

WIRELESS GATEWAY

Request A Quote

Model R-1410

Features

- **Connects Cosasco® Wireless devices and other WirelessHART™ transmitters to any host system**
- **Easy system integration via Ethernet and serial connections**
- **Easy configuration via web interface**
- **High integrity security and reliability**
- **Supports up to 25 wireless devices**
- **Ideal for Cosasco Intelligent Interface Unit for small scale systems**
- **FM and CSA approved**



The R-1410 Wireless Gateway manages and connects Cosasco Wireless System devices including, Microcor Wireless Transmitters (MWT's), LPR Wireless Transmitters (CWT), Cosasco Wireless Extenders (WE) and other WirelessHART transmitters to a host system through a high security spread spectrum communication network. The gateway is easily configured through a web interface and provides connection to the host system through OPC, Modbus over IP, and Modbus serial interface. The R-1410 Wireless Gateway is ideal for monitoring corrosion systems because of its flexibility and for adding monitoring points that were previously uneconomical.

When used only for Corrosion Management Systems, the gateway serves as a direct connection to Cosasco's Intelligent Interface Unit for smaller scale systems. The

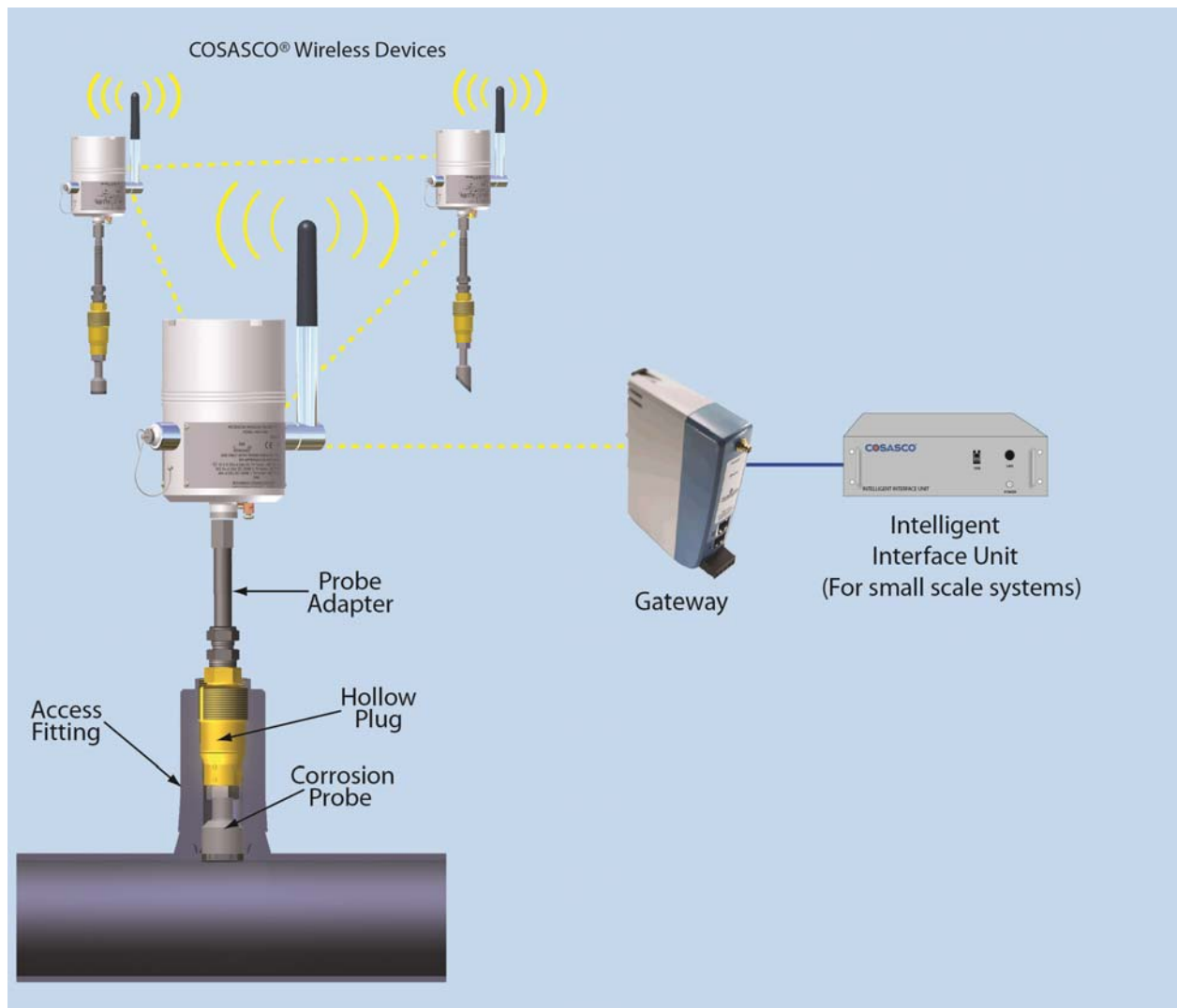
Gateway supports up to 25 Wireless Transmitters/Extenders or a combination of Cosasco Wireless devices and other WirelessHART devices. The Wireless Gateway is certified for North America, Class I, Div 2.

The Wireless Gateway provides industry leading security, scalability, and data reliability. Layered security ensures that the network stays protected. Additional Cosasco Wireless devices or other WirelessHART devices can be added at anytime. There is no need to configure communication paths because the Gateway manages the network automatically. This feature also ensures that WirelessHART field devices have the most reliable path to send data.

COSASCO®

System Integration Overview with R-1410 Wireless Gateway

Cosasco Wireless devices and other Smart Wireless Devices are quickly and easily installed without the time and expense required for wiring. Once installed metal loss and computed corrosion rate is read from the Gateway directly into your DCS/SCADA system and Cosasco Intelligent Interface Unit for smaller scale systems.

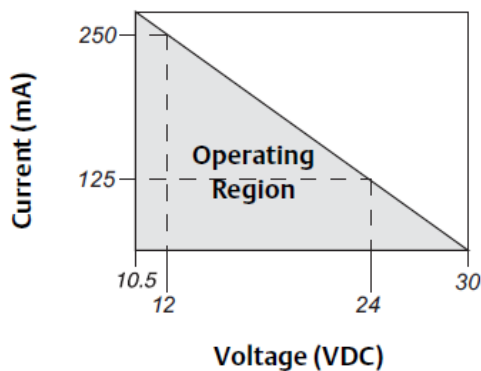


Specifications

Functional Specifications

Input voltage
10.5-30 VDC

Current draw
Operating Current Draw is based on 3 Watt power consumption.



Radio frequency power output from antenna
Maximum of 10 mW (10 dBm) EIRP
Maximum of 40 mW (16 dBm) EIRP for WN2 High Gain option⁽¹⁾

Environmental
Operating Temperature Range:
-40 to 167 °F (-40 to 75 °C)

Operating Humidity Range:
0-100% relative humidity

EMC performance
Complies with EN61326-1:2006.

Antenna options
Optional remote mount Omni-directional Antenna

Antenna
2 dBi rubber dipole with SMA male connector
SMA connection is female

Physical Specifications

Weight
0.70 lb. (0,318 kg)

Material of construction (Housing)
Polycarbonate

Rail mount
Top hat rail EN 50022 35 mm X 7.5 mm and 35 mm x 15 mm

Communication Specifications

Isolated RS-485
2-wire communication link for Modbus RTU multidrop connections

Baud rate: 57600, 38400, 19200, or 9600

Protocol: Modbus RTU

Wiring: Single twisted shielded pair, 18 AWG. Wiring distance is approximately 4000 ft. (1,524 m)

Ethernet
10/100base-TX Ethernet communication port
Protocols: Modbus TCP, OPC, EtherNet/IP, HART-IP, https (for Web Interface)
Wiring: Cat5E shielded cable. Wiring distance 328 ft. (100 m).

Modbus
Supports Modbus RTU and Modbus TCP with 32-bit floating point values, integers, and scaled integers. Modbus Registers are user-specified.

OPC
OPC server supports OPC DA v2, v3

EtherNet/IP
Supports EtherNet/IP protocol with 32 bit Floating Point values and Integers. EtherNet/IP Assembly Input-Output instances are user configurable. EtherNet/IP specifications are managed and distributed by ODVA. For details on capabilities please see the Smart Wireless Gateway to Allen Bradley Integration Manual (Document No. 00809-0500-4420) on Rosemount.com.

(1) Not available in all countries

Self-organizing Network Specifications

Protocol

IEC 62591(*WirelessHART*), 2.4 - 2.5 GHz DSSS.

Maximum Network Size

25 wireless devices @ 2 sec. or greater
12 wireless devices @ 1 sec.

Supported Device Update Rates

1, 2, 4, 8, 16, 32 seconds or 1 - 60 minutes
For information on network size and update rate, please see the capacity estimator tool on the Smart Wireless homepage by following the link: <http://www.emersonprocess.com/Wireless>.

Network Size/Latency

25 Devices: less than 5 seconds

Data Reliability

Greater than 99%

System Security Specifications

Ethernet

Secure Sockets Layer (SSL) enabled (default) TCP/IP communications

Emerson Smart Wireless Gateway Access

Role-based Access Control (RBAC) including Administrator, Maintenance, Operator, and Executive. Administrator has complete control of the Gateway and connections to host systems and the self-organizing network.

Self-organizing Network

AES-128 Encrypted *WirelessHART*, including individual session keys. Drag and Drop device provisioning, including unique join keys and white listing.

Internal Firewall

User Configurable TCP ports for communications protocols, including Enable/Disable and user specified port numbers. Inspects both incoming and outgoing packets.

Third Party Certification

Wurdtech: Achilles Level 1 certified for network resiliency
National Institute of Standards and Technology (NIST):
Advanced Encryption Standard (AES) Algorithm conforming to Federal Information Processing Standard Publication 197

Product Certifications

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. Emerson 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.

FCC and 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.

European Directive Information

The EC declaration of conformity can be found on page xx. The most recent revision can be found at www.emersonprocess.com.

Ordinary Location Certification from FM Approvals

As standard, the transmitter has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by FM Approvals, a nationally recognized testing laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

Hazardous Locations Certifications

North American Certifications

N5 FM Approvals, Nonincendive for Class I Division 2
Certificate No.: 3049590
Standards Used: Class 3600:2011, Class 3611:2004, Class 3810:2005
Markings: NI CL I, DIV. 2, GP A, B, C, D
Temperature code: T4 (-40 °C ≤ Ta ≤ 60 °C)

Special Condition of Use:

1. When installed as Division 2 equipment, the 1410 shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 61010-1 and be capable of accepting the applicable wiring methods per the NEC.

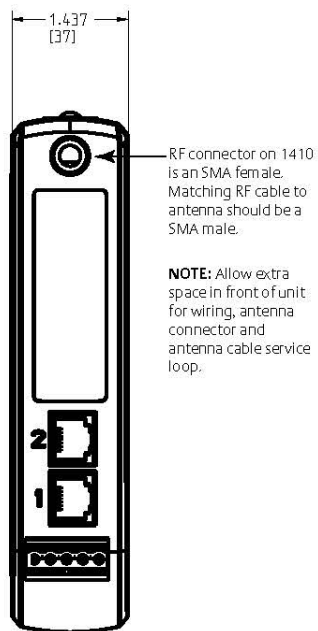
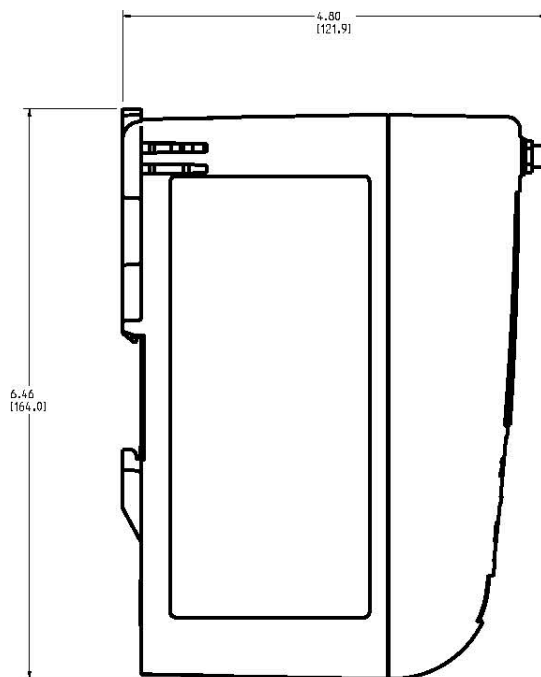
N6 CSA Class I Division 2
Certificate No.: 2646342
Standards Used: CSA Std. C22.2 No. 0-10, CSA Std. C22.2 No. 213 - M1987, CSA Std. C22.2 No. 61010-1-12, ANSI/ISA 12.12.01-2012, ANSI/ISA 61010-1-2012
Markings: SUITABLE FOR CL I, DIV. 2, GP A, B, C, D
Temperature code: T4 (-40 °C ≤ Ta ≤ 70 °C)

NM Technical Regulations Customs Union (EAC)
Contact Cosasco Customer Service for further details.

Notes:

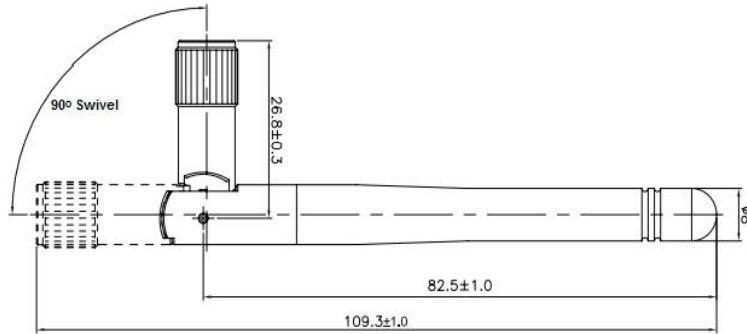
- Shall be powered by a class 2 power supply.
- Suitable for dry indoor locations only.
- Equipment must be installed in a suitable tool accessible enclosure subject to the end use application.

Dimensional Drawings



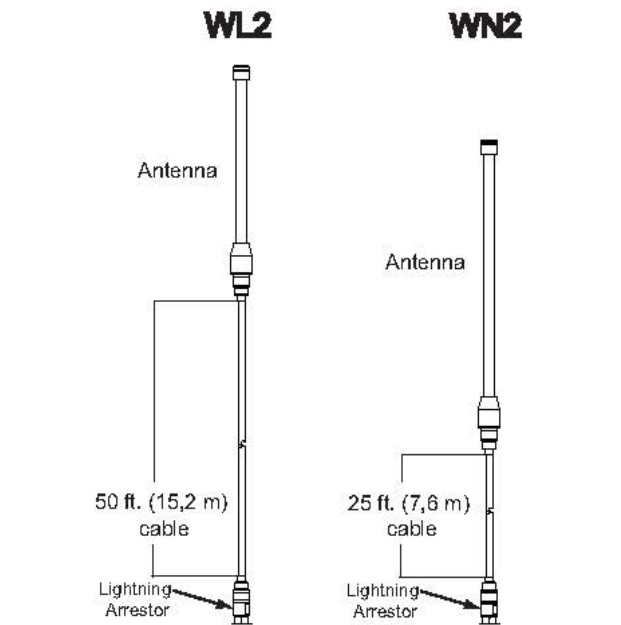
*Dimensions are inches (millimeters)

WX2 Basic Antenna Dimensions

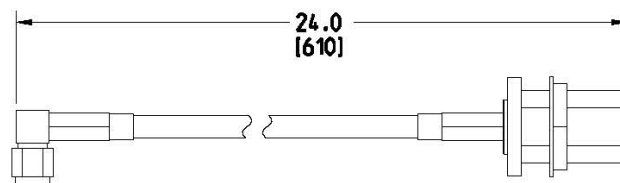


Remote Omni-Antenna Kit

The Remote Omni-Antenna kit includes sealant tape for remote antenna connection, SMA to N-type adaptor cable, mounting brackets for the antenna, and lightning arrester.



SMA to N-Type Adapter Cable



*Dimensions are inches (millimeters)

Ordering Information

Model	Description
R-1410	Wireless Gateway
Code	Power Input (included)
A	24 VDC, 500 mA
Code	Ethernet Communications – Physical Connection
1(1) (2)	Single Ethernet Connection
2(3) (4)	Dual Ethernet Connection
Code	Serial Communication
N	None
A(5)	Modbus RTU via RS-485
Code	Ethernet Communication - Data Protocols ⁽⁶⁾
D1	Modbus TCP/IP
D2	OPC
D3	EtherNet/IP
D4 ⁽⁶⁾	Modbus TCP/IP, OPC
D5 ⁽⁶⁾	EtherNet/IP, Modbus TCP/IP
D6 ⁽⁶⁾	EtherNet/IP, OPC
E2	Ovation Ready
E3 ⁽⁷⁾	Webserver Only
Code	Antenna Options ⁽⁸⁾
WX2	Basic Antenna
WL2	SMA-to-N-Type Adapter Cable, and Remote Antenna Kit
WN2 ⁽⁹⁾	SMA-to-N-Type Adapter Cable, and High-Gain Remote Antenna Kit
Code	Product Certifications
NA	No Approvals
N5	FM Division 2, Non-incendive
N6	CSA Division 2 (Suitable for Canada and the United States)
NM	Technical Regulation Customs Union (EAC) Type N
Code	Telecommunications Certification Country
XXX	Enter ultimate destination (country) where Gateway will be installed.

R-1410	A	2	A	D4	WX2	N6	USA	← Example
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Options	
Host Integration ⁽¹⁰⁾	
Code	
H6	Allen Bradley
H9	Other
Oil and Gas Options	
Code	
G	Oil and Gas Monitor Page

- (1) Single active 10/100 baseT Ethernet port with RJ45 connector.
- (2) Additional ports disabled.
- (3) Dual active 10/100 baseT Ethernet ports with RJ45 connectors.
- (4) Multiple active ports have separate IP addresses, firewall isolation, and no packet forwarding.
- (5) Convertible to RS232 via adapter, not included with Gateway.
- (6) Selection of Dual Ethernet option code 2 is recommended.
- (7) Requires (A) Modbus RTU via RS-485 Communication protocol.
- (8) The WL2 and WN2 options require minor assembly.
- (9) Not available in all countries.
- (10) Support documentation included in the package.

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