Ex-VCM/Ex-VNM
II 2G Ex d e IIC T6 Gb
II 1/2D Ex ta/tb IIIc T80 °C Da/Db

FEMA negative pressure switches detect the pressure difference relative to atmospheric pressure. All data relating to the switching pressure ranges and thus also the scale divisions on the switching devices are to be understood as the difference in pressure between the relevant atmospheric pressure and the set switching pressure. The "zero" reference point on the scale of the unit corresponds to the relevant atmospheric pressure.

Technical data

Pressure connection
External thread G 1/2 (pressure gauge connection) according to DIN 16 288 and internal thread G 1/4 according to ISO 228 Part 1.

Switching device
Robust housing (700) made of seawater resistant die cast aluminium GD Al Si 12.

Protection class
IP 65

Pressure sensor materials
Ex-VNM111 and Ex-VNM301: Metal bellows: 1.4571
Ex-VCM095, 101: Sensor housing: 1.4104
Ex-VCM101: Metal bellows of Cu Zn
Ex-VCM4156: Perbunan diaphragm sensor housing: 1.4301

Mounting position
Vertically upright.

Ambient temp. at switching device
–20…+60 °C

Max. medium temperature
The maximum medium temperature at the pressure sensor must not exceed the permitted ambient temperature at the switching device. Higher medium temperatures are possible provided the above limit values for the switching device are ensured by suitable measures (e.g. siphon).

Mounting
Directly on the pressure line (pressure gauge connection) or on a flat surface with two 4 mm Ø screws.

Switching pressure
Adjustable from outside with screw driver.

Contact arrangement
Single pole change over switch.

Switching differential not adjustable

<table>
<thead>
<tr>
<th>Type</th>
<th>Setting range</th>
<th>Switching differential (mean values)</th>
<th>Max. permissible pressure</th>
<th>Dimen-</th>
<th>Drawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching</td>
<td>(mean values)</td>
<td>(ohm)</td>
<td>(ind)</td>
<td>(ohm)</td>
<td>(ohm)</td>
</tr>
<tr>
<td>Ex-VCM4156</td>
<td>–15…+6 mbar</td>
<td>2 mbar</td>
<td>1 bar</td>
<td>4 + 11</td>
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</tr>
<tr>
<td>Ex-VCM301</td>
<td>–250…+100 mbar</td>
<td>25 mbar</td>
<td>1.5 bar</td>
<td>4 + 13</td>
<td></td>
</tr>
<tr>
<td>Ex-VNM301</td>
<td>–250…+100 mbar</td>
<td>45 mbar</td>
<td>3 bar</td>
<td>4 + 15</td>
<td></td>
</tr>
<tr>
<td>Ex-VCM101</td>
<td>–1*…+0.1 bar</td>
<td>45 mbar</td>
<td>3 bar</td>
<td>4 + 14</td>
<td></td>
</tr>
<tr>
<td>Ex-VCM095</td>
<td>–0.9…+0.5 bar</td>
<td>50 mbar</td>
<td>3 bar</td>
<td>4 + 14</td>
<td></td>
</tr>
<tr>
<td>Ex-VNM111</td>
<td>–1*…+0.1 bar</td>
<td>50 mbar</td>
<td>6 bar</td>
<td>4 + 15</td>
<td></td>
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</tbody>
</table>

* At very high vacuums, close to the theoretical maximum of –1 bar, the switch may not be usable in view of the special conditions of vacuum engineering. However, the pressure switch itself will not be damaged at maximum vacuum.

Calibration
The Ex-VCM and Ex-VNM series are calibrated for falling pressure. This means that the adjustable switching pressure on the scale corresponds to the switching point at falling pressure. The reset point is higher by the amount of the switching differential. (See also page 23, 1. Calibration at lower switching point).