



*Powering Business Worldwide*

# ProAll Volumetric Mixer III

## Installation / Configuration Manual

### T110c Transmitter R260 Receiver

DM-R260-0003A  
November 4, 2013  
Version 2



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Toll Free 1-800-663-8806



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**NOTE:** These instructions are intended only for installing and operating the remote control equipment described here. This is not a complete Operator's Manual. For complete operating instructions, please read the Operator's Manual appropriate for your particular machine.

## Safety Precautions

### READ ALL INSTRUCTIONS

**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Failure to follow the SAFETY PRECAUTIONS may result in radio equipment failure and serious personal injury

#### Installation

PROVIDE A SAFETY CUTOFF SWITCH. If maintenance is required, the radio must be disconnected from power  
USE PROPER WIRING. Loose or frayed wires can cause system failure, intermittent operation, machine damage, etc.  
DO NOT INSTALL IN HOT AREAS. This apparatus can be damaged by heat in excess of 158° F (70° C)

#### Personal Safety

MAKE SURE MACHINERY AND SURROUNDING AREA IS CLEAR BEFORE OPERATING. Do not activate the remote system unless it is safe to do so.

TURN OFF THE RECEIVER POWER BEFORE WORKING ON MACHINERY. Always disconnect the remote system before doing any maintenance to prevent accidental operation of the machine

#### Care

KEEP DRY. Do not clean the transmitter / receiver under high pressure. If water or other liquids get inside the transmitter battery or receiver compartment, immediately dry the unit. Remove the case and let the unit air dry

CLEAN THE UNIT AFTER OPERATION. Remove any mud, dirt, concrete, etc. from the unit to prevent clogging of buttons, switches, etc. by using a damp cloth.

#### Maintenance / Welding

DISCONNECT THE RADIO RECEIVER BEFORE WELDING on the machine the receiver is connected to. Failure to disconnect will result in the destruction of the radio receiver.

## System Overview

The **OMNEX Trusted Wireless™ T110c / R260** is a portable, long range, programmable radio remote control system. Designed as a compact and easy-to-use product, this **Trusted Wireless™** system puts complete control of your machine where it's needed most, with the operator. It's robust, easy to install and has complete self-diagnostics. This system can be a simple cable replacement or add intelligence to make it a total control package. It's a radio, a PLC and a valve driver all in one.

The **OMNEX Trusted Wireless™ T110c / R260** system uses Frequency Hopping Spread Spectrum (FHSS) technology. FHSS devices concentrate their full power into a very narrow signal that randomly hops from frequency to frequency within a designated band. This transmission pattern, along with sophisticated error-checking techniques, enables our industrially hardened **FHSS** signals to overcome interference that commonly affects licensed radios

The **R260** receiver is designed to be powered from a 12VDC or 24VDC system. It features 19 solid state, high-side driver input / output controls and a reliable E-Stop control.

The **T110C** comes with 4 to 10 buttons to provide the user flexibility to control the functions they need. The transmitter uses regular alkaline AA batteries and is also **CCready™**. When used with the **CCDOCK™**, the T110C can use and recharge NiMH (recommended) or NiCd rechargeable AA batteries. Each T110C transmitter uses a unique ID code to ensure that no two systems will conflict at a job site.

## Features

FCC, ISC, CE approved

CCready™ transmitter

License free

1200 foot range @ 900 MHz (900 ft. @ 2.4 GHz)

Hand held / weatherproof / ergonomic

Simple "wire-and-use" installation

Resilient to impact and shock

Available in both 900 MHz and 2.4 GHz

Available with optional E-Stop for ensured operator safety

Factory configurable for all custom applications.

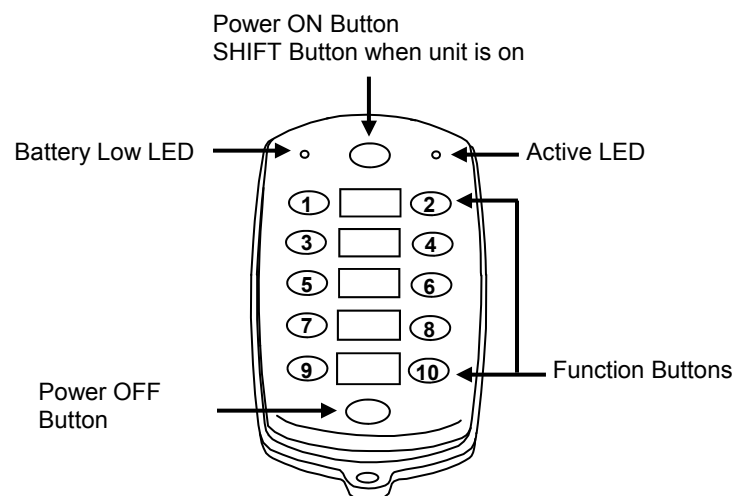
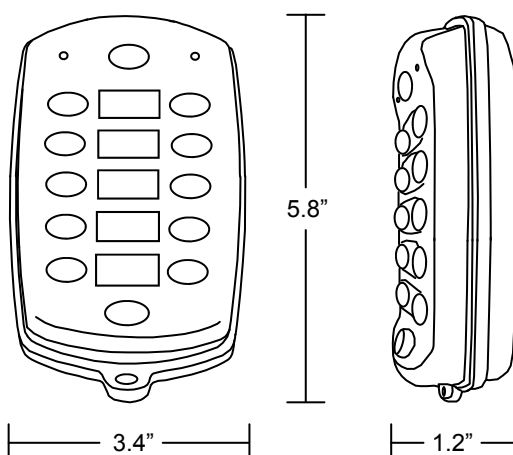


**R260 Receiver**



**T110c Transmitter**

## T110c Dimensions and Controls





## Installation Considerations

**NOTE:** The FCC and ISC require that the antenna be restricted to that supplied by the manufacturer and approved for use with this product. An optional 0dB coax wire antenna may be supplied. For other antenna options, please contact Eaton Wireless Business Unit.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## Mounting and Installation

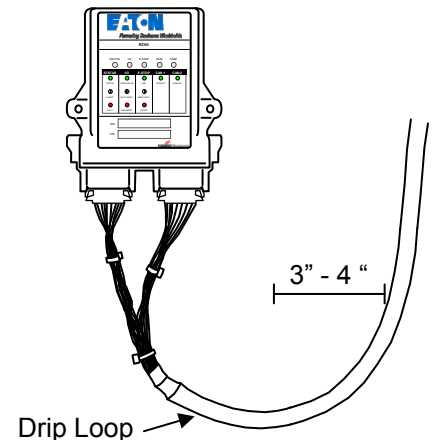
The receiver can be mounted by fastening two ¼" bolts through the two mounting holes in the unit's enclosure. When mounting, ensure that the receiver is oriented so that the text is reading right and the connector is pointing "down".

When selecting a mounting point for the receiver, it is recommended that the location require only a minimal length of wiring to connect it to the control panel, that it will be in a visible area where it has good exposure to the operator and that it is mounted on a surface that is protected from the weather and sustains minimal vibration. It is also recommended that the receiver have the best possible line of sight with the transmitter for maximum operating **range**.

When installing the receiver, it is recommended that a "Drip Loop" is formed with the output cables. By creating a Drip Loop, water from condensation, rain or wet environments, will drip off of the cable instead of running along the wire and into the receiver connections or running along the cables into the machine's electronic controls.

Using approximately 1 foot (30 cm) of cable create a loop with an approximate radius of 3-4 inches (8-10 cm). Ensure the loop bottom is lower than the receiver connectors.

If connecting an external antenna, a Drip Loop radius of approximately 2-3 inches (5—8 cm) can be formed from approximately 8 inches (20 cm) of cable.



## Power Connections and Wiring

Whenever a power connection is made to an electronic device, it is a good practice to make both the Power (+) and Ground (-) connections route directly to the battery and avoid connecting the power from the charging side of existing wiring or making use of existing "ACC" or other peripheral connection points.

When proportional voltage outputs are used to operate critical equipment it is good practice to use a separate enable signal as part of the control circuit. In some cases an application can be designed using an independent enable output for each proportional output (see wiring diagram). An alternative solution is to use the "Switches to Power with Link" line (see wiring diagram) to explicitly enable each of the functions that are using proportional voltage control. This will ensure that under all fault conditions the equipment will be disabled when the link is disabled (e.g. by hitting E-Stop). **As well, following any instance of a fault condition (e.g. output shorted) it is recommended practice to fully cycle the power to the receiver before restarting the transmitter to ensure that the system is restarted from a known state.**

Make sure that wire of sufficient gauge and insulator type is used when connecting the outputs of the receiver to the control panel. Observe any component manufacturer's instructions and recommendations for proper integration of their product. This includes the power ratings and requirements of such components as relays, valves, solenoids, etc.

Be sure to test each of the outputs with a multi-meter prior to connecting the outputs to your end devices. This will ensure that each output has been programmed to operate in the manner required by each end device.

## Filtering and Noise Suppression

Whenever a solenoid or electromagnetic switch is controlled by the receiver, it is a good practice to install a diode across its terminals to ensure that surges and spikes do not continue back into the circuit. Appropriate 36V Bi-directional Diodes kits can be ordered under the Eaton part number "AKIT-2492-01".

## Power the Transmitter

### 1. Install Batteries

Remove the battery cover on the back of the transmitter using a slotted screwdriver and insert 4 "AA" alkaline batteries. When purchased with the CCDOCK™, insert either NiCd or NiMH (recommended) rechargeable AA batteries. Orientation of the batteries is embossed inside the battery housing.

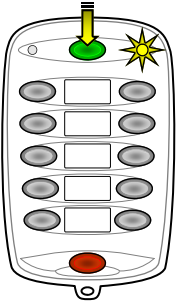


T110C Battery Housing

### 2. Turn on the Transmitter

Refer to the **Light Legend** below for diagram details.

#### 1. Press Power [ON]



**NOTE:** Prior to inserting the batteries into the remote, apply grease (provided packet - Dow Corning 111 Valve Lubricant & Sealant) to the battery contacts. Due to the harsh conditions these remotes operate in and the long term use of the rechargeable batteries, the grease protects the batteries and contacts from corrosion.

**WARNING:** Do not install batteries backwards, charge, put in fire, or mix with other battery types. May explode or leak causing injury. **Replace all batteries at the same time as a complete set and do not mix and match battery types.**

**NOTE:** For operation at temperatures below  $-10^{\circ}\text{C}$  lithium batteries are recommended. Low temperatures reduce battery performance for both alkaline and lithium types. Refer to the battery manufacturer's specifications for detailed information on low temperature

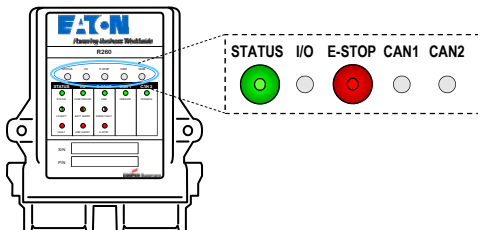
If the transmitter's (Active) light does not flash, check the battery orientation.

To turn off the transmitter, press the Power [OFF] button.

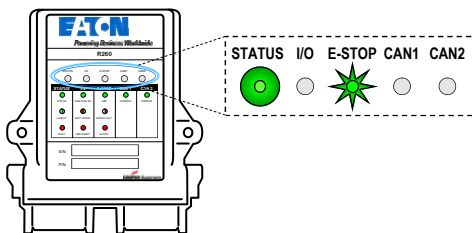
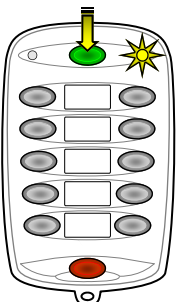
## Test the Transmitter / Receiver Link

Follow these steps to ensure that there is a radio link between the transmitter and receiver. Refer to the **Light Legend** below for diagram details

#### 1. Power R260



#### 2. Power T110C



**NOTE:** The transmitter may shut itself off (and the receiver will then shut off all outputs) after a factory configured period of inactivity as a battery saving feature. The Timeout feature is factory a configuration option and may not be configured for your device.

Momentarily operating any button on the transmitter, including the [Power] button will restart the timeout timer.

**The System is now ready for use.**

If the receiver's (Link) light does not become GREEN follow the steps under **Associate a Transmitter**.

Light Legend	Solid	Slow Flash	Fast Flash	Red Light	Green Light	Yellow Light	Alternating Red & Green Light

## J1939 Data Frame Structure

The R260 transmits proprietary messages on its J1939 interface (CAN1) by cyclically outputting PDU2 frames containing the command values from an EATON transmitter. Table 2 shows the contents of each frame. The default transmission period is 50 milliseconds.

Each node on a J1939 network must have a unique name. To facilitate this, the R260's J1939 name is dependent on the Identity Number. More specifically the Identity number field is broken down in to two EATON fields, Device Type & ID. The Device Type is always defined as value of 1 to represent an R260. However, the Identity Number Device ID is unique per device and allows for a unique name. The Device ID is labeled on the R260 housing.

A J1939 node name is 8 bytes long and is defined in the R260 as shown in Table 1. When the R260 is power cycled, the J1939 NAME is output.

**NOTE:** There may be other devices in a J1939 network, which use PGN 65280 - 65283. Therefore, ECUs should match the SA to entries in its NAME table to ascertain whether a particular PGN frame originates from an EATON R260. The NAME of the R260 is given in Table 1.

Name Field	Arbitrary Address Capable	Industry Group	Vehicle Systems Instance	Vehicle System	Reserved	Function	Function Instance	ECU Instance	Manufacturer Code	Identity Number	
										Device Type	Device ID
Number of bits	1 bit	3 bits	4 bits	7 bits	1 bit	8 bits	5 bits	3 bits	11 bits	5 bits	16 bits
Defined by	EATON	EATON	EATON	EATON	SAE	EATON	EATON	EATON	NMEA	EATON	EATON
Default value	0	0	0	0	0	52	0	0	129	1	0..65535

**Table 1** R260 J1939 NAME Fields

**NOTE:** The R260 will not transmit CAN messages unless a transmitter has been associated to the R260 receiver. See "Associate a Transmitter" to teach the R260 to use a specific transmitter.



## J1939 Data Frame Structure (cont)

**PGN:** 65280 (0xFF00)

Period: 50ms

Device ID: 0x71 (factory default)

Priority: 3

Data Length: 8 Bytes

Note: All data in decimal

ID Format: 29-Bit

PGN	Position	Bit Length	T110 Data	Description	Data Range
65280 (0xFF00)	1.1	1	On/Shift	0 = not active (OFF) 1 = active (ON)	0 to 1
	1.2	1	E-Stop	0 = Not E-Stop 1 = E-Stop	0 to 1
	1.3	3	E-Stop Event	0 = Not Available 1 = User E-Stop 2 = Loss of Link 3 = Fault 4* = IO Battery Short 5* = IO Ground Short 6 = Reserved 7 = Unknown	0 to 7
	1.6	2	N/A	Reserved	N/A
	1.8	1	Link	0 = Not Linked 1 = Linked	0 to 1
	2.1	32	Link ID	Connection ID: Matches ID label located inside T110c battery compartment	0 to 4294967296
	6.1	8	Tx Type	Transmitter Type ID 0 = Unknown 3 = T110 4 = T150 5 = T300 16 = Raptor	0 to 255
	7.1	8	Tx SubType	Transmitter SubType ID	0 to 255
	8.1	8	N/A	Reserved	N/A

**Table 2a** PGN 65280

*Note: \*E-Stop Event values 4 & 5 are only available if device was programmed to E-Stop when the short occurs. Default behavior is to flag the short fault but not to E-Stop the device.*

## J1939 Data Frame Structure (cont)

**PGN:** 65281 (0xFF01)

Period: 50ms

Device ID: 0x71 (factory default)

Priority: 3

Data Length: 8 Bytes

Note: All data in decimal

ID Format: 29-Bit

PGN	Position	Bit Length	T110 Data	Description	Data Range
65281 (0xFF01)	1.1	1	Function 1	0 = not active (OFF) 1 = active (ON)	0 to 1
	1.2	1	Function 2		
	1.3	1	Function 3		
	1.4	1	Function 4		
	1.5	1	Function 5		
	1.6	1	Function 6		
	1.7	1	Function 7		
	1.8	1	Function 8		
	2.1	1	Function 9		
	2.2	1	Function 10		
	2.3	54	N/A	Reserved	N/A

**Table 2b** PGN 65281

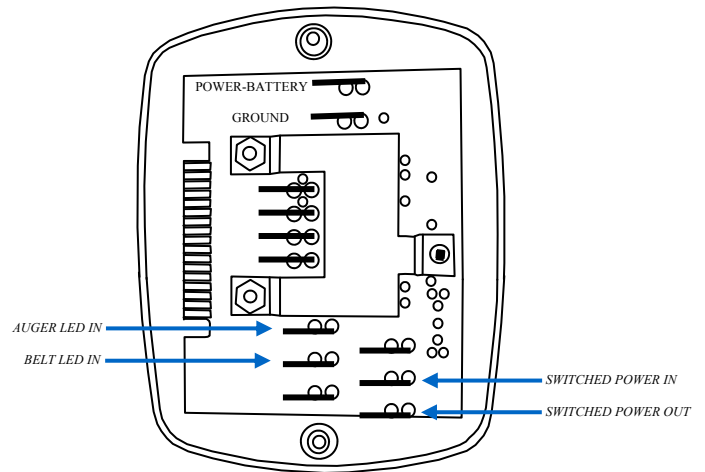
## Special Functions

### The [Shift] Function

Outputs 1-10 are controlled by the T110C [Function] buttons “1-10”. Outputs 11-18 are controlled by holding the T110C [Shift] button and pressing the [Function] buttons “1-8” (the GREEN Power [ON] button acts as the [Shift] button when the T110C is on).

#### CC DOCK™ - Wiring Diagram

POWER-BATTERY:	Supply 12-29VDC (fuse with 1.5 - 3 Amp)
GROUND:	Negative Supply, Ground
AUGER LED INPUT:	Input for LED
BELT LED INPUT:	Input for LED
SWITCHED POWER INPUT:	Input for switched power
SWITCHED POWER OUTPUT:	Output for switched power



### Associate a Transmitter (Use in case of Link Test failure)

Follow these steps to teach the transmitter's unique configuration to the receiver. This will allow the receiver to establish a radio link with a specific transmitter. Refer to **Troubleshooting Chart #4** for Tips and Considerations.

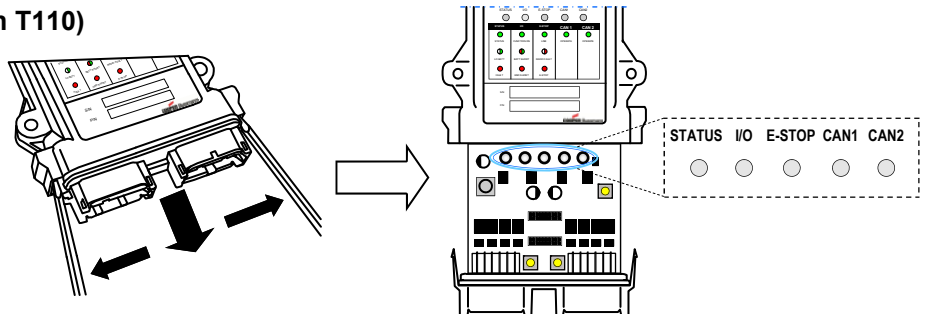
**Proceed to step 2 if your T110 contains a battery cover with magnets.** The teach procedure can initiate without opening the R260 cover if your T110 contains a magnet.

**NOTE:** It is necessary to associate the transmitter to receiver when replacing either the transmitter or receiver.

#### 1. Opening the R260 Case (No Magnet on T110)

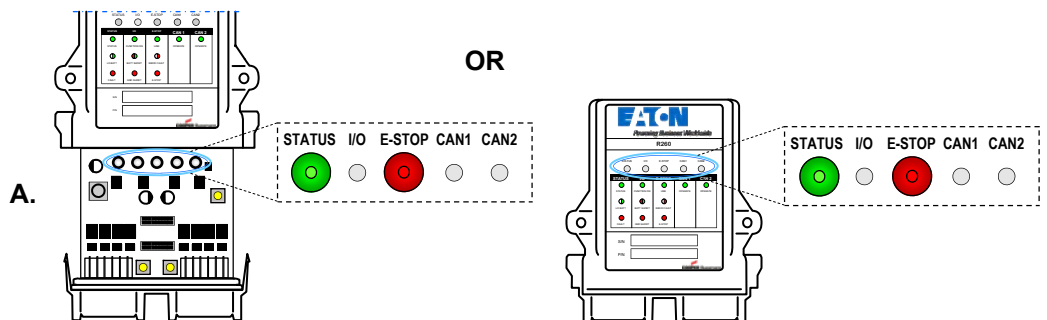
The cap is held on by two plastic tabs at opposing sides, which can be unlatched as shown using a screwdriver. Once the cap is free, the R260 can slide open.

Use a small slotted screwdriver to press the Side Tabs inward.



#### 2. Power R260

- A. Supply power to the receiver. The (E-Stop) light and the (Link) light will come on RED and the (Status) light will come on GREEN



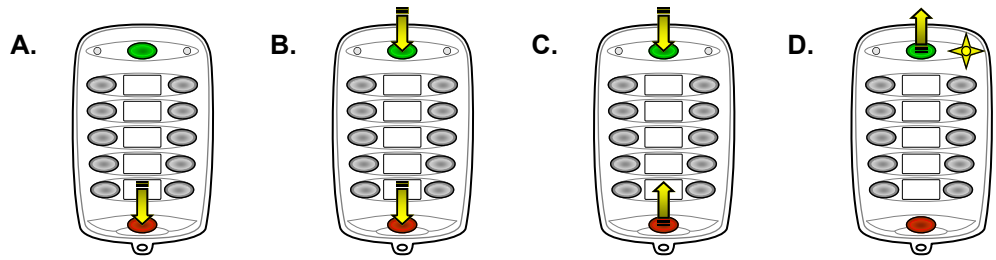
#### Light Legend

Solid	Slow Flash	Fast Flash	Red Light	Green Light	Yellow Light	Alternating Red & Green Light
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## Associate a Transmitter (Use in case of Link Test failure)

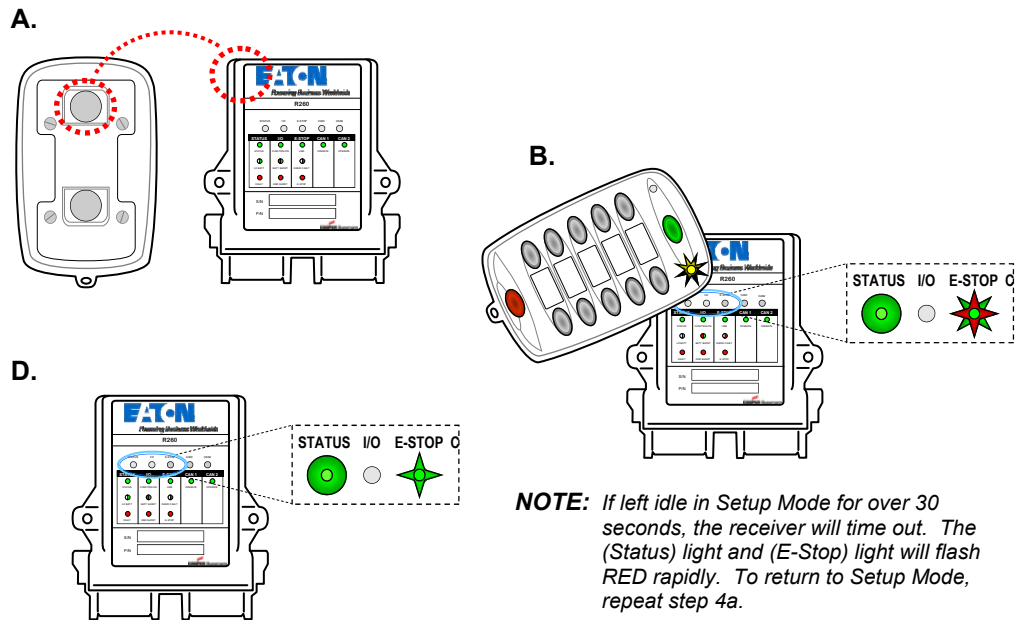
### 3. Power T110C into Configuration Mode

- Press and Hold Power [OFF]
- Press and Hold Power [ON]
- Release Power [OFF] button
- Release Power [ON] button



### 4a. Put R260 into Setup Mode (with Magnet on

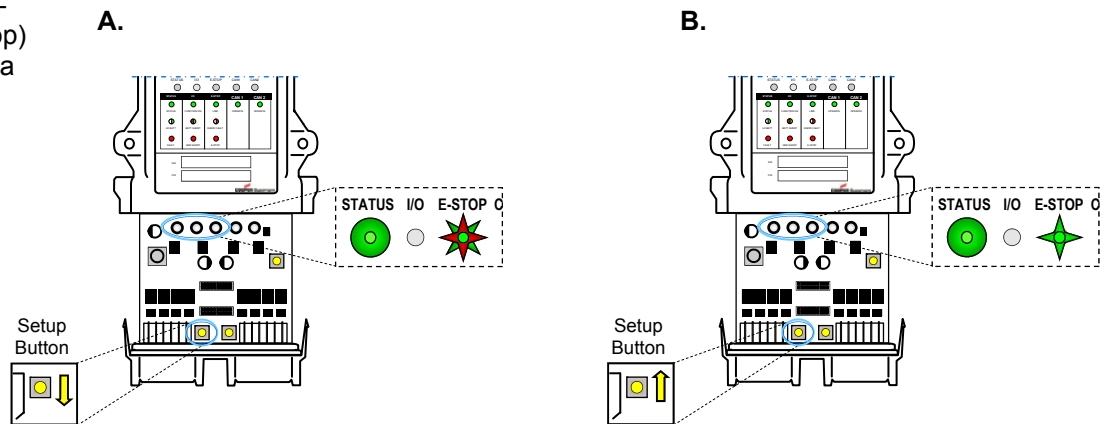
- Maneuver the rear of the T110 so its magnet is placed over the top left corner of R260.
- Adjust the T110 position until the R260 (E-Stop) light alternates between a GREEN and RED slow flash.
- Remove the T110 when the (E-STOP) light remains slow flash GREEN.



OR

### 4b. Put R260 into Setup Mode (No Magnet on T110)

- Press & hold [Setup] button until the R260 (E-Stop) light alternates between a GREEN and RED slow flash.
- Release [Setup] button, when the (E-Stop) light remains slow flash GREEN.



**NOTE:** If left idle in Setup Mode for over 30 seconds, the receiver will time out. The (Link) light and (Status) light will flash RED rapidly. To return to Setup Mode, repeat step 4b.

Light Legend	Solid	Slow Flash	Fast Flash	Red Light	Green Light	Yellow Light	Alternating Red & Green Light

## Associate a Transmitter (Use in case of Link Test failure)

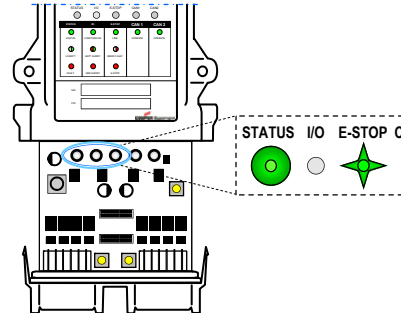
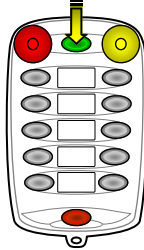
### 5. Send Code

**NOTE:** When downloading a new ID to a receiver, a safety feature requires that the transmitter be in close proximity to the receiver. This will prevent a transmitter from accidentally reprogramming a different receiver in the area.

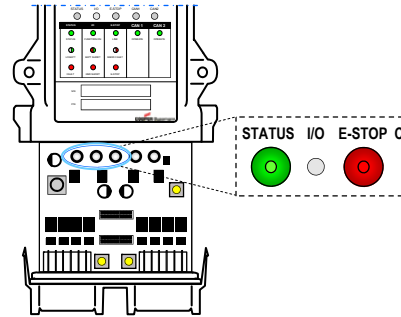
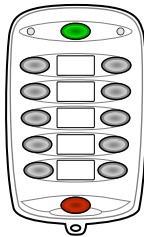
- A. Press Power [ON] button to send code.
- B. Once the ID Code has been downloaded, the RED (Battery) light and the YEL-LOW (Active) light on the transmitter will go out.

The (E-Stop) light on the receiver will change from GREEN to RED.

A.



B.



**NOTE:** When replacing the receiver cover, ensure the cover snaps completely into place to create a weather proof seal around the base of the receiver.

#### Light Legend

Solid

Slow Flash

Fast Flash










Red Light

Green Light

Yellow Light

Alternating Red & Green Light

## Diagnostics—T110C Transmitter

Indicator Lights	Description	Solution
	Occurs when ever a function is pressed. Will also remain on momentarily on Power Up.	N/A
	Transmitter is in Download mode.	To take it out of Download mode turn transmitter off and turn it back on again.
	Transmitter is in Operating mode.	N/A
	Low Battery.	Change or Recharge Batteries <b>Note:</b> Low batteries will last approximately 8 hours once the Low Battery light begins to flash.
	Fast Flash for approx. 10 seconds indicates T110C failure.	Send the unit in for service.
	Stuck button detected.	Toggle the buttons a few times. Call for service. Send the unit in for service.
	<b>On Power Down</b> Unit is still powered, likely due to an on function or stuck button.	Toggle the buttons a few times. Call for service. Send the unit in for service.
	Transmitter is in Configuration mode.	To take it out of Configuration mode turn transmitter off and turn it back on again.
	Transmitter is downloading ID Code.	Wait for approximately 5 seconds. Once the download is complete the transmitter will automatically shut off.

Light Legend	Solid 	Slow Flash 	Fast Flash 	Red Light 	Green Light 	Yellow Light 	Alternating Red & Green Light 
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# Diagnostics - R260 Receiver

## Normal Operation

	<b>Transmitter is OFF</b> If the transmitter is off, the receiver is operating properly.
	<b>Transmitter is ON</b> When the transmitter is turned on, the Link light (fast flashing) and E-Stop (GREEN) indicates the receiver is operating properly
	<b>Transmitter is ON in Operation</b> When a function is activated on the transmitter, the Fault light will turn on GREEN. This indicates the receiver is operating properly
	<b>Transmitter is OFF</b> When a latched function is activated then the transmitter is turned off, the IO light will stay on GREEN. If the system was intentionally designed this way, the receiver is operating properly, if not call for service.
	<b>Transmitter is ON or OFF</b> Activity on CAN a channel. Light is on when CAN running and will flash when message received or sent. Light is off when CAN is <i>not</i> present or disabled.

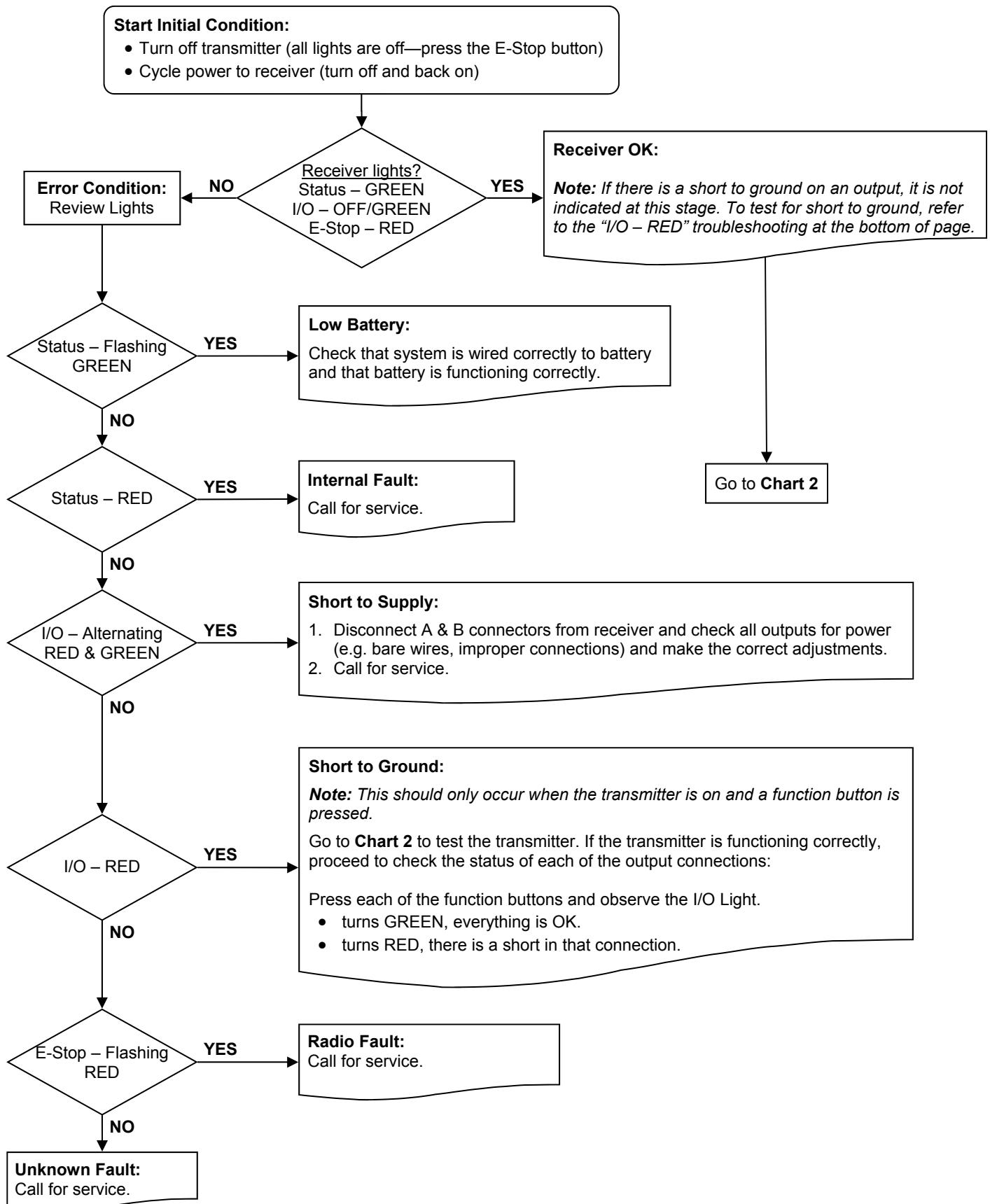
## Trouble Indicators

**Note:** In some cases, the indicator lights will be different depending on whether the transmitter is on or off. Please note the transmitter status in the "Description" column for each case.

Indicator Lights	Description	Solution
	<b>Transmitter is ON</b> The reason is the transmitter is not communicating with the receiver.	Refer to <b>Troubleshooting Chart #3</b> for solutions
	<b>Transmitter is ON</b> A low battery condition has been detected.	To detect intermittent conditions caused by poor or corroded ground or power circuits, the GREEN light will continue to flash for 30 seconds after the condition has been removed.
	<b>Transmitter is ON or OFF</b> Internal fault or PLC program is not loaded or stopped.	Recycle the Receiver power. Refer to <b>Troubleshooting Chart #1</b> for solutions. If the problem persists than contact Eaton Wireless Business Unit service providing part and serial number.
	<b>Transmitter is ON or OFF</b> Internal temperature is too hot.	Turn Off the unit and let it cool down before using it again. If the problem persists than contact Eaton Wireless Business Unit service providing part and serial number.
	<b>Transmitter is ON or OFF</b> The voltage is greater than 32 volts	Verify the battery supply voltage is between 8 to 32 volts.
	<b>Transmitter is ON</b> A short to ground or excessive current draw on an output. Likely caused by a wiring fault.	Ensure transmitter is functioning properly, check status of each output connection: Press each function button and observe Fault Light. <ul style="list-style-type: none"> <li>If GREEN, everything is OK.</li> <li>If RED, there is a short in that connection.</li> </ul>
	<b>Transmitter is OFF</b> A wiring short to the battery has been detected.	Refer to <b>Troubleshooting Chart #1</b> for solutions
	<b>Transmitter is ON</b> A setup failure has occurred.	Either hold the Setup button for 5 seconds to return to Setup mode or cycle power to return to the normal operating mode.
	<b>Transmitter is ON or OFF</b> CAN channel 1 is in fault.	Verify that the CAN 1 network is wired correctly. Check for; breaks, shorts, and network termination. If problem persists than contact Eaton Wireless Business Unit service providing part & serial number.
	<b>Transmitter is ON or OFF</b> CAN channel 2 is in fault.	Verify that the CAN 2 network is wired correctly. Check for; breaks, shorts, and network termination. If problem still persists than contact Eaton Wireless Business Unit service providing part & serial number.

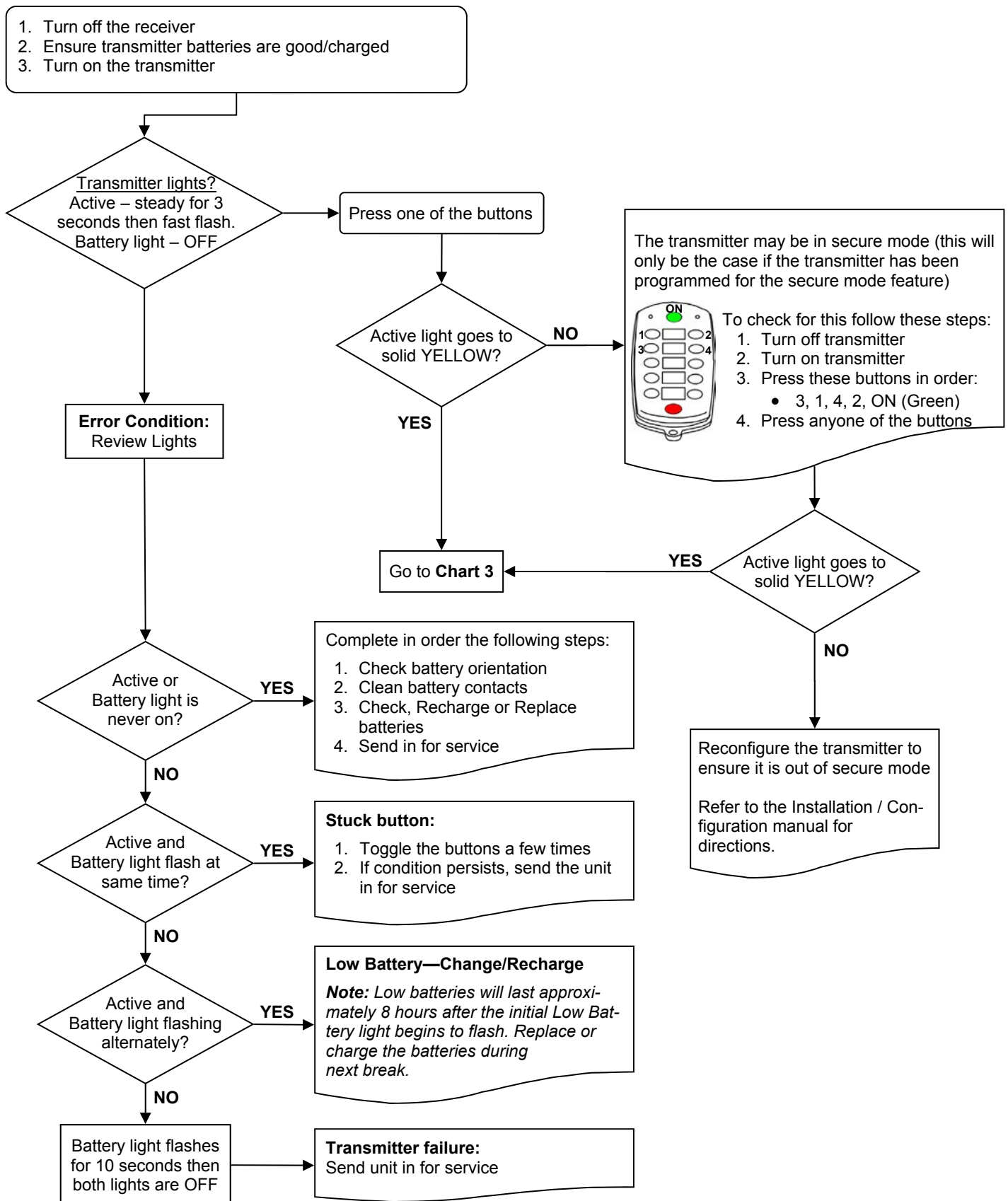
Light Legend	Solid	Slow Flash	Fast Flash	Red Light	Green Light	Yellow Light	Alternating Red & Green Light
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## Test the Receiver—R260

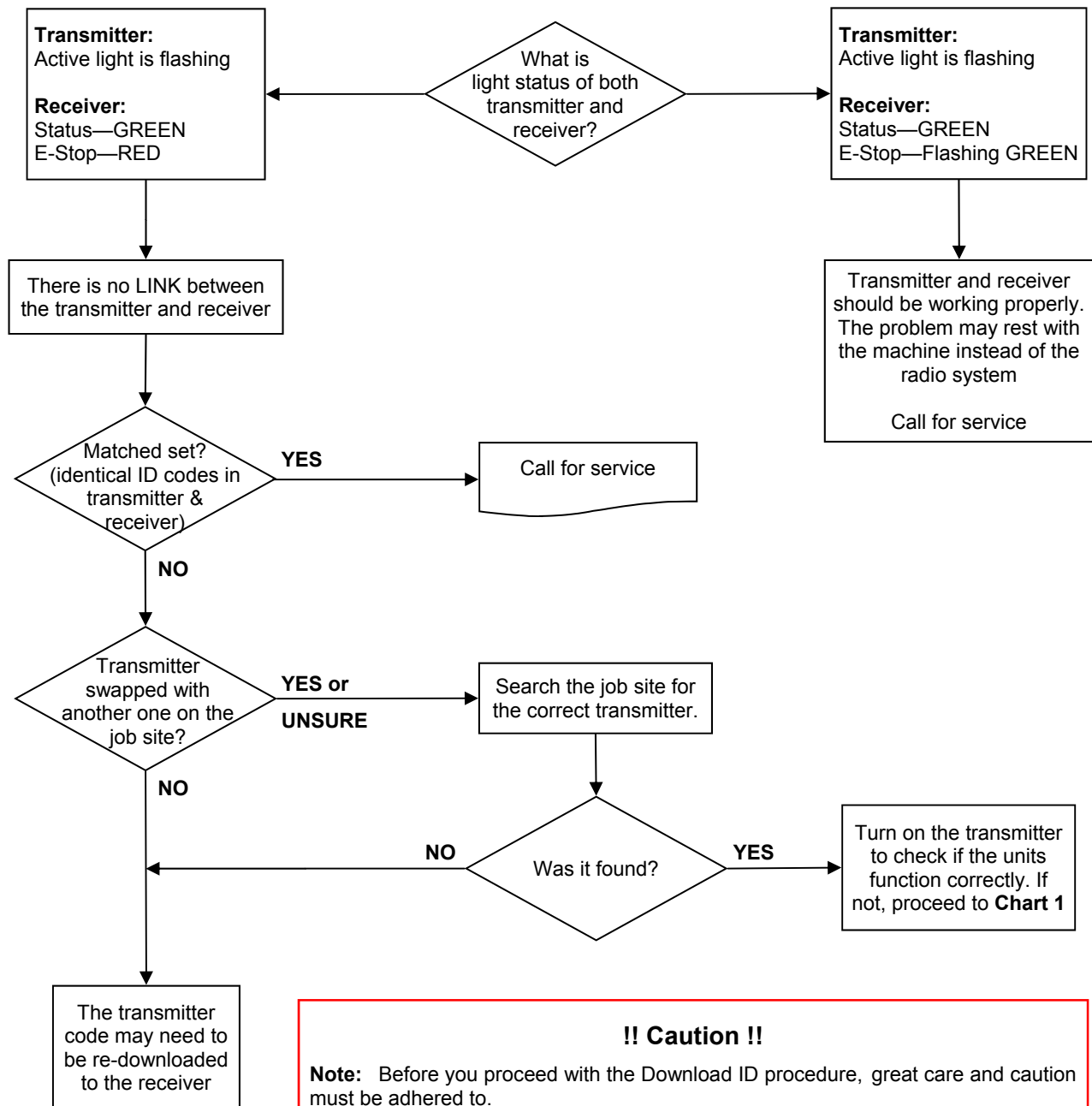




## Test the Transmitter—T110C



# Testing the Transmitter / Receiver Communication



## !! Caution !!

**Note:** Before you proceed with the Download ID procedure, great care and caution must be adhered to.

If by accident, the transmitters have been switched with another unit, by downloading the ID code to a new receiver, *it is possible for the transmitter to operate 2 units at the same time* (if the original receiver unit is still on the job site). Therefore it must be certain that the transmitter / receiver pair are the correct set.

Secondly, once the download procedure is completed, ensure all other units on the job site are stopped. Test the operation of the newly configured set to ensure no other machines on the site work with the same transmitter.

Once you are certain that the transmitter / receiver pair are a unique set, continue normal operations.

## Considerations when Downloading the ID

### Potential downloading issues

If testing of the receiver and transmitter both show the system as working (Chart 1 & 2), then the transmitter and receiver will both go into Download/Configuration mode.

Possible issues could arise during Step 4, the download phase of reprogramming. In this case there are 2 symptoms to look for:

1. The Link light on the receiver will not turn GREEN when the power switch is toggled on the transmitter to download
2. The receiver will "time out" indicating that it didn't receive a signal from the transmitter within the 30 seconds from the time the receiver was put into Setup Mode.

If all indications appear normal during the download phase, test the link by turning on the transmitter (note: the transmitter shuts off after transmitting the ID code in Step 4)

1. If the Link light on the receiver doesn't turn GREEN, the receiver didn't receive all of the information that was sent from the transmitter.

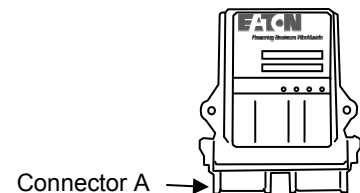
### Possible Solutions

1. Try the Downloading steps again
2. If this doesn't correct the problem, send both the transmitter and receiver in for service.

**Note:** you could try to determine whether the fault lies with the transmitter or receiver by completing the Reprogramming procedure with a different transmitter. If this step works, then the fault lies with the original transmitter. If not, the fault may lie with the receiver.

## !! Caution !!

**Note:** Before attempting reprogramming with another transmitter, understand that reprogramming the receiver with another transmitter, could result in two receivers on the job site responding to the one transmitter. If the original transmitter was sent in for repair, disconnect the receiver (disconnect connector A) to continue using the machine without remote capability and without fear of inadvertently operating the machine with the other transmitter.



### Reprogramming Tips:

1. Be patient and deliberate when pressing the Power and E-Stop buttons in the correct order during power up in Configuration mode
2. Use a pointy instrument to depress the Setup button on the receiver (i.e. a pen) as the button is relatively small
3. Follow each step as laid out in the procedure
4. Never lay the receiver circuit board down on anything metallic (there are contact points on the back which could contact the metal and damage the receiver)

## Parts & Accessories

Part	Eaton Part Number	Description
<b>Batteries</b>	B0016	4 x AA NiMH rechargeable batteries
<b>Belt Clip</b>	AKIT-2428-03	Belt clip for the T110c transmitter
<b>Magnets</b>	AKIT-2428-01	See illustration below
<b>Bipolar Diode Kit</b>	AKIT-2492-01	Motorola P6KE36CA
<b>CCDOCK™</b>	Call Eaton Wireless Business Unit	See illustration below
<b>R260 Output Cable</b>	ACAB-2493-01	Generic Output Cable- see illustration below
<b>Connector Kit</b>	AKIT-2337-01	Includes Deutsch socket connectors, wedges, pins and sealing plugs
<b>Keypad Label T110c</b>	FLBL-1726-25	Generic Line Pump Labels



CCDOCK™



Belt Clip



Magnets



R260 Output Cable

## Specifications

	R260 Receiver	T110C Transmitter
<b>Size</b>	5.1" x 4.7" x 1.4" (130mm x 119mm x 36mm)	5.8" x 3.4" x 1.2" (147mm x 86mm x 30mm)
<b>Weight</b>	0.65lbs (0.295kg)	.65 lbs (295g) incl. batteries
<b>Construction</b>	High impact plastic, weatherproof	High impact, low temperature plastic, weatherproof
<b>Input Power</b>	+9V to 30VDC	4AA alkaline batteries (use NiMH or NiCd with CCDOCK™)
<b>Battery Life</b>	N/A	160 hours (continuous use)
<b>Operating Temperature Range</b>	-40F to 158F (-40C to 70C)	-22 F to +140 F (-30 to +60 C)
<b>Outputs</b>	3A (max) each (sourcing), 10A (max) each (combined)	N/A
<b>Antenna</b>	Internal	Internal
<b>Approvals</b>	<b>USA-</b> FCC part 15.247 <b>Canada-</b> ISC RSS 210 Issue 6, Sept. 2005 <b>Europe-</b> CE, EN 440 <b>Australia-</b> C-Tick	

### FCC Rules and Compliance

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

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Part 15.247  
ISC RSS 210 Issue 6, Sept. 2005

### Warranty

Eaton warrants to the original purchaser that the Eaton products are free from defects in materials and workmanship under normal use and service for a period of ONE YEAR, parts (EXCLUDING: SWITCHES, CRYSTALS, OR PARTS SUBJECT TO UNAUTHORIZED REPAIR OR MODIFICATION) and labor from the date of delivery as evidenced by a copy of the receipt. Eaton's entire liability and your exclusive remedy shall be, at Eaton's option, either the (a) repair or (b) replacement of the Eaton product which is returned within the warranty period to Eaton Wireless Business Unit freight collect by the Eaton APPROVED carrier with a copy of the purchase receipt and with the return authorization of Eaton. If failure has resulted from accident, abuse or misapplication, Eaton shall have no responsibility to repair or replace the product under warranty. In no event shall Eaton be responsible for incidental or consequential damage caused by defects in its products, whether such damage occurs or is discovered before or after replacement or repair and whether or not such damage is caused by the negligence of Eaton Wireless Business Unit.

### Eaton Wireless Business Unit

74-1833 Coast Meridian Road  
Port Coquitlam, BC, Canada  
V3C 6G5

Tel: 604-944-9247  
Fax: 604-944-9267

**Toll Free: 1-800-663-8806**

[www.omnexcontrols.com](http://www.omnexcontrols.com)