Adjustable setpoint
Gold-plated contacts
Vibration resistant to 15 g
Microswitch approved by UL and CSA

Technical data

**Medium**
Neutral, gaseous and liquid fluids

**Operation**
Diaphragm

**Mounting position**
Optional

**Operating pressure**
Vac to 435 psi

**Over pressure**
1150 psi

**Ambient temperature**
14°F to 185°F (-10°C to 85°C) (NBR)
32°F to 175°F (0°C to 80°C) (FPM)

**Viscosity**
Up to 1000 mm²/s (±450 ssu).

**Fluid temperature**
14°F to 185°F (-10°C to 85°C) (NBR)
32°F to 175°F (0°C to 80°C) (FPM)

Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C)

**Repeatability**
+ /- 3% for vacuum
+/- 4% of final value (depending on regulating pressure)

**Electrical connection**
DIN 43650

**Switching element**
Microswitch with gold plated contacts

**Degree of protection**
IP 65

**Weight**
.4 lbs (0.2 kg)

**Materials**
Housing: aluminum
Seals: NBR, FPM
'O'-ring: NBR

Model numbers - pneumatic/lubrication applications

<table>
<thead>
<tr>
<th>Port size</th>
<th>Type</th>
<th>Pressure range psi (bar)</th>
<th>Switching pressure difference psi* (bar) lower range</th>
<th>Switching pressure difference psi* (bar) upper range</th>
<th>Sealing</th>
<th>Model</th>
<th>Dimension Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 NPT</td>
<td>Female</td>
<td>-14 – 0 (-1 – 0)</td>
<td>2 (0.15)</td>
<td>3 (0.18)</td>
<td>FPM</td>
<td>0880120000000000</td>
<td>1</td>
</tr>
<tr>
<td>–</td>
<td>Flange</td>
<td>-14 – 0 (-1 – 0)</td>
<td>2 (0.15)</td>
<td>3 (0.18)</td>
<td>FPM</td>
<td>0881100000000000</td>
<td>3</td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>Female</td>
<td>3 – 30 (0.2 – 2)</td>
<td>2 (0.15)</td>
<td>4 (0.27)</td>
<td>FPM</td>
<td>0880220000000000</td>
<td>1</td>
</tr>
<tr>
<td>–</td>
<td>Flange</td>
<td>3 – 30 (0.2 – 2)</td>
<td>2 (0.15)</td>
<td>4 (0.27)</td>
<td>NBR</td>
<td>0881200000000000</td>
<td>3</td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>Female</td>
<td>7 – 120 (0.5 – 8)</td>
<td>4 (0.2)</td>
<td>9 (0.65)</td>
<td>NBR</td>
<td>0880320000000000</td>
<td>2</td>
</tr>
<tr>
<td>–</td>
<td>Flange</td>
<td>7 – 120 (0.5 – 8)</td>
<td>4 (0.2)</td>
<td>9 (0.65)</td>
<td>NBR</td>
<td>0881300000000000</td>
<td>3</td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>Female</td>
<td>15 – 230 (1 – 16)</td>
<td>4 (0.2)</td>
<td>13 (0.90)</td>
<td>NBR</td>
<td>0880420000000000</td>
<td>2</td>
</tr>
<tr>
<td>–</td>
<td>Flange</td>
<td>15 – 230 (1 – 16)</td>
<td>4 (0.2)</td>
<td>13 (0.90)</td>
<td>NBR</td>
<td>0881400000000000</td>
<td>3</td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>Female</td>
<td>15 – 435 (1 – 30)</td>
<td>15 (1.0)</td>
<td>75 (5.0)</td>
<td>NBR</td>
<td>0880620000000000</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Switches are supplied with DIN 43650 mating connector.

* Switching pressure difference (hysteresis) is not adjustable. Typical values are shown.

Caution: Observe switching range. Do not subject switch to maximum allowable pressure during normal operation. Even short pressure peaks must not exceed this value.
Switching capacity
Commutator with gold plated contacts

<table>
<thead>
<tr>
<th>Current</th>
<th>Load type</th>
<th>U min [V]</th>
<th>Max. permanent current I_max [A] at U *1)</th>
<th>Contact life</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>ohmic, inductive</td>
<td>6</td>
<td>0.1, 0.1, 0.1, 0.1, 0.1</td>
<td>≥ 2 x 10⁶ switching cycles</td>
</tr>
<tr>
<td>DC</td>
<td>ohmic, inductive</td>
<td>6</td>
<td>0.1</td>
<td></td>
</tr>
</tbody>
</table>

Dimension in inches (mm)

Reference number: 20/min, Reference temperature: +20°C.
I_min = 1 mA at 24 VDC or 5 mA at 6 VDC

Recommended circuit
Spark quenching and EMV intrinsically safe

1. Quick diode (D) with tv ≤ 200 ns, parallel to inductive load.

2. RC link in parallel to load in parallel to switching contact.

Swimming function
Plug DIN EN 175301-803, form A
Microswitch SPDT
Terminals 1 - 3: Contacts close on rising pressure.
Terminals 1 - 2: Contacts open on rising pressure.

Switching function
IEC 947-5-2; M12 x 1
Microswitch SPDT
Terminals 1 - 4: Contacts close on rising pressure.
Terminals 1 - 2: Contacts open on rising pressure.

Dimensions in inches (mm)

For further information www.norgren.com
Adjustable setpoint
Gold-plated contacts
Vibration resistant to 15 g
Microswitch approved by UL and CSA

Technical data

**Medium**
For Neutral, self lubricating fluids, e.g. hydraulic oil, lube oil, light fuel oil

**Operation**
Softseal Piston

**Mounting position**
Optional

**Operating pressure**
70 to 6100 psi

**Ambient temperature**
-4°F to 175°F (-20°C to +80°C)

**Viscosity**
Up to 1000 mm²/s (±450 ssu).

**Fluid temperature**
-4°F to 175°F (-20°C to +80°C)

**Repeatability**
±3%

**Electrical connection**
DIN 43 650

**Switching element**
Microswitch

**Degree of protection**
IP 65

**Weight**
.2 lbs (0.2 kg)

**Materials**
Housing aluminum
Port: stainless steel
Seals: PTFE/Buna-N

Model numbers - hydraulic applications

<table>
<thead>
<tr>
<th>Port size</th>
<th>Type</th>
<th>Pressure range psi (bar)</th>
<th>Switching pressure difference (hysteresis)*</th>
<th>Model</th>
<th>Dimension Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>flange</td>
<td>70 – 1015 (5 – 70)</td>
<td>152 (10.5)</td>
<td>0883100000000000 2</td>
<td></td>
</tr>
<tr>
<td>7/16-20 UNF</td>
<td>female</td>
<td>70 – 1015 (5 – 70)</td>
<td>152 (10.5)</td>
<td>0882119000000000 1</td>
<td></td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>female</td>
<td>70 – 1015 (5 – 70)</td>
<td>152 (10.5)</td>
<td>0882120000000000 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>flange</td>
<td>150 – 2320 (10 – 160)</td>
<td>160 (11)</td>
<td>0883200000000000 2</td>
<td></td>
</tr>
<tr>
<td>7/16-20 UNF</td>
<td>female</td>
<td>150 – 2320 (10 – 160)</td>
<td>160 (11)</td>
<td>0882219000000000 1</td>
<td></td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>female</td>
<td>150 – 2320 (10 – 160)</td>
<td>160 (11)</td>
<td>0882220000000000 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>flange</td>
<td>360 – 3600 (25 – 250)</td>
<td>160 (11)</td>
<td>0883300000000000 2</td>
<td></td>
</tr>
<tr>
<td>7/16-20 UNF</td>
<td>female</td>
<td>360 – 3600 (25 – 250)</td>
<td>160 (11)</td>
<td>0882319000000000 1</td>
<td></td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>female</td>
<td>360 – 3600 (25 – 250)</td>
<td>160 (11)</td>
<td>0882320000000000 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>flange</td>
<td>580 – 6100 (40 – 420)</td>
<td>247 (17)</td>
<td>0883400000000000 2</td>
<td></td>
</tr>
<tr>
<td>7/16-20 UNF</td>
<td>female</td>
<td>580 – 6100 (40 – 420)</td>
<td>247 (17)</td>
<td>0882419000000000 1</td>
<td></td>
</tr>
<tr>
<td>1/4 NPT</td>
<td>female</td>
<td>580 – 6100 (40 – 420)</td>
<td>247 (17)</td>
<td>0882420000000000 1</td>
<td></td>
</tr>
</tbody>
</table>

Note: Switches are supplied with DIN 43650 mating connector

* Switching pressure difference (hysteresis) is not adjustable. Maximum values are shown.
Switching capacity
Commumator with gold plated contacts

<table>
<thead>
<tr>
<th>Current type</th>
<th>Load type *2</th>
<th>U min [V]</th>
<th>Max. permanent current I max [A] at U *1) (UL &amp; CSA)</th>
<th>Contact life</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>ohmic, inductive</td>
<td>6</td>
<td>M 12x1 30 V, DIN EN 175301-803, form A 30 V 48 V 125 V 250 V</td>
<td>≥ 2 x 10⁶ switching cycles</td>
</tr>
<tr>
<td>DC</td>
<td>ohmic, inductive</td>
<td>6</td>
<td>— — — —</td>
<td>— —</td>
</tr>
</tbody>
</table>

Reference number: 20/min, Reference temperature: +20°C.
I min = 1 mA at 24 VDC or 5 mA at 5 VDC

*1) Higher currents (5 A max) will cause a reduction of the durability of the micro-switch contacts. Furthermore additional measurements has to be taken to fulfill the EMV regulation 2004/108/EC by the manufacturer

*2) Spark quenching/overload protection will be necessary using inductive loads.

Recommended circuit
Spark quenching and EMV intrinsically safe

1. Quick diode (D) with tV ≤ 200 ns, parallel to inductive load.
2. RC link in parallel to load in parallel to switching contact.
   Dimensioning principles:
   \[ R_1 \text{ in } \Omega = 0.2 x R_{\text{Load in } \Omega} \]
   \[ C \text{ in } [\mu F] = \text{Load in } [A] \]

Switching function

1. Quick diode (D) with tV ≤ 200 ns, parallel to inductive load.
2. RC link in parallel to load in parallel to switching contact.
   \[ R_1 = \text{Load resistance} \]

Plug DIN EN 175301-803, form A
Microswitch SPDT
Terminals 1 - 3: Contacts close on rising pressure.
Terminals 1 - 2: Contacts open on rising pressure.

Switching function
IEC 947-5-2, M12 x 1:
Microswitch SPDT
Terminals 1 - 4: Contacts close on rising pressure.
Terminals 1 - 2: Contacts open on rising pressure.

Dimensions in inches (mm)

Protective Cover
An optional elastomer cover for protection of the switch adjustment against dirt and splashing liquids Part No. 0654737000000000