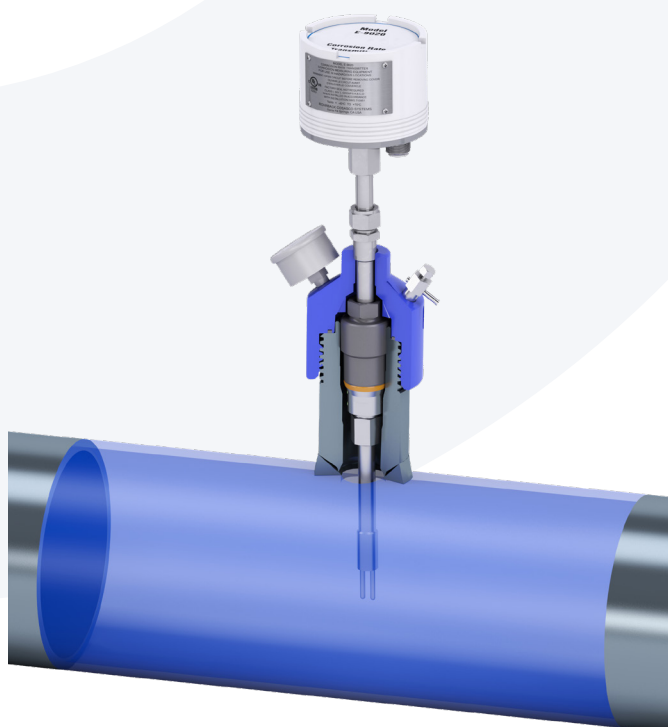


## Linear Polarization Resistance (LPR) Digital Transmitter

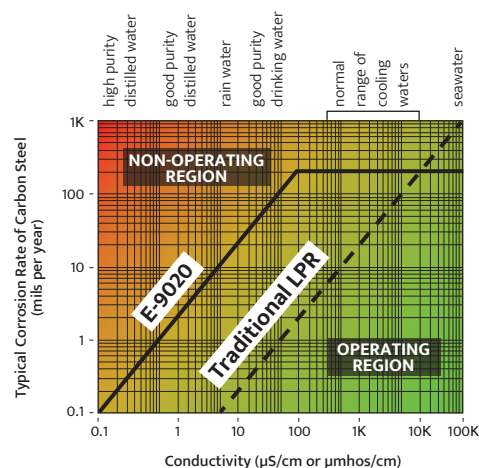
E-9020

- Explosion-proof for Hazardous Area Operation (IECEX/ATEX)
- Compatible with Microcor Multi-drop Cable Bus
- Corrosion Rate & Pitting Tendency Measurements
- Widest Operational Range
- Galvanic and Potential Monitor Modes
- Potential and Current Noise Mode
- CE Compliant



The E-9020 may also be set into a potential and current noise mode for electrochemical noise studies.

Operating Range for Model E-9020



The **E-9020 Digital LPR Transmitter** is designed for on-line corrosion monitoring of water systems in electrically hazardous areas, and is compatible with the same communication bus as the Microcor technology. This makes it ideal for refineries, chemical plants and process plants where corrosion must be monitored in a mixture of aqueous and non-aqueous systems. The multi-drop bus provides easy installation and more economical cable installation costs than intrinsically safe systems.

The E-9020 has a patented high frequency measurement on two electrodes for compensation of solution resistance that provides the highest accuracy and widest range of operation. For reference, see ASTM G96-90 Standard Guide for On-Line Monitoring of Corrosion in Plant Equipment (Electrical and Electrochemical Methods). This compensation has been further enhanced on this instrument to make it the widest range of operation of all the Cosasco Corraters instruments.

The most common use of the transmitter is for corrosion rate and pitting tendency in water systems. However with a set galvanic electrode, the transmitter may be operated in a galvanic monitor mode, which is particularly useful in high pressure water injection systems for detection of low levels of oxygen in the parts per billion range (ppb), where conventional dissolved oxygen meters cannot be used.

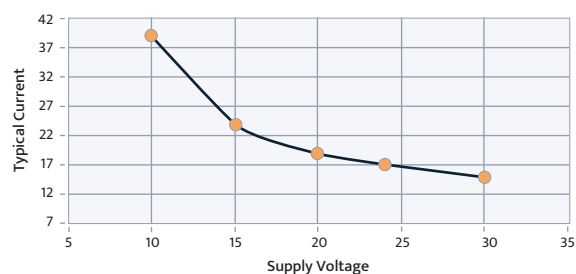
With a reference electrode, the E-9020 transmitter can also be used for potential measurements, which are useful in some systems for monitoring of pitting potential to detect between active and passive conditions.

### Specifications

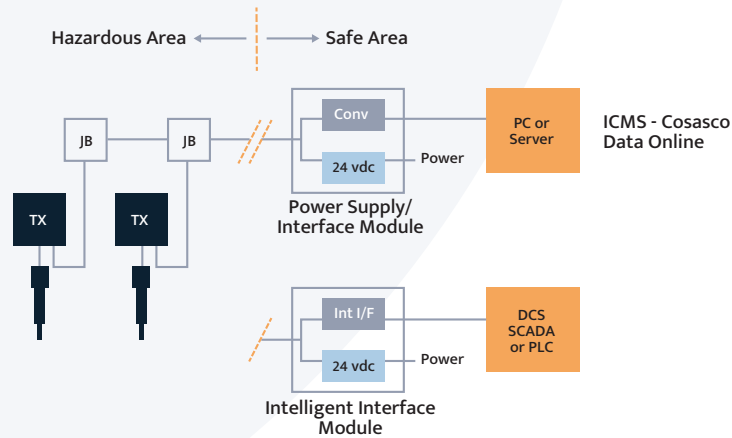
#### Measurement Ranges

Corrosion Rate	0 to 200 mpy 0 to 5,000 $\mu\text{m/y}$ 0 to 5 mm/y
Imbalance (Pitting Index)	0 to 200 pitting units
Potential Measurement	0 to 2 volts
Potential Input Impedence	>20 Mohms
Galveanic/Current Measurement	0 to 500 $\mu\text{A}$
Resolution	0.1% of ranges 0-1%, 1-10%, 10%-100% of full scale
Operating Range	See graph
Multiplier Range	0.2 to 2.99
Probe Compatability	2 or 3 Electrode LPR probe
Measurement Cycle Time	5/10/15/20 minute options
Isolation	
Measurement circuit to RS 485	>20 Mohms
Measurement circuit to ground	>20 Mohms
Power Supply	10 - 32 VDC
Communications	RS 485 multi-drop
Max Transmitters (per cable)	32

#### E-9020 Transmitter Current Consumption



### System Configurations



### Order Information: Transmitter

E-9020 LPR Transmitter, RS-485, Aluminum Cover	P/N E-9020
E-9020 LPR Transmitter, RS-485, Stainless Steel Cover	P/N E-9020-SS

Order Information: Adapter Options - Probe to Transmitter*	Direct Mounting	Remote Mounting
Probe Adapter for 6080 series Retrievable Probes	P/N 745093-A	P/N 748553-A
Probe Adapter for 6080 series Retrievable Probes & Hydraulic A/Fs	P/N 745093H-A	Consult Factory
High Pressure Probe Adapter for 6080 series Retrievable Probes (10,000 PSI max.)	P/N 745114-A	P/N 749009-A
High Pressure Probe Adapter for 6080 series Retrievable Probes (10,000 PSI max.) and Hydraulic A/Fs	P/N 745114H-A	P/N 749022-A
Probe Adapter for 7212/7222 Fixed Probes & 8012/8022 Retractable Probes	P/N 710973-A	P/N 710973-A

\*To maintain certification use certified Transmitters (E-9020) with Cosasco supplied certified probe to transmitter adapters w/-A option.

### Order Information: Communication Cable RS-485

Transmitter to Junction Box Communication Cable, RS-485 (IECEX / ATEX)	P/N 748197-A-L
--	----------------

### Hazardous Certifications

<b>ATEX Certification</b>	Ex db Class I, Zone 1, IIC, T4	Ta = -40°C to +70°C	CSANe 23ATEX1080X
<b>IECEX Certification</b>	IEC Ex db, Class I, Zone 1, IIC, T4	Ta = -40°C to +70°C	IECEX CSA 23.0018X

Class I, Zone 1, Ex db IIC T4 Gb when installed in accordance with installation drawing SYSTEM-DIAGRAM-CERT and Quick Start Guide.