**FUM10**

Ultrasonic Level Sensor

- Rugged, heavy-duty device housed in a plastic enclosure
- Measuring ranges from 60 – 500 to 600 – 6,000 mm
- 4 – 20 mA analog output, can be programmed by TEACH-IN
- Power supply 12 – 30 VDC

**Description:**
Ultrasonic level sensors measure the clearance between a liquid level and the sensor’s transmission surface using the echo time measurement of an ultrasonic signal. Liquid levels can be measured and the data sent to master evaluators by means of a programmable current or voltage output. For operating ranges up to 2m, the devices are available in an M18 enclosure incl. two lock nuts that is easy to install. For an operating range up to 3.5m, we offer an M30 enclosure. The sensor with 6m operating range has an enclosure with square flange and an extra large transmission surface.

**Typical Applications:**
FUM10 ultrasonic level sensors are suitable for applications where liquid levels in depressurized vessels are monitored, measured or regulated.
Models:

**FUM10...S:** electrical connection  
M12 industrial plug  
**FUM10...K:** with cable connector

**Operating ranges:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Measuring range</th>
<th>Response time (90%) in ms</th>
<th>Electrical protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUM10.K.05…</td>
<td>60…500 mm</td>
<td>100</td>
<td>IP67</td>
</tr>
<tr>
<td>FUM10.K.08…</td>
<td>100…800 mm</td>
<td>100</td>
<td>IP67</td>
</tr>
<tr>
<td>FUM10.K.20…</td>
<td>200…2,000 mm</td>
<td>200</td>
<td>IP67</td>
</tr>
<tr>
<td>FUM10.K.35…</td>
<td>350…3,500 mm</td>
<td>400</td>
<td>IP67</td>
</tr>
<tr>
<td>FUM10.K.60…</td>
<td>600…6,000 mm</td>
<td>700</td>
<td>IP65</td>
</tr>
</tbody>
</table>

**Dimensions:**

FUM10.K.35: enclosure M30 x 1.5, length 125 mm

**FUM10.K.60…**

**Electrical Connection:**

1. braun / brown +24 VDC  
5. rosa / pink  
4. schwarz / black Teach-In  
3. blau / blue Analog output  
0 V

**Model Coding:**

Order number: FUM10. K. 20. I. S. 0  

Ultrasonic level sensor

**Material:**  
K = plastic enclosure  
S = special-order device

**Measuring range:**  
05 = 60 – 500 mm  
08 = 100 – 800 mm  
20 = 200 – 2,000 mm  
35 = 350 – 3,500 mm  
60 = 600 – 6,000 mm

Output signal:

I = current output 4 - 20 mA  
V = voltage output 0 - 10 V

**Electrical connection:**

S = plug M12 x 1, 5-pin  
K = cable, 5-core, 2m (not for FUM10.K.60)

**Options:**

0 = none  
1 = matching plug, 5-pin, with 2 m cable  
2 = matching plug, 5-pin, with 2 m cable, right-angled  
9 = please specify in writing

**Specifications:**

Materials: enclosure made of PET / PBT, sonic converter made of glass / ceramic, potting compound is epoxy resin

Supply voltage: 12 to 30 VDC  

Electrical connection: plug M12 or 1.5 m cable

Process connection:

**FUM10.K.05…20:** screw thread M18 incl. 2 lock nuts  
**FUM10.K.35:** screw thread M30 incl. 2 lock nuts  
**FUM10.K.60:** 4-hole square flange 67.5 x 67.5 mm

Outputs: analog output, 4 – 20 mA or 0 – 10 V

Resolution:  
**FUM10.K.05…08:** 0.25 mm  
**FUM10.K.20…35:** 1 mm  
**FUM10.K.60:** 1.5 mm

Indicator: 3 LED, echo, beginning and end of characteristic

Repeat accuracy:  
**FUM10.K.05…35:** ± 0.2% ± 1 mm  
**FUM10.K.60:** ± 0.2% ± 2 mm

max. pressure: atmospheric

Temperature range: -15…+70 °C, compensated

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