

# EE4232M EchoStream® Receiver

## Installation and Operation Manual - 05396G

### 1 Overview

Inovonics EchoStream technology is designed to minimize dead spots in transmission areas using diversity reception and advanced signal processing. The EE4232M receiver allows you to add up to 32 transmitters and 12 outputs to any application. The EE4232M is compliant with:

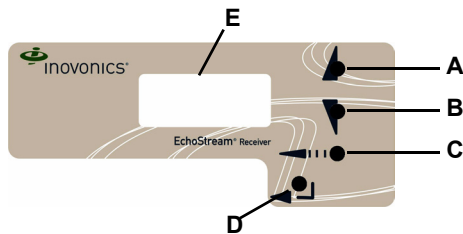
- EN50131-1
- Security Grade 2
- Environmental Class II

#### 1.1 Inovonics Wireless Contact Information

If you have any problems with this procedure, contact Inovonics Wireless technical services:

- E-mail: support@inovonics.com
- Phone: (800) 782-2709; (303) 939-9336

#### 1.2 EE4232M Front Panel



**Figure 1** Receiver front panel

**A** Up button    **B** Down button    **C** Back button    **D** Enter button    **E** LCD display

**Up Button:** Scrolls the display up.

**Down Button:** Scrolls the display down.

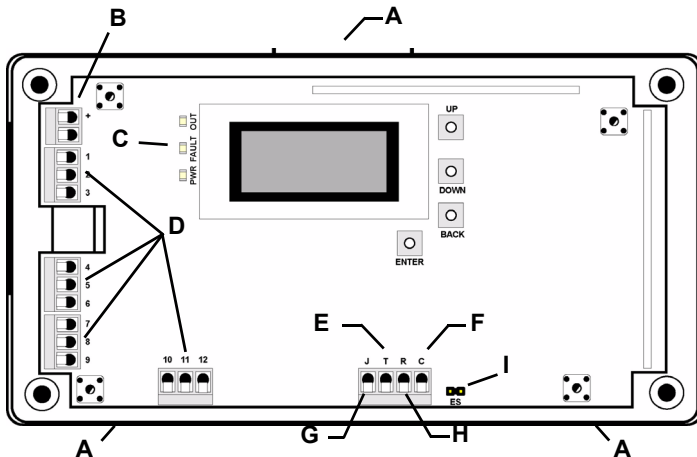
**Back button:** Returns display to the previous menu, or, when entering information in the display, returns to the last character entered.

**Enter button:** Selects the currently displayed menu item. If in normal operating mode, sets the unit to menu mode.

**LCD Display:** Shows status, event log and programming information.

**Note:** The EE4232M LCD will only display information when an authorized password has been entered.

#### 1.3 EE4232M Internal Components



**Figure 2** EE4232M internal components

**A** Housing release tabs    **B** Power connections    **C** Operation LEDs  
**D** Output terminals    **E** Tamper output    **F** Clear to set output  
**G** Jam output    **H** Reset input    **I** EchoStream Select pins

#### 1.4 EE4232M LEDs

**Note:** The EE4232M operation LEDs are only visible when the cover is removed.

**Output LED:** Lights when any output is active.

**Fault LED:** Lights when any transmitter is sending a fault condition.

**Power LED:** Lit when receiving power.

**Decode LED:** Flashes when any recognizable transmission is received. This LED is only visible with the cover removed.

## 2 Installation and Startup

### 2.1 Connect Power Cabling

Before beginning startup, you will need to connect power to the receiver. To connect power to the receiver:

**Caution:** Graded application must use the cabling knockout on the back of the housing.

1. Connect power cabling to the Vs and GND connections.
  - Power source should be 11-14 VDC. Power supply must be unswitched, uninterrupted, and regulated.

### 2.2 Enable EchoStream Select

To meet ETSI requirements, Inovonics has developed a new line of EE 868MHz-only products. These new 868MHz-only products are compatible with older systems that include EchoStream Select products. If you are using any ES products in your current system, you will need to enable EchoStream Select compatibility on this new 868MHz-only product.

To enable/disable EchoStream Select compatibility:

1. To enable compatibility with ES products, place a selection jumper on the ES selection pins.

**Note:** Selection jumpers are included in the EE4232M hardware packet.

2. If no ES products are used in your system, remove the selection jumper from the ES selection pins.
3. Reset the receiver or cycle power.

### 2.3 Enter Password

There are three levels of EE4232 user. Only the level 2 authorized user and level 3 authorized installer are able to access the INSTALL & SERVICE menu.

**Level 2 authorized user access:** A level 2 authorized user has the ability to view system status indicators and enter system test mode in the INSTALL & SERVICE menu. A level 2 user does not have the ability to change receiver parameters or perform receiver functions (signal strength, test, register points, etc.). For more information on system test mode, see "System Test Mode" on page 3.

**Note:** The default level 2 authorized user password is 3446.

**Level 3 authorized installer access:** A level 3 authorized installer has the ability to access all INSTALL & SERVICE menus. A level 3 authorized installer can also view receiver system status indicators as well as change receiver system parameters and perform all receiver functions.

**Note:** The default level 3 authorized installer password is 1234.

During normal operation there is no visual indication of system status or activity on the front display of the EE4232M receiver. Unless the level 2 authorized user or the level 3 authorized installer enters a valid password, the LCD will remain completely blank.

To enter either the level 2 authorized user or the level 3 authorized installer password:

1. Press any button; PASSWORD displays.
2. Use the **Up** and **Down** buttons to scroll through the first numeral; press **Enter** to select.
3. Repeat step 2 for each numeral in the password.
4. When all numerals in the password have been entered, press **Enter** to submit the password.

### 2.4 Select Display Language

On initial startup you will need to select the display language. Once selected, the language will be maintained unless changed using the CHANGE LANGUAGE option in the INSTALL & SERVICE menu. To select the display language, see "Select Language" on page 3.

### 2.5 Navigate to the Install & Service Menu

There are three main menus: POINT STATUS, INSTALL & SERVICE and EVENT LOG. The INSTALL & SERVICE menu is used to program outputs, select language, change password, view the signal strength, delete points, register transmitters, and setup points for any of the programmed points.

**Note:** If changing programming for a point that already has a transmitter registered to it, there is no need to re-register the transmitter. Changes to point programming are automatically assigned to the transmitter registered to that point.

To access the INSTALL & SERVICE menu:

1. From the READY prompt, press the **Enter** button to access the receiver's three main menus.
2. Use the **Up** and **Down** buttons to navigate to the the INSTALL & SERVICE menu; press the **Enter** button.

### 2.6 Program Output

1. From the INSTALL & SERVICE menu, use the **Up** and **Down** buttons to navigate to the PROGRAM OUTPUT prompt; press the **Enter** button.
2. PROGRAM OUT 01 displays. Use the **Up** and **Down** buttons to scroll through points; press **Enter** to select the point you want to program.
3. The OUT N/O, N/C prompt displays. Use the **Up** and **Down** buttons to choose N/O or N/C; press **Enter** to select.
4. The PGM DONE prompt displays; press the **Enter** button and use the **Up** and **Down** buttons to select the next output to program.
5. When you've completed programming all the points you wish to program, use the **Back** button to return to the INSTALL & SERVICE menu.

## 2.7 Setup Point

- From the INSTALL & SERVICE menu, press **Enter** at the SETUP POINT prompt.
- Use the **Up/Down** buttons to scroll through the points; press the **Enter** button to select a point.
  - TX REGISTR'D displays if a transmitter or repeater is currently registered to this point; TX NOT REGISTR'D displays if no transmitter is registered to this point.
- Press **Enter** to setup the point. The following setup options are available:
  - Supervision Time:** Sets time limit on missing transmitter reporting.
    - The valid range is 0 to 99 hours. The default is 30 minutes. Selecting 0 turns off supervision.

**Caution:** Turning off supervision can jeopardize the integrity of your system. Inovonics does not recommend turning off supervision. For supervision to function correctly, the supervision time must be set for an interval greater than the transmitter check-in time.

- Use the **Up** and **Down** buttons to adjust the supervision time; press the **Enter** button to select.
- Use the **Up** and **Down** buttons to toggle between Hrs (hours) and Min (minutes); press the **Enter** button to select.

**Select Security/Repeater** Configures point's alarm and alert bits as either a repeater or a security transmitter.

- Use the **Up** and **Down** buttons to choose SELECT SECURITY for a security transmitter or SELECT REPEATER for a repeater; press the **Enter** button to select.

**1-4 Alarm Inputs** Allows security transmitters with multiple alarm conditions to be assigned a separate alarm point and output type for each individual condition.

- Use the **Up** and **Down** buttons to select the number of alarm inputs for the transmitter; press the **Enter** to select.

**Alarm Out:** Maps the security transmitter's alarm condition(s) to alarm outputs.

- Use the **Up/Down** buttons to scroll through the output numbers. Choosing -- will disable alarm output.

- Press **Enter** to select the output to use for the alarm condition.

**Alarm Output Type** Selects the output type for the alarm condition.

- Use the **Up/Down** buttons to scroll through the following options:
  - Follower: The output reflects the transmitter's alarm status. Press the **Enter** button to select.
  - Latching: The output turns on when activated and remains on until the receiver is reset. Press the **Enter** button to select.
  - Toggle: The output changes state each time the device sends a new activation. Press the **Enter** button to select. INACTIVE displays when selected. Inactive time prevents output chatter. The valid range is 2.0 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.
  - Momentary: The output turns on for the programmed duration, then turns off, regardless of the device status. Press the **Enter** button to select. MOMENT displays when selected. This sets the time that the output will stay activated. The valid range 0.5 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.

**Inactive Out:** Maps transmitter/repeater inactivity fault output.

- Use the **Up/Down** buttons to scroll through the output numbers. Choosing -- will disable inactivity reporting.
- Press **Enter** to select the output to use for this transmitter/repeater's inactivity transmission.

**Inactive Output Type** Selects the output type for the inactive condition.

- Use the **Up/Down** buttons to scroll through the following options:
  - Follower: The output reflects the transmitter's inactive status. Press the **Enter** button to select.
  - Latching: The output turns on when an inactive condition is sent and remains on until the receiver is reset. Press the **Enter** button to select.
  - Toggle: The output changes state each time the device sends a new inactive condition. A minimum of five seconds must elapse before the output can send a new inactive condition. Press the **Enter** button to select. INACTIVE displays when selected. Inactive time prevents output chatter. The valid range is 2.0 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.
  - Momentary: The output turns on for the programmed duration, then turns off, regardless of the device status. Press the **Enter** button to select. MOMENT displays when selected. This sets the time that the output will stay activated. The valid range 0.5 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.

**Tamper Out:** Maps transmitter/repeater tamper fault output.

- Use the **Up/Down** buttons to scroll through the output numbers. Choosing -- will disable tamper output.
- Press **Enter** to select the output to use for this transmitter/repeater's tamper transmission.

**Tamper Output Type** Selects the output type for the tamper condition.

- Use the **Up/Down** buttons to scroll through the following options:
  - Follower: The output reflects the transmitter's tamper status. Press the **Enter** button to select.
  - Latching: The output turns on when a tamper condition is sent and remains on until the receiver is reset. Press the **Enter** button to select.
  - Toggle: The output changes state each time the device sends a new tamper condition. A minimum of five seconds must elapse before the output can send a new tamper condition. Press the **Enter** button to select. INACTIVE displays when selected. Inactive time prevents output chatter. The valid range is 2.0 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.
  - Momentary: The output turns on for the programmed duration, then turns off, regardless of the device status. Press the **Enter** button to select. MOMENT displays when selected. This sets the time that the output will stay activated. The valid range 0.5 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.

**Low Batt Out:** Maps transmitter/repeater low battery fault output.

- Use the **Up/Down** buttons to scroll through the output numbers. Choosing -- will disable low battery output.
- Press **Enter** to select the output to use for this transmitter/repeater's low battery transmission.

**Low Battery Output Type** Selects the output type for the low battery condition.

- Use the **Up/Down** buttons to scroll through the following options:
  - Follower: The output reflects the transmitter's low battery status. Press the **Enter** button to select.
  - Latching: The output turns on when a low battery condition is sent and remains on until the receiver is reset. Press the **Enter** button to select.
  - Toggle: The output changes state each time the device sends a new low battery condition. A minimum of five seconds must elapse before the output can send a new low battery condition. Press the **Enter** button to select. INACTIVE displays when selected. Inactive time prevents output chatter. The valid range is 2.0 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.
  - Momentary: The output turns on for the programmed duration, then turns off, regardless of the device status. Press the **Enter** button to select. MOMENT displays when selected. This sets the time that the output will stay activated. The valid range 0.5 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.

**Line Power Loss Out:** Maps repeater line power loss fault output.

- Use the **Up/Down** buttons to scroll through the output numbers. Choosing -- will disable line power loss output.
- Press **Enter** to select the output to use for this repeater's line power loss transmission.

**Line Power Loss Output Type** Selects the output type for the line power loss condition.

- Use the **Up/Down** buttons to scroll through the following options:
  - Follower: The output reflects the repeater's line power loss status. Press the **Enter** button to select.
  - Latching: The output turns on when a low battery condition is sent and remains on until the receiver is reset. Press the **Enter** button to select.
  - Toggle: The output changes state each time the device sends a new line power loss condition. A minimum of five seconds must elapse before the output can send a new line power loss condition. Press the **Enter** button to select. INACTIVE displays when selected. Inactive time prevents output chatter. The valid range is 2.0 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.

**Momentary:** The output turns on for the programmed duration, then turns off, regardless of the device status. Press the **Enter** button to select. MOMENT displays when selected. This sets the time that the output will stay activated. The valid range 0.5 to 99.5 seconds, in 0.5 second increments. Use the **Up** and **Down** buttons to select; press the **Enter** button to select.

**Text:** Enter eight-character descriptive text for the transmitter/repeater

- Use **Up/Down** buttons to scroll through the alphanumeric characters; press **Enter** to select and advance to the next character. To select a space, press **Enter** without selecting a digit.

**Note:** If you do not use all eight characters, you must enter spaces to the end of the line.

- When finished, press **Enter** again to complete selection.

## 2.8 Register Transmitter

The REGISTER TRANSMITTER option allows you to register a transmitter or repeater.

- Use the **Up** and **Down** buttons to toggle between N for no and Y for yes to choose whether or not you wish to register a transmitter/repeater to the point; press **Enter** to select.

**Note:** You can always register a transmitter/repeater to the point at a later time using the REGISTER XMITTER prompt in the INSTALL & SERVICE menu.

- If you chose to register a transmitter/repeater at this time, press the transmitter/repeater's **Reset** button at the RESET XMITTER prompt.

## 2.9 Delete Point

The DELETE POINT option allows you to delete transmitter registration information from all registered points, or a specific point. Programmed point information is not deleted; just the registration identification number associated with the transmitters or repeaters. To delete points:

- From the INSTALL & SERVICE menu, use the **Up** and **Down** buttons to navigate to the DELETE POINT prompt; press the **Enter** button.
- The DELETE ALL? prompt displays. Use the **Up** and **Down** buttons to choose N for no or Y for yes; press **Enter** to select.
- If you selected no, the DELETE POINT prompt displays. Use the **Up** and **Down** buttons to select a point to delete; press **Enter** to select.
- Press the **Enter** button to return to the INSTALL & SERVICE menu.

## 2.10 Monitor Signal Strength

The SIGNAL STRENGTH option is used to measure signal strength and troubleshoot installation problems.

- At the SIGNAL STRENGTH prompt, press **Enter**.
  - POINT 01 displays, along with a signal quality of GOOD, WEAK or NO SIG.

**Note:** The point must have an active transmitter associated with it to display signal strength.

- Use the **Up/Down** buttons to scroll through the registered transmitters.
- Press **Enter** again to view Level (LV) and Margin (MA).
  - LV indicates the overall signal strength; MA indicates the signal strength minus the background noise.

**Note:** Inovonics recommends an LV of four for most installations. For CENELEC, Grade 2 installations, an LV of 10 or greater is required.

- To reset signal data, use the **Up/Down** buttons to leave and return to the transmitter you are monitoring.

## 2.11 CTS Type

The EE4232M provides a signal to the control panel which can be used to ensure all security devices in the system are active before allowing the system to be set. If used by the control panel, the system cannot be set if the receiver has not heard from any registered wireless devices within the last 20 minutes.

**Note:** The CTS signal can be used to block alarming conditions. This is useful when performing system tests. For more information on this see "System Test Mode" on page 3.

The CTS TYPE option allows the clear to set signal to be set to either N/O or N/C. To set the CTS type:

1. From the INSTALL & SERVICE menu, use the **Up** and **Down** buttons to navigate to the CTS TYPE prompt; press the **Enter** button.
2. The CTS OP N/O, N/C prompt displays. Use the **Up** and **Down** buttons to choose N/O or N/C; press **Enter** to select.
3. The CTS OP SAVED prompt displays; press the **Enter** button.
4. Use the **Back** button to return to the INSTALL & SERVICE menu.

## 2.12 Factory Config

The FACTORY CONFIG option is used to restore the EE4232M to its factory defaults.

**Caution:** Choosing FACTORY CONFIG will erase all programmed point, output, and language information.

To restore the factory configuration defaults to the EE4232M:

1. From the INSTALL & SERVICE menu, use the **Up** and **Down** buttons to navigate to the FACTORY CONFIG prompt; press the **Enter** button.
2. The RESET CONFIG prompt displays. Use the **Up** and **Down** buttons to choose Y for yes; press **Enter** to select.
3. The CONFIG RESET prompt displays; press the **Enter** button to return to the INSTALL & SERVICE menu.

The receiver can also be brought back to the factory default configuration through a hardware initiated sequence.

1. Connect a wire between the reset terminal and the ground terminal
2. While pressing the **Back** button, cycle the power to the unit
3. Release the **Back** button and remove the wire between the reset terminal and ground
4. RESET CONFIG? displays; press the **Enter** button

## 2.13 Select Language

1. At the SELECT LANGUAGE prompt, press **Enter**.
2. Use the **Up/Down** buttons to scroll through the language options. The CLEAR LANG option resets the language to the default and exits the INSTALL & SERVICE menu.
3. Press **Enter** to select language.
4. When LANGUAGE SELECTED displays, press **Enter** to return to the INSTALL & SERVICE menu.

To reset the language selection:

1. Press the **Up** and **Enter** keys while cycling the power.
2. The SELECT LANGUAGE prompt displays. Follow the steps above to choose a new language.

## 2.14 Change Password

**Note:** The CHANGE PASSWORD option only displays when the level 3 authorized installer is logged in. Level 2 authorized users do not have the ability to change passwords.

**Caution:** Graded applications must have a password of at least four digits.

Passwords can be up to eight digits long. The default authorized user password is 3446; the default authorized installer password is 1234. To change the password:

1. From the INSTALL & SERVICE menu, press **Enter** at the CHANGE PASSWORD prompt.
2. Use the **Up/Down** buttons to select either USER PASSWORD or INSTALL PASSWORD; press **Enter** to select.
3. Use the **Up/Down** buttons to scroll through the digits; press **Enter** to select and advance to the next digit.

**Note:** Choosing a null as the first digit of the password will disable the function, allowing users to perform receiver functions and/or change parameters without a password.

4. When finished, press **Enter** again to complete selection.
5. When PASSWORD CHANGED displays, press **Enter** to return to the INSTALL & SERVICE menu.

**Caution:** Store the new password in a secure place. If the new password is lost, you will not be able to access the receiver without restoring it to factory defaults as described in section 2.12, "Factory Config" on page 3.

## 3 System Test Mode

System test mode is used to perform a functional test of all of the transmitters programmed into the system. Upon entry into test mode, the receiver outputs will be cleared, and transmissions during the test interval will not generate the defined outputs.

To perform a system test:

1. Enter system test mode.
2. Activate each of the transmitters in the system.

**Note:** An activation from any condition of a multiple condition transmitter will satisfy the test requirement for the entire transmitter. For example, pressing any button on an EN1236 three-condition pendant will satisfy the test requirement for the entire transmitter.

3. Use the **Up** and **Down** buttons to scroll through the transmitters.
  - Transmitters which have not sent an activation signal will display only the point number.
  - Transmitters which have sent an activation signal will display the point number followed by \*\*\*\*.
4. When all transmitters have been verified, press the **Back** button to cancel system test mode.

**Caution:** During system test all alarm outputs are repressed and will have to be read locally on the receiver's display by the technician.

**Note:** During system test, CTS will be set (for more information about CTS, see "CTS Type" on page 3). The CTS output should be registered to an unmonitored point to prevent central station reporting. The point can be setup so that during system test the panel knows alarming conditions are inhibited.

**Note:** The test mode will automatically terminate after 30 minutes.

## 4 Operation

The POINT STATUS and EVENT LOG options allow you to view system status information.

### 4.1 Point Status

1. From the READY, ALARM or FAULT prompts, press **Enter**.
2. When POINT STATUS displays, press **Enter** to display point status details.
3. Use the **Up/Down** buttons to scroll through the points; press **Enter** again to view the outputs the displayed conditions are mapped to.
  - Point status flags are defined as follows: A = Alarm (transmitter only); T = Tamper; B = Low Battery; L = AC loss (repeater only); I = Inactive.

**Note:** If -- displays, the displayed condition has been mapped to a null output.

### 4.2 Event Log

1. From the READY, ALARM or FAULT prompts, press **Enter**.
2. When POINT STATUS displays, press **Up** to advance to EVENT LOG, and press **Enter** to select.
3. Use the **Up/Down** buttons to scroll through events.
4. When viewing transmitter events, press **Enter** to see the output the events map to.

**Note:** No output will be displayed if the event is mapped to a null output.

### 4.3 Alarms and Faults

Points in alarm are immediately displayed as ALARM, with the point number. If more than one point is in alarm, the display scrolls to each point. If a point has more than one alarm, the displays will scroll to each alarm. Fault conditions are indicated by the fault LED and by FAULT in the LCD display if there is no ALARM already displayed; point numbers are not displayed. POINT STATUS or EVENT LOG can be used to determine exact fault data.

## 5 Connect Input/Output Cabling

1. Connect cabling to the clear to set output.
  - The optional clear to set output provides a clear to set signal to the control panel which can be used to ensure all security devices in the system are active before allowing the system to be set. If used by the control panel, the system cannot be set if the receiver has not heard from any registered wireless devices within the last 20 minutes. The clear to set output can be set to normally open (N/O) or normally closed (N/C) using the CTS TYPE command in the INSTALL & SERVICE menu.
2. Connect cabling to the tamper output.
  - The optional tamper output is a normally open (N/O) output that reports receiver case tamper to an external device.
3. Connect cabling to the jam output.
  - The optional jam output is a normally closed (N/C) output that opens for five seconds when noise thresholds on all transmission channels remain above a predetermined value for any 20 seconds in any 60 second window. The jam output is set to the momentary output type.
4. Connect a momentary switch to the reset input and ground.
  - The optional reset input circuit permits installation of a remote momentary normally open (N/O) switch to clear faults, unlatch outputs, and reset the receiver to a normal state.
5. Connect cabling to the output terminals.
  - The EE4232M provides nine open collector circuits.
6. Close receiver housing.

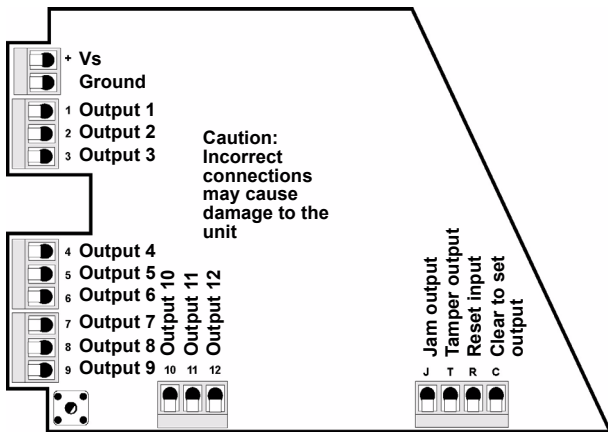


Figure 3 EE4232M Terminals

"Installer" or "Consumer") must work directly through their authorized distributor who will be given a Return Material Authorization ("RMA") number by Inovonics. Details of shipment will be arranged directly through the authorized distributor.

This warranty is void in cases of improper installation, misuse, failure to follow installation and operating instructions, alteration, accident or tampering, and repair by anyone other than Inovonics.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express, or implied. There is no warranty by Inovonics that Inovonics product will be merchantable or fit for any particular purpose, nor is there any other warranty, expressed or implied, except as such is expressly set forth herein. In no event shall Inovonics be liable for an incidental, consequential, indirect, special, or exemplary damages, including but not limited to loss of profit, revenue, or contract, loss of use, cost of down time, or interruption of business, nor any claim made by distributor's customers or any other person or entity.

This warranty will not be modified or extended. Inovonics does not authorize any person to act on its behalf to modify or extend this warranty.

This warranty will apply only to Inovonics Products. Inovonics will not be liable for any direct, incidental, or consequential damage or loss whatsoever, caused by the malfunction of Product due to products, accessories, or attachments of other manufacturers, including batteries, used in conjunction with Inovonics Products.

**Note:** E-mail support@inovonics.com for a copy of the CE Declaration of Conformity.

## 6 Mount the Receiver

**Caution:** Mount the receiver in a location removed from metal. Metal objects (duct work, wire mesh screens, boxes) will reduce RF range.

**Caution:** Graded applications must secure the housing cover with the included screw.

1. Use the provided anchors and screws to mount the receiver in a location accessible for future maintenance.
2. Perform a walk test, activating each transmitter assigned to the receiver and ensuring a good signal.

## 7 Specifications

**Dimensions:** 165 mm x 89 mm x 25 mm (6.5" x 3.5" x 1").

**Weight:** 280 g (.62 lb)

**Operating environment:** 0°- 60°C (32°- 140°F), 90% relative humidity, non-condensing.

**Power requirement:** 11 - 14 VDC; 150 mA

**Current consumption:** Approx. 150 mA

**Output specifications:** Open collector, drive down to .4V @ 100 mA; N/O receiver case tamper contact closure, N/O receiver jam input indication.

**Input specifications:** A low is less than .5 V; a high is greater than 2.5 V. Reset input: Contact closure, momentary low.

**Receiver type:** Frequency hopping spread spectrum.

**Operating frequency:** 868-869 MHz

**Tamper:** Type B, fixed device.

**Number of points/Transmitters:** 32.

**Number of outputs:** Twelve open collector outputs

**Event history log capacity:** 50 events (first-in, first-out replacement).

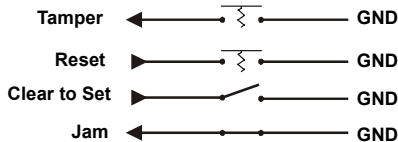


Figure 4 Tamper, Reset, Arm and Clear to Set Circuits

## 7.1 Means of Conformity

Inovonics Wireless Corporation declares that the product listed above is in conformity with the essential requirements and provisions of the following Council Directives:

- R&TTE Directive
- Low Voltage Directive
- EMC Directive

and conforms to the following standards:

- EN 300 220 Receiver Class 1, Environmental Category 1
- EN 60950
- EN 301 489
- EN 50130 Environmental Class II
- EN 50131 Security Grade 2
- EN 20131-2-2:2008
- TS 50131-2-2:2004
- PD6662:2004 Incorporating Amendments Numbers 1 and 2

Product tested by Telefication B.V.

## 8 Warranty/Disclaimer

**Caution:** Changes or modifications to this unit not expressly approved by Inovonics Wireless Corporation may void the installer's authority to operate the equipment as well as the product warranty.

Inovonics Wireless Corporation ("Inovonics") warrants its products ("Product" or "Products") to conform to its own specifications and to be free of defects in materials and workmanship under normal use for a period of thirty-six (36) months from the date of manufacture. Within the warranty period, Inovonics will repair or replace, at its option, all or any part of the warranted Product. Inovonics will not be responsible for dismantling and/or reinstallation charges. To exercise the warranty, the User ("User",