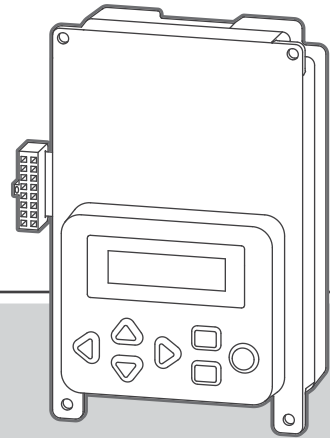
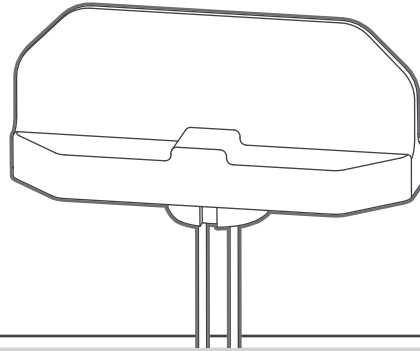


ACC-COM-LTE ACC-P2P-LTE

INSTALLATION GUIDE



Communications Module and Antenna
(for LTE Mobile Communications)

Hunter[®]

Introduction

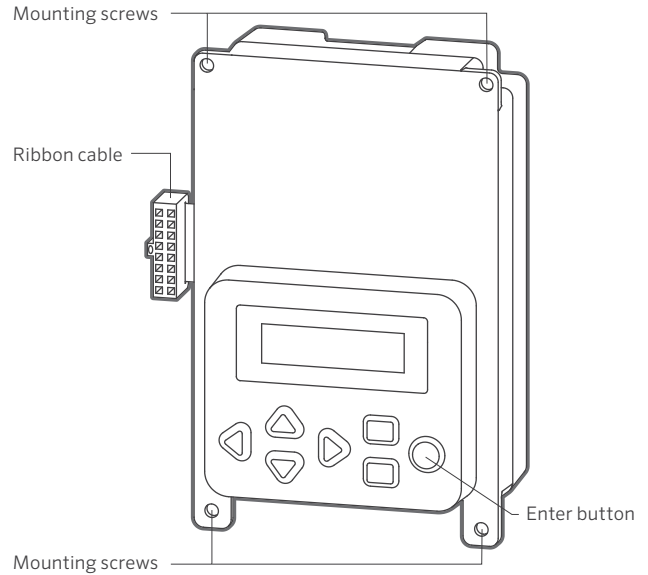
Items Included:

- (1) ACC-COM-LTE or ACC-P2P-LTE module, including internal (pre-installed) SIM card
- (1) Antenna
- (1) Tube of RTV sealant
- (1) Cleaning wipes

Tools/Supplies Required (Not Included):

- Small Phillips screwdriver with magnetic tip
- Small flathead screwdriver
- Additional tools and hardware as required for antenna mounting (radio only)
- Pedestal mount requires APPBRKT2 (sold separately)

Communication Module



Module Operation

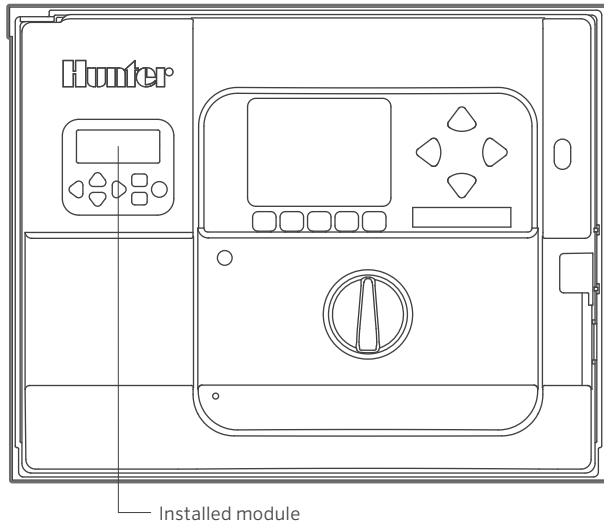
The ACC-COM-LTE provides cellular mobile communications for ACC series controllers from a central computer.

This module may be installed in wall-mounted or pedestal-mounted controllers.

The ACC-P2P-LTE is a single-controller, point-to-point LTE module that provides an IP data connection for computer control.

The module contains a data-only mobile phone, and requires a Hunter account to operate.

Front of Facepack



The ACC-COM-LTE is another version of the module that includes a Site Plan, meaning it can link to other controllers on a site with hardwire or UHF radio communications. This requires a Hunter Site Plan account.

Metal Enclosure Installation

Plan Ahead for Antenna Mounting

The LTE cell phone, like any other mobile device, depends on the mobile network for communications. The location of the antenna is the link to the network.

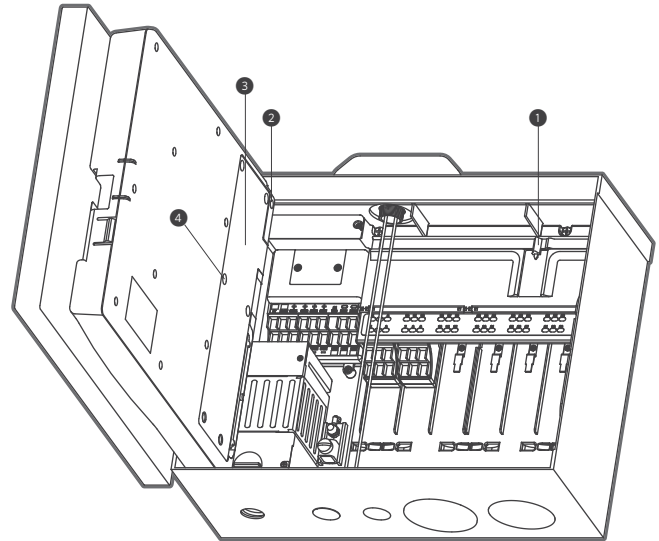
Verify that LTE coverage exists at the location before installation.

The antenna will not work from inside a steel enclosure. The antenna is designed to be mounted on the top of the controller, through the provided mounting hole.

Wall-Mount Installation

1. Turn off the AC controller power.
2. Remove the facepack door frame: Disconnect the facepack door frame ribbon cable, open and lift up the door frame to compress the top hinge, and tilt out of the lower hinge.
3. Locate the communications compartment cover on the back right side of the frame.
4. Remove the communications compartment cover (6 screws).
5. Remove the ACC logo cover (two screws).

If installing UHF radio, continue on to the next page. Otherwise, proceed to page 6.

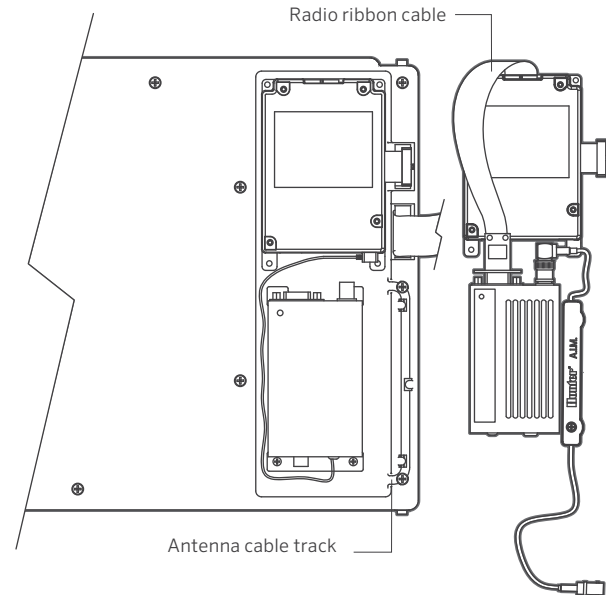


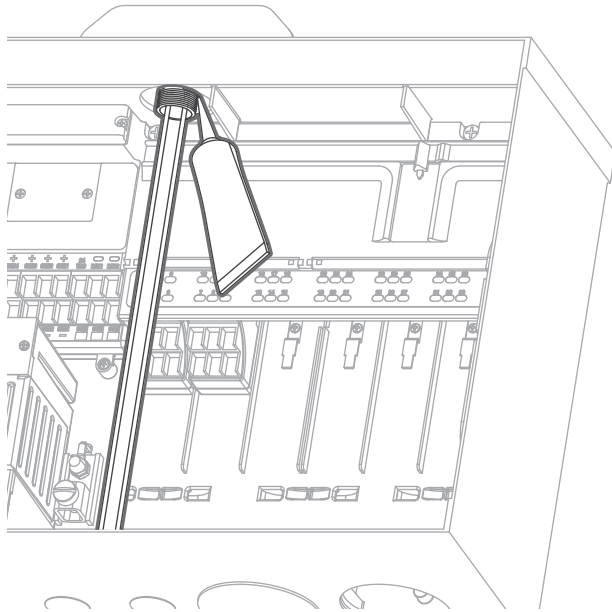
Additional Steps if UHF Radio Is to Be Installed: (ACC-COM-LTE only)

If the Com module will be used with a RAD3 radio, the radio ribbon cable should be connected to the Com module now, before installing the ACC-COM-LTE into its compartment.

- The radio ribbon cable has a rectangular 14-pin connector on one end for the Com module, and a DB-15 connector on the other end for connection to the radio. The 14-pin connector only plugs one way, and is keyed to assist proper orientation. Align the connector and push into place on the top of the Com module.
- When the Com module is installed in the opening, make sure that the ribbon cable is visible on the back of the unit, for connection to the RAD3 radio module.

Back of Facepack Door

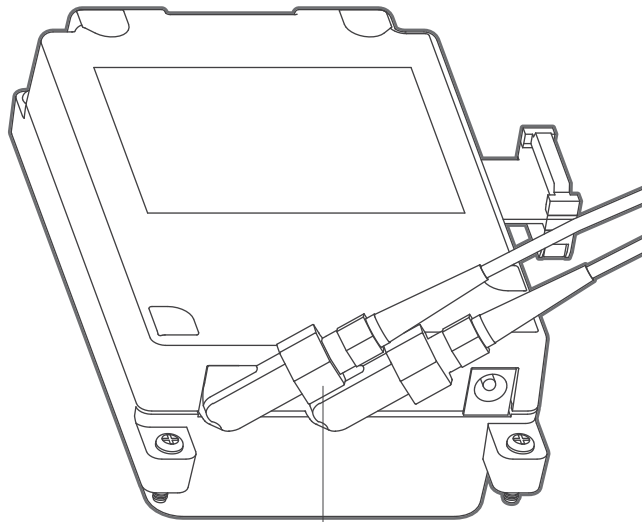




Wall-Mount Com Module Installation, Continued

1. Remove the hole plug from the top center of the enclosure.
2. Clean the antenna mounting area with the supplied wipes. Surface must be free of dirt and dust.
3. Remove the nut from the antenna threads.
4. Peel off the protective cover on the antenna bottom to expose the adhesive.
5. Route the antenna cables down through the hole into the controller. Then press the antenna into place.
6. Route the antenna cables through the antenna nut and secure the nut onto the antenna threads. Do not overtighten.
7. Apply the RTV sealant around the hole, filling the gap between the enclosure hole and the mounting threads.
8. Route the antenna cables through the recessed track in the door frame to the module. Connect the antenna cable connectors to the module.

9. Leave sufficient slack in the antenna cables to allow the door to open and close without crimping.
10. Insert the Com module into the opening where the logo cover was with the display and buttons protruding through the opening. Secure with screws on each corner.
11. Carefully insert the modular ribbon connector plug from the Com module into the mating receptacle in the door frame. This connector is keyed and has slots that must be aligned correctly, so that the connector can only fit one way. The ribbon cable can be extended or shortened slightly by pushing it back into the com module slot. Press firmly to make sure the connector is fully seated.



LTE antenna connection

Radio Connections, Additional Steps

- Before installing the radio module, connect the DB-15 connector from the ribbon cable to the top of the radio and secure with the connector screws (do not overtighten).
- Connect the radio power cable from the radio to the radio power connection on the bottom of the Com module.
- Connect the male BNC radio antenna connector to the AIM-BNC before installing the radio into the radio compartment.
- Install the radio into the radio compartment (see radio installation instructions for additional information).
- Connect the AIM-BNC to the antenna cable.

Reapply controller power. Verify that the Com module display lights up and displays characters.

If there is no display:

1. Double-check ribbon cable connection from Com module to facepack door frame receptacle.
2. Double-check ribbon cable from facepack door frame to controller cabinet.

Radio Installation, Additional Steps

- If radio communications will be used, connect the RAD3 radio module cables to the Com module with its ribbon cable and power connector first.
- Install the Com module into the bracket. Then install the radio on the APPBRKT2 with supplied hardware.
- Install IMMS-ANT-2 in pedestal lid.
- Route antenna cable from the IMMS-ANT-2 through the hole in the top of the pedestal frame, down into the controller to the radio location.
- Connect the cable connector to the radio module (be sure to turn the BNC connector until it locks into place).
- Install the plastic cable guide (P-) with self-tapping screw as shown. Adjust cable before tightening to ensure there is only enough slack to allow the lid to open and close, without causing the cable to be pinched.

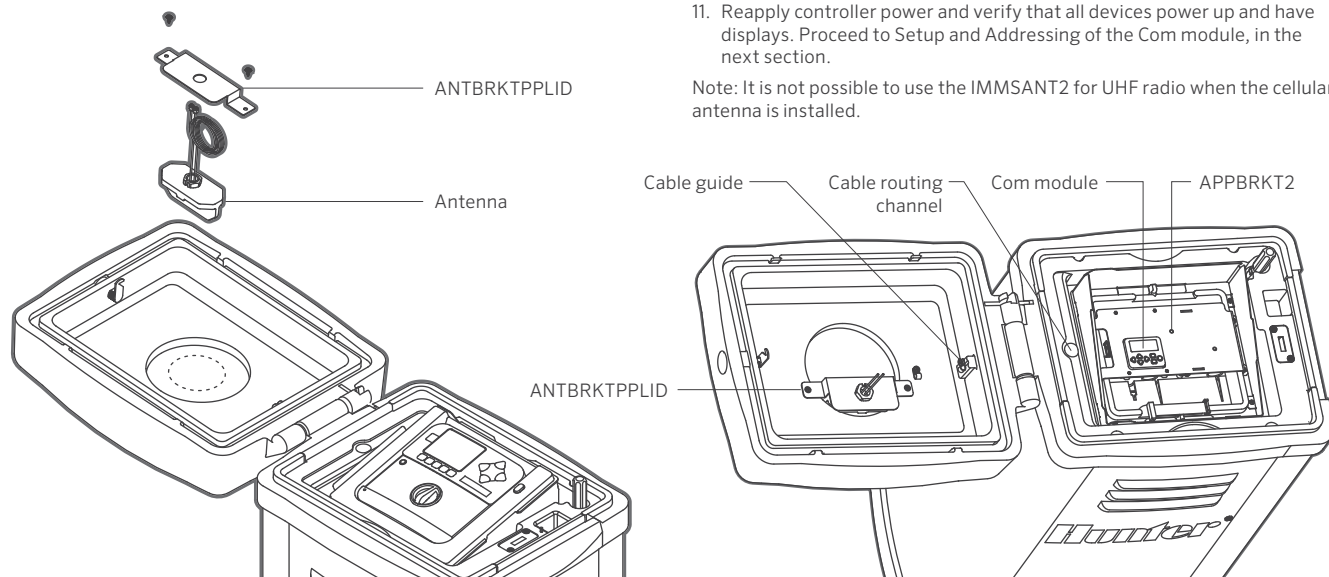
Plastic Pedestal Installation

Plastic Pedestal Installation (requires APPBRKT2 communications bracket and ANTBRKTPLID antenna bracket, sold separately)

1. Turn off controller AC power with the AC power switch in the pedestal.
2. Open the facepack frame in the top of the pedestal to expose the communications module mounting area.
3. Install the Com module into the APPBRKT2 mounting bracket. Secure the Com module with screws on each of the four corners.
4. Install the APPBRKT2 communications bracket beneath the facepack. This bracket is designed to hold the Com module and a radio module (if radio is required). If the controller is already permanently installed, it is not necessary to screw down the APPBRKT2. Screws are supplied only to secure the bracket if additional shipping or movement of the controller is necessary.

5. Carefully cut out the inner wall of the circular recess in the pedestal lid. Take care not to puncture the external wall beneath it.
6. Install the antenna on to the bracket as shown. Peel the adhesive covering off the bottom of the antenna, feed the cables through the hole in the bracket, and press the antenna into place.
7. Use the included screws to mount the bracket so that the antenna protrudes into the cutout in the lid.
8. Install the cable guides as shown and route antenna wires through them.
9. Route the antenna cables down the hole in the side of the facepack frame, and connect them to the connectors on the LTE module.
10. Connect the Com module ribbon cable extension to the controller facepack connection on the underside of the facepack frame. This is the keyed 14-pin connector, top left, above the main facepack ribbon connection.
11. Reapply controller power and verify that all devices power up and have displays. Proceed to Setup and Addressing of the Com module, in the next section.

Note: It is not possible to use the IMMSANT2 for UHF radio when the cellular antenna is installed.



When powered up, the Com module display will show the version number, and will automatically check to see what other communications devices are installed.

Overview:

1. Address the Com module
2. Obtain data for the Cellular Activation form
3. Obtain CID number from Com module
4. Contact Hunter Technical Support (in USA) for network activation

After a few moments, the display will show “ACC-COM-LTE” or a single controller version will show “ACC-P2P-LTE.”

When the device has connected to the cellular carrier, a flashing block will appear in the upper right corner of the Com module display.

When the device has detected LTE service, the flashing block will show a letter “C.”

The device is ready for central communications when the C appears.

Com Module Controls

The Com module controls use the up and down arrow buttons to make selections, a + and - button to change individual settings, and an Enter key (far right) to select and/or save settings.

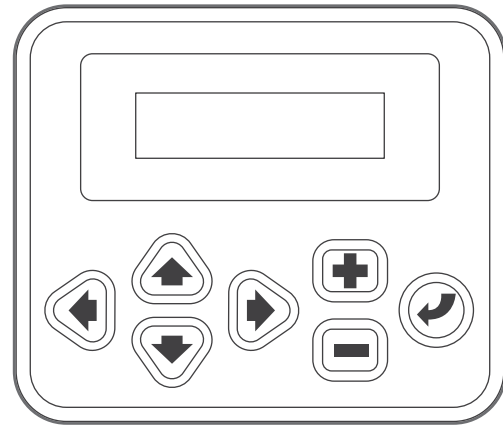
To Set the Controller Address

The controller ID, or address, is required before any communications can take place. An address must be any number between 1 and 999.

Press the Up arrow once. The display will show Controller Address. The address will be 000 if the module is new. The address must be set to a valid number before the module will communicate.

Press Enter to enter the address edit mode. The address number will blink. You can use the left and right arrow buttons to move through each of the three number fields.

Use the + or - buttons to change the address to the desired setting. If you



Setup and Addressing of the Com Module

hold the + or - button for more than a second, the numbers will change faster. You can go forward or backward with the + and - buttons to set the exact number.

Press the Enter button to enter the address when all three digits are correct. The controller will now be addressed.

The controller address is assigned to a Com module (not to the controller itself or to the ACC facepack).

The address can only be set and changed at the Com module itself.

To Set Up LTE Service

Complete all required information on the enclosed LTE activation form.

Call Hunter Industries Technical Support to activate the user account:

USA: 1-800-733-2823

This requires the CID# of the LTE module, and user account information (see attached form).

To get the CID # of the unit:

Press the up arrow to access the “Cell Configure” menu, and press the enter key.

Press the up arrow until the Cell CID screen appears. You will need this 20-digit number to activate your account with Hunter.

Hunter Tech Support will confirm the information and activate the account.

The connection will become active within a few minutes, and may take up to 30 minutes, depending on the cellular system.

A “C” will appear in the upper right corner of the Com module display when it has been registered on the wireless system. When the “C” appears, the unit is ready to communicate.



ACC-COM-LTE G
Address: 001



CELL CID: 8901269
76221511----

Sample CID number (use the unique number from your module)

Troubleshooting

If the “C” does not appear after the account is activated, or the letter “C” does not appear after several minutes, turn off power to the controller.

Check antenna connections and placement.

Turn on power to the controller and observe the start-up display. Wait several minutes for the start-up sequence to complete and for wireless service to be established.

If the letter “C” still does not appear, proceed to the Cell Configure menu.

Check the Telephone, IP, Model Select, APN setting, and especially the RSSI (signal strength) explained in the following list, before contacting Hunter Technical Support.

Cell Configure

Please do not change settings in this menu without assistance from Hunter Technical Support. Most of the menus are informational only.

Press the Enter button to view cell configuration information.

CELL IP: The Internet Protocol (IP) address cannot be changed in the field, but if an IP is present, it indicates that the modem has been assigned a data address by the wireless carrier. The IP must be displayed for the system to work.

CELL CID: The Cell Identification Number cannot be changed, but is vital to activate the communications account. This is the number required by Hunter Technical Support for activation, and questions about operations after installation.

RSSI: The Relative Signal Strength Indicator (RSSI) shows the signal strength at the controller location and can be an important diagnostic clue. If the controller is in a weak signal area, it can cause communications failures or interrupts.

An RSSI of 8 or less is very weak. If signal strength is too low for reliable data communications, relocate the antenna (or the entire controller) to a better location.

IMEI: This shows the electronic identifier of the wireless device and cannot be changed.

Cell Band: Normally set to Auto. This can also select either LTE, G2, or G3 to force selection of a better signal if available.

Cell Ping: This function allows a ping test to the Hunter server. The test will make five attempts to contact the IP address. Note: It is common for the first one or two attempts to fail, but the device should make contact after five attempts.

Exit: Exits the Cell Configure submenu.

This completes the field setup of the communication module. The rest of the setup is performed in your control software. Consult the software documentation or Hunter Technical Support to enable this device in your central control system.

Other Com Setup Functions

ACC-COM-LTE detects other communications connections and displays information about them. It also allows operator control of some settings and functions.

Use the Up or Down arrow to navigate through main topics.

Controller Address: Shows current address setting. Press Enter to set the address. Use the arrow buttons to move left and right to each digit, and + or - to change to the desired number. The address can be any number from 1 to 999. Press Enter when the correct number is shown.

Master Control (not shown on ACC-P2P-LTE): Set to Yes or No with +/- buttons. This indicates that other controllers are connected to the IP controller.

Contrast: Default = 50. Adjusts display visibility for varying conditions. Press Enter to adjust, + or - to change, and press Enter when done. The display contrast may be adjusted for daylight conditions where reflection makes the display difficult to read.

Radio Type (not shown on ACC-P2P-LTE models): Shows a type of radio module, if one is found by the Com module.

Radio communications can be used in two distinct ways:

1. To connect a controller to additional controllers within the same site.
2. To use UHF Maintenance Radio (Hunter Model TRNR) as a remote control for the controller.

Setup and Addressing of the Com Module

Last TRNR Cmd (Radio Only): Not in ACC-P2P-LTE models, displays the characters in the last-received UHF Maintenance Radio command, for diagnostic purposes. This setting is not shown if there is no radio. This setting only applies to UHF Maintenance Radio and will not show ICR remote commands.

DTMF Processing: Enables DTMF decoding, which allows Maintenance Radio remote control to operate. Press Enter and use +/- buttons to disable if DTMF is not desired.

Radio Channel Switch: Allows selection of pre-programmed radio channels 1-16. Press Enter, use +/- to manually override the DIP switch settings in the radio, and use a different channel. User must be licensed to transmit on a specific channel.

MR Default Run Time (Radio Only, not shown in ACC-P2P-LTE models): Default = 30 Minutes. This sets the automatic run time for any station or SSG that is started by a Maintenance Radio command, if no run time has been specified in the On command. It is possible to turn a station or SSG on without specifying a run time, and this setting will automatically turn them off after the specified time if they are not turned off by an Off command. The Default Run Time can be changed in 1-minute increments up to a maximum of 60 minutes. This setting is not shown if there is no radio and does not affect ICR remote commands.

HWIM (not shown in ACC-P2P-LTE models): Indicates presence of a Hardware Interface Module (ACC-HWIM) installed in the controller. "None" indicates no HWIM has been found, "Installed" indicates that the HWIM is installed and has been detected. This display is informational and cannot be changed from the Com module.

Enter Diagnostics: To use the built-in communications diagnostics, press the Enter button at this display.

This will allow you to select from the following diagnostic functions (use the up or down arrow buttons to move through the choices).

Communications Status Display [MOD RAD HW]: Pressing the left arrow button at any time will show a status display for communications, showing

transmit and receive activity for each communications type. The display shows: MOD RAD HW #, indicating Modem, Radio, Hardware, and number of data packets sent.

Under each item MOD, RAD, and HW, the letter T shows transmit activity and R shows receiving data for that communications component. The symbol * shows other radio traffic ("carrier detect"). This is a useful diagnostic tool.

MOD: Shows cellular modem activity.

RAD: Shows T when the controller radio is transmitting, and R when it is receiving data from another radio.

HW: Shows T when the controller is transmitting over GCBL cable, and R when receiving data via GCBL.

#: Shows the count of individual packets of data as they are exchanged. This number continues to increase as events are counted until it reaches 255, and then begins again at 1.

Digital communications are divided into packets of data, and sent in pieces called "packets." After each packet is sent, a confirming response is expected. This counter tracks all communications in the module via radio, hardware, and modem.

The * may indicate other radio traffic (from other sources). Communications problems that cannot be explained by hardware issues are sometimes caused by interference from other sources. If * is frequently present when no ACC communications are taking place, it may indicate that the frequency is very busy.

Radio Tone Test (not shown in ACC-P2P-LTE models): The radio test is only active when a UHF radio module is installed. Press the left arrow button twice to display the Radio Tone Test, and press Enter to start the test. The radio module will transmit a 5-second burst of data to confirm whether the radio is working. The burst can be heard with another radio or scanner tuned to the same frequency.

For this test to be effective, you will need a two-way radio or scanner on the same frequency as the radio module.

When the radio test is started, a burst of data indicates a working radio module in the controller.

If nothing is heard, either the radio is inoperative or the wrong frequency has been selected for receiving.

If a broken, rough-sounding, or very faint signal is heard, there may be a problem in the antenna, antenna cable, or connectors. This may also indicate a problem in the radio module, although antenna/cable/connectors are the more likely cause. The easiest way to check this is to swap the radio module with a known good unit, connect to the same antenna and cable, and repeat the test. If the sound cleans up, the problem was the module. If the sound is still poor, it is probably the antenna/cable/connector setup.

Ping Test (not shown in ACC-P2P-LTE models): The ping test allows any controller to exchange communications with another controller for test purposes. To do this, select a Target controller from the Source controller. When the test is started, the Source controller will “ping” the Target controller repeatedly and show success or failure of the communications. Any other controllers which can hear the test will also show the results, while the test is taking place.

Ping Hub: Not used.

Soft Reset: This “reboots” the communications module if it is temporarily confused. If the display or controls appear to be locked up, soft reset will restart the module without erasing data.

Total Reset: This completely resets all data in the Com module. It will erase any settings including the address! If the Com module is unresponsive and a soft reset does not solve the problem, Total reset allows you to start over with a clean installation. This is also useful when moving a Com module from one installation to another, or when you are uncertain what previous operators may have programmed into the module.

Operating the Com Module: With the Com module installed and operational (with “C” display), verify that the controller address is correct.

The software documentation provides information on configuring sites and the connections for each site.

Once an ACC-COM-LTE Site controller is connected via LTE, it can share the communications connection with other controllers via radio and hardware. ACC-P2P-LTE modules do not share connections.

The following considerations apply to these optional outbound connections.

UHF Radio: The ACC-COM-LTE module may also be used with a Hunter UHF radio, which must be ordered separately.

In steel enclosures, the antenna must be installed externally (signals will not communicate from inside a metal box).

Plan ahead for mounting an external antenna. It will be necessary to route the antenna cable from the radio module inside the enclosure, to the antenna outside of the enclosure. A site survey with comparable radios is required before a final decision can be made about antenna types and placement.

In the plastic pedestal enclosure, the Hunter IMMS-ANT-2 antenna is designed to be mounted in the pedestal lid and may be adequate for communications (to be determined in advance by site survey).

In North America and most other countries, **a license is required** before operating any UHF radio transmission equipment. Verify your local regulations and make sure that you have obtained the proper licensing before operating radio equipment.

Hardwired cable: This module does not contain a hardwire connection terminal.

Any controller needing hardwired communications must be equipped with an ACC-HWIM, in addition to the ACC-COM-LTE communications module. The HWIM is installed in the controller cabinet, on the ACC Master Module (see ACC-HWIM instructions).

Hardwired communications also requires Hunter GCBL cable. This special cable uses four color-coded twisted conductors, shielded with foil, and grounded with an additional bare wire, in direct-burial jacket. The cable is also ordered separately.

See the ACC-HWIM instructions for wiring connections.

FCC Compliance Notice

FCC ID: R17LE910NA

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 taking one or more of the following measures:

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

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions:

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

Changes or modifications not expressly approved by Hunter Industries could void the user's authority to operate this device. If necessary, consult a representative of Hunter Industries Inc. or an experienced radio/television technician for additional suggestions.


To satisfy FCC RF Exposure requirements for mobile and base station transmission devices, a separation distance of 8" or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



Troubleshooting

Find more helpful information about your product, including installation tips, controller programming, and more.



 1-800-733-2823

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