

## **Instrument Area Network Installation and Maintenance Manual IAN I/S Unit**

### ***NOTICE***

- 1 To comply with FCC, IC and CE RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons.
- 2 Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **United States / FCC Certification (2.4-2.5GHz)**

This device complies with Part 15 of the FCC Rules. Operation is subject to two conditions:

- ▶ This device may not cause harmful interference.
- ▶ This device must accept any interference received, including interference that may cause undesired operation.

### **NOTE**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of these measures:

- 1 Reorient or relocate the receiving antenna.
- 2 Increase the separation between the equipment and receiver.
- 3 Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4 Consult the dealer or an experienced radio/TV technician for help.

### Canada / IC Certification (2.4-2.5GHz)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- ▶ This device may not cause harmful interference.
- ▶ This device must accept any interference received, including interference that may cause undesired operation.

### Déclaration d'IC

Ce dispositif est conforme aux normes RSS exemptes de licence d'Industrie Canada. Son fonctionnement est assujéti aux deux conditions suivantes :

- ▶ ce dispositif ne doit pas provoquer de perturbation et.
- ▶ ce dispositif doit accepter toute perturbation, y compris les perturbations qui peuvent entraîner un fonctionnement non désiré du dispositif.

### CALIFORNIA PROPOSITION 65

<b>▲ WARNING</b>
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This product can expose you to chemicals including lead and lead compounds which is known to the State of California to cause cancer and which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> .
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Contacts for application assistance, current specifications, service, or repairs:

Schneider Electric Systems USA, Inc.  
70 Mechanic Street  
Foxboro, MA 02035  
United States of America

Global Customer Support  
Inside U.S.: 1-866-746-6477  
Outside U.S.:1-508-549-2424

Schneider Electric Systems USA, Inc. reserves the right to update or change this user guide at any time.

## APPLICATION

The IAN field unit devices consist of instruments and transmitters mounted in outdoor enclosures designed for use in hazardous (explosive atmosphere) areas.

The devices are intended to be used as instruments and transmitters for remotely monitoring variables (temperature, pressure, etc.) in an industrial process. Table 1 details the type of measurement each model is meant for, and its pressure or temperature range as appropriate. This is in addition to the general specifications for all models as detailed in the Technical Specifications section of this manual, such as materials of construction. The device is designed for use in hazardous (explosive atmosphere) environments and can be used in areas as detailed on the certification markings. Electric equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

Examples of improper use would be: Using the device to support any external mechanical loads; adding material by painting, welding, soldering; removing material by drilling or screwing to the device; opening the unit; or in any way modifying the electronics.

Table 1 lists all of the models and their different measurement types.

**Table 1. Models and Measurement Types**

IAN-CC	Radio transmitter with integral antenna.
IAN-PM (a)	Process Measurement transmitter with integral probe.
IAN-PP	Plugged entry port for measuring ambient conditions.
IAN-PR-[PPPPP] (b) (c)	Pressure transmitter with integral probe.

- a. The hazardous (explosive atmosphere) area certifications limit the measurement range for process temperatures to -273°C to 1200°C.
- b. Do not exceed the pressure P[PPPP] in your model code. The unit has been designed with a burst pressure rating of 2.5 times P[PPPP] PSI.
- c. P[PPPP] is the maximum pressure in PSI: 1.1, 3,5, 7,2, 10,8, 15, 30, 100, 250, 1000, 3000, 5000, 10000.

## ASSEMBLY AND DISMANTLING

### WARNING

#### REPLACEMENT PARTS

These units come completely assembled and configured from the factory. No external connections, additions or modifications by the user are allowed.

These units contain no user replaceable parts and must not be opened, or dismantled. Defective units must be returned to Schneider Electric Systems USA, Inc. or its resellers for service.

The battery of the unit is one time use only and is not meant to be replaced. After the battery has been depleted, the unit must be replaced.

**Failure to follow these instructions can result in death or serious injury.**

#### AVERTISSEMENT

Ces unités sont entièrement assemblés et configurés de l'usine. Aucune connexion externe, ajouts ou modifications sont permises.

Ces unités ne contiennent pas de pièces remplaçables par l'utilisateur et ne doivent pas être ouverts, ou démontés. Les appareils défectueux doivent être retournés à Schneider Electric Systems USA, Inc. ou ses revendeurs pour le service.

La batterie de l'appareil est un usage unique et ne doit pas être remplacé. Une fois que la batterie est épuisée, l'appareil doit être remplacé.

### WARNING

#### HAZARD OF EXPLOSION

DO NOT OPEN IN EXPLOSIVE ATMOSPHERES.

**Failure to follow these instructions can result in death or serious injury.**

#### AVERTISSEMENT

NE PAS OUVRIR DANS DES ATMOSPHERES EXPLOSIVES.

## INSTALLATION

Neither the enclosure nor the internal electronics may be permitted to go above 80°C from all cumulative effects, including, but not limited to, process temperature, ambient environment, and solar loading.

Each housing has either an integral process related sensor, an integral antenna, or a “plugged entry port” located on the center of the bottom face of the unit’s base. Select the mounting location for each housing type based on its use and the process measurement spot. “Plugged entry port” devices without available threads need not be threaded into anything. Units with integral antennas must be mounted above metal structures. Instruments with protruding sensors must have the threads of the sensor fully installed into the process port fitting.

For units with the integral antenna, select the mounting location for best visibility to the upstream wireless network. The radio transmitter and instruments must be separated no further than 5 meters (16.4 feet), though not necessarily in a straight line or without obstruction. Verify the mounting location chosen is not exposed to forceful impacts such as from heavy objects falling, which may damage the enclosure integrity.

In addition to the process port threads the enclosure allows for mount attachment via the band strap groove.

## PUTTING INTO SERVICE

The IAN-CC (Central Concentrator) is the radio transmitter with the external, integral antenna protruding from the enclosure. After the physical installation of all devices, press and hold against the cover of the CC for two seconds. Press and hold against the cover of one instrument for two seconds. Observe the flashing of both devices until the flashing is synchronized. Repeat this process for each instrument local to the CC. The upstream network may now be configured for readings from these instruments.

## MAINTENANCE, OVERHAUL AND REPAIR

The device is extremely easy to maintain in that it requires no periodic calibration or system checks.

We recommend a simple yearly visual inspection for the following:

- ▶ Is the Field Unit still securely fastened to the mount point?
- ▶ Are there any visible corrosion, cracks or residue build-ups on the unit?
- ▶ Has anything about the application changed from the original intended use?
- ▶ Be sure to consider chemical compatibility with the integral probe material of stainless steel and the overall enclosure materials of stainless steel & poly-carbonate plastic. Be sure to follow your local site safety procedures regarding hazardous substances if you are using the field unit to measure a process with hazardous substances.

## DISPOSAL

### **NOTICE**

#### **RISK OF ENVIRONMENTAL CONTAMINATION**

Proper disposal of lithium battery is required.

**Failure to follow these instructions can result in environmental contamination.**

## SPECIAL CONDITIONS FOR SAFE USE

### **⚠ WARNING**

#### **HAZARD OF EXPLOSION**

- 1 Parts of the enclosure are non-conducting and may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user should ensure the equipment is not installed or used in a location where it may be subjected to extreme conditions (such as high-pressure steam), which might cause a build-up of electrostatic charge on non-conductive surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.
- 2 This I.S. apparatus is intended for fixed installations only.
- 3 O-rings will not be exposed to direct sunlight.

**Failure to follow these instructions can result in death or serious injury.**

## TECHNICAL SPECIFICATIONS

### RF Characteristics

2.4-2.5GHz Spread Spectrum, ISM license-free band  
58mW maximum operational RF transmit power

### Operating Temperature Range

Electronics measurement and transmission, and hazardous (explosive atmosphere) area rating limits  
-40°F to +176°F (-40°C to +80°C)

### Enclosure Materials

Stainless Steel  
Poly-carbonate Plastic  
PTFE antenna cover (IAN-CC model only)

### Ingress Protection

IP54

### Power Characteristics

Self-contained power  
IEC 60086-1 type E  
3.6 V lithium (Li) thionyl chloride (SOCl<sub>2</sub>) cell

## HAZARDOUS LOCATIONS CERTIFICATIONS

United States CFR Title 29 Chapter XVII Part 1910 Subpart S  
NEC (NFPA 70) Article 505

Intrinsically Safe per UL 60079-0, 60079-11

Class I Zone 0, AEx ia IIC T4 Ga  
Zone 20, AEx ia IIIC T135°C Da  
-40°C ≤ Ta ≤ +80°C

Canada CEC (CSA C22.1) Section 18 & CSA C22.2  
Intrinsically Safe per CSA 60079-0, 60079-11

Ex ia IIC T4 Ga  
Ex ia IIIC T135°C Da  
-40°C ≤ Ta ≤ +80°C

European Union Directive 2014/34/EU (ATEX)  
Intrinsically Safe per EN 60079-0, EN 60079-11

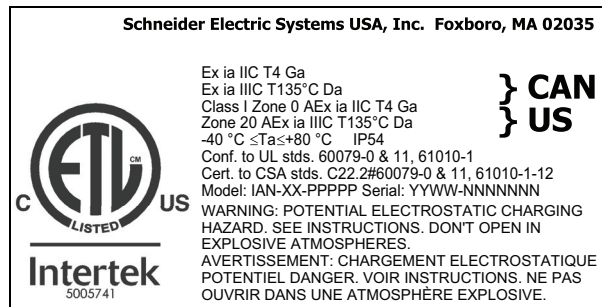


II 1G Ex ia IIC T4 Ga  
II 1D Ex ia IIIC T135°C Da  
-40°C ≤ Ta ≤ +80°C, IP54

Figure 1. nnnn - Notified Body Number of Notified Body Issuing QAN



Figure 2. No CE Compliance



Variable Fields

Model	XX = CC, PM, PP, PR [PPPPP]
Serial Number	YYWW = year and week of manufacture NNNNNNN = sequentially unique number

Schedule Drawing: No changes without prior notified body approval	
NB\NRTL INTERTEK	Project ID G102348708

NOTES

1. Material is Brady label stock B-459.
2. Assembly inspection includes verifying model and serial, label straightness, and no air bubbles under the label.

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