Retro-reflective sensor with polarization filter

Model Number
VL18-54-MS/32/40a/82b/118
Retro-reflective sensor with polarization filter with M12, 4-pin metal connector

Features
- Clearly arranged control panel with very light LED display
- Flashing power on LED in case of short-circuit
- Optical face lateral, embeddable to the housing
- Multiple device installation possible, no mutual interference
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

Electrical connection

Option: /32/82b

1 +UB
2 Alarm
3 0 V
4 Q

○ = Light on
● = Dark on

Dimensions

Unit connector
Technical data

**General specifications**
- Effective detection range: 0 ... 3.5 m
- Threshold detection range: 4 m
- Light source: LED, Red light 660 nm
- Approvals: CE, cULus
- Light type: red, modulated light
- Diameter of the light spot: 160 mm at a distance of 3500 mm
- Angle of divergence: 3 °
- Optical face: lateral
- Ambient light limit: 30000 Lux
- Hysteresis: H < 15 %

**Functionally related parameters**
- MTTFd: 700 a
- Mission Time (TMD): 20 a
- Diagnostic Coverage (DC): 0 %

**Indicators/operating means**
- Operating display: LED green, flashes in case of short-circuit
- Function display: LED yellow, light with free light beam, flashes when falling short of the stability control, OFF when light beam is interrupted
- Operating elements: Sensitivity adjuster, light/dark switch

**Electrical specifications**
- Operating voltage: U_B 10 ... 30 V DC , class 2
- Protection class: II , rated voltage ≤ 300 V AC with pollution degree 1-2 according to IEC 60664-1
- Ripple: 10 %
- No-load supply current: I_0 < 35 mA

**Output**
- Output of the pre-fault indication: 1 pnp, inactive when falling short of the stability control
- Switching type: light/dark ON, switchable
- Signal output: 1 PNP output, short-circuit proof, protected from reverse polarity, open collector
- Switching voltage: 30 V DC
- Switching current: max. 200 mA
- Switching frequency: f 500 Hz
- Response time: 1 ms

**Standard conformity**
- Standards: EN 60947-5-2

**Ambient conditions**
- Ambient temperature: -25 ... 70 °C (248 ... 343 K)
- Storage temperature: -30 ... 70 °C (243 ... 343 K)

**Mechanical specifications**
- Protection degree: IP67
- Connection: M12 connector, 4-pin
- Housing: brass, nickel-plated
- Optical face: plastic
- Mass: 60 g

**Curves / Diagrams**

![Characteristic response curve](OBS4000-18GM60_VL18-54-M(S)...)
# Relative received light strength

<table>
<thead>
<tr>
<th>Reflective type</th>
<th>Distance X [mm]</th>
<th>Stability control &gt; 3</th>
<th>Stability control &lt; 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>H85 (80 mm x 80 mm)</td>
<td>0 mm</td>
<td>100 mm</td>
<td>4700 mm</td>
</tr>
<tr>
<td>C110.2 (ø = 84 mm)</td>
<td>0 mm</td>
<td>100 mm</td>
<td>4000 mm</td>
</tr>
<tr>
<td>H60 (60 mm x 40 mm)</td>
<td>0 mm</td>
<td>2200 mm</td>
<td></td>
</tr>
<tr>
<td>H160 (60 mm x 18 mm)</td>
<td>0 mm</td>
<td>2500 mm</td>
<td></td>
</tr>
<tr>
<td>F2000 (Foil, 100 mm x 100 mm)</td>
<td>0 mm</td>
<td>100 mm</td>
<td></td>
</tr>
</tbody>
</table>

**Distance X [mm]**

**Stability control**

- **H85**
- **C110-2**
- **H60**
- **H160**
- **F2000**