Electronic pressure switch 33L
Pneumatic

-1 to 16 bar

Diagnostic function acc. to DESINA
Display of system pressure in bar »programmable«
Easy programming of switchpoints
Economic solution for industrial applications
Switching status indicated by 3-colour-LED-Display
Free of lacquer impairing substances
Application: not for outdoor use

Technical data

Medium:
Gaseous, aggressive and neutral, not-combustible

Electrical connection:
M 12 x 1
Mounting:
Optional

Fluid temperature/Ambient temperature:
-25 to + 80°C/-20 to + 80°C
(please consult our technical service for use below +2°C)

Pressure ranges:
-1 to 1, 10, 16 bar

Temperature sensitivity (zero point):
0.4% of final value/10 K

Temperature sensitivity (range):
0.4% of final value/10 K

Switching point:
Adjustable between 0 to 100% of FS*1)
(smallest adjustable pressure switching difference between switching point and reset point ≥ 0.5% FS*1)

Reset point:
Adjustable between 0 to 100% of FS*1)

Display:
Green: Pressure ≥ SP1 (increasing pressure)
Pink: Pressure ≤ RP (drop pressure)
Red: System fault - display

Accuracy:
≤ 1.5% FS
(linearity, hysteresis, repeatability)

Degree of protection acc. to DIN 40050:
IP65 (< 10 bar), IP67 (≥ 10 bar), with plug mounted

Shockproof:
30 g, xyz, DIN EN 60068-2-27

Vibration proof:
10 g, 5 to 500 Hz, xyz, DIN EN 60068-2-6

*1) FS = full scale

Materials:
Housing: aluminium, stainless steel, polyester
Wetted parts: aluminium, ceramics, FKM,
all parts free of lacquer impairing substances

Ordering example
See page 2

Electrical parameters
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Electrical parameters

Electrical connection:
M12 x 1

Power supply:
UB = 18 to 32 V DC, polarity safe

Permissible residual ripple:
10% (within UB)

Current consumption:
< 100 mA (without load current)

Switching mode:
PNP, potential-bound open collector switching to UB

Electrical connection:
M12 x 1

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10% (within UB)

Current consumption:
< 100 mA (without load current)

Switching mode:
PNP, potential-bound open collector switching to UB

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under 'Technical Data'.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN. Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

Electromagnetic compatibility

Interference emission acc. to EN 61326
Interference immunity acc. to EN 61326 Part 1

Electrical parameters

Switching logic Out 1 & 2:
- n.o. / n.c. programmable
- Output signal:
  - Out 1: switching: UB minus 1.5V / Imax. 250 mA
  - Out 2: diagnostic/switching UB minus 1.5V/250 mA
- Surge and short-circuit protection (Out1/Out2)
- Response time:
  < 10 ms
- Service life:
  min. 50 million switching cycles

Standard versions

<table>
<thead>
<tr>
<th>Measuring range (bar) *3)</th>
<th>Max. value (bar) *4)</th>
<th>Fluid connection *1)</th>
<th>Output signal *2)</th>
<th>Display step size (bar)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1 to +1 bar</td>
<td>6</td>
<td>G1/4</td>
<td>2 x PNP</td>
<td>0.01</td>
<td>0860110</td>
</tr>
<tr>
<td>-1 to +1 bar</td>
<td>6</td>
<td>Flange</td>
<td>2 x PNP</td>
<td>0.01</td>
<td>0860116</td>
</tr>
<tr>
<td>0 to 10 bar</td>
<td>25</td>
<td>G1/4</td>
<td>2 x PNP</td>
<td>0.05</td>
<td>0860120</td>
</tr>
<tr>
<td>0 to 10 bar</td>
<td>25</td>
<td>Flange</td>
<td>2 x PNP</td>
<td>0.05</td>
<td>0860126</td>
</tr>
<tr>
<td>0 to 16 bar</td>
<td>40</td>
<td>G1/4</td>
<td>2 x PNP</td>
<td>0.1</td>
<td>0860130</td>
</tr>
<tr>
<td>0 to 16 bar</td>
<td>40</td>
<td>Flange</td>
<td>2 x PNP</td>
<td>0.1</td>
<td>0860136</td>
</tr>
</tbody>
</table>

Connector is not included:

*1) versions with fluid connection 1/4 NPTF a on request, versions with bleed screw on request

*2) Mode of OUT2 is programmable: Diagnostic acc. to DESINA / switching, switching logic of OUT1 and /OUT2 is programmable (n.o./n.c.)

*3) versions with pressure unit psi on request

*4) Max. value = over pressure. Short-term pressure peaks are not allowed to exceed this limit value during operation. Operative utilization of the overload range is not permitted.

Option selector

<table>
<thead>
<tr>
<th>Measuring range (bar)</th>
<th>Substitute</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1 to 1</td>
<td>1</td>
</tr>
<tr>
<td>0 to 10</td>
<td>2</td>
</tr>
<tr>
<td>0 to 16</td>
<td>3</td>
</tr>
</tbody>
</table>

Ordering example

Electronic pressure switch, pressure range 0 to 16 bar, fluid connection G 1/4 female
Type: 0860130

Factory Setting

Setting Code Pressure Unit OUT 1 Switching Logic (n.o. / n.c.) Switch Point (% of range) Reset Point (% of range) OUT 2 *5) Switching Logic (n.o. / n.c.) Switch Point (% of range) Reset Point (% of range) Display Zero Point Suppression (% of range) Colour Brightness

| NORGREN none | bar (6) n.o. | 80% | 79% | DESINA (n.c.) | - | - | 2% | Yellow | 50% |

*5) OUT 2 function is programmable: diagnostic acc. to DESINA /switching

*6) psi on request

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Accessories

<table>
<thead>
<tr>
<th>Pressure port reducing nipple</th>
<th>Snubber</th>
<th>Connector M 12 x 1 90°</th>
<th>Connector M 12 x 1 straight, 5 pins (on PE-requirement)</th>
<th>4 pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>0574767</td>
<td>0574773</td>
<td>0799845 (2 m cable length)</td>
<td>0523058 (2 m cable length)</td>
<td>0523057 (2 m cable length)</td>
</tr>
<tr>
<td>0250081 (5 m cable length)</td>
<td>0523053 (5 m cable length)</td>
<td>0523052 (5 m cable length)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Basic dimensions

![Basic dimensions diagram]

Electrical connection M 12 x 1

![Electrical connection M 12 x 1 diagram]

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+24 V</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Out 2 (PNP) or DESINA</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>0 V</td>
<td>blue</td>
</tr>
<tr>
<td>4</td>
<td>Out 1 (PNP)</td>
<td>black</td>
</tr>
<tr>
<td>5</td>
<td>not used</td>
<td>grey</td>
</tr>
</tbody>
</table>

Accessories

**Pressure port reducing nipple**
- Material: brass
- Model: 0574767
- Material: stainless steel (1.4301)
- Model: 0550083

**Snubber**
- Material: brass
- Model: 0574773
- Material: stainless steel (1.4301)
- Model: 0553258