

Emerson Wireless 1410H Gateway with 781 Field Link



- Gateway connects the *WirelessHART*® self-organizing networks with any host system
- Easy configuration and management of self-organizing networks
- Easy integration into control systems and data applications through serial and Ethernet connections
- Seamless integration into AMS Device Manager
- Greater than 99 percent data reliability with industry proven security
- Wireless capabilities extend the full benefits of Plantweb™ architecture to previously inaccessible locations

Emerson Wireless Solution

IEC62591 (WirelessHART)...the industry standard

Self-organizing, adaptive mesh routing

- 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, Wi-Fi®, and EMC sources and increase reliability
- Direct sequence spread spectrum (DSSS) technology delivers high reliability in challenging radio environment

Emerson Wireless

Seamless integration via LAN or serial communications to all existing host systems

- Native integration into Ovation™ and DeltaV™ is transparent and seamless
- Gateways interface with existing host systems via LAN or serial communications using industry standard protocols including OPC DA, Modbus® TCP/IP, Ethernet/IP & HART-IP, and Modbus RTU

Layered security keeps your network safe

- All wireless data is 128 bit AES encrypted so your data is kept safe
- All wireless devices are authenticated so you know exactly what is on your network
- Third party security certifications including Achilles and FIPS-197 certification demonstrate Emerson's commitment to security
- Complete control of your network using the Gateway secure web interface

SmartPower solutions

- Optimized Emerson instrumentation, both hardware and software, to extend power module life
- SmartPower™ technologies enable predictable power life

Contents

Emerson Wireless Solution.....	2
Features and benefits.....	3
Ordering information.....	4
Specifications.....	7
Product certifications.....	12

Features and benefits

Gain real-time process information with greater than 99 percent wireless data reliability

- The Emerson Wireless 1410H Gateway with 781 Field Link automatically manages wireless communications in constantly changing environments
- Connect to data historians, legacy host systems, and other applications via Ethernet using Modbus TCP, OPC, EtherNet/IP™, and HART-IP® protocols, or serial Modbus RTU (RS485)

Guarantee system availability with redundant Wireless Gateways



- Never lose the wireless network with hot standby capability and automatic fault detection
- Wireless Gateways function as a single system, eliminating the need for duplicate host integration
- One-click configuration and plug-and-play architecture

Complete wireless network configuration tools provided with each Gateway

- The integrated web interface allows easy configuration of the wireless network and data integration without the need to install additional software
- Complimentary AMS Wireless Configurator software provides Emerson Device dashboards to configure *WirelessHART* devices and view diagnostic data
- Drag and drop device provisioning enables a secure method to add new wireless devices to the wireless field network



Ordering information

Emerson Wireless 1410H Gateway

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See [Emerson Wireless 1410H Gateway](#) for more information on material selection

Table 1: Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Model	Product description	
1410	Wireless Gateway, 2.4 GHz DSSS, <i>WirelessHART</i> , Webserver, AMS ready, HART-IP	
Code	Wireless configuration	
A	25 device <i>WirelessHART</i> network	
B	100 device <i>WirelessHART</i> network	
D	<i>WirelessHART</i> network with 781 Field Link Support	
H	Two <i>WirelessHART</i> networks with 781 Field Link support	★
Code	Ethernet communications - physical connection	
1	Single Ethernet connection	
2	Dual Ethernet connection	★
Code	Serial communication	
N	None	
A	Modbus RTU via RS485	
Code	Ethernet communication - data protocols	
D1	Modbus TCP/IP	★
D2	OPC	★
D3	Ethernet/IP	★
D4	Modbus TCP/IP, OPC	★
D5	Ethernet/IP, Modbus TCP/IP	★
D6	Ethernet/IP, OPC	★
E1	DeltaV ready	
E2	Ovation ready	
E3	Webserver ready	
Code	Antenna options	
WX2	Basic antenna	
WL2	SMA-to-N-Type adapter cable, and remote antenna kit	★
WN2	SMA-to-N-Type adapter cable, and high-gain remote antenna kit	★
WNA	For use with the 781 Remote Field Link	★

Table 1: Ordering Information (continued)

Code	Product certifications	
NA	No approvals	★
N5	FM Division 2, Non-incendive	★
N6	CSA Division 2, Non-incendive	★
N1	ATEX Type n	★
N7	IECEX Type n	★
N4	Japan Type n	
NM	Technical Regulations Customs Union (EAC) Type n	
Code	Host Integration	
H6	Allen Bradley	
H9	Other	
Code	Oil and gas options	
G	Oil and gas interface	
Typical model number: 1410 A 2 A D4 WX2 N6		

Emerson Wireless 781 Field Link

Table 2: Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Model	Product description	
781	Wireless Field Link	
Network capacity and physical connection		
A1	100 <i>Wireless</i> HART Device capacity, RS485	★
Housing		
D	Dual compartment housing - aluminum	★
E	Dual compartment housing - stainless steel	★
Conduit threads		
1	½-14NPT	★
Product certifications		
I2	INMETRO Intrinsic Safety	★
I4	Japan Intrinsic Safety	★
I5	USA Intrinsically Safe, non-incendive	★
I6	Canada Intrinsically Safe	★
I1	ATEX Intrinsic Safety	★
I7	IECEx Intrinsic Safety	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KD	USA and Canada Intrinsically Safe, ATEX and IECEx Intrinsic Safety	★
KL	USA and Canada Intrinsically Safe, ATEX Intrinsic Safety	★
NA	No approvals	★
Wireless update rate, operating frequency, and protocol		
WA3	User configurable update rate, 2.4 GHz DSSS, <i>Wireless</i> HART	★
Omnidirectional wireless antenna		
WM3	Extended range, external antenna, line power 10.5 to 30 Vdc	★
Gland and connector options		
G2	Cable gland (7.5 to 11.9 mm)	★
G4	Thin wire cable gland (3 to 8 mm)	★

Specifications

Emerson Wireless 1410H Gateway

Functional specifications

Note

The input voltage and current draw apply to only one network. To use each *WirelessHART* network, both sides of the Gateway will require power.

Input voltage

10.5 to 30 Vdc

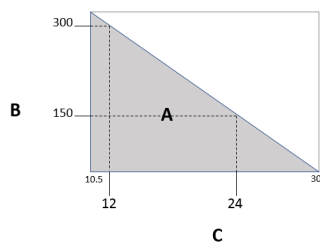
Note

For best results, use a high quality industrial galvanically isolated power supply.

Current draw

Operating current draw is based on 3.6 W power consumption.

At startup, the power supply must be capable of momentarily sourcing at least twice the operating current indicated in the figure below. The Gateway may draw significantly more current momentarily at startup if not limited by the power supply.



A. Operating region

B. Current (mA)

C. Voltage (Vdc)

Note

For recommended intrinsic safety barrier installation:

- Input voltage 20 to 30 Vdc is needed
- Current draw is based on 6.6 W power consumption of Gateway and barriers combined

Environmental

Operating temperature range:

-40 to 167 °F (-40 to 75 °C)

Operating humidity range:

0 to 100 percent relative humidity

Electromagnetic Compatibility (EMC) performance

Meets all industrial environment requirements of EN61326 and NAMUR NE-21. Maximum deviation less than one percent span during EMC disturbance⁽¹⁾.

(1) During surge event, device may exceed maximum EMC deviation limit or reset; however, device will self-recover and return to normal operation within specified start-up time.

Antenna options

See "[Emerson Wireless 1410H Gateway](#)".

Physical specifications

Material selection

Emerson provides a variety of Rosemount products with various product options and configurations including materials of construction that can be expected to perform well in a wide range of applications. The Rosemount product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser's sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options, and components for the particular application. Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration or materials of construction selected.

Weight

1.38 lb (0.625 kg)

Material of construction

Housing:	Polycarbonate
Rail mount:	Top hat rail EN 50022 (35 x 7.5 mm and 35 x 15 mm)

Communication specifications

Isolated RS-485

Two wire communication link for Modbus RTU multidrop connections for each *Wireless*HART network

Baud rate:	57600, 38400, 19200, or 9600
Protocol:	Modbus RTU
Wiring:	Single twisted shielded pair, 18 AWG
Wiring distance:	Approximately 4000 ft. (1,219 m)
Ethernet:	Ethernet Ports 1 and 2 are independent interfaces with unique MAC addresses, no routing or switching capabilities 10/100base-TX Ethernet communication port
Protocols:	Modbus TCP, OPC, EtherNet/IP
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™.

Network specification

Protocol

Self-organizing IEC 62591(*WirelessHART*), 2.405 to 2.475 GHz

Maximum network size

For each *WirelessHART* network

- 100 wireless devices at eight seconds or more
- 50 wireless devices at four seconds
- 25 wireless devices at two seconds
- 12 wireless devices at one second

Supported device update rates

1, 2, 4, 8, 16, 32 seconds or 1 to 60 minutes

Network size/latency

100 devices: less than 10 seconds

50 devices: less than 5 seconds

Data reliability

Greater than 99 percent

System security specification

Ethernet

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

Emerson 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.

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

Worldtech: 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 (FIPS-197).

Emerson Wireless 781 Field Link

Functional specifications

Wireless output

IEC 62591 (*WirelessHART*), 2.4 GHz DSSS

Environmental

0 to 99 percent non-condensing relative humidity

Radio frequency power output from antenna

External antenna (WM3 option):

Maximum of 10 mW (10 dBm) EIRP

Field link wiring distance

Wiring distance between Field Link and Gateway:

Up to 200 m using dual single twisted shielded pair, 18 AWG

Barrier recommendations

These Signal Barriers are the recommended intrinsic safety barriers for use in a hazardous area:

- GM-International D1061S
- Stahl 9176 10-16-00

Physical specifications

Material selection

Emerson provides a variety of Rosemount product with various product options and configurations including materials of construction that can be expected to perform well in a wide range of applications. The Rosemount product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser's sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options and components for the particular application.

Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration or materials of construction selected.

Materials of construction

Enclosure

Housing: Low-copper aluminum or stainless steel

Paint: Polyurethane

Cover O-ring: Buna-N

Terminal block and power module

PBT

Antenna

PBT/Polycarbonate (PC) integrated omnidirectional antenna

Mounting

Mounting brackets also permit remote mounting

Weight

Low-copper aluminum: Emerson Wireless 781 - 4.1 lb (1.9 kg)

Stainless steel: Emerson Wireless 781 - 8.0 lb (3.5 kg)

Enclosure ratings (781)

Housing style option codes D and E are Type 4X and IP66/67 rated dual-compartment housings

Performance specifications

EMC performance

Meet all industrial environment requirements of EN61326 and NAMUR NE-21. Maximum deviation less than 1 percent span during EMC disturbance.

Vibration effect

No effect when tested per the requirements of IEC60770-1 (1999):

High vibration level - field or pipeline (10 to 60 Hz 0.21 mm displacement peak amplitude/60 to 2000Hz 3g)

Product certifications

Emerson 1410H Product Certifications

Rev. 3.4

European Directive Information

A copy of the EC Declaration of Conformity can be found at the end of the Quick Start Guide. The most recent revision of the EC Declaration of Conformity can be found at Emerson.com/Rosemount.

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.

Ordinary Location Certification

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

Installing Equipment in North America

The US National Electrical Code™ (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

USA

N5 U.S.A. Division 2

Certificate: 2646342 (CSA)

Standards: CAN/CSA C22.2 No. 0-10, CSA C22.2 No. 213-M1987 (2013), CSA C22.2 No. 61010-1 – 2012, ANSI/ISA-12.12.01 – 2012, UL61010-1, 3rd Edition

Markings: Suitable for CL I, DIV 2, GP A, B, C, D;

Temperature Code: T4 (-40°C ≤ Ta ≤ 70°C)

- 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.
- Using the 1410H and the Smart Wireless Field Link 781 in a hazardous location requires barriers between the two units.

Canada

N6 Canada Division 2

Certificate: 2646342 (CSA)

Standards: CAN/CSA C22.2 No. 0-10, CSA C22.2 No. 213-M1987 (R2013), CSA C22.2 No. 61010-1 – 2012, ANSI/ISA-12.12.01 – 2012, UL61010-1, 3rd Edition

Markings: Suitable for CL I, DIV 2, GP A, B, C, D; T4 ($-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$)

- 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.
- Using the 1410H and the Smart Wireless Field Link 781 in a hazardous location requires barriers between the two units.

Europe

N1 ATEX Type n

Certificate: Baseefa14ATEX0125X

Standards: EN 60079-0: 2012 + A11: 2013, EN 60079-15: 2010

Markings: II 3G Ex nA IIC T4 Gc ($-40^{\circ}\text{C} \leq T_a \leq +75^{\circ}\text{C}$), $V_{\text{MAX}} = 30\text{Vdc}$

Special Conditions for Safe Use (X):

1. The equipment must be installed in an area of not more than Pollution Degree 2 as defined in IEC 60664-1, and in an enclosure that provides a degree of protection of at least IP54 and meets the relevant requirements of EN 60079-0 and EN 60079-15.
 2. External connections to the equipment must not be inserted or removed unless either the area in which the equipment is installed is known to be non-hazardous, or the circuits connected have been de-energised.
 3. The equipment is not capable of withstanding the 500V electrical strength test as defined in clause 6.5.1 of EN 60079-15: 2010. This must be taken into account during installation.
 4. When fitted, the surface resistivity of the remote antenna is greater than 1G . To avoid electrostatic charge build up, it must not be rubbed with a dry cloth or cleaned with solvents.
- Currently not available for 1410H option

International

N7 IECEx Type n

Certificate: IECEx BAS 14.0067X

Standards: IEC 60079-0: 2011, IEC 60079-15: 2010

Markings: Ex nA IIC T4 Gc, T4 ($-40^{\circ}\text{C} \leq T_a \leq +75^{\circ}\text{C}$), $V_{\text{MAX}} = 30\text{Vdc}$

Special Conditions for Safe Use (X):

1. The equipment must be installed in an area of not more than Pollution Degree 2 as defined in IEC 60664-1, and in an enclosure that provides a degree of protection of at least IP54 and meets the relevant requirements of EN 60079-0 and EN 60079-15.
 2. External connections to the equipment must not be inserted or removed unless either the area in which the equipment is installed is known to be nonhazardous, or the circuits connected have been de-energised.
 3. The equipment is not capable of withstanding the 500V electrical strength test as defined in clause 6.5.1 of EN 60059-15: 2010. This must be taken into account during installation.
 4. When fitted, the surface resistivity of the remote antenna is greater than $1\text{G}\Omega$. To avoid electrostatic charge build-up, it must not be rubbed with a dry cloth or cleaned with solvents.
- Currently not available for 1410H option.

EAC - Belarus, Kazakhstan, Russia

NM Technical Regulation Customs Union (EAC) Type N

Certificate: TC RU C-US.GB05.B.01111

Markings: 2Ex nA IIC T4 Gc X, T4 ($-40^{\circ}\text{C} \leq T_a \leq +75^{\circ}\text{C}$), $V_{\text{MAX}} = 30\text{Vdc}$

Special Condition for Safe Use (X):

See certificate for special conditions

- Currently not available for 1410H option.

Japan

N4 CML Type n

Certificate: CML 17JPN4230X

Markings: Ex nA IIC T4 Gc X, T4 ($-40^{\circ}\text{C} \leq T_a \leq +75^{\circ}\text{C}$), $V_{\text{MAX}} = 30\text{Vdc}$, 3 watts

Special Condition for Safe Use (X):

See certificate for special conditions

Emerson 781 Product Certifications

Rev. 2.6

European Directive Information

A copy of the EC Declaration of Conformity can be found at the end of the Quick Start Guide. The most recent revision of the EC Declaration of Conformity can be found at Emerson.com/Rosemount.

Ordinary location certification

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

Installing in North America

The US National Electrical Code (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

USA

I5 USA Intrinsically Safe (IS), Nonincendive (NI) and Dust-ignitionproof

Certificate: FM17US0235X

Standards: FM Class 3600 – 2011, FM Class 3610 – 2010, FM Class 3611 – 2004, FM Class 3810 – 2005, ANSI/NEMA 250 – 2003, ANSI/IEC 60529 – 2004; ANSI/ISA 60079-0:2009, ANSI/UL 60079-11:2009, ANSI/ISA 61010-1:2004

Markings: IS CL I, DIV 1, GP A, B, C, D; CL II, DIV 1, GP E, F, G; Class III T4; Class 1, Zone 0 AEx ia IIC T4; NI CL I, DIV 2, GP A, B, C, D T4; DIP CL II, DIV 1, GP E, F, G; CL III T4; when installed per 00781-1010 T4 ($-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$)

Special Conditions for Safe Use (X):

1. The Emerson 781 transmitter housing contains aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact and friction.
2. The surface resistivity of the unit is greater than 1 gigaohm. To avoid electrostatic charge buildup, it must not be rubbed or cleaned with solvents or a dry cloth.
3. The Emerson 781 transmitter will not pass the 500Vrms electric strength test and this must be taken into account during installation.

Canada

I6 Canada Intrinsically Safe

Certificate: CSA 2330424

Standards: CSA C22.2 No. 0-10, CSA C22.2 No.94-M91, CSA Std. C22.2 No. 142-1987, CSA-C22.2 No. 157-92, CSA Std. C22.2 No. 60529 – 2005

Markings: Intrinsically Safe Class I, Division 1, Groups A, B, C, and D T3C ($T_a \leq +60\text{ }^{\circ}\text{C}$) Type 4X; IP 66/67; when installed per 00781-1011

Europe

I1 ATEX Intrinsic Safety

Certificate: Baseefa11ATEX0059X

Standards: EN IEC 60079-0:2018, EN 60079-11:2012

Markings:  II 1G Ex ia IIC T4 Ga ($-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$)

Input parameters (power terminals)	Input parameters (RS485)	Output parameters (RS485)
$U_i = 30\text{ V}$	$U_i = 11\text{ V}$	$U_o = 7.14\text{ V}$
$I_i = 200\text{ mA}$	$I_i = 300\text{ mA}$	$I_o = 112\text{ mA}$
$P_i = 1\text{ W}$	$P_i = 1\text{ W}$	$P_o = 1\text{ W}$
$C_i = 0\text{ }\mu\text{F}$	$C_i = 5.1\text{ nF}$	$C_o = 13.9\text{ }\mu\text{F}$
$L_i = 0\text{ mH}$	$L_i = 0\text{ mH}$	$L_o = 1000\text{ }\mu\text{H}$

Special Conditions for Safe Use (X):

1. The plastic antenna may present a potential electrostatic ignition hazard and must not be rubbed or cleaned with a dry cloth.
2. The Emerson 781 enclosure is made of aluminum alloy and given a protective paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 environment
3. The apparatus is not capable of withstanding the 500V isolation test required by EN 60079. This must be taken into account when installing the apparatus.

International

I7 IECEx Intrinsic Safety

Certificate: IECEx BAS 11.0028X

Standards: IEC 60079-0: 2011, IEC 60079-11: 2011

Markings: Ex ia IIC T4 Ga ($-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$)

Input parameters (power terminals)	Input parameters (RS485)	Output parameters (RS485)
$U_i = 30\text{ V}$	$U_i = 11\text{ V}$	$U_o = 7.14\text{ V}$
$I_i = 200\text{ mA}$	$I_i = 300\text{ mA}$	$I_o = 112\text{ mA}$
$P_i = 1\text{ W}$	$P_i = 1\text{ W}$	$P_o = 1\text{ W}$
$C_i = 0\text{ }\mu\text{F}$	$C_i = 5.1\text{ nF}$	$C_o = 13.9\text{ }\mu\text{F}$
$L_i = 0\text{ mH}$	$L_i = 0\text{ mH}$	$L_o = 1000\text{ }\mu\text{H}$

Special Conditions for Safe Use (X):

1. The plastic antenna may present a potential electrostatic ignition hazard and must not be rubbed or cleaned with a dry cloth.
2. The Emerson 781 enclosure is made of aluminum alloy and given a protective paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 environment
3. The apparatus is not capable of withstanding the 500V isolation test required by EN 60079-11. This must be taken into account when installing the apparatus.

China (NEPSI)

I3 China Intrinsic Safety

Certificate: GYJ18.1480X
Standards: GB3836.1-2010, GB3836.4-2010, GB3836.20-2010
Markings: Ex ia IIC T4 Ga, -40 ~ + 70 °C

Special Condition for Safe Use (X):

See certificate for special conditions.

EAC – Belarus, Kazakhstan, Russia

IM EAC Intrinsic Safety

Certificate: C-US.Gb05.B.00643
Markings: 0Ex ia IIC T4 Ga X

Input parameters (power terminals)	Input parameters (RS485)	Output parameters (RS485)
$U_i = 30 \text{ V}$	$U_i = 11 \text{ V}$	$U_o = 7.14 \text{ V}$
$I_i = 200 \text{ mA}$	$I_i = 300 \text{ mA}$	$I_o = 112 \text{ mA}$
$P_i = 1 \text{ B}_T$	$P_i = 1 \text{ B}_T$	$P_o = 1 \text{ B}_T$
$C_i = 0 \text{ MK}$	$C_i = 5.1 \text{ H}$	$C_o = 13.9 \text{ MK}$
$L_i = 0 \text{ MH}$	$L_i = 0 \text{ MH}$	$L_o = 0 \text{ MH}$

Special Conditions for Safe Use (X):

See certificate for special conditions.

Japan

I4 CML Intrinsic Safety

Certificate: CML 18JPN2024X
Markings: Ex ia IIC T4 Ga, -40 ~ + 70 °C

Special Condition for Safe Use (X):

See certificate for special conditions.

Brazil

I2 INMETRO Intrinsic Safety

Certificate: UL-BR 16.0478X
Standards: ABNT NBR IEC 60079-0:2013, ABNT NBR IEC 60079-11:2013

Markings: Ex ia IIC T4 Ga, -40 ~ + 70°C IP66, UL BR

Special Condition for Safe Use (X):

See certificate for special conditions.

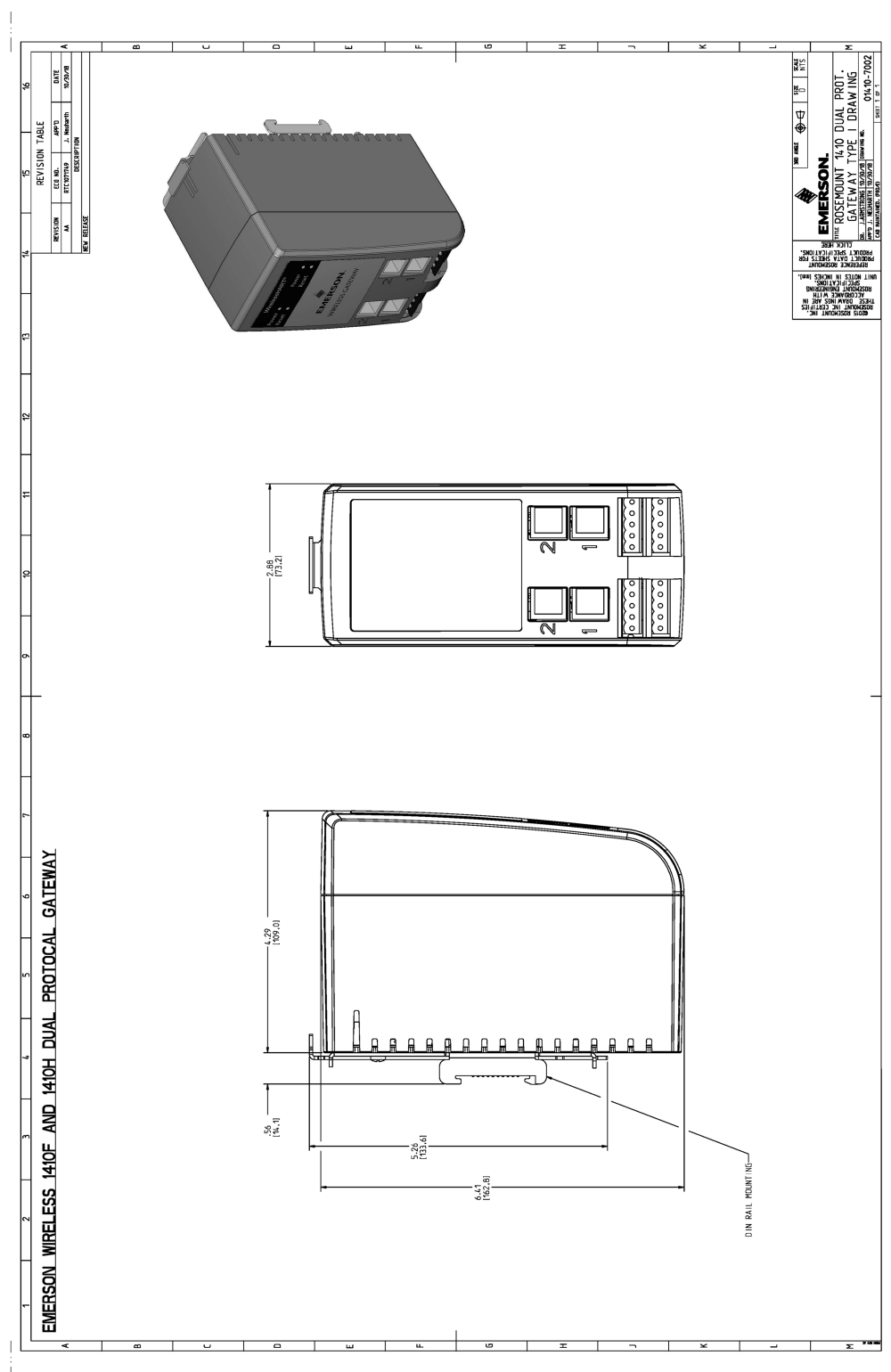
Combinations

KD Combination of I1, I5, and I6

KL Combination of I1, I5, I6, and I7

Dimensional drawings

Figure 1: Emerson Wireless 1410H



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