



PRT-IVO-IF

Protege Inovonics Wireless Receiver Module

Installation Manual



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Last Published: 21-Jun-24 2:51 PM

Contents

Introduction	5
Installation Requirements	6
Grounding Requirements	7
Safety Grounding	7
Earth Ground Connection	7
Mounting the Module	9
Jumper Configuration	10
Configuring the Inovonics Frequency Jumper	10
Configuring the Inovonics EchoStream Select Jumper	11
Power Requirements	12
Encrypted Module Network	13
End of Line (EOL) Resistors	13
Relay Output	14
Ethernet 10/100 Network Connection	15
Defaulting the IP Address	16
Module Configuration	17
Logging in for the First Time	17
Configuration	17
Device Information	18
User Management	18
Configuring Protege GX and Protege WX	19
Prerequisites for Protege GX and Protege WX	19
Adding the Module in Protege GX	19
Adding the Module in Protege WX	19
Linking Inputs to Inovonics Devices	20
Inputs Table (PRT-IVO-IF)	20
Inputs Table (PRT-IVO-IF-EU)	22
Input States	22
Trouble Inputs	22
Battery Events	23
Access Control	23
Creating a Credential Type	23
Creating a Door Type and Linking to Credential Type and Doors	24
Linking Doors to the Inovonics Module	24

Creating an Access Level	24
Linking to a User	24
Error Code Indication	25
Error Code Display	25
Mechanical Diagram	26
Mechanical Layout	27
Technical Specifications	28
New Zealand and Australia	29
European Standards	30
UK Conformity Assessment Mark	31
FCC Compliance Statements	32
Industry Canada Statement	33
Disclaimer and Warranty	34

Introduction

The Protege Inovonics receiver module is designed to facilitate integration between Protege systems and wireless Inovonics devices. It works with the Inovonics EN4200 EchoStream receiver to translate incoming Inovonics signals so they are understood by Protege controllers. The module can link up to 255 Inovonics wireless devices to each EchoStream receiver.

The receiver module is available in two unit types suitable for the following frequencies:

- **PRT-IVO-IF:** for use in the US (902-928 MHz), Australia (915-928 MHz), and New Zealand (922-928 MHz)
- **PRT-IVO-IF-EU:** for use in the EU region (868-870 MHz)

Note: the Inovonics receiver module integrates with both Protege GX and Protege WX systems. This manual provides integration instructions for both.

Key features of the Protege Inovonics Wireless Receiver Module include:

- The ability to connect to Protege systems via RS-485 network or ethernet.
- A web interface for easy network setup and boot mode for firmware updates.
- Firmware upgrade via Trivial File Transfer Protocol (TFTP).
- The linking of Inovonics wireless devices, such as PIRs and remotes, to Protege inputs.
- The linking of Inovonics remotes to Protege users for access control.

Installation Requirements

This equipment is to be installed in accordance with:

- The product installation instructions
- The Local Authority Having Jurisdiction (AHJ)

Grounding Requirements

An effectively grounded product is one that is intentionally connected to earth ground through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to prevent elevated voltages which may result in undue hazard to connected equipment or to persons.

Grounding of the Protege system is done for three basic reasons:

1. Safety
2. Component protection
3. Noise reduction

Safety Grounding

The object of safety grounding is to ensure that all metalwork is at the same ground (or earth) potential. Impedance between the Protege system and the building scheme ground must conform to the requirements of national and local industrial safety regulations or electrical codes. These will vary based on country, type of distribution system and other factors. The integrity of all ground connections should be checked periodically.

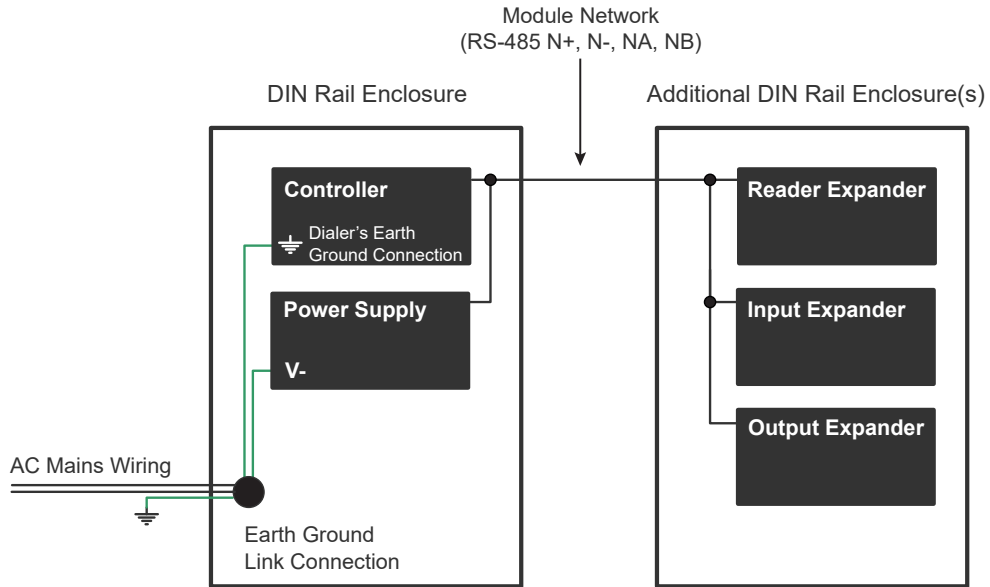
General safety dictates that all metal parts are connected to earth with separate copper wire or wires of the appropriate gauge.

Earth Ground Connection

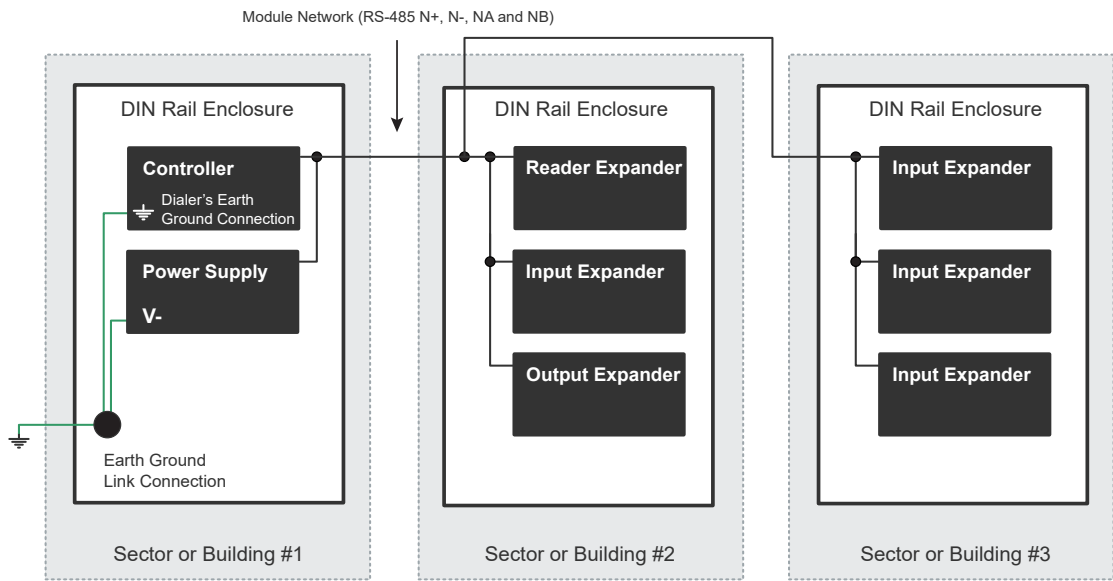
The DIN rail enclosure and the DIN rail modules must be grounded to a suitable single-point earth ground connection in the installation. A minimum 14AWG solid copper wire (or thicker, in accordance with local authorities) shall be used from the Protege system's earth connection points.

The DIN rail enclosure includes an earth ground single-point link connection via the metallic enclosure. This single-point link is the Protege system's earth ground. All modules that have earth ground connections and that are installed in the same enclosure shall be connected to this single point. A single-point earth ground connection avoids the creation of ground loops in the system and provides a single reference point to earth ground.

DIN Rail Ground Connections (one or more cabinets installed in the same room)



DIN Rail Ground Connections (multiple cabinets in different rooms, sectors, or buildings)



The Dialer's Earth Ground Connection applies to modem model controllers only.

Note that the DIN rail enclosure earth terminal is connected to the power supply V- terminal.

There must be only **one** single earth grounding point per system.

Mounting the Module

The receiver module should be mounted in a location away from metal objects (such as duct work, wire mesh screens and boxes) as they will reduce RF range.

For best results, mount transmitters and repeaters so they achieve line of sight with the repeaters and/or the receiver. This usually means they should be mounted as high as possible.

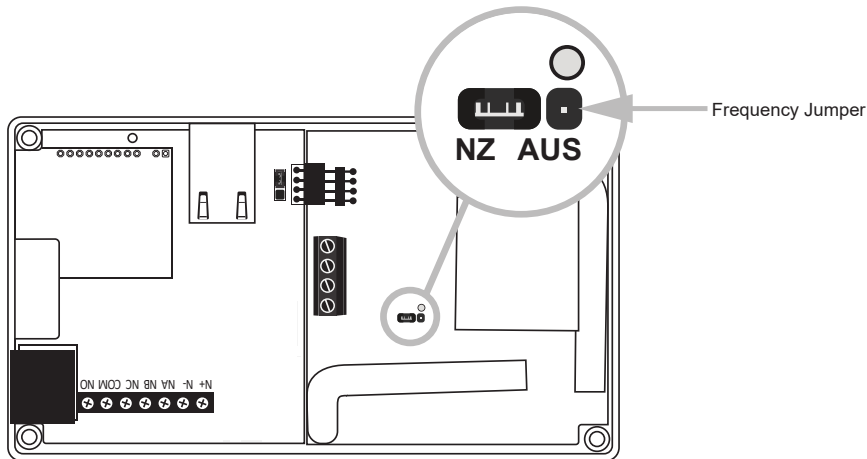
Jumper Configuration

Configuring the Inovonics Frequency Jumper

This section applies only to the NA / AUS / NZ variant of the Inovonics receiver module (PRT-IVO-IF).

The Inovonics EchoStream Receiver can use a range of radio frequencies and must be configured based on your geographic area using the frequency jumper.

The frequency jumper is labeled **NZ AUS** and is located on the Inovonics side of the board.



If using the device in **North America**, ensure that the frequency jumper is removed from the pins:



If using the device in **New Zealand**, place the jumper on the left two pins, marked NZ, to set the frequency range to 921-928 MHz:



If using the device in **Australia**, place the jumper on the right two pins, marked AUS, to set the frequency range to 915-928 MHz:



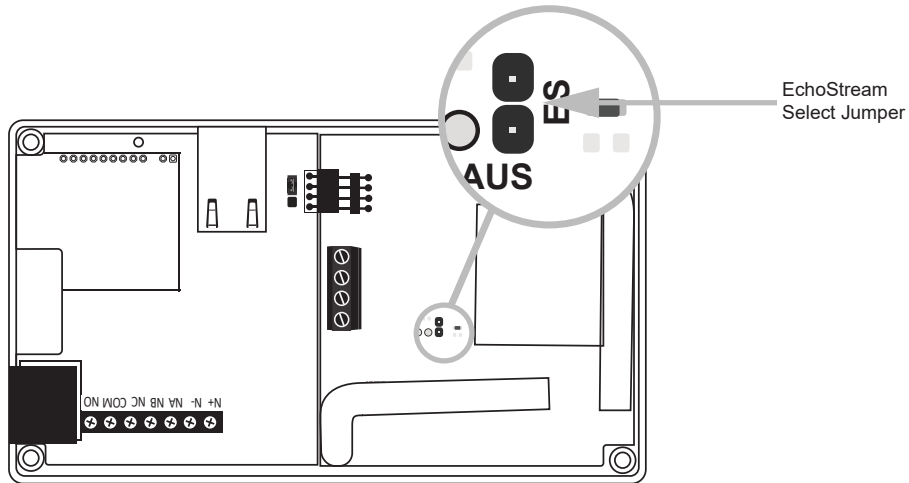
If the device is powered on, remove and restore the power source to apply the change.

Configuring the Inovonics EchoStream Select Jumper

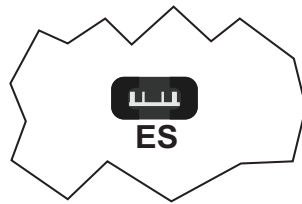
This section applies only to the European variant of the Inovonics receiver module (PRT-IVO-IF-EU).

If you are using Inovonics EchoStream Select products in your system, you need to enable EchoStream Select compatibility on this device using the ES jumper.

The jumper is labeled **ES** and is located on the Inovonics side of the board:



To enable EchoStream Select compatibility, place the jumper over the ES pins:



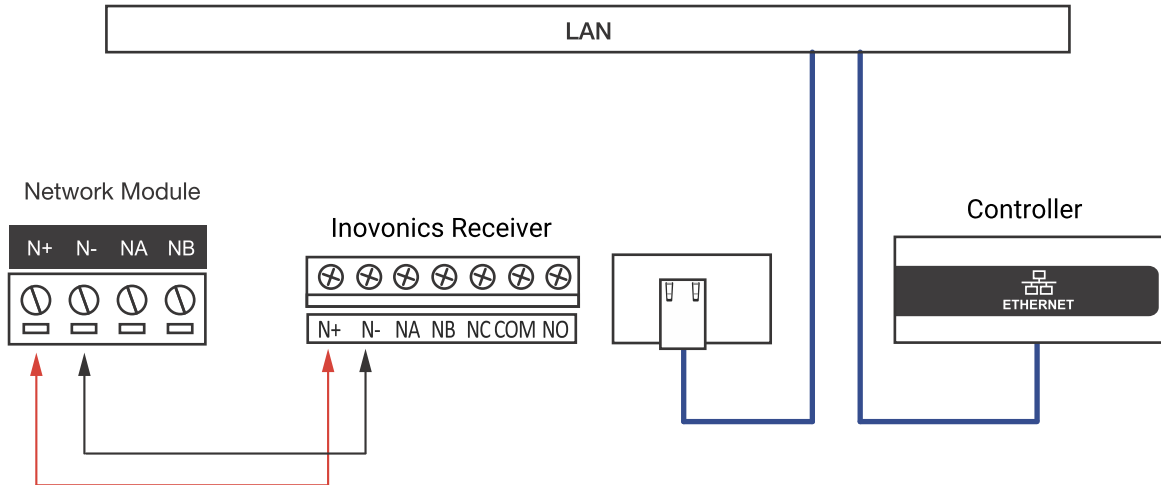
If there are no EchoStream Select products being used in your system, remove the jumper from the ES pins.

If the device is powered on, remove and restore the power source to apply the change.

Power Requirements

Power to the Inovonics receiver module is supplied by the N+ and N- terminals, and also supplies the onboard Inovonics EchoStream receiver.

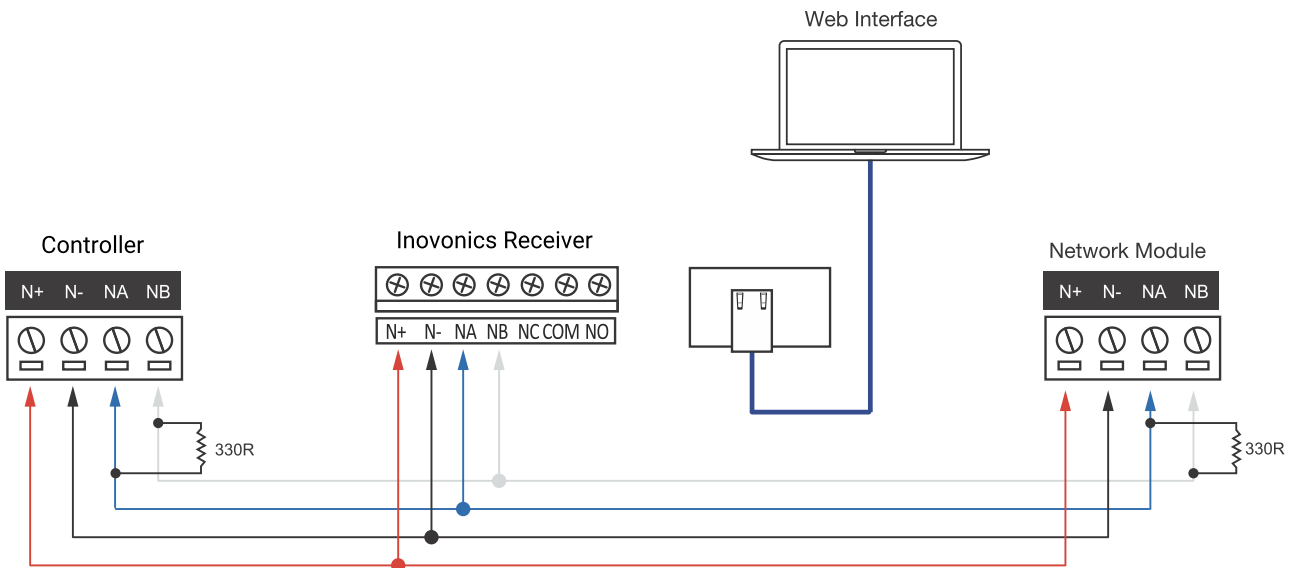
When the receiver module is connected via ethernet, module power is also supplied by the N+ and N- terminals.



If the receiver module is inserted into an existing section of the RS-485 module network, both module and network power are supplied by the N+ and N- terminals.

Connection of the communications and network power should be performed according to the diagram shown.

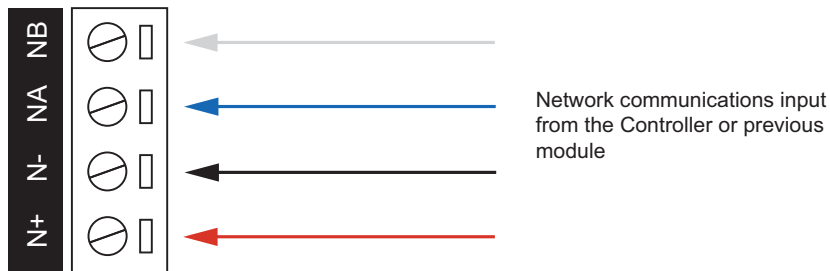
It is important that the N+ network communications power be 12VDC supplied from an independent battery backed power supply unit capable of supplying the required voltage to all devices on the RS-485 network.



The 12V N+ and N- communication input must be supplied from only **one** point. Connections from more than one 12V supply may cause failure or damage to the unit or the device supplying network power.

Encrypted Module Network

The Protege Inovonics receiver module incorporates encrypted RS-485 communications technology. Network power is supplied by the N+ and N- terminals.



Standard Communications Connection

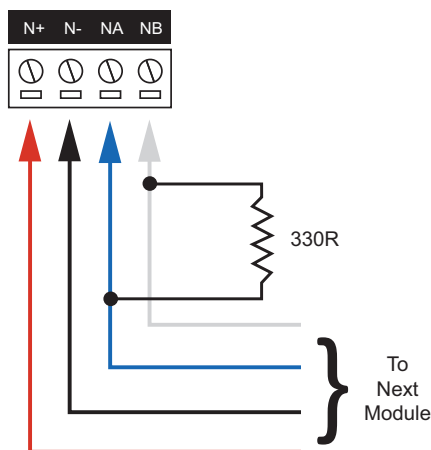
Connection of the communications and network power should be performed according to the diagram shown. It is important that the N+ network communications power be 12VDC supplied from an independent battery backed power supply unit capable of supplying the required voltage to all devices on the RS-485 network.

The 12V N+ and N- communication input must be supplied from only **one** point. Connections from more than one 12V supply may cause failure or damage to the unit or the device supplying network power.

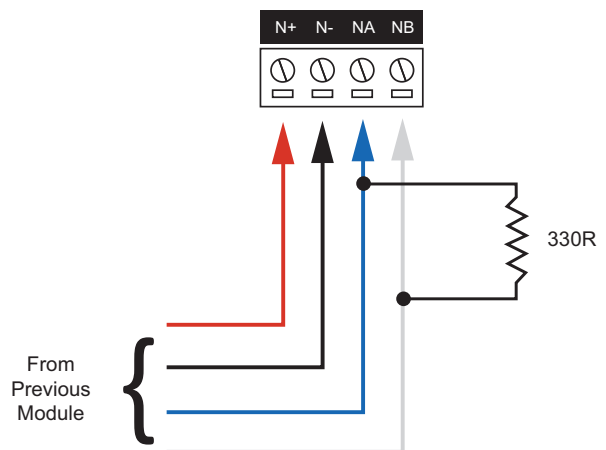
End of Line (EOL) Resistors

The 330 ohm EOL (End of Line) resistor provided in the accessory bag **must** be inserted between the NA and NB terminals of the **first** and **last** modules on the RS-485 network. These are the modules physically located at the ends of the RS-485 network cabling.

First Module on RS-485 Network

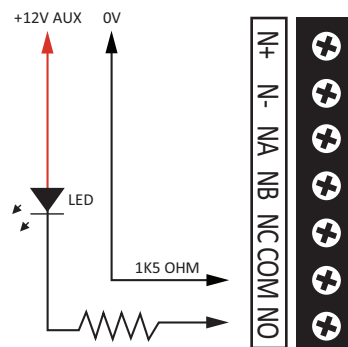


Last Module on RS-485 Network



Relay Output

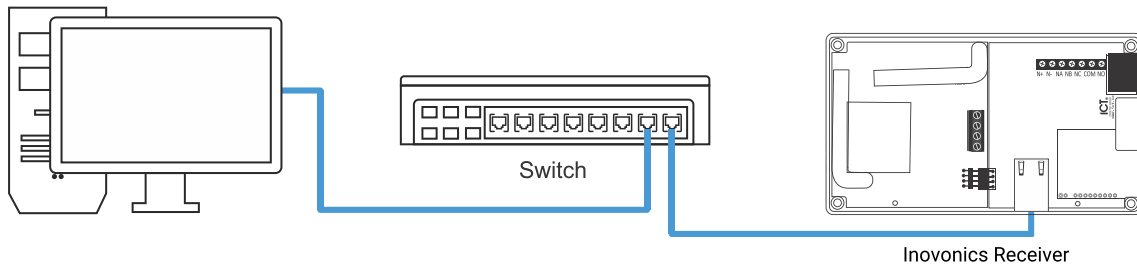
The receiver module has one onboard Form C relay output. The connection example shows the control of an external LED indicator.



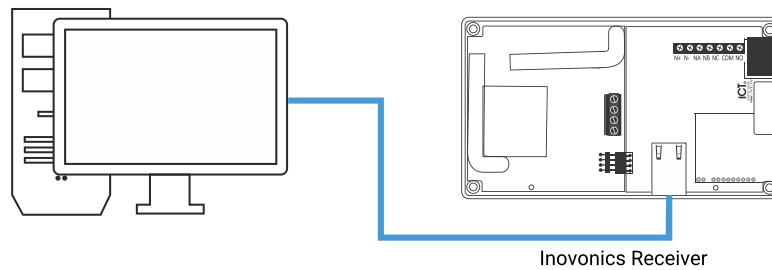
Ethernet 10/100 Network Connection

The Inovonics receiver module can communicate with the Protege controller via a 10/100 ethernet connection using the encrypted UDP protocol.

When installing an ethernet connection the module should be interfaced using a standard segment (<100m in length) and should be connected to a suitable ethernet hub or switch:



Temporary direct connections can be used for onsite programming by using a standard ethernet cable.

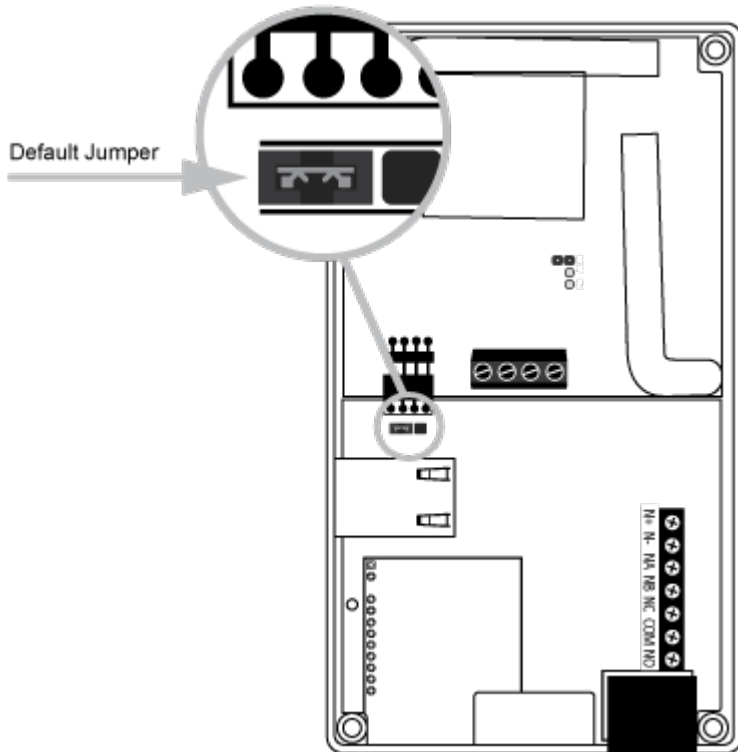


Installing the module on an active network requires knowledge of the configuration and structure for the network. Always consult the network or system administrator and ask them to provide you with a fixed IP address that can be assigned to the module.

Defaulting the IP Address

If you don't know the IP address you can set it back to the default address of 192.168.1.3

1. Locate the default jumper next to the ethernet port on the PRT-IVO-IF side of the board.



The jumper should be in the normal operating position on the two pins closest to the edge of the board.



2. Power down the unit
3. Place the jumper on the two pins furthest from the edge of the board



4. Power up the unit for 30 seconds
5. Power down the unit
6. Move the jumper back to its original position.
7. Power up the unit

Module Configuration

Configuration of the Inovonics receiver module is carried out using the built-in web interface. To access the web interface, open an internet browser and type the IP address of the module into the address bar.

When attempting to view the web interface from a network that uses a proxy server, ensure the browser connection options are configured to recognize local addresses.

Logging in for the First Time

1. Open a web browser and enter the default IP address of **192.168.1.3**
2. Enter the default operator login of admin with the password admin.

For security reasons, this password should be changed before deployment.

3. Click **Sign In**.

Configuration

Programming the IP address, subnet mask, and default gateway requires knowledge of the network and subnet that the system is connected to. You should always consult the network or system administrator before programming these values.

IP Config

The module can be configured to use either a static or dynamic IP address.

- **Physical Address:** The MAC address of the module.
- **Enable DHCP:** When enabled, the module will use DHCP to dynamically allocate an IP address instead of using a static IP address. To use this there must be a DHCP server on the network you are attempting to connect to.
- **IP Address:** The module must be programmed with a valid TCP/IP address to allow it to connect to the system controller. By default the IP address is set to 192.168.1.3.
- **Subnet Mask:** Used in conjunction with the IP address, a netmask must be configured to allow access to the appropriate node on the subnet. By default this is set to 255.255.255.0.
- **Gateway:** Used in conjunction with the IP address, the gateway can be configured to allow access to a router for external communications beyond the subnet to which the module is connected. By default this is set to 192.168.1.1.
- **DNS Server:** Defines the IP address of the DNS Server if one is used.

Controller Network Config

The receiver module needs to know which controller it should communicate with.

- **UDP IP/Host:** The IP address or host name of the controller.
- **UDP Resolved IP/Host:** If a dynamic connection is used, you can confirm the controller's IP address by viewing this field.
- **UDP Port:** The UDP port defines the port the expander uses to connect to the controller. This must match the controller.

When connecting to a controller that is running firmware version 2.08.886 or higher, module comms and TLCD comms ports (9450 & 9460) over ethernet are disabled by default. You will need to enable these ports for the module to communicate with the controller, by adding commands to the controller programming.

- To enable Module Comms UDP/TCP (9450) add the commands:
EnableModuleUDP = true
EnableModuleTCP = true
- To enable Touch Screen Comms UDP (9460) add the command:
EnableTLCDCommsUDP = true

Restart Device

Use this option to restart the module.

Device Information

The device information page displays the serial number, hardware revision, and firmware version of the receiver module.

This page is also used to upgrade the module's firmware by putting the device into boot mode then transferring a firmware file to the device by TFTP.

User Management

The module comes with two default users:

Username	Password
admin	admin
user	user

When logged in as admin, the operator can access all pages and change any parameter. In comparison, the user account permits access to the main (home) and device information pages.

To edit a user, click on the appropriate checkbox, then click **Edit**. This opens a new page where the user settings can be changed.

For security reasons, we recommend you change the password of the admin user before deployment.

Configuring Protege GX and Protege WX

The Inovonics receiver module facilitates integration between Protege GX or Protege WX and the Inovonics wireless sensor network.

The receiver module registers in Protege as a reader expander and is linked to Inovonics wireless devices using inputs and credential types.

Prerequisites for Protege GX and Protege WX

The following prerequisite components must be installed and operational.

Required Protege GX Components

Component	Version
Protege GX	4.2.194.5 or higher
Protege GX Controller	With PRT-IVO-IF versions 24 and above: 2.08.849 or higher With PRT-IVO-IF versions below 24: 2.08.783 or higher

Required Protege WX Components

Component	Version
Protege WX Controller	With PRT-IVO-IF versions 24 and above: 4.00.359 or higher With PRT-IVO-IF versions below 24: 4.00.290 or higher

In order to configure the integration, advanced mode must be activated on the Protege WX controller.

Adding the Module in Protege GX

1. Navigate to **Sites | Controllers**.
2. Right-click on the controller connected to the Inovonics module and click the **Module addressing** button. The module will come online and register as a reader expander. Readdress the module if required.
3. Navigate to **Expanders | Reader expanders** and click **Add** to add the new module.
4. Assign a **Name**, e.g. Inovonics Module.
5. Set the **Physical address** to match the module address within the configuration window.
6. Click **Save**.
7. The pop-up **Configure module** window shows the module's default inputs and outputs. Ensure the correct **Type** is selected for the Inovonics module (PRT-IVO-IF).
8. Click **Add now**.

Adding the Module in Protege WX

1. Navigate to **Wizards | Expanders Wizard**.
2. At the bottom of the **Setup Wizard** screen, click **Step 2 - Auto Detection**.
3. The Inovonics (PRT-IVO-IF) module will come online and register as a reader expander. Rename the automatically assigned module name to Inovonics Module.
4. Click **Step 3 - Additional Modules**.

5. Click **Save and Return to Menu**.
6. The **Expander Programming** window is displayed. Set the number of doors to **2** and check the **Program** checkbox to the right.
7. Click **OK**. The reader expander will register with the controller and restart.
8. Navigate to **Expanders | Reader Expanders**. If the newly added Inovonics module reader expander was not renamed in Step 3 above you can rename it here.
9. Click **Save**.

Linking Inputs to Inovonics Devices

1. Navigate to **Programming | Inputs**.
2. Select an input to link to the Inovonics devices or click **Add** to create a new input.
3. Set the following **Address** options:
 - **Module type**: Reader expander
 - **Module address**: The Inovonics module **Physical address** as assigned above.
4. In the **Commands** field add the command: **GenericDeviceID=#**
where # is the serial number of the Inovonics device.

Enter the full serial number of the device, including the first two digits in small font.

- If the device is a multi-button remote or a device with multiple inputs, define which specific button/input will trigger the input operation by adding a comma and the button/input number.
For example, **GenericDeviceID=12345678,4** means the input is linked to button 4 of device number 12345678. If the button/input number is not specified, button 1/input 1 will be linked to the input by default.
 - To program the case tamper input (address 1) for the EN5040 High Power Repeater, you must add "01" to the beginning of the **GenericDeviceID**. For example, if the device's serial number is 12345678, you must use the command **GenericDeviceID=0112345678**.
5. Click **Save** and download the changes to the controller.

Inputs Table (PRT-IVO-IF)

This section applies only to the NA / AUS / NZ variant of the Inovonics Receiver Module (PRT-IVO-IF).

Refer to the table below to correctly program the specific button/input that will trigger the input operation.

Wireless Transmitter	Product Code	Input Number	Physical Link	Alarm Messages
Universal Transmitter	EN1210	1	Input	Case Tamper Low Battery
Universal Transmitter Dual Inputs	EN1212	1	Input 1	Case Tamper Low Battery
		2	Input 2	
Universal Transmitter Dual Inputs with Wall Tamper	EN1216	1	Input 1	Case Tamper Low Battery
		2	Input 2	
Universal Transmitter with EOL protection	EN1215EOL	1	Input	Case Tamper Low Battery

Wireless Transmitter	Product Code	Input Number	Physical Link	Alarm Messages
Door/Window Transmitter	EN1210W	1	Input	Case Tamper Low Battery
		2	Reed	
Door/Window Transmitter with EOL protection	EN1215WEOL	1	Input	Case Tamper Low Battery
		2	Reed	
Water Resistant Pendant Single Button	EN1223S	1	Button Press	Low Battery
Water Resistant Pendant Double Button	EN1223D	1	Both Buttons	Case Tamper Low Battery
Pendant Single Button	EN1233S	1	Button Press	Low Battery
Pendant Double Button	EN1233D	1	Both Buttons	Case Tamper Low Battery
Multiple Condition Pendant Transmitter	EN1224	1	Button 1	Low Battery
		2	Button 2	
		3	Button 3	
		4	Button 4	
Multiple Condition On/Off Pendant Transmitter	EN1224-ON	1	Button 1	Low Battery
		2	Button 2	
		3	ON	
		4	OFF	
Belt Clip Transmitter Single Button	EN1235S	1	Button Press	Low Battery
Belt Clip Transmitter Double Button	EN1235D	1	Both Buttons	Low Battery
ShatterPro Transmitter	EN1247	1	Trigger	Low Battery
Bill Trap Transmitter	EN1249	1	Bait Bill removed	Tamper Low Battery
High Traffic Four Element Motion Detector	EN1261HT	1	Sensor	Tamper Low Battery
PIR	EN1260	1	Sensor	Tamper Low Battery
Pet Immune PIR	EN1262 EN1263	1	Sensor	Tamper Low Battery
Ceiling Mount PIR	EN1265 EN1266	1	Sensor	Tamper Low Battery
High Power Repeater	EN5040	1	Input	Case Tamper Supervisory (short circuit)

Inputs Table (PRT-IVO-IF-EU)

This section applies only to the European variant of the Inovonics Receiver Module (PRT-IVO-IF-EU).

Refer to the table below to correctly program the specific button/input that will trigger the input operation.

Wireless Transmitter	Product Code	Input Number	Physical Link	Alarm Messages
Universal Transmitter Dual Inputs with Wall Tamper	EE1216	1	Input 1	Case Tamper
		2	Input 2	Low Battery
Water Resistant Pendant Single Button	EE1223S	1	Button Press	Low Battery
Water Resistant Pendant Double Button	EE1223D	1	Both Buttons	Case Tamper Low Battery
Belt Clip Transmitter Double Button	EE1235D	1	Both Buttons	Low Battery
Ceiling Mount PIR	EE1265	1	Sensor	Tamper Low Battery

Input States

The inputs that are linked to the Inovonics devices will appear in one of four states in a status list. Each state is outlined below:

Input State	Description
Closed	The input is closed and in normal operating state, registered and polling with the module
Open	The input has been triggered and received by the module
Tamper	The case tamper has been triggered on an Inovonics device and received by the module
Short Circuit	The Inovonics device has lost polling with the module and is offline. This will take place approximately 30 minutes after loss of polling with the module

Trouble Inputs

Each Inovonics receiver module can monitor 2 trouble inputs used to report trouble conditions such as module communications problems.

Trouble inputs are used to monitor the module status and in most cases are not physically connected to an external input.

The following table details the trouble inputs that are configured in the system and the trouble groups that they are associated with.

Input Number	Description	Default Trouble Group	Default Trouble Group Option
RDxxx:01	Module Tamper	System	Tamper
RDxxx:16	Module Communication	System	Module Lost

Replace 'xxx' with the appropriate address of the module that you are programming.

Creating Trouble Inputs to Monitor Low Battery on Inovonics Remote Devices

In order for Protege to monitor and report low battery function on a connected Inovonics remote device, a dedicated trouble input must be created. The trouble input will be associated with the Inovonics device via its unique Device ID, similar to the assignment of inputs to Inovonics devices.

The table below indicates the Contact ID event codes which will be sent to the monitoring station:

Trouble	Contact ID Event Code
Device offline / Polling fail	357
Device has low battery	384

Linking trouble inputs to Inovonics devices

1. Navigate to **Programming | Trouble inputs**.
2. Select a trouble input to link to the Inovonics device or click **Add** to create a new input.
3. Set the following **Address** options:
 - **Module type**: Reader expander.
 - **Module address**: the Inovonics module **Physical address** as assigned above.
 - **Module input**: This **cannot** be 01-16 as these are reserved.
4. In the **Commands** field add the command: **GenericDeviceID=#** where # is the serial number of the device.

Enter the full serial number of the device, including the first two digits in small font.

- To program the low battery trouble input for the EN5040 High Power Repeater, you must add "01" to the beginning of the **GenericDeviceID**. For example, if the device's serial number is 12345678, you must use the command **GenericDeviceID=0112345678**.
5. Click **Save** and download the changes to the controller.

Battery Events

Events are generated to indicate the battery level of the Inovonics devices assigned to inputs and used for access control.

Event	Description
Battery OK	The Inovonics device battery has registered as OK with the module and no action is required.
Battery Low	The Inovonics device battery has registered as low with the module. Replace device battery when possible.

Access Control

Creating a Credential Type

1. In Protege GX, navigate to **Sites | Credential types**.
In Protege WX, navigate to **Users | Credential Types**.
2. Click **Add** to create a new credential type, e.g. Inovonics Remotes.
3. Set the **Format** to Numeric.
4. Click **Save**.

Creating a Door Type and Linking to Credential Type and Doors

1. Navigate to **Programming | Door types** and create a new door type, e.g. Inovonics Credential.
2. Set the **Entry reading mode** to Custom.
3. In the **Entry credential types** section, add the new Inovonics credential type.
4. Set the **Exit reading mode** to Custom.
5. In the **Exit credential types** section, add the new Inovonics credential type.
6. Click **Save**.

Important: **Do not** enable antipassback.

7. Navigate to **Programming | Doors** and assign the new door type to the doors to be controlled by Inovonics remotes.
8. Click **Save**.

Linking Doors to the Inovonics Module

1. Navigate to **Expanders | Reader expanders** and select the Inovonics module.
2. In the **Commands** field add **InovonicsCredential=#** where # is the Database ID of the Inovonics credential type.
3. Click **Save**.
4. Select the **Reader 1** tab and assign the **Reader 1 door** to be controlled. e.g. Inovonics Door RD1 DR1.
5. If end users are using four-button remotes (EN1224 or EN1224-ON), you can assign a second door that will be controlled by Button 2 on the remote.
Select the **Reader 2** tab and assign the **Reader 2 door** to be controlled.
6. Click **Save**.

Creating an Access Level

1. Navigate to **Users | Access levels** and **Add** an access level for the doors to be controlled by the Inovonics device, e.g. Inovonics Access.
2. Go to the **Doors** tab.
3. Click **Add** and select the doors that this access level will have access to, then click **Ok**.
4. Click **Save**.

Linking to a User

1. Navigate to **Users | Users** and select or add a user requiring access to the Inovonics device controlled door.
2. In the **Credentials** section, enter into the **Credential** field of the Inovonics Credential Type the serial number of the Inovonics device to be used for access.

When entering the serial number as a credential the leading zeros must not be included.

3. Go to the **Access levels** tab.
4. Click **Add** and select the Inovonics **Access level** to be assigned to the user, then click **Ok**.
5. Click **Save**.

Remember to download the above settings to the controller before testing.

Error Code Indication

When the module attempts to register or communicate with the system controller a registration error can be generated indicating that it was not successful.

Error Code Display

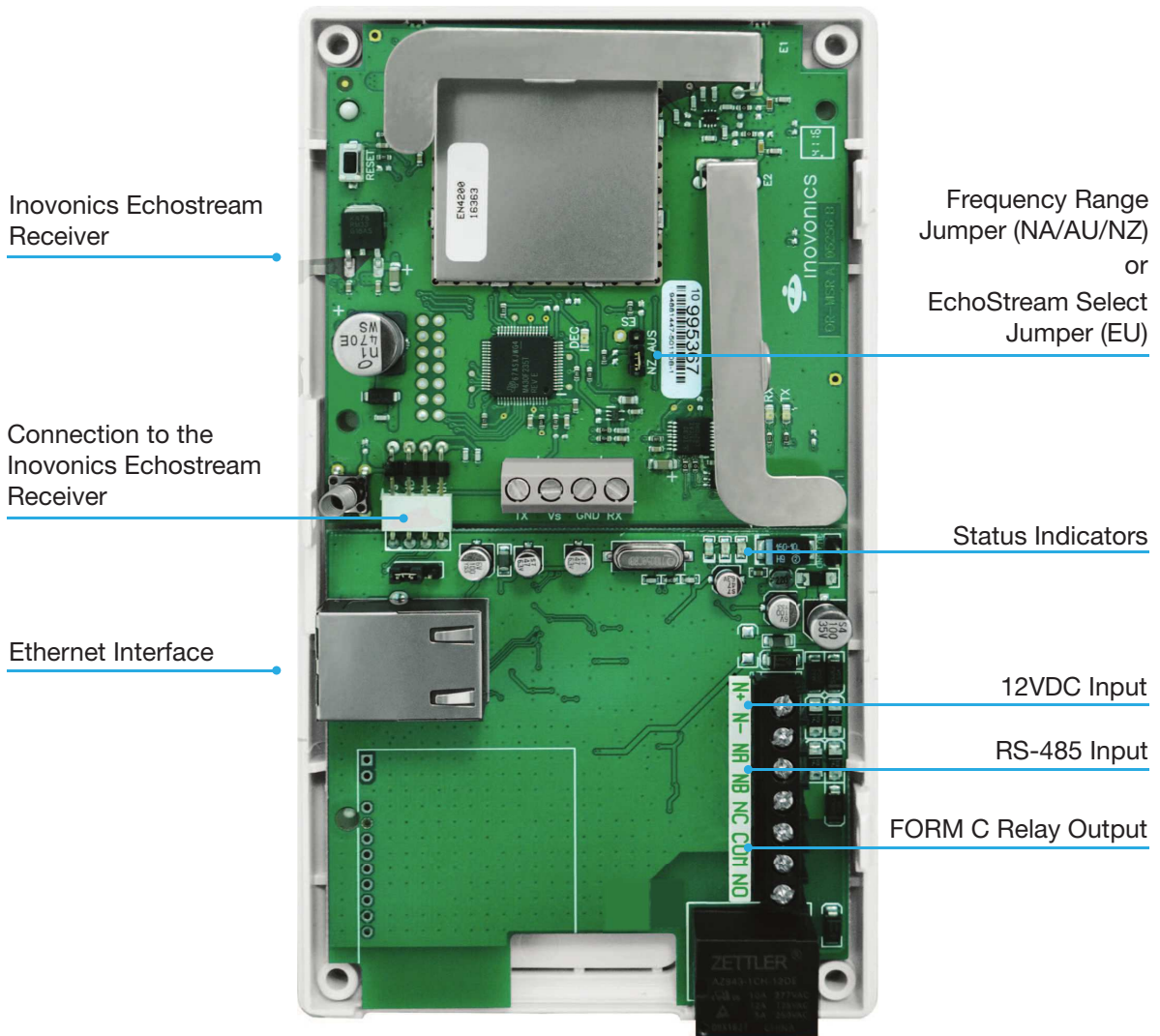
The following table is only valid if the **fault** indicator is constantly on and the **status** indicator is flashing red.

If the fault indicator is flashing the module requires a firmware update or is currently in firmware update mode.

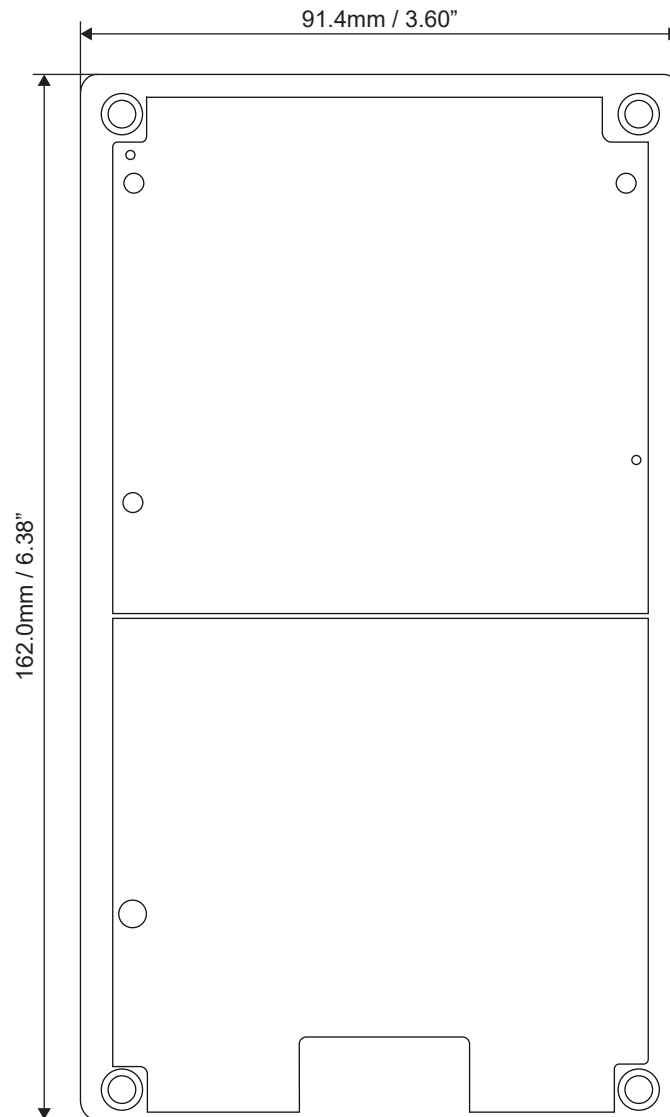
The status indicator will flash red with the error code number. The error code number is shown with a 250ms on and off period (duty cycle) with a delay of 1.5 seconds between each display cycle.

Flash	Error Description
1	Unknown Error Code The error code returned by the system controller could not be understood by the module.
2	Firmware Version The firmware version on the module is not compatible with the system controller. To clear this error, update the module using the module update feature in the controller's web interface.
3	Address Too High The module address is above the maximum number available on the system controller. To clear this error change the address to one within the range set on the system controller, restart the module by disconnecting the power.
4	Address In Use The address is already in use by another module. To clear this error set the address to one that is not currently occupied. Use the view network status command to list the attached devices, or the network update command to refresh the registered device list.
5	Controller Secured Registration Not Allowed The controller is not accepting any module registrations. To allow module registrations use the network secure command to change the setting to not secured.
6	Serial Number Fault The serial number in the device is not valid. Return the unit to the distributor for replacement.
7	Locked Device The module or system controller is a locked device and cannot communicate on the network. Return the unit to the distributor for replacement.

Mechanical Diagram



Mechanical Layout



Technical Specifications

The following specifications are important and vital to the correct operation of this product. Failure to adhere to the specifications will result in any warranty or guarantee that was provided becoming null and void.

Ordering Information	
PRT-IVO-IF	Protege Inovonics Wireless Receiver Module (for use in the US, AU, NZ)
PRT-IVO-IF-EU	Protege Inovonics Wireless Receiver Module (for use in the EU region)
Power Supply	
Operating Voltage	11-14V DC
Operating Current	160mA @ 13.0V DC (Typical)
Communication	
RS-485	Module Network
Ethernet	110/100Mbps Ethernet Communication Link
Operating Frequencies	902-928 MHz (US) 915-928 MHz (AUS) 922-928 MHz (NZ) 868-870 MHz (EU)
Outputs	
Relay Output	1 Form C Relay - 7A 250V Max resistive
Dimensions	
Dimensions (L x W x H)	162.0mm x 91.4mm x 27.9mm (6.38 x 3.60 x 1.10")
Net Weight	180g (6.4oz)
Gross Weight	240g (8.5oz)
Operating Conditions	
Operating Temperature	-10° to 55°C (14° to 131°F)
Storage Temperature	-10° to 85° C (14° to 185° F)
Humidity	0%-93% non-condensing, indoor use only (relative humidity)

It is important that the unit is installed in a dry cool location that is not affected by humidity. Do not locate the unit in air conditioning or a boiler room that can exceed the temperature or humidity specifications.

Integrated Control Technology continually strives to increase the performance of its products. As a result these specifications may change without notice. We recommend consulting our website (www.ict.co) for the latest documentation and product information.

New Zealand and Australia

General Product Statement

The RCM compliance label indicates that the supplier of the device asserts that it complies with all applicable standards.



European Standards

CE Statement

Conforms where applicable to European Union (EU) Low Voltage Directive (LVD) 2014/35/EU, Electromagnetic Compatibility (EMC) Directive 2014/30/EU, Radio Equipment Directive (RED) 2014/53/EU and RoHS Recast (RoHS2) Directive: 2011/65/EU + Amendment Directive (EU) 2015/863.

This equipment complies with the rules, of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s).



Information on Disposal for Users of Waste Electrical & Electronic Equipment

This symbol on the product(s) and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product(s) to designated collection points where it will be accepted free of charge.

Alternatively, in some countries you may be able to return your products to your local retailer upon purchase of an equivalent new product.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union. If you wish to discard this product please contact your local authorities or dealer and ask for the correct method of disposal.

UK Conformity Assessment Mark

General Product Statement

The UKCA Compliance Label indicates that the supplier of the device asserts that it complies with all applicable standards.



FCC Compliance Statements

FCC Rules and Regulations CFR 47, Part 15, Subpart B

This equipment complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules.

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.

NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Industry Canada Statement

ICES-003

This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CAN ICES-3 (A)/NMB-3(A)

Disclaimer and Warranty

Disclaimer: Whilst every effort has been made to ensure accuracy in the representation of this product, neither Integrated Control Technology Ltd nor its employees shall be liable under any circumstances to any party in respect of decisions or actions they may make as a result of using this information. In accordance with the ICT policy of enhanced development, design and specifications are subject to change without notice.

For warranty information, see our [Standard Product Warranty](#).

Designers & manufacturers of integrated electronic access control, security and automation products.
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Disclaimer: Whilst every effort has been made to ensure accuracy in the representation of this product, neither Integrated Control Technology Ltd nor its employees shall be liable under any circumstances to any party in respect of decisions or actions they may make as a result of using this information. In accordance with the ICT policy of enhanced development, design and specifications are subject to change without notice.