Single-beam photoelectric safety switch
L21

L21E-21MA1A, L21S-21MA1A
Single-beam photoelectric safety switch

L21

Receiver
Model Name: L21E-21MA1A
Part No.: 6034875

Sender
Model Name: L21S-21MA1A
Part No.: 6034874

At a glance
- Small M18 sensors with ranges up to 10 m
- Compact M30 sensors with ranges up to 60 m
- Universal use up to Type 2, with safety control solutions from SICK
- Metal and plastic version
- Radial optics (90° deflector mirror)
- Temperature range from -40 °C ... + 55 °C
- Enclosure rating IP 67
- Straightforward diagnostics and service

Your benefits
- Easy integration due to small, compact versions with maximum range
- Directly connect to a safety controller - without a separate evaluation unit, reducing costs
- Flexible device integration makes it possible to set up individual protective fields
- Well suited to withstand extreme ambient conditions such as heat, cold or moisture

Applications
Access protection (vertical): 1

Technical Data-Sender
Scanning range: 0 m ... 16 m
Number of beams: 1
Optical axis: axial
Aperture angle/receiving angle: according to type 2 (IEC 61496-2)
Light sender/type of light: LED / visible red light
Wave length: 660 nm
Protection class: III
**Enclosure rating:** IP 67  
**Type:** Type 2 (EN 61496)  
**Safety integrity level:** SIL1 (IEC 61508)  
**Category:** category 2 (EN ISO 13849)  
**Test rate (external test):** 100 /s (EN ISO 13849)  
**Maximum demand rate:** 60 /min (EN ISO 13849)  
**Performance level:** PL c (EN ISO 13849)  
**PFHd:** $1.0 \times 1E-06$  
**TM (mission time):** 20 a  
**Supply voltage typical, from, to:** 24 V DC, 19.2 V DC, 28.8 V DC  
**Maximum power consumption:** ≤ 20 mA  
**Design:** cylindrical  
**Dimensions (diameter x length):** M18 x 97.7 mm  
**Connection type:** plug M12 x 4 M18  
**Housing material:** Brass nickel-plated  
**Ambient operating temperature from ... to:** -40 °C ... 55 °C  
**Storage temperature from ... to:** -40 °C ... 75 °C  
**Air humidity from ... to:** non-condensing 15 ... 95 %  
**Vibration resistance (checked to):** 5 g (IEC 60068-2-6)  
**Oscillation frequency from ... to:** 10 Hz ... 55 Hz  
**Shock resistance:** 10 g, 16 ms (IEC 60068-2-29)  
**Weight:** 67 g  

1) 2) 3) 6) 7) Only in conjunction with suitable testing device, e.g., Flexi Classic, DeviceNet Safety  
4) The test rate shall not be exceeded  
5) Between two demands on a safety-related response of the device, at least 100 internal or external tests must be carried out.

**Technical Data - Receiver**

<table>
<thead>
<tr>
<th>Scanning range</th>
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| Safety integrity level | SIL1 (IEC 61508)  
SILCL1 (IEC 62061) |
| Category | category 2 (EN ISO 13849) |
| Test rate (external test): | 100 /s (EN ISO 13849) |
| Maximum demand rate | 60 /min (EN ISO 13849) |
| Performance level | PL c (EN ISO 13849) |
| PFHd | $1.0 \times 1E-06$ |
| TM (mission time): | 20 a |
| Supply voltage typical, from, to | 24 V DC, 19.2 V DC, 28.8 V DC |
| Switching outputs | PNP, Q |
| Maximum response time | 200 µs |
| Maximum switching current | 70 mA |
| Maximum power consumption | ≤ 30 mA |
| Design | cylindrical |
| Dimensions (diameter x length): | M18 x 97.7 mm |
| Connection type | plug M12 x 4 M18 |
| Housing material | Brass nickel-plated |
Ambient operating temperature from ... to: -40 °C ... 55 °C
Storage temperature from ... to: -40 °C ... 75 °C
Air humidity from ... to: non-condensing 15 ... 95 %
Vibration resistance (checked to): 5 g (IEC 60068-2-6)
Oscillation frequency from ... to: 10 Hz ... 55 Hz
Shock resistance: 10 g, 16 ms (IEC 60068-2-29)
Weight: 67 g

1) 2) 3) 6) 7) Only in conjunction with suitable testing device, e.g., Flexi Classic, DeviceNet Safety 4) The test rate shall not be exceeded 5) Between two demands on a safety-related response of the device, at least 100 internal or external tests must be carried out. 8) Short-circuit protected
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