# Roxar CorrLog Wireless

## Wireless corrosion monitoring transmitter



## High accuracy wireless corrosion monitoring transmitter

Based on the highly reliable CorrLog instrument and Emerson Wireless technology, the Roxar CorrLog Wireless offers high accuracy measurements with the following key features:

- Flexibility in data management via Gateway.
  - Seamless integration with Emerson AMS (Asset Management System) ensures easy operation and data management, as well as possible integration with other wireless devices used in the plant.
  - Raw data submitted directly to Roxar Fieldwatch program for detailed data management, analysis and reporting. Fieldwatch can communicate with main control system via OPC or Modbus protocol.
  - Metal loss data sent from Gateway to any control system
- High resolution and high accuracy, combined with a robust design and user friendliness.

- Flexibility with the ability to read corrosion probes from most major manufacturers.
- Intrinsically safe design with international hazardous area certification.
- Wireless corrosion monitoring transmitter allows continous, on-line monitoring at previously inaccessible locations and at an affordable cost.
- Electrical Resistance (ER-) and Linear Polarization Resistance (LPR-) are implemented in all instruments.
- Roxar is part of EPM's global network, providing support from wireless specialists for system assessment and architecture as well as access to experienced crews supplying after sales support and services.

**ROXAR**

**EMERSON**

ROXAR CORRLOG / SANDLOG WIRELESS SYSTEM



*CorrLog Wireless can be part of a general Wireless solution together with a wide range of other Wireless instruments and monitors.*

## IEC 62591 (WirelessHART™) … The Industry Standard

### Self-organizing

- No wireless expertise required, network automatically finds the best communication paths.
- The self-organizing, self-healing network manages multiple communication paths for any given device. If an obstruction is introduced into the network, data will continue to flow because the device already has other established paths. The network will then lay in more communication paths as needed for that device.

### Reliable Wireless Architecture

- Standard IEEE 802.15.4 radios.
- 2.4 GHz ISM band sliced into 15 radio-channels.
- Time Synchronized Channel Hopping to avoid interference from other radios, WiFi, and EMC sources and increase reliability.
- Direct sequence spread spectrum (DSSS) technology delivers high reliability in challenging radio environment.
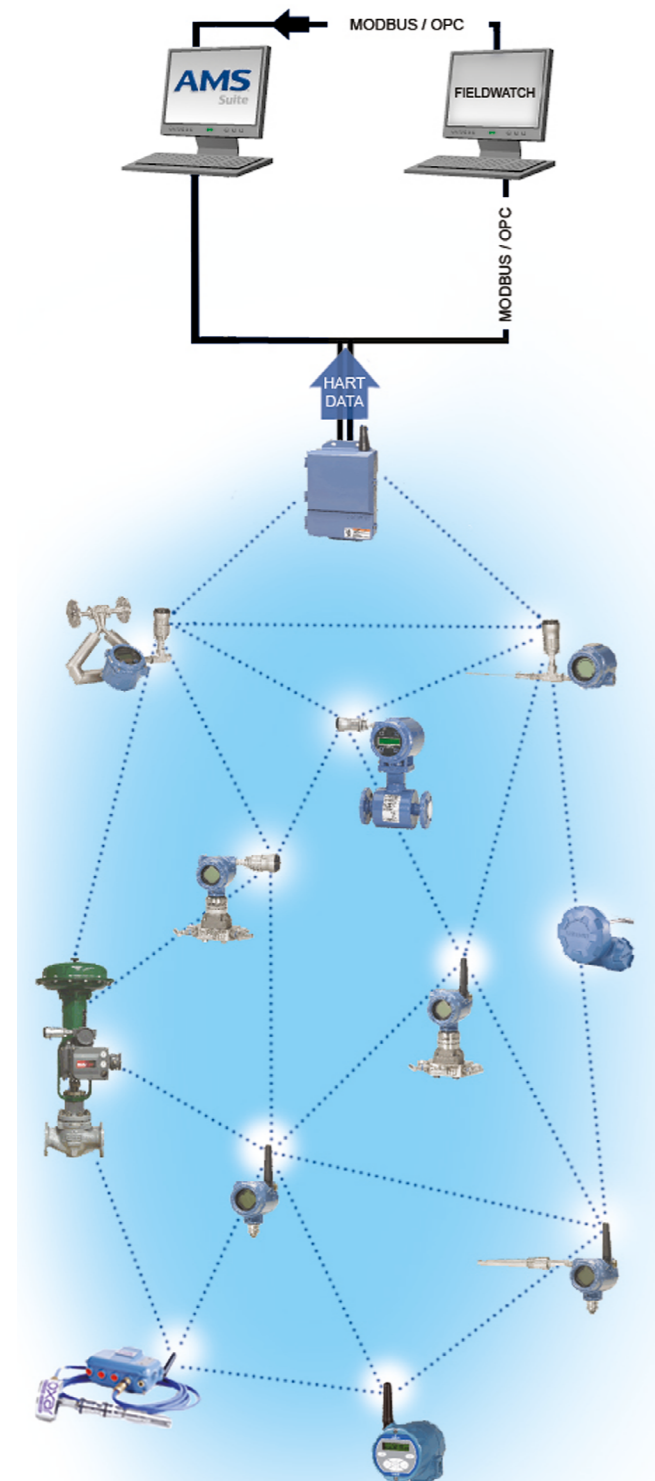
## Emerson's Wireless Products

**Roxar CorrLog Wireless transmitter is an Emerson Wireless product, using the same radio and power modules as used by other Emerson Wireless Products.**

- Communicates via standard Wireless Gateways.
- Gateways interface with existing host systems using industry standard protocols including OPC, Modbus TCP/IP, and Modbus RTUo.

### Layered Security Keeps Your Network Safe

- Ensures that data transmissions are received only by the Wireless Gateway.
- Network devices implement industry standard Encryption, Authentication, Verification, AntiJamming, and Key Management.
- Third-party security verification including Achilles and FIPS197.

## Roxar CorrLog Wireless Corrosion Transmitter

### High accuracy corrosion monitoring

- Roxar CorrLog Wireless Corrosion Transmitter is a combination of a high resolution (24 bit) corrosion instrument with Emerson Wireless Transmitter, ensuring reliable and fast corrosion monitoring data directly to the user.

### System Flexibility

Roxar CorrLog Wireless Corrosion Transmitter allows up to 20 meter cable between probe and transmitter.

- CorrLog Wireless can be installed where it is most convenient for user, i.e. with respect to maintenance and battery replacement, without a need for scaffolding for access.
- CorrLog Wireless can be installed where it is most beneficial for wireless signal routing to avoid shadows where radio communication would be difficult.
- Retrieval or replacement of probes is more convenient when instrument removal is not required at the same time.
- Can read corrosion probes from most common manufacturers.

### Data Management

Data format (calculated metal loss data, corrosion rates or probe raw data) is user selectable from the HART terminal, or Emerson Asset Management System (AMS).

- Raw data can be transmitted to Fieldwatch server for data storage, analysis and reporting. Key data to be provided to main control system via modbus or OPC protocol. Fieldwatch provides superior tools for data analysis and verification, as well a good total overview of all corrosion monitoring locations on site.
- Calculated metal loss transmitted directly to, and displayed in Emerson AMS system.
- Calculated metal loss transmitted to any control system provided by client for general data management.
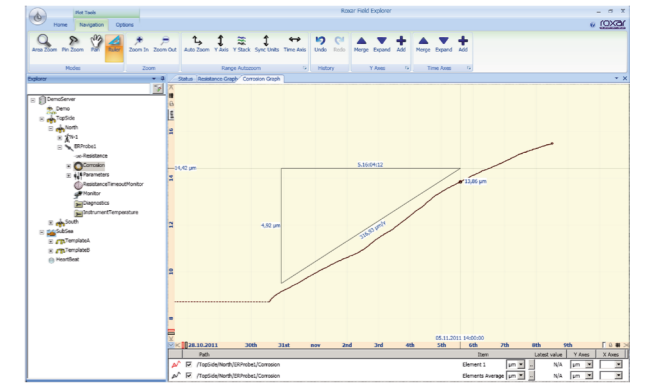


*CorrLog Wireless metal loss versus time data displayed in Fieldwatch with tools for corrosion rate calculation.*
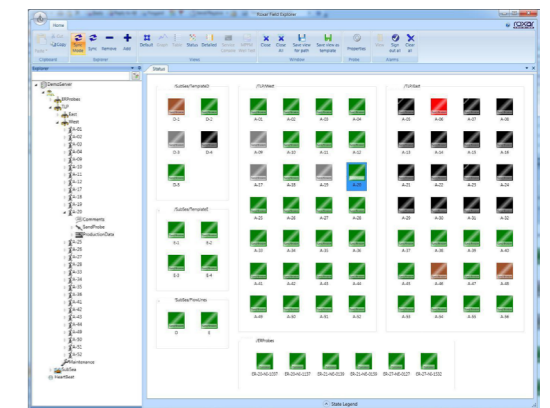


*Fieldwatch gives an efficient status overview at all monitoring positions in plants or offshore platforms.*



*CorrLog Wireless corrosion transmitter*

### Other benefits

- Integrated Emerson Wireless Product, can be combined with other Emerson Wireless products in an integrated network, using same gateway for data communication.
- Through Fieldwatch software, integration is also possible with other monitoring functions like sand monitoring (acoustic or erosion based), non-intrusive corrosion monitoring (FSM technology) and acoustic pig detectors. Calculated metal loss transmitted directly to and displayed in Emerson AMS system.

*Roxar CorrLog Wireless with 475 Field communicator*

**Flexibility in set-up and data management**

Roxar CorrLog Wireless can be configured either by using the 475 Field Communicator or the Emerson Asset Management System (AMS). Using the 475 Field Communicator will be applicable in cases where data is sent via the Wireless Gateway to a generic control system, or when communicating with Fieldwatch software.
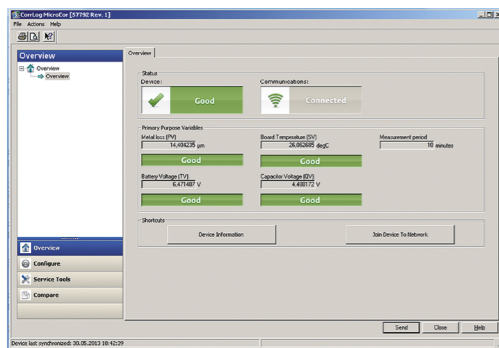


*Example window in AMS when communicating with CorrLog Wireless.*

If used with Emerson Asset Management System (AMS), a two-way communication with Roxar CorrLog Wireless is possible. This means that CorrLog Wireless can be configured directly from AMS, and that changes can be done from a PC at any time, e.g. in order to change measurement frequency, without the need for field connection using the field communicator.
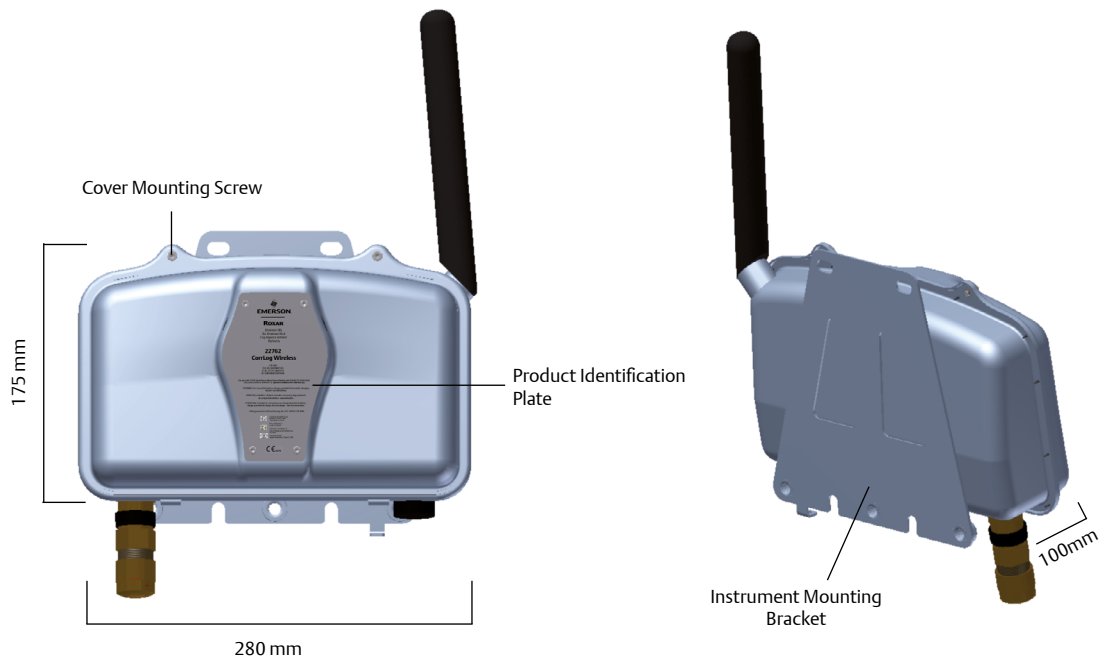


ROXAR CORRLOG / SANDLOG WIRELESS SYSTEM
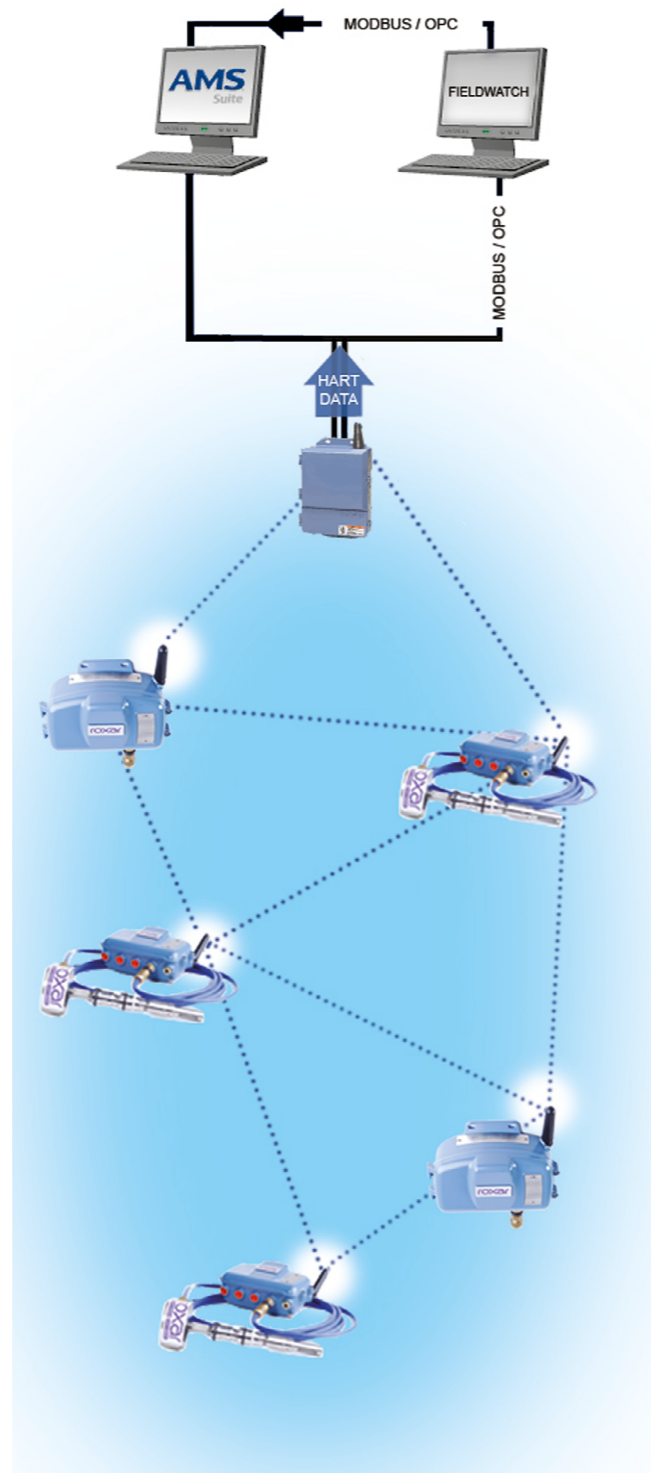
## Roxar CorrLog Wireless Product Specifications

| | | | |
|---|---|---|---|
| General: | For connection with electrical resistance (ER) probe and linear polarization resistance (LPR) probe | | |
| Connection | Connected to probe via probe cable - max 20 meters (656 feet) | | |
| Humidity Limits | 0 - 100% relative humidity | | |
| Measurement | Measurement frequency to be set, recommended between every 15 minutes to 24 hours | | |
| RF Output Power (based on maximum device output power of 6.3 mW) | Antenna type: Extended Range | Max Gain: 4.5 dBi | Max EIRP: 18 mW |
| Communication | WirelessHART 2.4 GHz DSSS (Discrete Sequential Spread Spectrum) | | |
| Instrument Resolution | 24-bit (0,06 ppm of probe element thickness) | | |
| ER Probe - actual sensitivity | 10 - 100 ppm of probe element thickness, depending on probe type, measurement frequency and environmental conditions | | |
| Operating Temperature | -40°C to +70°C (-40°F to +158°F) | | |
| Battery capacity | Normally 2-6 years depending on measurement frequency. Measurements every 2 hours give estimated battery life of 6 hours. | | |
| Power module | Black Power Module, type 701PBKKF. Replaceable, non-rechargeable, intrinsically safe Lithium-Thionyl Chloride power module pack with PBT/PC enclosure. 7.2V. | | |
| Housing | Painted Aluminium or Stainless Steel (AISI 316-L), IP 66, NEMA 4x | | |
| Dimensions | Approximate (not square shape) 226 x 122 x 71 mm | | |
| Weight | Painted Aluminum: 2.5 kg (5.5 lbs) 316L Stainless Steel: 2.7 kg (5.9 lbs) | | |
| Certification | ATEX/: ⟨Ex⟩ II 1 G Ex ia IIC T4 Ga INMETRO: II 1 G Ex ia IIC T4 Ga IEC: IECEx Ex ia IIC T4 Ga, FM: $_cFM_{US}$ Class 1, Div 1, Groups A, B, C, D T4 | | |
| Electromagnetic Compatibility (EMC) | CE according to EMC/336/EEC and 92/31/EEC Meets all relevant requirements of EN 61326-2-2006 | | |
| Trade Compliance: | ECN: 5A002.a.1 ECCN (US Re-export): 5A991.b, 5A002.a.1 | | |

# Model Code Selector - Roxar CorrLog Wireless

Cover Mounting Screw

175 mm

Product Identification Plate

280 mm

100mm

Instrument Mounting Bracket

| Model | Product Description | | |
|---|---|---|---|
| CORRLOGW | Corrosion Monitor and Logger, IS | | |
| **Code** | **Communication Protocol** | | |
| 50 | WirelessHART | | |
| **Code** | **Enclosure Material** | | |
| A | Stainless Steel | | |
| B | Aluminum | | |
| **Code** | **Probe Cable Gland** | | |
| G0 | No Gland | | |
| M2 | Metric | Brass | Hawke 501/453/Universal Ex de |
| M3 | Metric | Nickel plated brass | Hawke 501/453/Universal Ex de |
| M4 | Metric | Stainless steel | Hawke 501/453/Universal Ex de |
| N2 | NPT | Brass | Hawke 501/453/Universal Ex de |
| N3 | NPT | Nickel plated brass | Hawke 501/453/Universal Ex de |
| N4 | NPT | Stainless steel | Hawke 501/453/Universal Ex de |
| X9[3] | Other gland | | |
| **Code** | **Probe Cable Size Range** | | |
| 0[1] | Not Applicable | | |
| 1[2] | 5,5-12mm OD / 3,5-8,1 ID | (Selection for Roxar Standard SM Probe Cable) | |
| 2[2] | 9,5-16mm OD / 6,5-11,4mm ID | | |

*Table continued from previous page*

| | | |
|---|---|---|
| 3[2] | 12,5-20,5mm OD / 8,4-14,3mm ID | (Selection for Roxar Heavy Duty BFOU SM Probe Cable) |
| 4[2] | 16,9-26mm OD / 11,1-19,7mm ID | |
| **Code** | **Blind and Drain Plug Material** | |
| P[4] | Nylon (TBV) | |
| B[4] | Brass | |
| N[4] | Nickel-plated brass | |
| S | Stainless steel | |
| **Code** | **Approvals** | |
| A1 | ATEX/ IECEx/ FM/ INMETRO/ EAC | Intrinsically Safe |
| **Code** | **Tag Plates** | |
| ZZ | No tag plates | |
| TG | Standard tag plates for Instruments | |
| XX[3] | Project Specific Tag Plates | |
| **Code** | **Factory Options** | |
| Z | Standard product | |
| X | ETO product | |

[1] *Available only with Probe Cable Gland option G0, No Gland*
[2] *Not available with Probe Cable Gland option G0, No Gland*
[3] *Not Available with factory Option Z*
[4] *Not available with Enclosure Material option B*

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