

Microcor[®] Wireless Transmitter



- **High Resolution Corrosion/Erosion Measurement**
- **WirelessHART and ISA100 Communications Available**
- **Rated for Hazardous Environments**

WirelessHART

- Wireless Range (clear line of sight) of 1000 ft (300 m)
- 3 Years Transmitter Battery Life
- Up to 100 Wireless Devices Supported
- Inherently Mesh Network
- Emerson, Endress & Hauser, Siemens and ABB Wireless Network System Integration
- Hazardous Area Locations (Class I, Zone 1) Rated

ISA100

- Wireless Range (clear line of sight) of 1500 ft (450 m)
- 3 Years Transmitter Battery Life
- Up to 500 Wireless Devices Supported
- Mesh or Star Topology Network
- Yokogawa, and other ISA100 Wireless Network System Integration
- Hazardous Area Locations (Class I, Zone 1) Rated

The **Microcor[®] Wireless Transmitter** is based on Cosasco's Microcor[®] high resolution corrosion measurement technology, the industry's most widely used and only technology capable of operating in any process environment. The instrument uses high resolution metal loss measurements providing 18 bit resolution and is rated for operation in hazardous locations (Class I, Zone 1). The allowable operating range of -40°C to +70°C is applicable for all process environments.

The power module has a typical life of 3 years and is hazardous location certified to allow change out in the hazardous area. Typical wireless range is 1000 ft (300 m) or 1500 ft (450 m) in optimal conditions with a clear line of sight from transmitter to transmitter or transmitter to gateway/management station, with multiple "hops" permissible from any transmitter back to its gateway/management station.

Operating Specifications

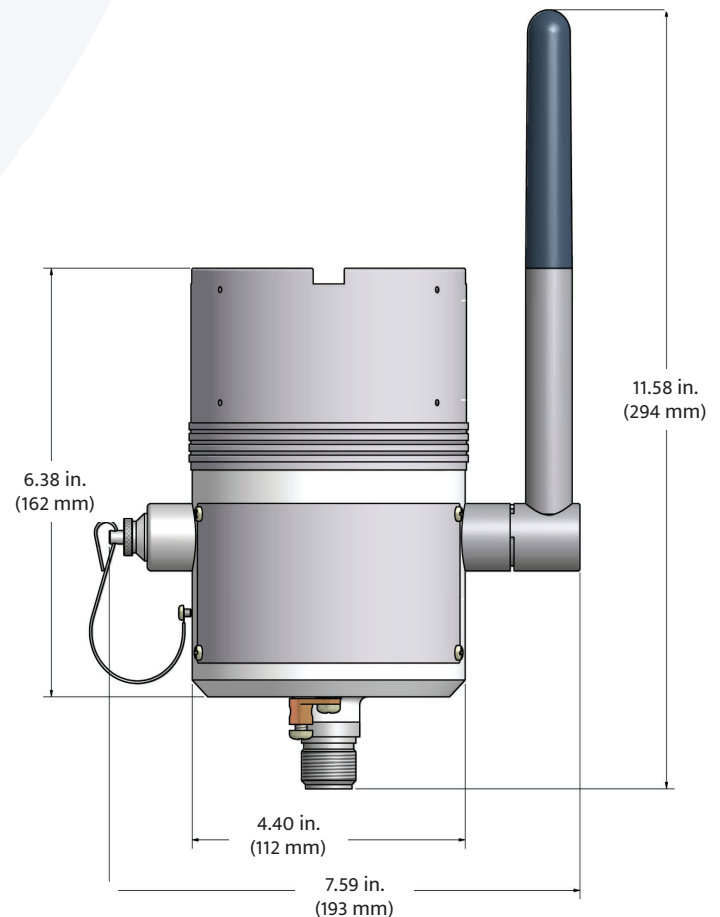
Resolution	18 bit (1 part in 262,144); 0.000019mils (0.5nm) for T10/F10 element probes; 0.000038mils (1nm) for T20/F20 element probes
Probe Element Resistance Range	1 to 50 milliohms
Stability of Reading	Typically $\pm 0.01\%$ of span on reference probe
Battery Life (typical)	5 years at 2 readings/day
Accuracy	Less than 0.001 mil (dependent on probe)
Real World Speed of Response	1 mpy = 8 hrs 20 mins; 2 mpy = 4 hrs 10 mins; 5 mpy = 1 hr 40 mins; 7 mpy = 1 hr 12 mins 10 mpy = 50 mins
Data Transmit Rate	10 to 60 minutes (15 minutes for 3 year battery life)
Communication	2.4 GHz IEEE 802.15.4. <ul style="list-style-type: none"> WirelessHART Protocol (MWT-3905-0-0) ISA100 Wireless Protocol (MWT-3905-0-2)
Ambient Temperature Range	-40°C to +70°C (-40°F to +158°F)
Antenna	Integrated Omni-directional antenna Impedance: 50 Ω ; Gain: 2dBi Maximum SWR: 2:1; Maximum radio power output: 10 mW

Physical Specifications

Enclosure	Rating: IP66 Materials Housing: 6061-T6 Aluminum or 316 Stainless Steel Paint: Polyester Enamel over Epoxy Primer
PowerSupply	7.2 V Lithium Power Module Power Module life: 3 years (Typical) Hazardous Area Location Certified (replacement allowed in hazardous locations)
Weight	Aluminum Housing: 7.5 lbs. (3.4 kg) with Lithium Power Module Installed Stainless Steel Housing: 15.3 lbs. (6.9 kg) with Lithium Power Module Installed
Dimensions	Optional Remote Mounting Kit for Pole or Wall Mounting. Metal Bracket (supplied) for direct wall mount and adjustable U-Bolt mounting for 2" pipe size vertical or horizontal pole mounting. Probe Mounting Directly to probe via Probe Adapter (PN 745092, 745093, 745114). For remote locations probe can be directly connected to MWT-3905 via a cable, P/N 748497. See chart below for options and Product Certifications

Certifications

ATEX Certification	Ex d [ib] Class I, Zone 1, IIC, T4 Ta = -40°C to +70°C
North American Certifications	FM AEx d [ib] Class I, Zone 1, IIC, T4 Ta = -40°C to +70°C FMc Ex d [ib] Class I, Zone 1, IIC, T4 Ta = -40°C to +70°C
IEC Ex Certification	IEC Ex d [ib], Class I, Zone 1, IIC, T4 Ta = -40°C to +70°C All certifications based on IP66 Enclosure and for use only with Power Module P/N 748400



Telecommunication Compliance

All wireless devices require certification to ensure that they adhere to regulations regarding the use of the RF spectrum. Nearly every country requires this type of product certification. Cosasco is working with governmental agencies around the world to supply fully compliant products and remove the risk of violating country directives or laws governing wireless device usage. Please contact Cosasco or visit our website for the latest country certifications.

FCC and Industry Canada (IC)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions. This device may not cause harmful interference. This device must accept any interference received, including interference that may cause undesired operation. This device must be installed to ensure a minimum antenna separation distance of 20 cm from all persons and its gateway/management station. Other wireless communication options may be permissible.

Order Information

Microcor Wireless Transmitter - ISA100

Model	Description		
MWT-3905	Microcor® Wireless Transmitter		
	Code	Housing	
	0	Aluminum	
	1	Stainless Steel 316 SS	
		Code	Radio
		2	2.4 GHz ISA100 Wireless - Integral Antenna
MWT-3905	0	2	Typical Order Number

System Requirements

Field Wireless Management Station

See R-Y410 Field Wireless Management Station Data Sheet

Field Wireless Access Point

See R-Y510 Field Wireless Access Point Data Sheet

Microcor® ER Probes

See Microcor® ER Probes Data Sheet

Probe Adapters

P/N 745092

Model M2000 & M3000 series probes

P/N 745093 (For permanent connection at 2500 PSI max)

P/N 745093H (For permanent connection at 2500 PSI max)

Model M4000 & S4000 series probes

P/N 745114 (For permanent connection at 10,000 PSI max when used with pressure retaining covers P/N 740095)

P/N 745114H (For permanent connection at 10,000 PSI max when used with pressure retaining covers P/N 740095)

Order Information

Microcor® Wireless Transmitter - WirelessHART

Model	Description		
MWT-3905	Microcor® Wireless Transmitter		
	Code	Housing	
	0	Aluminum	
	1	Stainless Steel 316 SS	
		Code	Radio
		0	2.4 GHz WirelessHART - Integral Antenna
MWT-3905	0	0	Typical Order Number

System Requirements

Wireless Gateways

See 1410s Datasheet

Microcor® ER Probes

See Microcor® ER Probes Datasheet

Probe Adapters

P/N 745092

Model M2000 & M3000 series probes

P/N 745093 (For permanent connection at 2500 PSI max)

P/N 745093H (For permanent connection at 2500 PSI max)

Model M4000 & S4000 series probes

P/N 745114 (For permanent connection at 10,000 PSI max

when used with pressure retaining covers P/N 740095)

P/N 745114H (For permanent connection at 10,000 PSI max

when used with pressure retaining covers P/N 740095)

Order Information

Transmitter to Probe Cable with Transmitter Mounting Bracket

Part No.	Description		
748497	MWT-3905 Remote Mounting Kit		
	Code	Cable Type	
	0	Cable Assembly Only (Requires Probes Adapter)	
	1	Retractable (unarmored)	
	2	Retractable (armored)	
	3	Retrievable (armored) 2500 PSI	
	4	Retrievable (unarmored) 2500 PSI	
	5	Retrievable (armored) 10,000 PSII	
	6	Retrievable (unarmored) 10,000 PSI	
		Code	Cable Length
		L	Length in Feet (15 ft max)
748497	1	5	Typical Order Number

Cosasco Wireless Extender

Model	Description		
MWT-3905-WE	Cosasco Wireless Extender (includes mounting bracket)		
	Code	Housing	
	0	Aluminum	
	1	Stainless Steel 316 SS	
		Code	Radio
		0	2.4 GHz WirelessHART - Integral Antenna
		2	2.4 GHz ISA100 Wireless - Integral Antenna
MWT-3905-WE	0	2	Typical Order Number

Accessories

- MWT-3905 Installation Kit - ISA100 Wireless P/N 702406-MWT-ISA (includes Wireless Field Tool for transmitter configuration)
- MWT-3905 Installation Kit - WirelessHART P/N 702406-MWT (includes Wireless Field Tool for transmitter configuration)