Dimensions [mm]

Wave length
- IR (infrared): 940 nm
- IR (infrared): 880 nm (MB14/MB21)
- Red: 650 nm
- Green: 560 nm

Adjustment
- Sensitivity
- Light/dark operate

Timing function
- Replace LU1 with a timing module
- LK1: one-shot, 0.1...1 s
- LE1: on-delay, 1.5...15 s
- LA1: off-delay, 1.5...15 s
- LT1: on and off-delay, 1.5...15 s

Supply
- Supply voltage $U_g$: 10...30 VDC
- Ripple $V_{pp}$: ≤ 10 %
- No load current $I_{0}$: ≤ 60 mA
- Delay upon power up: 100 ms

Protection
- Reverse polarity
- Short-circuit (pulsed)

Output
- Programmable (see wiring)
- Continuous load current: ≤ 150 mA
- Overload trip point: ≥ 400 mA typical at 20 °C
- Switching frequency: ≤ 500 Hz
- ≤ 50 Hz (MB14)

Material
- Housing: PBT
- Lens: Acrylic glass (MB13/15)
- Vinyl (MB11)

Protection class
- (IEC 60529/EN 60529)
- IP65

Temperature range
- -40...+70 °C

Indicator LED's
- Red
- AID (alignment indicating device)

Accessories
- Brackets
  - MW360: 37 418
  - SMB700SS: 34 164 00
- 2-axis bottom mounting

Wiring
- pnp
- npn
- Emitter

Pg 13,5

MB13/MB15
# Photoelectric sensors

## MULTI-BEAM™ series

**DC operation**

Excess gain curve:
Excess gain in relation to the distance

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. range Fibre type</th>
<th>Light source</th>
<th>Output function</th>
<th>Connection</th>
<th>Type</th>
<th>Part number</th>
</tr>
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<tbody>
<tr>
<td><strong>Retro-reflective</strong></td>
<td></td>
<td></td>
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<td></td>
<td><strong>MB32-LU1-NP6X</strong></td>
<td>37 962</td>
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<td></td>
<td>9 m IR pnp, nnp</td>
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<td>terminals</td>
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<td><strong>MB33-LU1-NP6X</strong></td>
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<td>4,5 m red pnp, pnp</td>
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<td><strong>Diffuse</strong></td>
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<td><strong>MB11-LU1-NP6X</strong></td>
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<td>0,3 m IR pnp, pnp</td>
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<td><strong>MB12-LU1-NP6X</strong></td>
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<td><strong>MB14-LU1-NP6X</strong></td>
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<td><strong>Convergent</strong></td>
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<td><strong>MB13-LU1-NP6X</strong></td>
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<td>38 mm red pnp, pnp</td>
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<td><strong>MB15-LU1-NP6X</strong></td>
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<tr>
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<td>38 mm green pnp, pnp</td>
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<td><strong>Opposed</strong></td>
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<td><strong>MB52-0-S7</strong></td>
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<td>45 m IR (emitter) pnp</td>
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<td><strong>MB52-0-S7</strong></td>
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**IMPORTANT SAFETY WARNING**! These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can result in either an energised or de-energised output condition. These products should not be used as sensing devices for personnel safety.