Electrical Resistance (ER) Instruments

Corrosion Monitoring Meters, Data Loggers & Transmitters for Electrical Resistance Probes

As an authorized Metal Samples distributor, Imotron supplies a complete portfolio of Electrical Resistance (ER) corrosion monitoring instruments and meters. Engineered for hazardous and demanding industrial environments, these instruments deliver high-resolution metal loss measurements via portable handheld readouts, field-mounted data loggers, and wired or wireless process transmitters.

1. ER Instrument Portfolio

Category	Models	Key Features & Technical Specifications
ER Handheld Instrument	**MS4500E**	High-resolution, intrinsically safe portable meter featuring a graphic display, USB / flash drive data transfer capability, and storage for up to 4 million data points.
ER Data Loggers	**MS3500E** **MS3502E / MS3504E** **MS3600E**	High-resolution, intrinsically safe field-mounted loggers for remote locations. **MS3500E** offers 4–20 mA current loop and Bluetooth options; **MS3502E / MS3504E** provide multi-channel monitoring across two or four probe connectors; **MS3600E** operates as a battery-powered field-mounted logger.
Analog Wired Transmitters	**MS2600E** **MS2601E**	16-bit high-resolution measurement with 4–20 mA current loop output. **MS2600E** features an intrinsically safe IP66 316 stainless steel enclosure; **MS2601E** is flameproof certified (IP66 / NEMA-4X).
Digital Wired Transmitters *(CORR VELOX)*	**MS2800E** **MS2801E**	20-bit ultra-high-resolution measurement with RS-485 Modbus output for rapid corrosion trend detection. **MS2800E** offers an intrinsically safe IP66 316 stainless steel housing; **MS2801E** features a flameproof / explosion-proof IP66 / NEMA-4X enclosure.
Smart Transmitters *(Analog & Digital)*	**MS2900E** **MS2901E**	16-bit high-resolution measurement with combined 4–20 mA / HART output. **MS2900E** is intrinsically safe (IP66, 316 stainless steel); **MS2901E** is flameproof certified with an explosion-proof IP66 / NEMA-4X housing.
ER Wireless Transmitters	**MS5000E-ISA** **MS5500E-ISA**	High-resolution, intrinsically safe wireless transmitters utilizing Wireless ISA 100 communication for seamless plant-wide integration without signal cabling.

2. Instrument Comparison & Probe Compatibility Matrix

All Metal Samples ER instruments support standard Electrical Resistance probe element geometries —including Cylindrical, Wire Loop, Tube Loop, Strip Loop, and Flush Mount elements—allowing operators to standardize instrumentation across different process lines.

Model	Form Factor	Type	Measurement Resolution	Compatible Probe Types					Output
				Cyl.	Wire Loop	Tube Loop	Strip Loop	Flush Mount	
MS4500E	**Handheld / Portable**	**Data Logger**	High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	USB
MS3500E	**Field Mount**		High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	4–20mA Current Loop / Bluetooth / USB*
MS3600E			High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	4–20mA Current Loop / Bluetooth / USB*
MS2600E		**Transmitter**	High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	4–20mA Current Loop
MS2601E			High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	4–20mA Current Loop
MS2800E			Ultra-High (20-bit)	Yes†	Yes	Yes	Yes	Yes†	RS-485 Modbus
MS2801E			Ultra-High (20-bit)	Yes†	Yes	Yes	Yes	Yes†	RS-485 Modbus
MS2900E			High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	4–20mA / HART
MS2901E			High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	4–20mA / HART
MS5000E			High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	Wireless ISA 100
MS5500E			High (16-bit)	Yes†	Yes	Yes	Yes	Yes†	Wireless ISA 100

* Output varies by model.

† Preferred probe type

> **Seamless Integration Across Hazardous Areas:** With intrinsically safe, flameproof / explosion-proof (IP66 / NEMA-4X), and wireless ISA 100 configurations, ER instruments integrate directly into DCS, PLC, and SCADA networks.

Select the Right ER Instrumentation for Your Facility

Contact Imotron Instruments for technical datasheets, hazardous area certification details, and system configuration advice.