IMMS-R

IMMS-R Radio Module

Installation Instructions
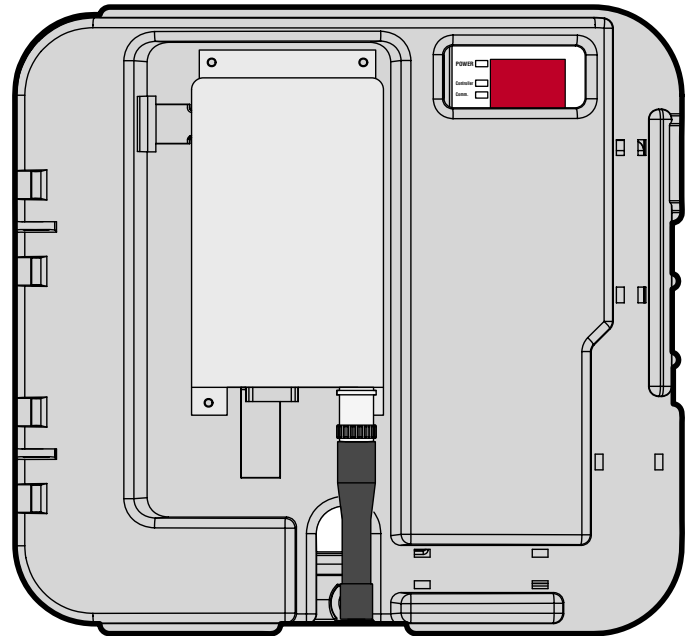
Hunter®

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BEFORE YOU INSTALL..

The IMMS-R radio communications kit can be installed in either the IMMS-SI or IMMS-CI interfaces. The data connection cable (gray ribbon cable) is pre-installed onto the CI mounting bracket. If you are installing this kit into an SI, you will need to remove the ribbon cable from the CI bracket to use with the SI installation.

This professional radio system must be licensed in most countries, including the USA and Canada, and the installer is responsible for all local regulations and licenses. If you are not sure how to proceed with licensing, contact your local Hunter IMMS Wireless distributor or Hunter Industries before proceeding with installation.
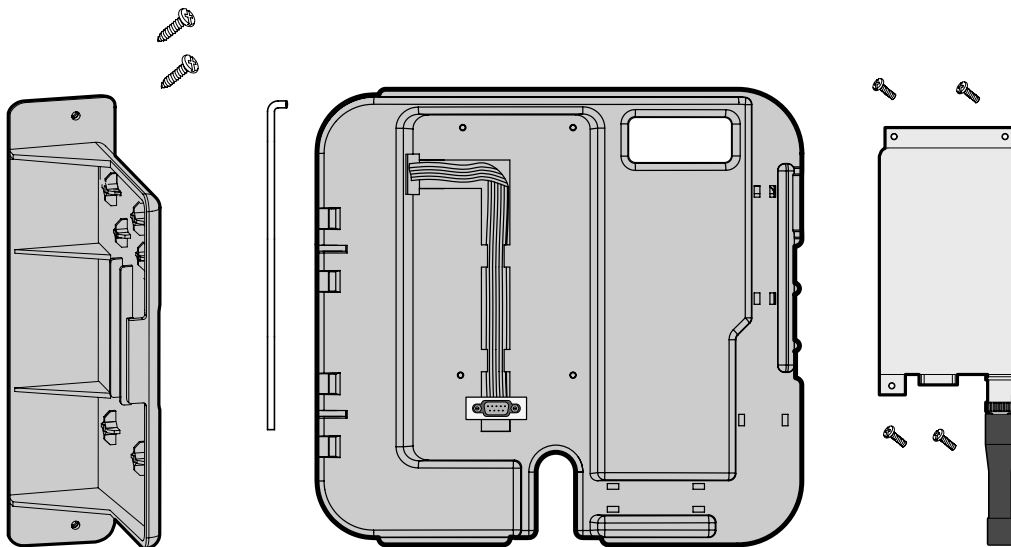
KEY SPECIFICATIONS..

Operating frequency range: 450-470 MHz

Bandwidth: 12.5 kHz (narrowband)

Transmit power: 2 Watts (factory setting)

Frequency control: Synthesized, programmable

Frequency stability: ± 2.5 ppm

Data Type: FSK

Baud: 1200

Type acceptances: USA-FCC, Industry Canada

Do not use where prohibited!

IMPORTANT INSTALLATION NOTES..

• If multiple radio-equipped controller interfaces are installed close together, there must be at least 3 ft. (1 m) separation between CI antennas.

• Radio SI-to-CI minimum antenna separation is 12 ft. (4 m).

• When radio is installed in a CI, all hardwire functions are disabled. You may not radio to a CI, then continue on to additional hardwire interfaces.

• When radio is installed in an SI (Site Interface), the hardwire output is still available. This means that you may have radio CIs, and a chain of hardwire CIs (installed along a single run of GCBL cable) in the same system. However, you can not radio to a CI, then continue a hardwire cable run from the radio CI.

PC

CI R

CI R

GCBL or Dialup or Cell

SI

CI HW

CI HW

CI HW

GCBL cable
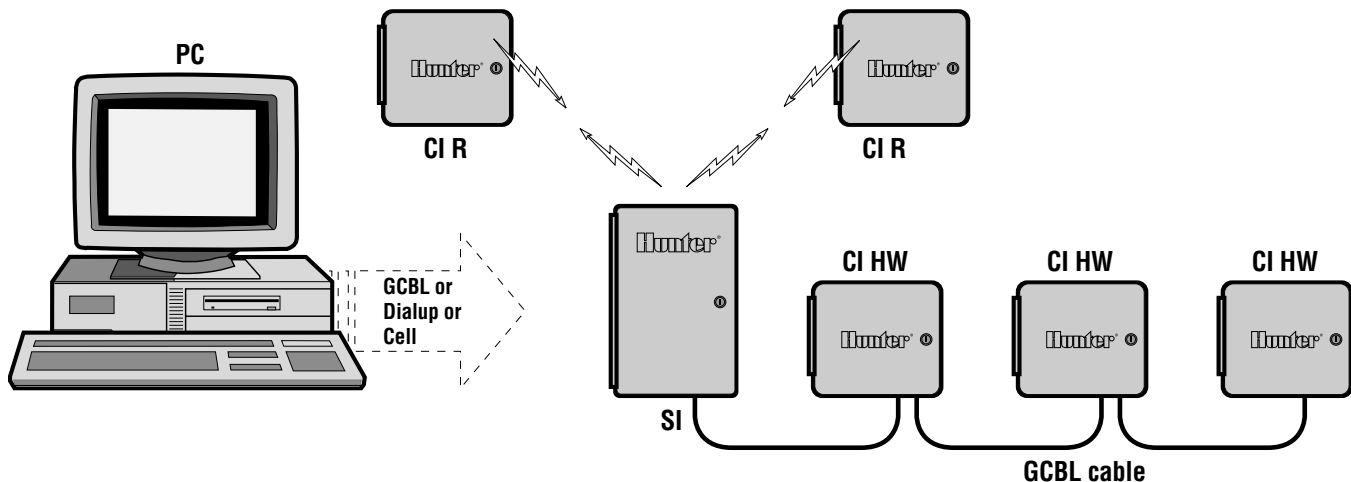
INSTALLATION...

Turn interface power OFF, at the AC power source. Unlock and open the interface door.

CONTROLLER INTERFACE INSTALLATION ....

1. Select the CI mounting bracket. It will already have a gray ribbon cable installed in a track.

2. Use the 4 supplied screws to mount the radio module (with the antenna and data connectors pointing downwards) to the bracket, directly over the ribbon cable. Do not over-tighten.

3. Install the radio bracket by aligning the hinge holes with the hinges on the left side of the CI cabinet, and inserting the supplied hinge pin through the holes. The radio bracket should now swing freely.

4. Connect the gray ribbon cable to the mating connector on the radio module. Only one end of the cable will fit this connector, and it will only connect one way. Secure the connector to the radio with the two captive screws on either side of the connector.

5. Connect the other end of the gray ribbon cable to the mating connector in the upper left corner of the CI. This will also fit only one way into the connector.
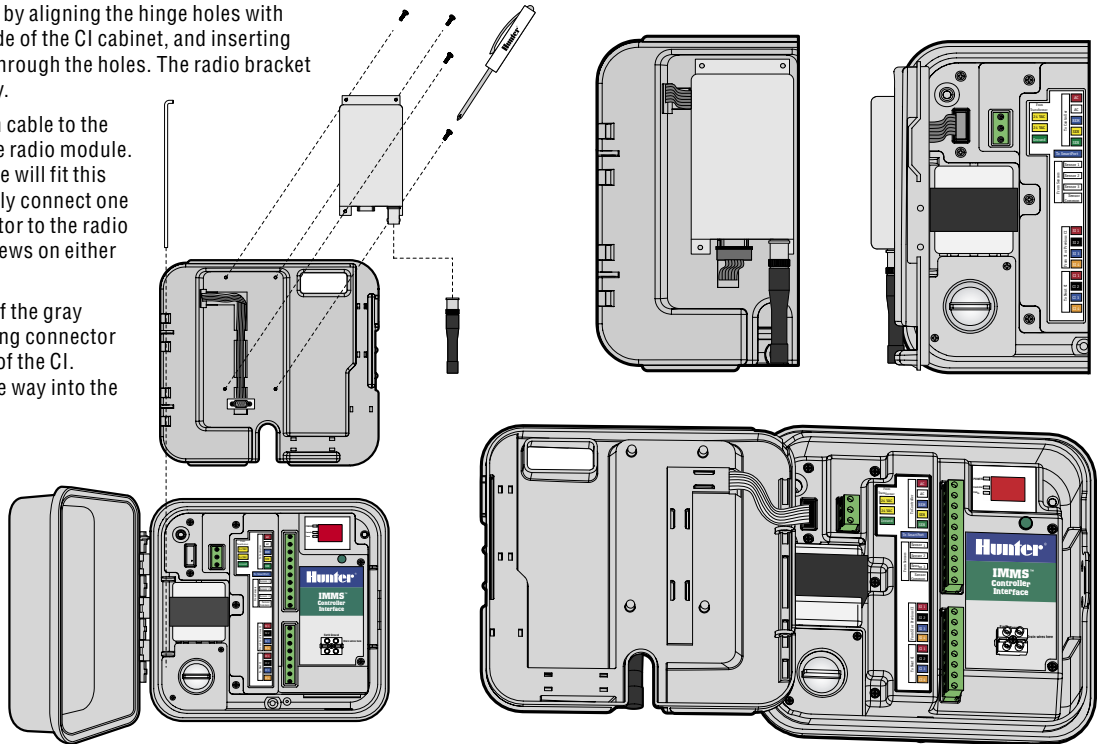
SITE INTERFACE INSTALLATION..

1. Remove the captive gray ribbon cable from the CI bracket and set the bracket aside. The cable will be used for the SI connection.

2. Locate the SI bracket, and use the 4 supplied screws to mount the radio module (with the antenna and data connectors pointing downwards) to the bracket. Do not over-tighten.

3. Locate the vertical bracket mounting area in the upper left of the SI cabinet. There are two screw bosses mating to the holes in the IMMS-R bracket assembly. Position the bracket over the mounting holes, and use the two self-tapping screws to attach the bracket to the holes.

4. Connect the gray ribbon cable to the mating connector on the radio module. Only one end of the cable will fit this connector, and it will only connect one way. Secure the connector with the two captive screws on either side of the connector. Do not pinch or damage the gray cable!

5. Connect the other end of the gray ribbon cable to the mating connector in the side of the SI housing. This will also fit only one way into the connector.
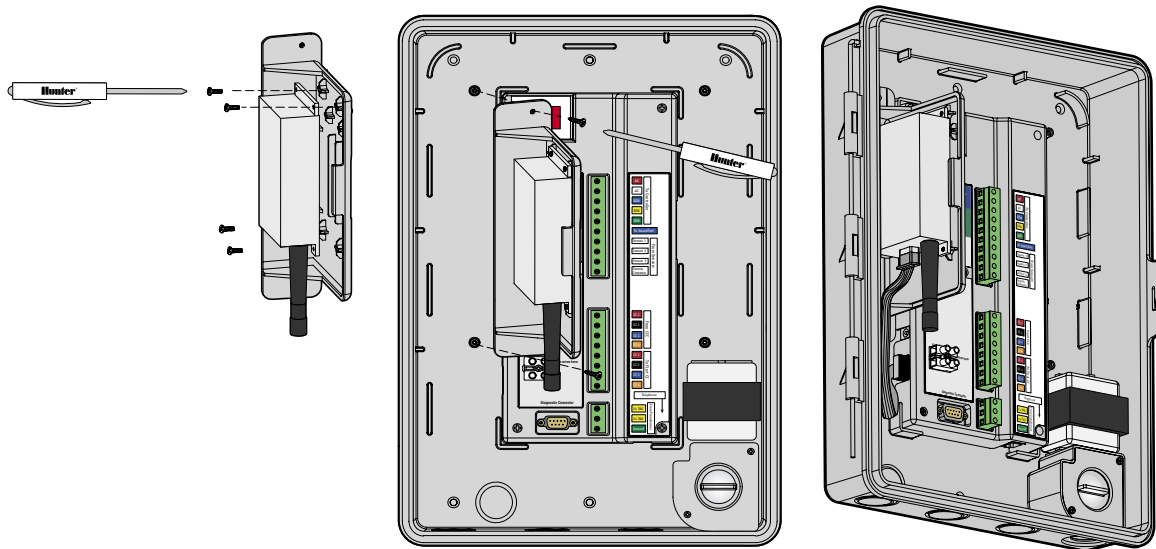
ANTENNA CONNECTION (BOTH SI AND CI) ....

1. Attach the supplied antenna, OR connect an optional external antenna cable (routed into the cabinet through the low-voltage conduit openings), to the radio module. The radio has a BNC female quick-disconnect fitting (which should now be pointing downward). Connect the supplied antenna, or the cable from an optional external antenna (both have BNC male connectors), by lightly pushing and rotating the connector until the two small lugs on the sides of the radio's connector align with the mating slots in the male connector rim.

2. Push the connector on and turn about ¼ turn until you feel the connector lock into place.

The radio interface is now installed.

EXTERNAL ANTENNAS ....

Closely follow installation instructions and precautions included with any external antenna.

Antennas must never be mounted within falling distance of electrical power lines!

External antennas should generally be within 15 ft. (5 m) of the radio with RG58 50 Ohm cable.

External antennas may be up to 50 ft. (15 m) with RG8 low-loss cable.

External surge protection devices may be required in the radio cable to protect human operators from lightning. Use Polyphaser model IS-B50HN-C1 or equivalent (www.polyphaser.com), and connect with bare copper wire or equivalent strap to earth ground. Do not install surge protection devices inside the interface cabinets… they are designed to be installed in-line in the antenna cable.

**Apply AC power to the interface after installation is complete.**
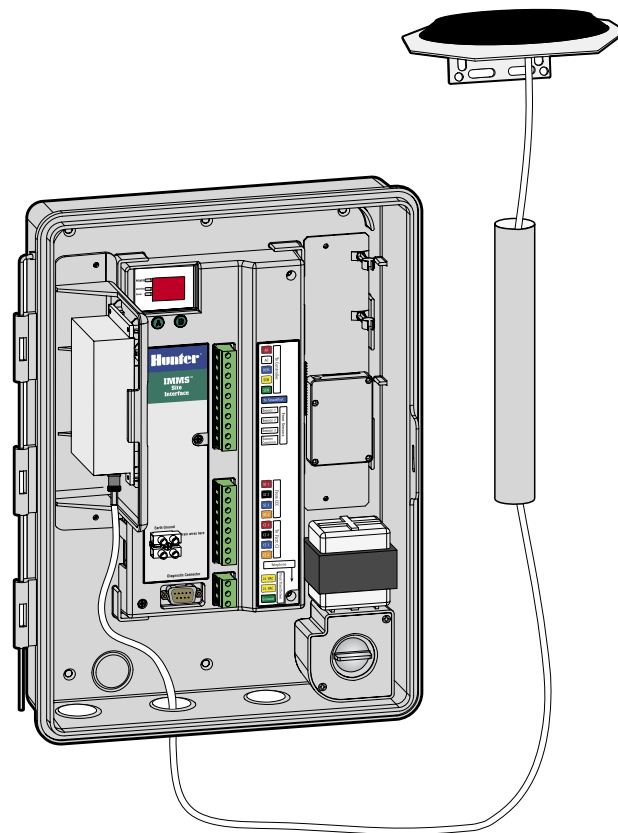
SI TEST PROCEDURE ....

Radio check. Press and hold the green button "A" until "d1" appears in the display. Release, and press once again to display "d2". Press button "B" for one second. This will cause the radio to transmit a continuous tone for 5 seconds (verifies operation of radio, no effect in non-radio units). A handheld radio on the same frequency should hear a clear, continuous tone for approximately 5 seconds.

Check Controller Interfaces. Press and hold "A" until "d1" appears. Release, and press twice to display "d3". Press "B" for one second. The SI will now "poll" the CI's in order to verify communications, and each CI address will appear in the display. If a CI does not respond, the display will alternate between the problem CI's address and the "EE" error display (troubleshoot communications and power to CI). Press "B" once to stop polling and return to normal operations (continuous "01" display). This function tests both hardwired and radio Controller Interfaces in numerical order, and a handheld radio on the same frequency may hear digital traffic while it is communicating with radio units.

During this test, the CI displays will briefly display "P1" when they are being polled.

Refer to SI instructions for addressing procedures.
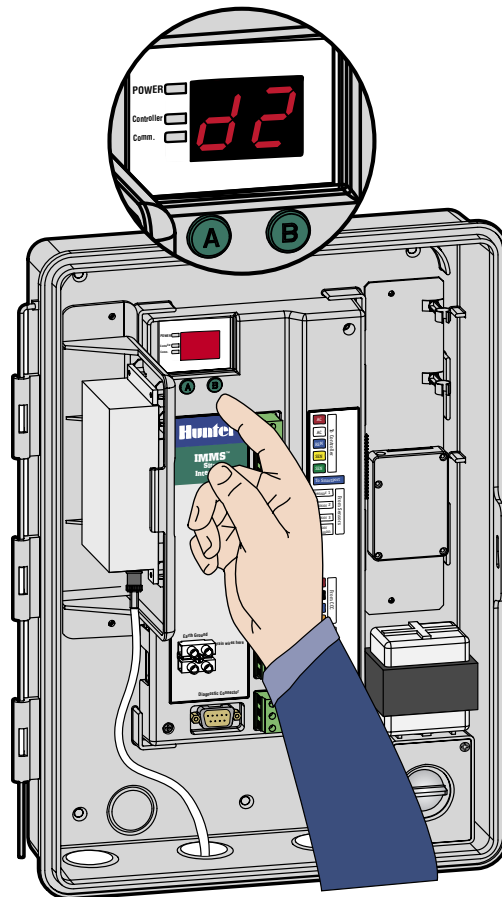
CI TEST PROCEDURE ....

Press and hold the green button for approximately 3 seconds, until "d1" appears.

- Run Station. The CI will automatically tell the controller to run station 1 for 1 minute (checks communication between interface and local controller). The green Controller LED will light as it communicates to the controller.

- Radio check. Immediately after the Run Station command is sent to the controller, the radio (if one is installed) will transmit a continuous tone for 5 seconds that can be heard on a handheld radio on the same frequency (verifies operation of radio, no effect in non-radio units).