾ :	80 bar	200 bar	800 bar	2,000 bar	2,000 bar
Mechanical life expectancy:	10,000,000 pulsations at rise rates to 5 bar/ms at p_{nom}				
Permitted pressure change rate:	≤ 5 bar / ms				
Switching point adjustment range:	2 ... 100 % of the nominal pressure range (Full Scale, FS), programmable at factory				
Hysteresis:	0.2 ... 99.8 % of the nominal pressure range (FS), programmable at factory (set to 5% of the switching point as standard)				
Accuracy:	±0.5 % of the nominal pressure range (FS) at room temperature, ±0.25 % BFSL				
Resolution:	0.1 % of the nominal pressure range (FS)				
Switching delay:	ON (0 ... 0.5 s) / OFF (0 ... 2 s) delay in increments of 1 ms, irrespective of switching point, programmable at factory (specify value when ordering, otherwise default value of 0 s is set)				
Output:	0.5 A transistor output with short-circuit and overvoltage protection				
Operating mode:	With hysteresis or window mode, programmable at factory				
Long term stability:	±0.1 % FS p. a.				
Repeatability ¹⁾ :	±0.1 % FS				
Temperature error ¹⁾ :	±0.02 % / 1 K FS				
Compensated temperature range:	-20 °C ... +80 °C (-4 °F ... +176 °F)				
Temperature range media:	-40 °C ... +125 °C (-40 °F ... +257 °F)				
Temperature range ambient:	-40 °C ... +100 °C (-40 °F ... +212 °F)				
Wetted parts material:	Stainless steel 1.4305 (AISI 303) and titanium				
Housing material:	Stainless steel 1.4305 (AISI 303)				
Insulation resistance:	> 100 MΩ (500 VDC, $R_i > 42 \Omega$)				
Switching time:	< 2 ms				
Vibration resistance:	20 g at 4 ... 2000 Hz sine wave; DIN EN 60068-2-6				
Shock resistance:	half sine wave 500 m/s ² ; 11 ms; DIN EN 60068-2-27				
Protection class:	Refer to the electrical connections				
EMC:	EMC 2014/30/EU, EN 61000-6-2:2005, EN 61000-6-3:2007				
Protection against reverse polarity, short-circuit and over voltage surges:	built-in				
Weight:	approx. 80 g (DIN 175301 approx. 110 g, cable version approx. 135 g)				

¹⁾ Within the compensated temperature range.

²⁾ Static pressure. Dynamic value is 30 to 50 % lower. Values refer to the hydraulic/pneumatic part of the electronic pressure switch.

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0530 / 0531 / 0532 / 0533

Electrical connectors and threads



DIN EN 175301-803-A

Pin	Assignment
1	Uv+
2	Out
3	Gnd
PE	⊕

IP65
x ~ 60 / 76 mm*
d ~ Ø 30 mm
Order number: 001

M 12 – DIN EN 61076-2-101 A

Pin	Assignment
1	Uv+
2	nc
3	Gnd
4	Out

IP67
x ~ 54 mm
d ~ Ø 22 mm
Order number: 002

ISO 15170-A1-4.1

Pin	Assignment
1	Uv+
2	nc
3	Gnd
4	Out

IP67, IP6K9K
x ~ 65 mm mm
d ~ Ø 27 mm
Order number: 004

AMP Superseal

Pin	Assignment
1	Out
2	Gnd
3	Uv+

IP67
x ~ 73 mm
d ~ Ø 26 mm
Order number: 007

* without coupler socket x ~ 60 mm, with coupler socket x ~ 76 mm

DEUTSCH DT04-4P

Pin	Assignment
1	Gnd
2	Uv+
3	nc
4	Out

IP67, IP6K9K
x ~ 74 mm
d ~ Ø 23 mm
Order number: 008

DEUTSCH DT04-3P

Pin	Assignment
A	Uv+
B	Gnd
C	Out

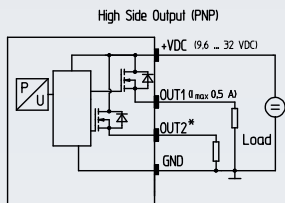
IP67, IP6K9K
x ~ 74 mm
d ~ Ø 23 mm
Order number: 010

Cable connection

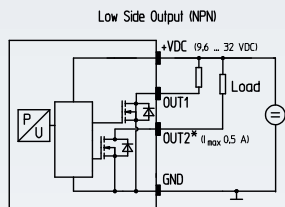
Cable	Assignment
red	Uv+
white	Out
black	Gnd

IP67
x ~ 44 mm
(+ 20 mm bend relief)
cable length ~ 2 m
d ~ Ø 22 mm
Order number: 011

Connection diagrams



Pin assignment depending on electr. connection
*OUT2 only for 054x



Pin assignment depending on electr. connection
*OUT2 only for 054x

Technical modifications and errors excepted.

Thread code: 41

Thread code: 03

Thread code: 04

Thread code: 09

Thread code: 30

Thread code: 20

Thread code: 21

Thread code: 42



0530 / 0531 / 0532 / 0533

Order matrix for electronic pressure switches

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	Type	Pressure range	Pressure connection	Pressure unit	Electrical connection
Type	↓	↓	↓	↓	↓
PNP output (High Side), NO	0530				
PNP output (High Side), NC	0531				
NPN output (Low Side), NO	0532				
NPN output (Low Side), NC	0533				

Max. overpressure ²⁾	Burst pressure	Adjustment range ¹⁾	
40 bar	80 bar	0 – 10 bar (approx. 145 PSI)	101
100 bar	200 bar	0 – 25 bar (approx. 362 PSI)	251
400 bar	800 bar	0 – 100 bar (approx. 1,450 PSI)	102
1,000 bar	2,000 bar	0 – 250 bar (approx. 3,620 PSI)	252
1,650 bar	2,000 bar	0 – 600 bar (approx. 8,700 PSI)	602

Pressure connection

G 1/4 – DIN EN ISO 1179-2 (DIN 3852-11) form E	41
G 1/4 – DIN 3852-A	03
NPT 1/8	04
NPT 1/4	09
M 10x1 cyl. DIN 3852-A	30
7/16-20 UNF	20
9/16-18 UNF	21
M 14x1.5 – DIN EN ISO 9974-2 (DIN 3852-11) form E	42

Pressure unit

bar	B
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Electrical connection

DIN EN 175301-803-A (DIN 43650-A); socket device included	001
M 12 – 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 DT04-4P	008
Deutsch DT04-3P	010
Cable connection (length of cable 2 m standard)	011

Order number:	05XX	XXX	XX	B	XXX
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¹⁾ Please state switching point and hysteresis when ordering.

²⁾ Static pressure, dynamic pressure 30 to 50% lower. Value refers to the hydraulic or pneumatic part of the electronic pressure switch.



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