

Inductive Proximity Sensor iProx™

Our Highest Performance Sensor

12, 18 and 30 mm Diameter

iProx Series



- ✓ 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

E59-M12C110C02-D1
shown actual size.



E59-M30A115C02-D1,
shown actual size.

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)

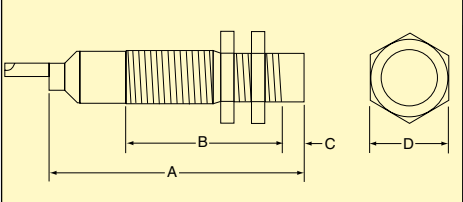
30 mm: 145 Hz (10 V/m)

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

High Noise Immunity Mode:

10 Hz (>20 V/m)

Cable Models

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

To Order

IPROX™ Inductive Proximity Sensors

Type	Model No.	Operating Voltage	Sensing Range (Std Range) mm (In)	Shielding	Connection Type m (ft)
2-Wire Sensors					
12 mm Dia NO Output	E59-M12A105C02-A1	20 to 132 Vac 50/60 Hz	4 (0.15)	Shielded	2 (6) cable
	E59-M12C110C02-A1		10 (0.4)	Unshielded	2 (6) cable
18 mm Dia NO Output	E59-M18A109C02-A1		8 (0.3)	Shielded	2 (6) cable
	E59-M18C118C02-A1		18 (0.7)	Unshielded	2 (6) cable
30 mm Dia NO Output	E59-M30A115C02-A1		15 (0.6)	Shielded	2 (6) cable
	E59-M30C129C02-A1		29 (1.1)	Unshielded	2 (6) cable
3-Wire Sensors					
12 mm Dia NO Output	E59-M12A105C02-D1	6 to 48 Vdc	4 (0.15)	Shielded	2 (6) cable
	E59-M12C110C02-D1		10 (0.4)	Unshielded	2 (6) cable
18 mm Dia NO Output	E59-M18A108C02-D1		8 (0.3)	Shielded	2 (6) cable
	E59-M18C116C02-D1		18 (0.7)	Unshielded	2 (6) cable
30 mm Dia NO Output	E59-M30A115C02-D1		15 (0.6)	Shielded	2 (6) cable
	E59-M30C129C02-D1		29 (1.1)	Unshielded	2 (6) cable

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.

Accessories

Model No.	Description
E57KM12	Bracket for 12 mm tubular sensors
E57KM18	Bracket for 18 mm tubular sensors
E58KAM18B	Bracket, adjustable ball swivel for 18 mm tubular sensors
E57KM30	Bracket for 30 mm tubular sensors

E58KAM18B, bracket
 shown smaller
 than actual size.

