

LevelPro® – MLR-70 Series
Guided-Wave Radar Level Sensor | Transmitter

ICON™ PROCESS CONTROLS Corrosion-Free
Instrumentation Equipment™

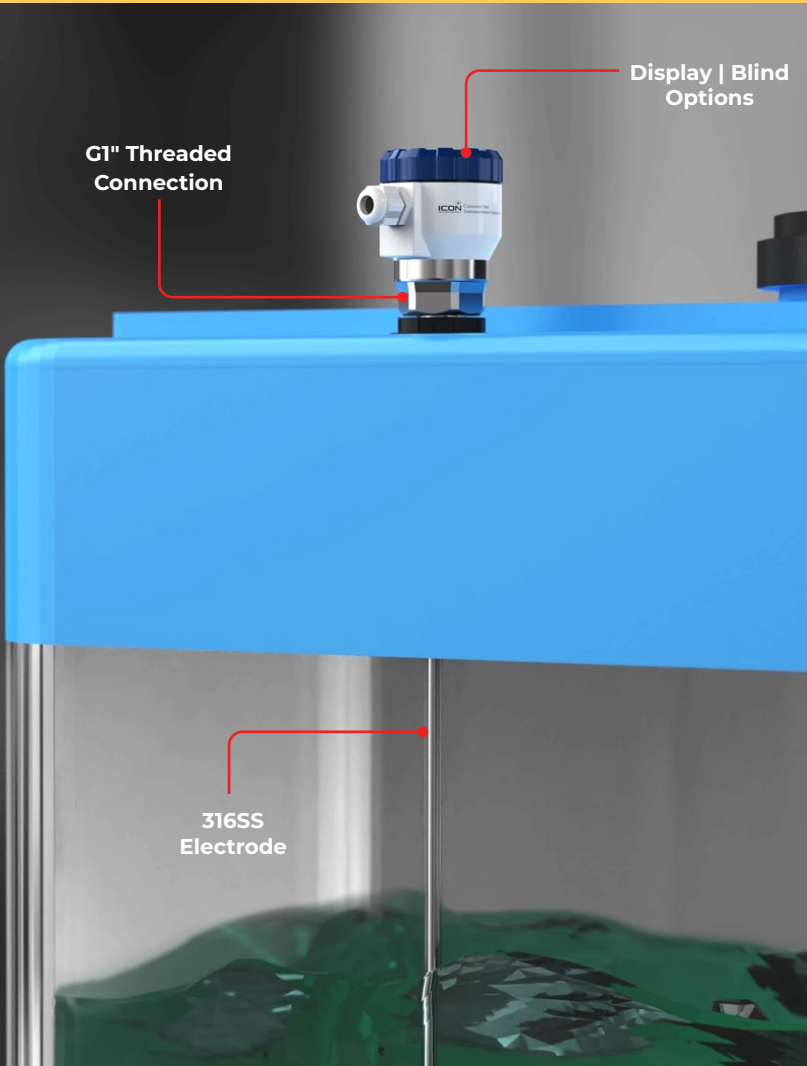
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Features

- ✓ FEP Teflon®-Coated Probes
- ✓ Quick Setup with OLED Module
- ✓ All-Stainless Designs for Food/Pharma Applications
- ✓ Stainless Steel Rod | Rope Electrode
- ✓ Adaptive Suppression of False Echoes
- ✓ 4–20mA with HART Communication
- ✓ Accurate in Non-Conductive or Irregular Vessels
- ✓ Explosion-Proof | ATEX (Optional)
- ✓ Electrode Measuring Range up to 15m

Stable Measurement in the Toughest Environments

The **MLR-70 Guided-Wave Radar Level Sensor** provides continuous liquid level measurement using microwave pulses transmitted along a rod or cable probe. These pulses travel down the probe as electromagnetic waves and are reflected when they reach the liquid surface.

The returning signal is captured by the electronics, which calculate the level based on the precise time of flight. The transmitter then outputs the corresponding level value and displays it on the integrated screen for real-time monitoring.

Because guided-wave radar technology is inherently stable, the measurement remains unaffected by changes in pressure, temperature, dust, steam, dielectric constant, or conductivity, ensuring reliable performance across demanding industrial environments.

Sensor Variants

MLR-70-12:

Fully coated stainless steel rod electrode (FEP) for level measurement of aggressive liquids. Maximum electrode length 2m.

MLR-70-32:

Fully coated stainless steel rope electrode (FEP) and coated weight (FEP) for level measurement of aggressive liquids and very pure liquids. Maximum electrode length 15 m.



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Technical Specifications

Supply Voltage	- MLR-70-N : - MLR-70-Xi :	18 ~ 36 VDC 18 ~ 33VDC
Output		4-20mA with HART
Current Consumption		4-20mA Max. 22mA
Basic Measurement Accuracy (for reference reflecting surface)		± 2 mm
Resolution		0.1 mm
Error of Current Output		Max. 80 µA
Length of Measuring Electrode	- MLR-70-12 : - MLR-70-32 :	19.6in to 78.7in (0.5m to 2m) 39.3in to 590.5in (1m to 15m)
Dead Zone ^[1]		Refer Manual
Adjustable Measuring Range		Min. 200mm
Measurement sensitivity (8 degrees)		low (1) - medium (3) - high (5) - user (1 to 8)
Failure Indication (Echo Loss, Internal Failure)		Adjustable in modes: 3.75mA, 4mA, 20mA, 22mA, LAST ^[2]
Dampening		1 - 99 s
Warm Up Time		approx. 60 s
Leakage Resistance Electrode - Housing		10 k Ω
Coupling Capacity / Dielectric Strength		5 nF 500VAC
Maximal Current Output Load Resistance	U = 24VDC :	R _{max} = 270Ω
	U = 22VDC :	R _{max} = 180Ω
	U = 20VDC :	R _{max} = 90Ω ^[3]
Protection Class		IP67
Process Connection		Thread G1"
Ambient Temperature Range		-22 ~ 158 °F
Process Temperature Range		-40 ~ 392 °F
Media Temperature Range		-40 ~ 572 °F
Process Pressure (For temperature +85°C)		0 ~ 290psi (MLR-70-N-12) 0 ~ 72.5psi (MLR-70-N-32)

Display Module

Type of Display	OLED
Resolution	128 x 64 pixels
Height of Digits Number of Display Digits (of Measured Values)	9 mm 5 digits
Colour of Display	Yellow
Type of Buttons	Low Lift Membrane
Ambient Temperature Range	-22 to 158°F

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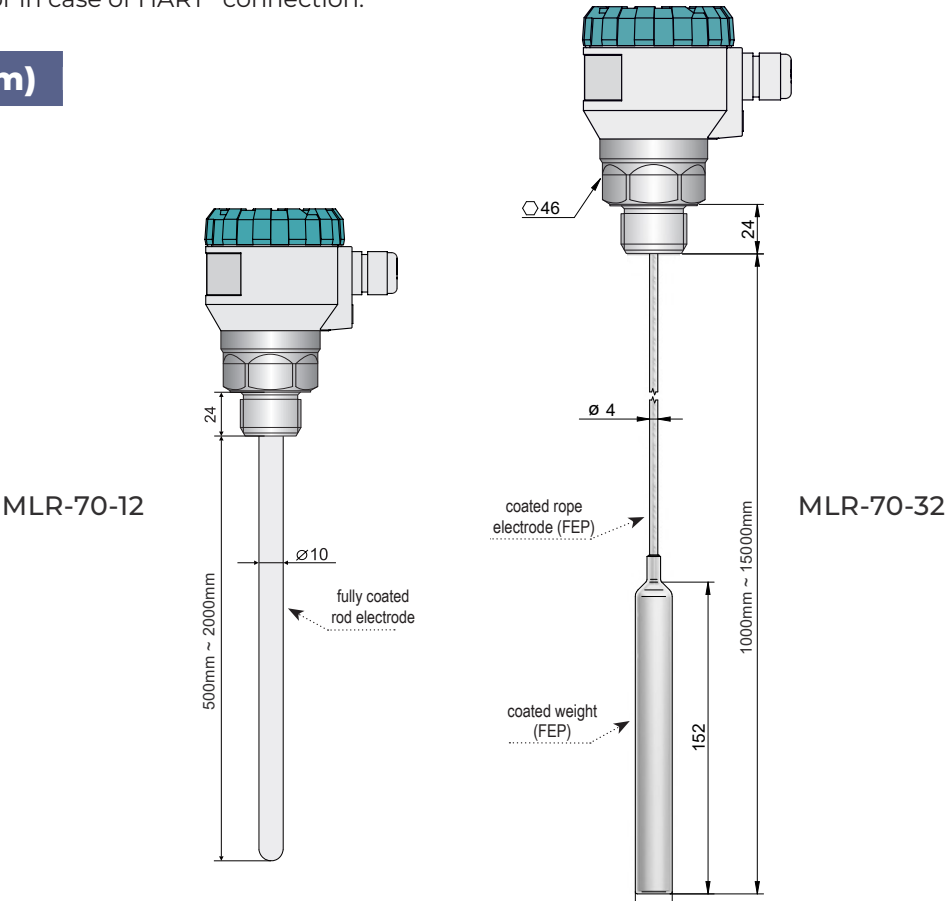
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Materials		
Sensor Part	Variants	Standard Material
Lid	All Types	Powder-Coated Aluminum Alloy + Stainless Steel
Glass	All Types	Polycarbonate
Body	All Types	Powder-Coated Aluminum Alloy + Stainless Steel
Housing-Threaded Head	All Types	Stainless Steel 316L
Electrode	MLR-70-12	Stainless Steel 316L
	MLR-70-32	Stainless Steel 316
Electrode Coating	All Types	FEP (Teflon®)
Display Module	All Types	POM

Device Classification	
MLR-70-N	Basic performance (high-temperature max. 200°C) For non-explosive areas
MLR-70-Xi(XiT) 	Equipment (high-temperature) protection by intrinsic safety „i“ for use in potentially explosion atmosphere, II 1/2 G Ex ia IIB T5 Ga/Gb with intrinsically safe supply units (According to EN 60079-0 and EN 60079-11)
	For use in hazardous area (explosive gas atmosphere) - electrode part zone 0 - housing with electronics zone 1 (According to EN 60079-10-1)

- ^[1] Dead zone = Blind zone = Blocking distance at the beginning and end of the electrode.
- ^[2] During an echo failure, the display shows the last measured value and the current is held at the last valid value.
- ^[3] Including 250R resistor in case of HART® connection.

Dimensions (mm)



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Model Selection

MLR-70-□-□-G1-0-I-B2-□-X

Electrode Length in Inches

Display

D: OLED Display
L: Blind

Electrical Connection

B2: Plastic cable gland M20

Output Type

I: Current (4-20mA)

O-Ring

0: Without O-Ring

Process Connection

G1: Thread G1" , housing material stainless steel

Electrode

12: Fully coated stainless steel rod electrode (FEP), length 0.5 ... 2 m
32: Fully coated rope electrode (FEP) and weight (FEP), length 1 ... 15 m

Application Class

N: Non-explosive areas

Xi: Ex for hazardous areas 

XiIT: Ex, high-temperature performance for hazardous area 

Part Number Example

MLR-70-N-12-G1-0-I-B2-D-25

Description

N: Non-explosive areas

12: Fully coated stainless steel rod electrode (FEP), length 0.5 ... 2 m

G1: Thread G1" , housing material stainless steel

0: Without O-Ring

I: Current (4-20mA)

B2: Plastic cable gland M20

D: OLED Display

25: Electrode Length 25in