Inductive Proximity Sensor iProx™
Our Highest Performance Sensor
12, 18 and 30 mm Diameter

✅ Available in AC 2-Wire, DC 3-Wire
✅ Reliably Detects Metal Targets at Up
to 3 Times the Range of Conventional
Shielded or Unshielded Tubular
Inductive Sensors
✅ Quality Construction Using a Stainless
Steel Barrel, 360° Dual-Color LED
Indicator, Ryton® Impact-Resistant Face
Cap and Vibration Absorbing Potting
Compound
✅ Auto-Configuration Technology
Automatically Detects a Sinking (NPN) or
Sourcing (PNP) Connection and Switches
the Sensor Accordingly, Without
any User Intervention
✅ Highly Visible Dual Color Output
Status LED
✅ Withstands High Electrical Noise
(Up to 20 V/m)
✅ Resistant to Extreme
Temperatures (-40°C)

Typical Applications
✅ Automotive
✅ Machine Tool
✅ Material Handling
✅ Metalworking

The iProx represents the highest
performance, most versatile
tubular inductive sensor offered by
OMEGA. By utilizing an embedded
microprocessor and exclusive
SmartSense™ technology, iProx
can sense up to three times farther
than typical sensors of its class. Both
shielded and unshielded versions
of iProx feature extended sensing
ranges. This allows the sensor to
be mounted farther from the target,
thereby reducing the potential for
target impacts and increasing the
sensing reliability of your application.
With extended sensing range,
quality construction and the ability
to automatically configure its output
for sinking or sourcing connection,
iProx is the ideal choice for even
the most demanding inductive
sensing applications.

Specifications

2-WIRE SENSORS
Input Voltage: 20 to 132 Vac
Load Current: 12 mm: 5 to 300 mA;
200 mA @ >50°C
Leakage Current: ≤ 1.7 mA @ 0°C,
2.0 mA @ -40°C
Voltage Drop: < 5 Vac
Protection: None
Switching Hysteresis: < 15% rated
sensing distance repeat accuracy
Shielded Models:
< 1% sensing distance
Unshielded Models:
< 3% sensing distance
Surge Capacity: 3A/30 ms

Temperature Range: -40 to 70°C
(-40 to 158°F)
Material of Construction: 303 SS
End Bells: Polycarbonate
Face Caps: Ryton®
Cable: AWM Style 20387 (PVC)
Vibration and Shock Vibration:
10 to 55 Hz, 1 mm Amplitude, IEC 60068-
2-6; Shock: 30g, 11 ms per IEC 68-2-27
Indicator LED: 360° viewable LED
Enclosure Ratings: NEMA 4, 4X, 6,
6P, 12 and 13 (IP67)
Response Time 2-Wire Sensors:
Factory Default Mode: Shipped in
“side by side mode” by default (20 V/m)
Side by Side: 30 Hz (10 V/m)
High Noise Immunity Mode: 10 Hz
(>20 V/m)
3-WIRE SENSORS

**Input Voltage:** 6 to 48 Vdc

**Load Current:** ≤500 mA @ 6 to 30 Vdc; ≤300 mA @ 32 to 48 Vdc

**Leakage Current:** ≤150 µA

**Voltage Drop:** ≤2.5 Vdc

**Burden Current:** ≤15 mA

**Protection:** Auto Reset

**Switching Hysteresis:** <15% rated sensing distance

**Repeat Accuracy:**

- **Shielded Models:** <1% sensing distance
- **Unshielded Models:** <3% sensing distance

**Temperature Range:** -40 to 70°C

(-40 to 158°F)

**Material of Construction:** 303 SS;

End bells: Polycarbonate;

Face caps: Ryton®; Cable: AWM Style 20387 (PVC)

**Vibration and Shock Vibration:**

- 10 to 55Hz, 1 mm Amplitude,

IEC 60068-2-6; Shock: 30g, 11 mS

per IEC 68-2-27

**Indicator LED:** 360° viewable LED

**Enclosure Ratings:** NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)

**Response Time 3-Wire Sensors:**

- **Factory Default Mode:**
  - Shielded:
    - 12 mm: 580 Hz (10 V/m)
    - 18 mm: 390 Hz (10 V/m)
    - 30 mm: 240 Hz (10 V/m)
  - Unshielded:
    - 12 mm: 300 Hz (10 V/m)
    - 18 mm: 150 Hz (10 V/m)
    - 30 mm: 145 Hz (10 V/m)

- **Side by Side:** 50 Hz (20 V/m)

- **High Noise Immunity Mode:** 10 Hz (>20 V/m)

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**Cable Models**

<table>
<thead>
<tr>
<th>Size</th>
<th>Shielding</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 mm</td>
<td>Shielded</td>
<td>62.4 (2.46)</td>
<td>50.3 (1.98)</td>
<td>0.5 (0.02)</td>
<td>17 (0.67)</td>
</tr>
<tr>
<td></td>
<td>Unshielded</td>
<td>62.4 (2.46)</td>
<td>41.6 (1.64)</td>
<td>9.0 (0.36)</td>
<td>17 (0.67)</td>
</tr>
<tr>
<td>18 mm</td>
<td>Shielded</td>
<td>64.5 (2.54)</td>
<td>50.9 (2.00)</td>
<td>0.5 (0.02)</td>
<td>24 (0.94)</td>
</tr>
<tr>
<td></td>
<td>Unshielded</td>
<td>64.5 (2.54)</td>
<td>37.4 (1.47)</td>
<td>14 (0.55)</td>
<td>24 (0.94)</td>
</tr>
<tr>
<td>30 mm</td>
<td>Shielded</td>
<td>69.6 (2.74)</td>
<td>54.1 (2.13)</td>
<td>0.75 (0.03)</td>
<td>36 (1.41)</td>
</tr>
<tr>
<td></td>
<td>Unshielded</td>
<td>69.6 (2.74)</td>
<td>35.8 (1.41)</td>
<td>19 (0.75)</td>
<td>36 (1.41)</td>
</tr>
</tbody>
</table>

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**To Order**

IPROX™ Inductive Proximity Sensors

<table>
<thead>
<tr>
<th>Type</th>
<th>Model No.</th>
<th>Operating Voltage</th>
<th>Sensing Range (Std Range) mm (In)</th>
<th>Shielding</th>
<th>Connection Type m (ft)</th>
</tr>
</thead>
</table>

**2-Wire Sensors**

<table>
<thead>
<tr>
<th>Size</th>
<th>Model No.</th>
<th>Voltage</th>
<th>Sensing Range</th>
<th>Shielding</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 mm</td>
<td>E59-M12A105C02-A1</td>
<td>20 to 132 Vac 50/60 Hz</td>
<td>4 (0.15) Shielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E59-M12C110C02-A1</td>
<td></td>
<td>10 (0.4) Unshielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td>18 mm</td>
<td>E59-M18A109C02-A1</td>
<td></td>
<td>8 (0.3) Shielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E59-M18C118C02-A1</td>
<td></td>
<td>18 (0.7) Unshielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td>30 mm</td>
<td>E59-M30A115C02-A1</td>
<td></td>
<td>15 (0.6) Shielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E59-M30C129C02-A1</td>
<td></td>
<td>29 (1.1) Unshielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
</tbody>
</table>

**3-Wire Sensors**

<table>
<thead>
<tr>
<th>Size</th>
<th>Model No.</th>
<th>Voltage</th>
<th>Sensing Range</th>
<th>Shielding</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 mm</td>
<td>E59-M12A105C02-D1</td>
<td>6 to 48 Vdc</td>
<td>4 (0.15) Shielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E59-M12C110C02-D1</td>
<td></td>
<td>10 (0.4) Unshielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td>18 mm</td>
<td>E59-M18A108C02-D1</td>
<td></td>
<td>8 (0.3) Shielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E59-M18C116C02-D1</td>
<td></td>
<td>18 (0.7) Unshielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td>30 mm</td>
<td>E59-M30A115C02-D1</td>
<td></td>
<td>15 (0.6) Shielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E59-M30C129C02-D1</td>
<td></td>
<td>29 (1.1) Unshielded</td>
<td>2 (6) cable</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Examples:**

- E59-M18A109C02-A1, iProx sensor, 18 mm diameter, 8 mm sensing range, shielded with 2 m (6') cable.
- E59-M12A105C02-D1, iProx sensor, 12 mm diameter, 4 mm sensing range, shielded with 2 m (6') cable.

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**Accessories**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E57KM12</td>
<td>Bracket for 12 mm tubular sensors</td>
</tr>
<tr>
<td>E57KM18</td>
<td>Bracket for 18 mm tubular sensors</td>
</tr>
<tr>
<td>E58KAM18B</td>
<td>Bracket, adjustable ball swivel for 18 mm tubular sensors</td>
</tr>
<tr>
<td>E57KM30</td>
<td>Bracket for 30 mm tubular sensors</td>
</tr>
</tbody>
</table>

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E58KAM18B, bracket shown smaller than actual size.