Product description
The UM30 product family provides a variety of flexible options. Detecting range up to 8 m, as well as various setup options, enable these sensors to solve nearly any application. Its high measurement accuracy – due to internal tempera-

performance compensation – along with the color-independent detection of objects, immunity to dirt and dust, and a high operational temperature range up to 70 °C, enable reliable operation – even under the most challenging conditions.

At a glance
- Integrated time-of-flight technology detects objects such as glass, liquids and transparent foils, independent of color
- Range up to 8,000 mm
- Display enables fast and flexible sensor adjustment
- Immune to dust, dirt and fog
- Available with combined analog and digital outputs
- Synchronization and multiplexing
- Adjustable sensitivity
- Three operation modes: Distance to Object (DtO), Window (Wnd) or Object between sensor and background (ObSB)
- Easy machine integration due to compact size
- Adaptation to applications
- Multiplex mode eliminates cross-talk interference for consistent and reliable detection and high measurement reliability
- Synchronization mode allows multiple sensors to work as one large sensor, providing a low-cost solution for area detection

Your benefits
- Easy machine integration due to compact size
- Various setup options ensure flexible adaptation to applications
- Multiplex mode eliminates cross-talk interference for consistent and reliable detection and high measurement reliability
- Synchronization mode allows multiple sensors to work as one large sensor, providing a low-cost solution for area detection
- Display enables setup prior to installation, reducing on-site installation time
- Integrated temperature compensation and time-of-flight technology ensure high measurement accuracy
- ObSB-mode enables detection of any object between the sensor and a taught background

Detailed technical data
Performance

Resolution
± 0.16 mm

Repeatability
± 0.15 %

Accuracy
± 1 %

Temperature compensation

Switching frequency
30 mm ... 250 mm, 350 mm
65 mm ... 350 mm, 600 mm
200 mm ... 1,300 mm, 2,000 mm
350 mm ... 3,400 mm, 5,000 mm
600 mm ... 6,000 mm, 8,000 mm

3 Hz
6 Hz
8 Hz
11 Hz
2 Hz

Ultrasonic frequency (typical)
30 mm ... 250 mm, 350 mm
65 mm ... 350 mm, 600 mm
200 mm ... 1,300 mm, 2,000 mm
350 mm ... 3,400 mm, 5,000 mm
600 mm ... 6,000 mm, 8,000 mm

320 kHz
400 kHz
200 kHz
120 kHz
80 kHz

Detection area (typical)
See diagrams

Additional function
- Set switching modes: Distance to object (DtO) / Window (Wnd) / Object between sensor and background (ObSB)
- Teach-in and parameterization of switching output, invertible
- Teach-in and parameterization of analog output, invertible
- Automatic selection of analog current or voltage output
- Temperature compensation
- Synchronization and multiplexing (no cross-talk) of up to 10 sensors
- Ground suppression and detection area
- Switch-off display and lock user interface

Interfaces
Resolution analog output
12 bit

Multifunctional input (MF)
1 x MF

Hysteresis
30 mm ... 250 mm, 350 mm
65 mm ... 350 mm, 600 mm
200 mm ... 1,300 mm, 2,000 mm
350 mm ... 3,400 mm, 5,000 mm
600 mm ... 6,000 mm, 8,000 mm

3 mm
5 mm
20 mm
50 mm
100 mm

Mechanics/electronics
Supply voltage V1
DC 5 V ... 30 V

Power consumption
≤ 2.4 W

Initialization time
≤ 300 ms

Design
Cylindrical

Additional information
Detailed technical data
Ordering information
Dimensional drawings
Detection ranges
Recommended accessories
www.mysick.com/en/UM30
For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

30 mm ... 250 mm, 350 mm
65 mm ... 350 mm, 600 mm
200 mm ... 1,300 mm, 2,000 mm
350 mm ... 3,400 mm, 5,000 mm
600 mm ... 6,000 mm, 8,000 mm
ULTRASONIC SENSORS

UM30 ULTRASONIC SENSORS

<table>
<thead>
<tr>
<th>Housing material</th>
<th>Nickel-plated brass, PBT, display: TPU, ultrasonic transducer: polyurethane foam, glass epoxy resin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection type</td>
<td>Male connector, M12, 5-pin</td>
</tr>
<tr>
<td>Indication</td>
<td>LED display, 2 x LED</td>
</tr>
<tr>
<td>Weight</td>
<td>150 g ... 270 g</td>
</tr>
</tbody>
</table>

1) Limit values, reverse-polarity protected, operation in short-circuit protected network max. 8 A.
2) Without load.

Ambient data

<table>
<thead>
<tr>
<th>Enclosure rating</th>
<th>IP 67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection class</td>
<td>III</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>Operation: -25 °C ... 70 °C, Storage: -40 °C ... 85 °C</td>
</tr>
</tbody>
</table>

Ordering information

UM30-2

* Sending axle: Straight

<table>
<thead>
<tr>
<th>Working range, limiting range</th>
<th>Response time</th>
<th>Output time</th>
<th>Switching output 1)</th>
<th>Analog output</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 mm ... 250 mm, 350 mm</td>
<td>50 ms</td>
<td>8 ms</td>
<td>1 x PNP (200 mA) 2)</td>
<td>1 x 0 V ... 10 V (± 100 mV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 mm ... 350 mm, 600 mm</td>
<td>70 ms</td>
<td>18 ms</td>
<td>1 x PNP (200 mA) 2)</td>
<td>1 x 0 V ... 10 V (± 100 mV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200 mm ... 1,300 mm, 2,000 mm</td>
<td>110 ms</td>
<td>23 ms</td>
<td>1 x PNP (200 mA) 2)</td>
<td>1 x 0 V ... 10 V (± 100 mV)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Output Q short-circuit protected.
2) PNP: HIGH = V S - (< 2 V) / LOW = 0 V.
3) Automatic selection of analog current or voltage output dependent on load.
4) For 4 mA ... 20 mA and V S ≤ 15 V (≤ 25 V max. 10 %) and 25 mA ≤ 500 mV (500 mV max. 10 %).
5) Subsequent smoothing of the analog output, depending on the application, may increase the response time by up to 200 %.
6) UFV (V S) / IN = I O.

Dimensional drawings (Dimensions in mm (inch))
UM30-215

Detection ranges
UM30-211
Detection area in mm (inch)

- Connections
- Display
- Mounting nuts, SW 36 mm

UM30-212
Detection area in mm (inch)

- Focusing range dependent on reflection properties, size and orientation of the object
- Limiting range
- Working range
- Example object: aligned plate 500 mm x 500 mm
- Example object: pipe with 10 mm diameter

UM30-213
Detection area in mm (inch)

- Focusing range dependent on reflection properties, size and orientation of the object
- Limiting range
- Working range
- Example object: aligned plate 500 mm x 500 mm
- Example object: pipe with 27 mm diameter

UM30-214
Detection area in mm (inch)

- Focusing range dependent on reflection properties, size and orientation of the object
- Limiting range
- Working range
- Example object: aligned plate 500 mm x 500 mm
- Example object: pipe with 27 mm diameter
### Recommended accessories

#### Mounting systems

<table>
<thead>
<tr>
<th>Brief description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting plate for M30 sensors</td>
<td>5321871</td>
</tr>
<tr>
<td>Mounting bracket, M30 thread</td>
<td>5308445</td>
</tr>
</tbody>
</table>

#### Terminal and alignment brackets

<table>
<thead>
<tr>
<th>Brief description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting bracket, M30, axial rotation possible, with threaded mounting hole M6</td>
<td>5311527</td>
</tr>
</tbody>
</table>

#### Connection systems

#### Plug connectors and cables

<table>
<thead>
<tr>
<th>Connection type head A</th>
<th>Connection type head B</th>
<th>Cable</th>
<th>Cable length</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female connector, M12, 5-pin, straight</td>
<td>Cable</td>
<td>PVC, unshielded</td>
<td>2 m</td>
<td>5008899</td>
</tr>
<tr>
<td>Female connector, M12, 5-pin, angled</td>
<td>Cable</td>
<td>PVC, unshielded</td>
<td>2 m</td>
<td>5008900</td>
</tr>
</tbody>
</table>

#### Further accessories

#### Programming and configuration tool

<table>
<thead>
<tr>
<th>Brief description</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool for visualization, configuration and cloning, 3-digit LED display, 9 V ... 30 V</td>
<td>Connect+ adapter (CR+)</td>
<td>6097782</td>
</tr>
</tbody>
</table>