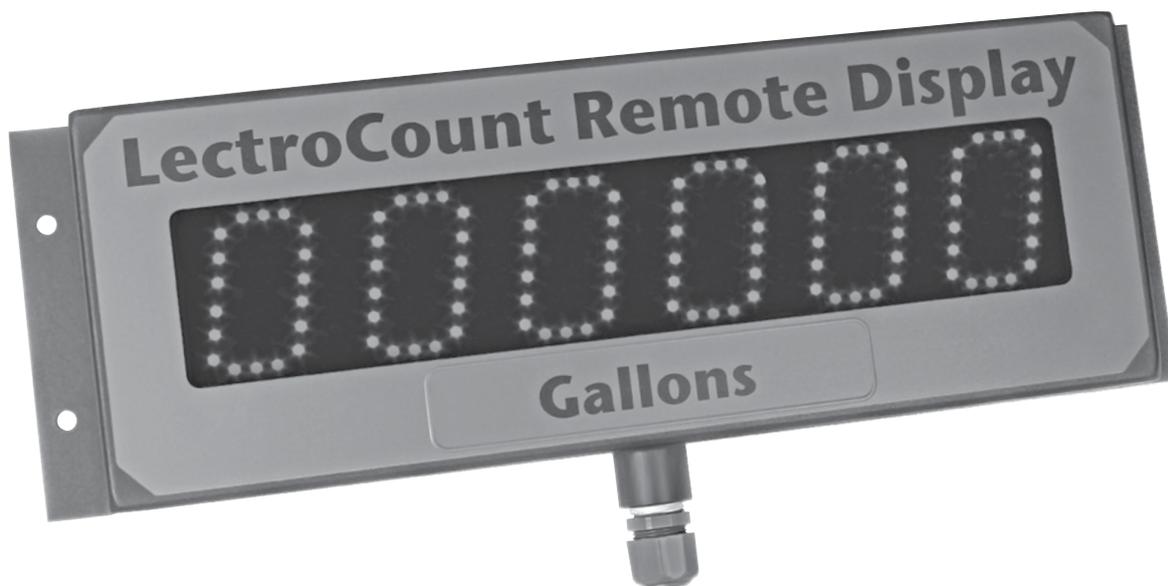




# LectroCount<sup>®</sup> XL LED Remote Display

E1615/E1616/E1617/E1618

## Installation & Parts



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## NOTICE

This manual provides warnings and procedures that are intended to inform the owner and/or operator of the hazards present when using the Liquid Controls Meter on LP-Gas and other products. The reading of these warnings and the avoidance of such hazards is strictly in the hands of the owner-operators of the equipment. Neglect of that responsibility is not within the control of the manufacturer of the meter.

## Publication Updates and Translations

The most current English versions of all Liquid Controls publications are available on our web site, [www.lcmeter.com](http://www.lcmeter.com). It is the responsibility of the local distributor to provide the most current version of LC manuals, instructions, and specification sheets in the required language of the country, or the language of the end user to which the products are shipping. If there are questions about the language of any LC manuals, instructions, or specification sheets, please contact your local distributor.

## Be Prepared

### WARNING

- Before using this product, read and understand the instructions.
- All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of equipment and/or systems in accordance with all applicable codes and ordinances.
- When handling electronic components and boards, always use proper Electrostatic Discharge (ESD) equipment and follow the proper procedures
- Make sure that all necessary safety precautions have been taken.
- Provide for proper ventilation, temperature control, fire prevention, evacuation, and fire management.
- Provide easy access to the appropriate fire extinguishers for your product.
- Consult with your local fire department, state, and local codes to ensure adequate preparation.
- Read this manual as well as all the literature provided in your owner's packet.
- Save these instructions for future reference.
- Failure to follow the instructions set forth in this publication could result in property damage, personal injury, or death from fire and/or explosion, or other hazards that may be associated with this type of equipment.

## Observe National and Local Codes

### WARNING

**North America** - Installations must be in full accordance with the National Electrical Code (US) or the Canadian Electrical Code respectively to maintain the hazardous location ratings on the product.

**WARNING: Explosion Hazard -**

Substitution of components may impair suitability for hazardous area applications.

**WARNING: Explosion Hazard -**

When in hazardous locations, turn power OFF before replacing or wiring modules.

**WARNING: Explosion Hazard -**

Do NOT disconnect equipment unless power has been switched OFF or the area is known to be Non-Hazardous.

## Safely Evacuate Piping System

### WARNING

Before disassembly of any meter or accessory component:

- **All internal pressures must be relieved and all liquid drained from the system in accordance with all applicable procedures.**
- **Pressure must be 0 (zero) psi.**
- **Close all liquid and vapor lines between the meter and liquid source.**

**Failure to follow this warning could result in property damage, personal injury, or death from fire and/or explosion, or other hazards that may be associated with this type of equipment.**

# OVERVIEW

## General Information

This manual provides instructions for the installation, operation, and maintenance of the LectroCount XL LED Remote Display. LectroCount XL LED Remote Displays display the volume of metered product in a six-digit configuration of high-intensity LED lights. The 2¼" high digits are viewable at up to 250 feet from the display.

## FEATURES

- 6-digit, high-intensity LED display with 2¼" high display characters
- 30', 4-wire, shielded cable
- Weatherproof NEMA 4X enclosure
- Viewable from up to 250 feet

## MODEL NUMBERS & DEVICE COMPATIBILITY

The four models of the LectroCount XL LED Remote Display are compatible with all current and legacy LectroCount registers, solid state quadrature pulsers, solid state single channel pulsers, and the LCMag™ HML210 converter.

### LECTROCOUNT XL LED REMOTE DISPLAY COMPATIBILITY

- E1615** LectroCount LCR® 600 and LectroCount LCR-II
- E1616** LectroCount LCR, LectroCount<sup>3</sup>
- E1616** Quadrature pulsers (solid state and calibrated)
- E1616** LCMag HML210 and single channel pulsers (solid state and calibrated)

Prior to installation, make sure that the model number of the LectroCount XL LED Remote Display is compatible with the intended device. If the display model is not compatible, the display will not work and damage could occur when power is applied.

To ensure that the LectroCount XL LED Remote Display with the intended, check the model number printed on the display's serial number tag. The serial number tag can be found on the top of display.

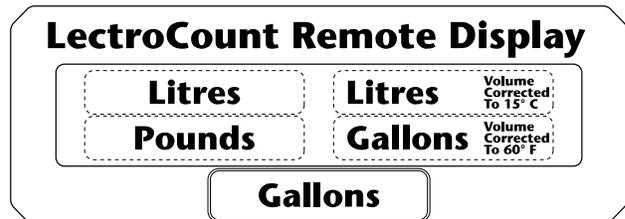


Remote Display Serial Number Tag

Models E1615, E1616, E1617, E1618 of the LectroCount XL LED Remote Display render LectroCount LCD Remote Display models E1610, E1611, E1612, and E1613 obsolete.

## REMOTE DISPLAY LABEL

Each shipment of the LectroCount XL LED Remote Display includes a set of four (4) additional unit of display labels. At the factory, all displays are assembled with the "Gallons" label. To change the "Gallons" label designation, simply remove the desired unit of display label from the backing and place it over the "Gallons" label.



## CHECK EACH SHIPMENT

Before installation, check your shipment against the packing list and ensure that no parts are missing. The packing list is include in the same red information packet as this manual.

# SPECIFICATIONS & DIMENSIONS

## Specifications

### Temperature Range

- -40 to 158 °F (-40 to 70 °C)

### Environmental Rating

- NEMA 4X

### Input Voltage

- 9 to 28 VDC, 500 mA maximum

### Input Signal Levels

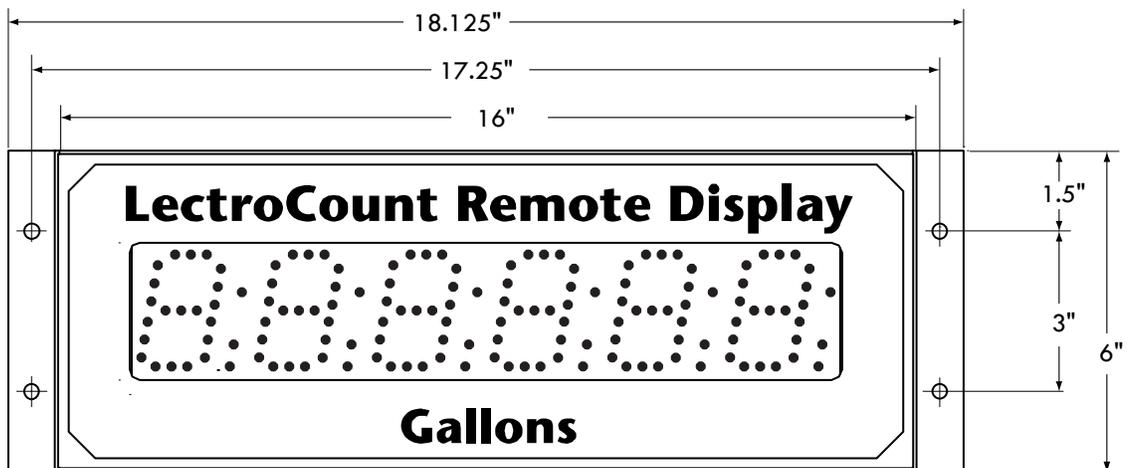
- High  $\geq 2.50$  VDC
- Lo  $\leq 2.0$  VDC

### Maximum Frequency Input

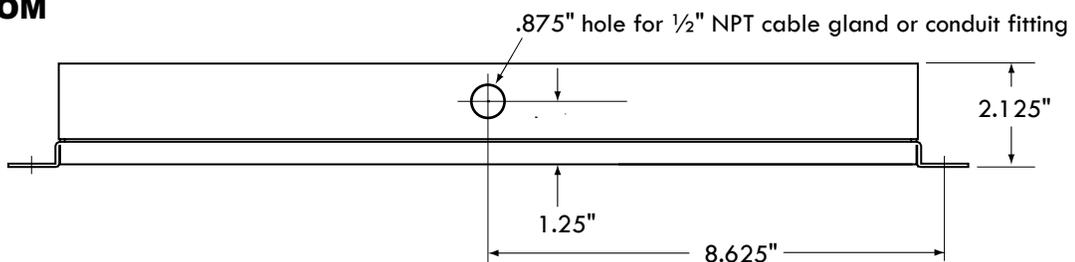
- N/A *LectroCount LCR 600*
- N/A *LectroCount LCR-II*
- 5 kHz *LectroCount LCR*
- 5 kHz *LectroCount LC<sup>3</sup>*

## Dimensions

### FRONT



### BOTTOM



# INSTALLATION OVERVIEW & GUIDELINES

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## Installation Overview

The LectroCount XL LED Remote Display is shipped with a 30 foot, 4-wire, shielded cable threaded through a cord grip at the bottom of the display housing and a selection of unit of display labels twist-tied to the display.

### Installation overview for the LectroCount XL LED Remote Display:

1. Check contents of the shipment and ensure that the correct model is included. *page 4*
2. Determine which accessories and settings are required and incorporate them into installation. *pages 13-17*
3. Mount the LectroCount XL LED Remote Display. *page 7*
4. Wire the LectroCount XL LED Remote Display. *pages 8-12*

## Installation Guidelines

- **READ THIS MANUAL PRIOR TO START OF INSTALLATION**

If you have any questions, consult with your full service distributor or call the Service Department at Liquid Controls.

- **AVOID EXCESSIVE VIBRATION OR SHOCK**

Ensure that the display does not sustain any excessive vibration or shock. The display should always be securely mounted to a platform or supportive member.

- **MATCH LECTROCOUNT XL LED REMOTE DISPLAY WITH THE PROPER DEVICE**

The four models of the LectroCount XL LED Remote Display are designed for use with the devices specified. No attempt should be made to connect the display to an input other than the specified device. Model numbers and compatibility are specified on the display's serial number tag. *page 4 Model Number and Device Compatibility*

- **USE PROPER CABLING AND WIRES**

The LectroCount XL LED Remote Display is supplied with a 30 foot 4-wire shielded cable with 22 gauge wire. The shielded cable should be adequate for most installations. If alternate cabling is required, Liquid Controls recommends a 4-wire shielded cable with 22 gauge wire or larger and a maximum cable length of 30 feet.

- **SECURE CABLE AND TIGHTEN COVER UPON REASSEMBLY**

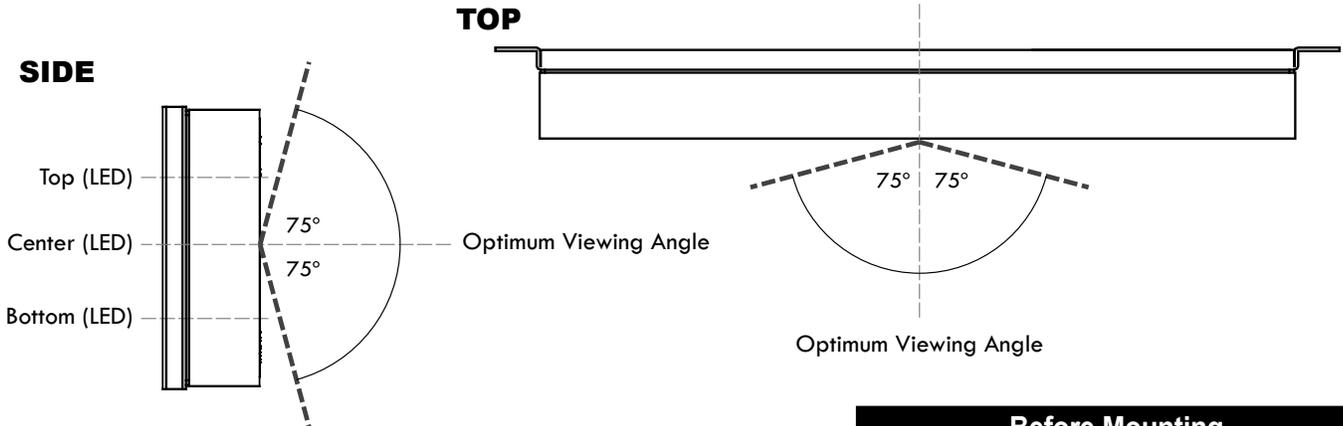
LectroCount XL LED Remote Displays are assembled and shipped ready for final cable termination. If the display's preinstalled shielded cable is removed during installation, be sure to secure the cable and tighten the cover screws in the correct torque pattern so the vapor seal is maintained. *page 18 Torque Specifications*

### **WARNING**

The LectroCount XL LED Remote Display and accessories (whether supplied by Liquid Controls or other) must be installed and operated in accordance with all applicable federal, state, and local construction, electrical, environmental and safety codes. Failure to do so could result in serious injury or death.

## Mounting

LED displays have an optimum viewing angle. Outside of the optimum viewing angle, displays lose contrast and become difficult to read. To supply as wide a viewing area as possible, a bias has been designed into the LectroCount XL LED Remote Display. The bias creates a optimum viewing angle offset by 75° in either direction from the horizontal and vertical perpendicular. The LectroCount XL LED Remote Display will have the greatest contrast, when it is viewed inside the optimum viewing angle.



### To mount the LectroCount XL LED Remote Display:

1. Select a mounting location where the display is inside the optimum viewing angle at the most common viewing points.
2. Using four ¼" screws, screw the display to a secure location through the four holes in the rear cover of the display.

**Before Mounting**

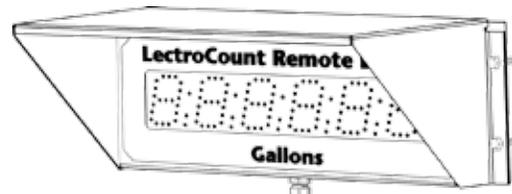
*Review the manual and determine the necessary steps for your particular installation. Some XL LED Remote Display accessories and settings require connections and settings inside the display housing. Complete these installations and configurations, before mounting the display.*

### REMOTE DISPLAY SHIELD ACCESSORY (PN 81879)

There are certain applications where sun or bright light may produce glare on the display. A Remote Display Shield is available as an accessory to the LectroCount XL LED Remote Display to reduce the effect of glare in these applications.

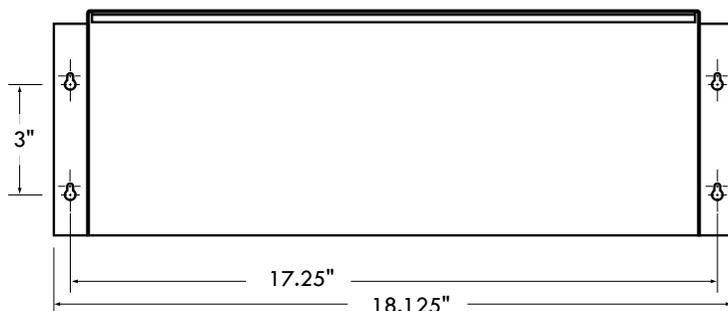
### To mount the Remote Display Shield:

1. Slide the shield over the display.
2. Align the four slotted holes in the shield with the four holes in the LectroCount XL LED Remote Display's rear cover.
3. Using four ¼" screws, screw the display and the shield to a secure location through the four holes in the rear cover of the display and the four holes of the display shield.

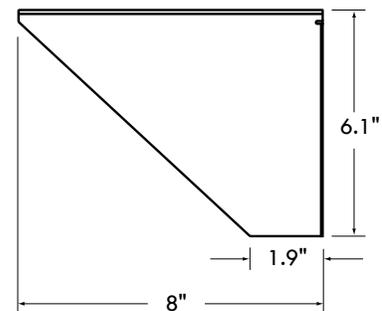


Remote Display Shield

### FRONT



### SIDE



# WIRING - MODEL E1615

## Wiring Model E1615

Model E1615 of the LectroCount XL LED Remote Display is designed for use with a LectroCount LCR-II or LCR 600. LectroCount LCR-II or LCR 600 electronic registers contain a 840404, 84040, or 81920 CPU board.

### To wire the LectroCount XL LED Remote Display model E1615 to a 840404, 84040, or 81920 CPU board:

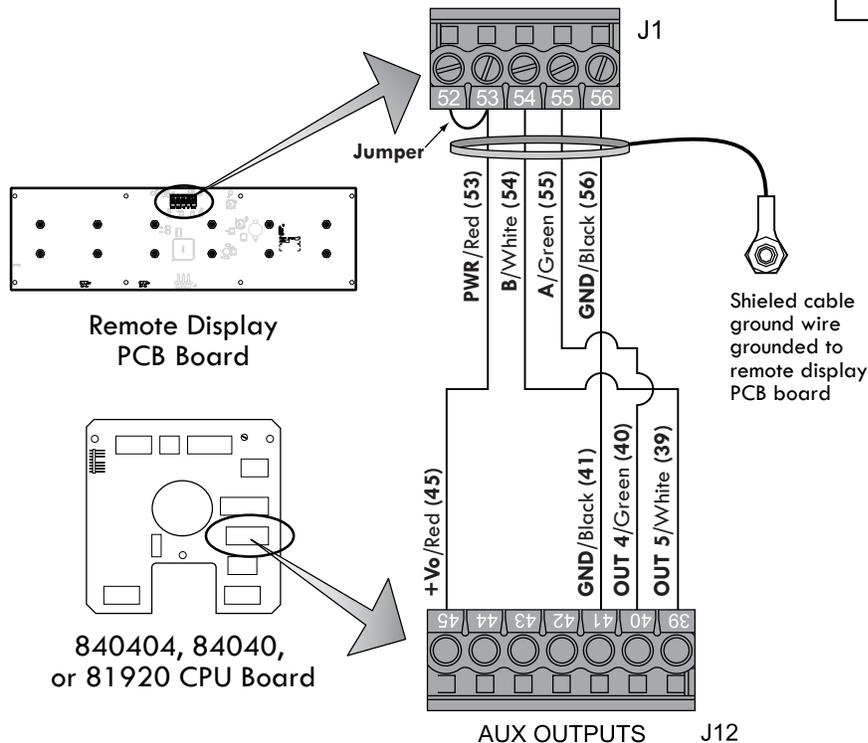
1. Open the LectroCount register. Refer to the specific LectroCount register's manual for specific instructions regarding opening, closing, and sealing the electronic register.
2. Attach a cable gland to a port on the LectroCount electronic register.
3. Route the shielded cable through the cable gland and into the LectroCount register housing.
4. Connect the four wires of the display's shielded cable to the four designated terminals on the J12 terminal block on the LectroCount CPU board.
  - XL LED terminal 53 (red wire) to LCR-II/600 terminal 45
  - XL LED terminal 54 (white wire) to LCR-II/600 terminal 39
  - XL LED terminal 55 (green wire) to LCR-II/600 terminal 40
  - XL LED terminal 56 (black wire) to LCR-II/600 terminal 41
5. Tighten the cable gland and close the LectroCount register.

### Shielded Cable

The LectroCount XL LED Remote Display is supplied with a 30 foot 4-wire shielded cable with 22 gauge wire. If alternate cabling is required, Liquid Controls recommends a similar 4-wire shielded cable with 22 gauge wire or larger and a maximum cable length of 30 feet.

### 24 VDC Power

If the power to the LectroCount LCR-II or LCR 600 exceeds 24 VDC, then the remote display should be powered from Pin 32 on J8, 5 VDC.



### J1 Jumper - LectroCount XL LED Remote Display

A jumper is required between terminal 52 and terminal 53 on the display's J1 terminal block. Display units from the factory will include the jumper. When rewiring, ensure that this jumper is in place.

## Wiring Model E1616

Model E1616 of the LectroCount XL LED Remote Display is designed for use with a LectroCount LCR (CPU board 81547-2) or a LC3 CPU board (Terminal Board 81924).

### To wire the LectroCount XL LED Remote Display model E1616 to a 81547-2 or LC3 CPU board:

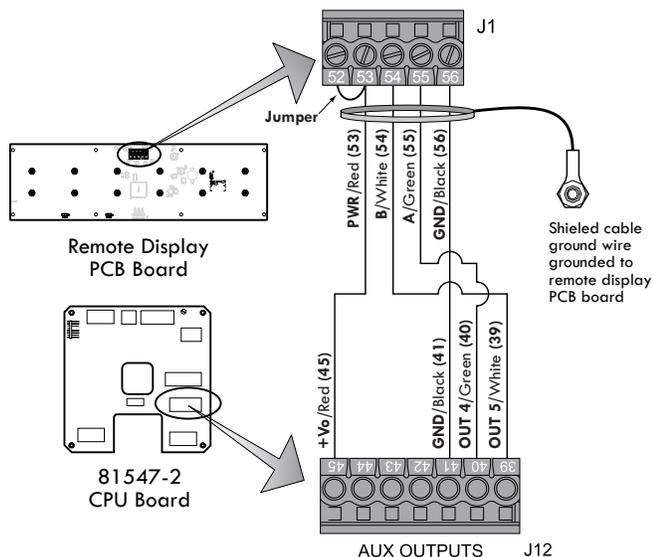
1. Open the LectroCount register. *Refer to the specific LectroCount register's manual for specific instructions regarding opening, closing, and sealing the electronic register.*
2. Attach a cable gland and/or conduit connector to a port on the LectroCount electronic register.
3. Route the shielded cable through the cable gland and into the LectroCount register housing.
4. Connect the four wires of the display's shielded cable to the four designated terminals on the LectroCount CPU board.
  - 4a. **LectroCount LCR**  
On the J12 terminal block (81547-2) connect:
    - XL LED terminal 53 (red wire) to LCR terminal 45
    - XL LED terminal 54 (white wire) to LCR terminal 39
    - XL LED terminal 55 (green wire) to LCR terminal 40
    - XL LED terminal 56 (black wire) to LCR terminal 41
  - 4b. **LectroCount<sup>3</sup>**  
On the J1 terminal block (81924) connect:
    - XL LED terminal 53 (red wire) to LC3 terminal 1
    - XL LED terminal 54 (white wire) to LC3 terminal 5
    - XL LED terminal 55 (green wire) to LC3 terminal 6
    - XL LED terminal 56 (black wire) to LC3 terminal 2
5. Tighten the cable gland and close the LectroCount register.

### Shielded Cable

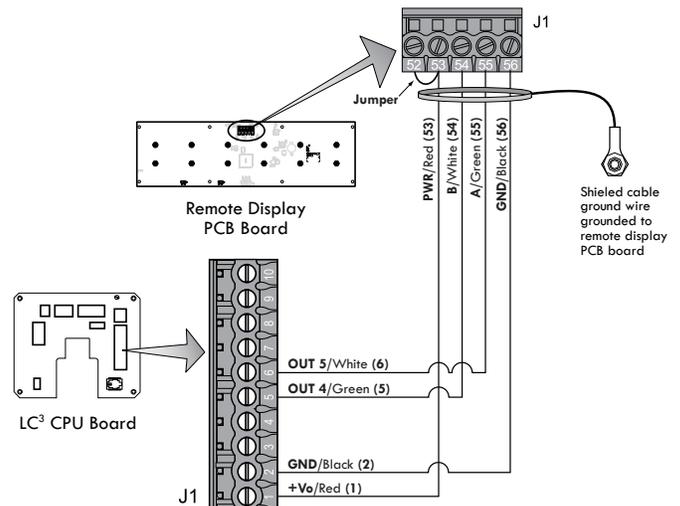
The LectroCount XL LED Remote Display is supplied with a 30 foot 4-wire shielded cable with 22 gauge wire. If alternate cabling is required, Liquid Controls recommends a similar 4-wire shielded cable with 22 gauge wire or larger and a maximum cable length of 30 feet.

### 24 VDC Power

If the power to the LectroCount LCR exceeds 24 VDC, then the remote display should be powered from Pin 32 on J8, 5 VDC.



Display and LectroCount LCR Wiring



Display and LectroCount<sup>3</sup> Wiring

### J1 Jumper - LectroCount XL LED Remote Display

A jumper is required between terminal 52 and terminal 53 on the display's J1 terminal block. Display units from the factory will include the jumper. When rewiring, ensure that this jumper is in place.

# WIRING - MODEL E1617

## Wiring Model E1617

Model E1617 of the LectroCount XL LED Remote Display is designed to receive a calibrated (50 pulses per revolution) solid state quadrature pulse output. Typically, Model E1617 operates in conjunction with a solid state quadrature pulser (PN 077733) mounted onto a mechanical register using mounting kit (PN 47824).

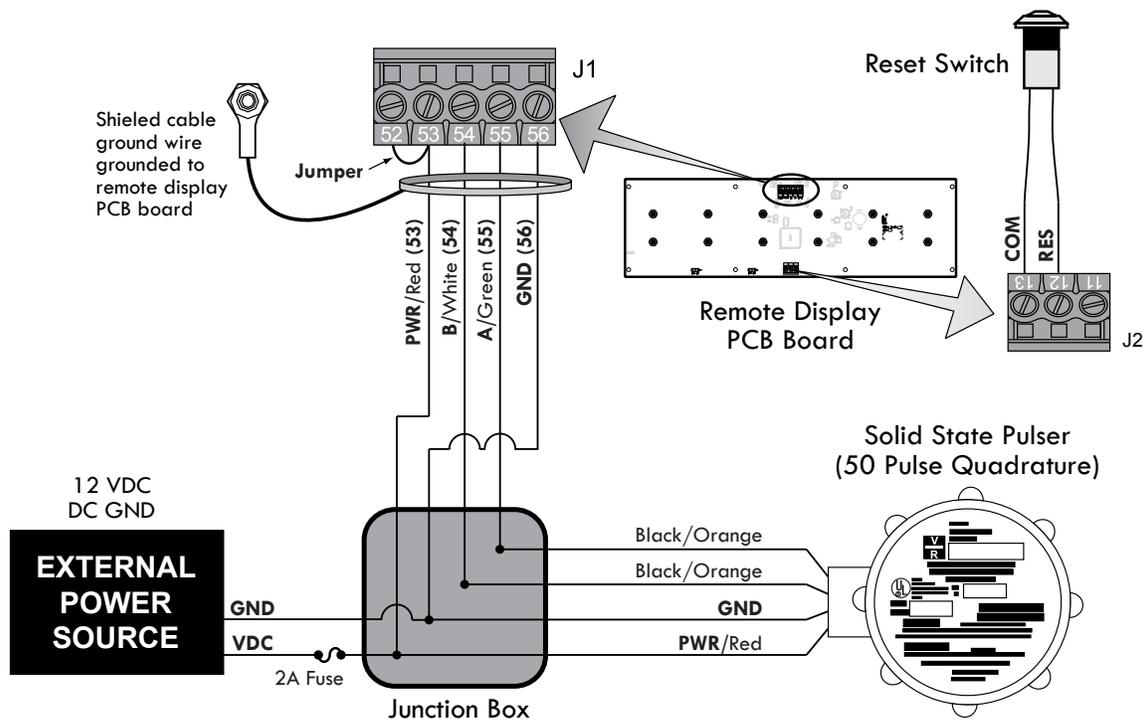
Since quadrature pulsers do not have an output signal to reset the LED Remote Display, a Reset Switch Kit (PN 82592) is required for this application. The Reset Switch Kit resets the XL LED Remote Display to zero between deliveries. To complete the installation, the installer must provide a 12 VDC external power source and a junction box.

### To wire the LectroCount XL LED Remote Display model E1617 to a quadrature pulser:

1. Install Reset Switch Kit. *page 16*
2. Set the junction box.
3. Route the display's shielded cable, the pulser wires, and the wires from the external power source into the junction box. *Use the appropriate connectors.*
4. Connect the display's shielded cable wires to the following pulser and external power source wires:
  - XL LED terminal 53 (red wire) to Pulser power (red wire) to External Power Source voltage (+Vo)
  - XL LED terminal 54 (white wire) to Pulser signal (black/orange wire)
  - XL LED terminal 55 (green wire) to Pulser signal (black/orange wire)
  - XL LED terminal 56 (black wire) to Pulser ground (white wire) to External Power Source ground
5. Tighten connectors and close the boxes.

### Shielded Cable

The LectroCount XL LED Remote Display is supplied with a 30 foot 4-wire shielded cable with 22 gauge wire. If alternate cabling is required, Liquid Controls recommends a similar 4-wire shielded cable with 22 gauge wire or larger and a maximum cable length of 30 feet.



### Reversing the Display Counter Direction

Quadrature pulse outputs can send a signal to the display to count either up or down. If the display is counting in the wrong direction, switch the connections of signal wires from the pulser (black and orange for PN 077733) to the display (J1 terminals 54 and 55) to reverse the counter direction.

### J1 Jumper - LectroCount XL LED Remote Display

A jumper is required between terminal 52 and terminal 53 on the display's J1 terminal block. Display units from the factory will include the jumper. When rewiring, ensure that this jumper is in place.

## Wiring Model E1618 (LCMag™)

Model E1618 of the LectroCount XL LED Remote Display will accept the calibrated pulse output of the LCMag HML210 converter.

Since the HML210 does not have an output signal to reset the LED Remote Display, a Reset Switch Kit (PN 82592) is required for this application. The Reset Switch Kit resets the XL LED Remote Display to zero between deliveries.

### To wire the LectroCount XL LED Remote Display model E1618 to the HML210 Converter:

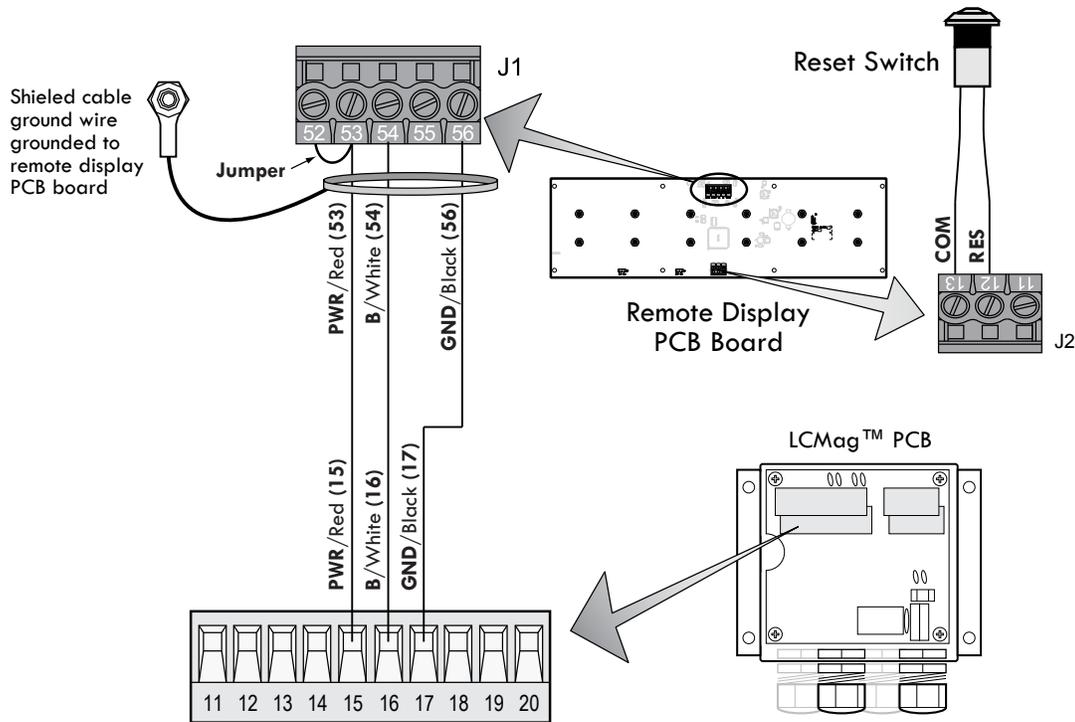
1. Install Reset Switch Kit. *page 16*
2. Open the LCMag HML210 converter. *Refer to manual IEM200-10 for specific instructions regarding opening, closing, and sealing the converter.*
3. Route the shielded cable through a cable gland and into the HML210 housing.
4. Connect the display's shielded cable wire to the designated terminals on the HML210 CPU board
  - XL LED terminal 53 (red wire) to HML210 terminal 15
  - XL LED terminal 54 (white wire) to HML210 terminal 16
  - XL LED terminal 56 (black wire) to HML210 terminal 17
5. Tighten the cable gland and close the HML210 converter.

#### Shielded Cable

The LectroCount XL LED Remote Display is supplied with a 30 foot 4-wire shielded cable with 22 gauge wire. If alternate cabling is required, Liquid Controls recommends a similar 4-wire shielded cable with 22 gauge wire or larger and a maximum cable length of 30 feet.

#### 24 VDC Power

If the power to the HML210 exceeds 24 VDC, then the remote display should be powered from Pin 32 on J8, 5 VDC.



#### J1 Jumper - LectroCount XL LED Remote Display

A jumper is required between terminal 52 and terminal 53 on the display's J1 terminal block. Display units from the factory will include the jumper. When rewiring, ensure that this jumper is in place.

# WIRING - MODEL E1618

## Wiring Model E1618 (Single Channel Pulsers)

Model E1618 of the LectroCount XL LED Remote Display is designed to receive a calibrated single channel pulse output. A common application of Model E1618 is with a 100 pulses per revolution solid state single channel pulser (PN 07525) mounted onto a mechanical register using mounting kit (PN 42695). The E1618 is also compatible with any single channel pulser that meets the required specifications listed below.

Since single channel pulsers do not have an output signal to reset the LED Remote Display, a Reset Switch Kit (PN 82592) is required for this application. The Reset Switch Kit resets the XL LED Remote Display to zero between deliveries. To complete the installation, the installer must provide a 5 to 28 VDC external power source and a junction box.

### To wire the LectroCount XL LED Remote Display model E1618 to a single channel pulser:

1. Install Reset Switch Kit. *page 16*
2. Set the junction box.
3. Route the display's shielded cable, the pulser wires, and the wires from the external power source into the junction box. *Use the appropriate connectors.*
4. Connect the display's shielded cable wires to the following pulser and external power source wires:
  - XL LED terminal 53 (red wire) to Pulser power to External Power Source voltage (+Vo)
  - XL LED terminal 54 (white wire) to Pulser signal
  - XL LED terminal 56 (black wire) to Pulser ground to External Power Source ground
5. Tighten connectors and close the boxes.

### Shielded Cable

The LectroCount XL LED Remote Display is supplied with a 30 foot 4-wire shielded cable with 22 gauge wire. If alternate cabling is required, Liquid Controls recommends a similar 4-wire shielded cable with 22 gauge wire or larger and a maximum cable length of 30 feet.

### Required Specifications Single Channel Pulsers

#### Single Channel Pulse Device

- Solid State

#### Signal Level

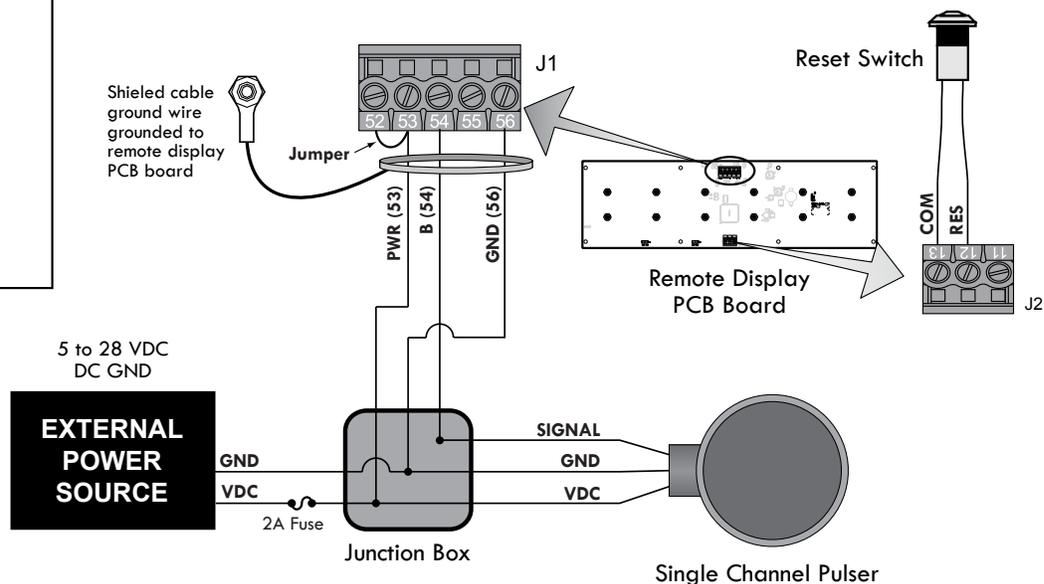
- $\geq 2.50$  VDC *high*
- $\leq 2.00$  VDC *low*

#### Output

- 1.5 mA sinking

#### Frequency

- 5 kHz maximum



### J1 Jumper - LectroCount XL LED Remote Display

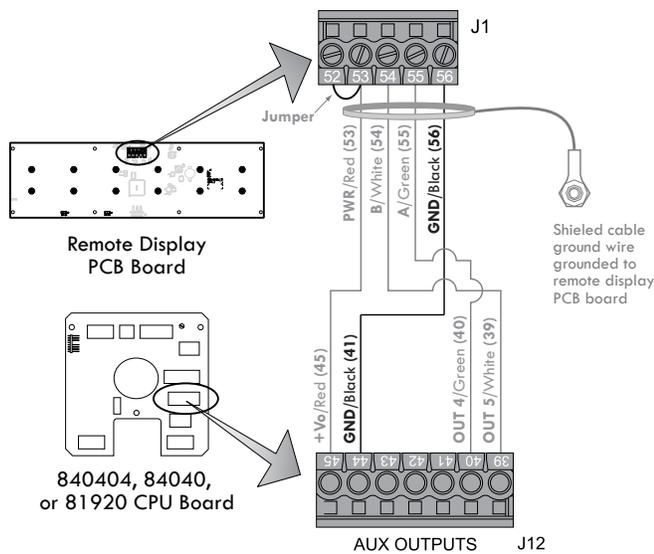
A jumper is required between terminal 52 and terminal 53 on the display's J1 terminal block. Display units from the factory will include the jumper. When rewiring, ensure that this jumper is in place.

## Automatic Shutoff Wiring

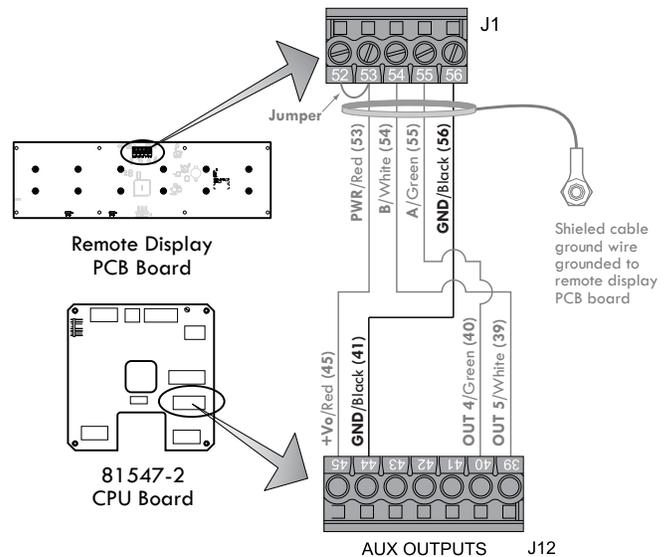
The LectroCount XL LED Remote Display can be wired to turn on and shut off automatically. If wired for automatic shutoff, the display will automatically turn on when a delivery is initiated. The display will remain lit until a delivery ticket is printed. When the delivery ticket begins printing, the display will automatically shut off. Only models E1615 and E1616 can be wired for automatic shutoff.

### To wire a LectroCount XL LED Remote Display for automatic shutoff:

1. Connect the power and two signal wires according to the instructions.
2. Instead of connecting the black (GND) wire to terminal 41 on the J12 terminal block, **connect the black (GND) wire to terminal 44 of the J12 terminal block on the LectroCount register CPU board.**



Model E1615 Automatic Shutoff Schematic



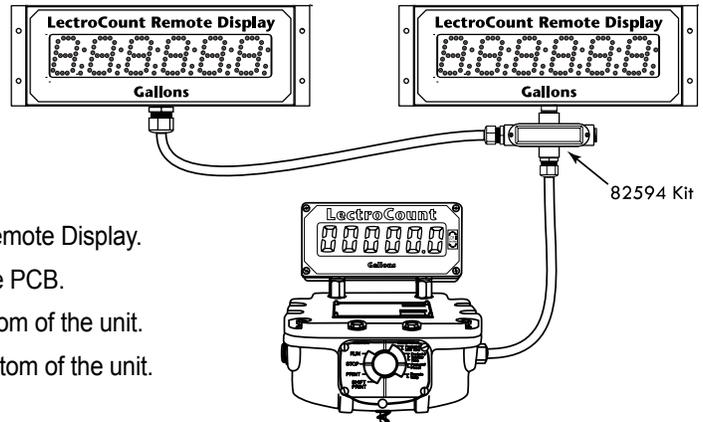
Model E1616 Automatic Shutoff Schematic

# WIRING - DUAL DISPLAY KIT

## Wiring the Dual Display Kit - PN 82594

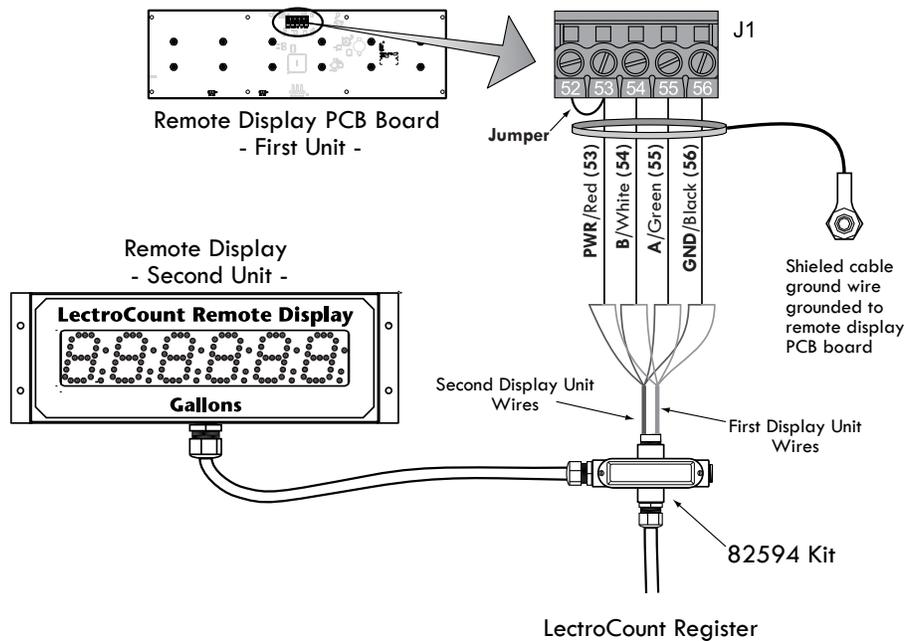
The dual display kit allows two LectroCount XL LED Remote Displays to display the delivery volume of a single LectroCount electronic register. This dual display kit includes:

- 4-port conduit box
- Cord grip (2)
- Nipple & seal washer



### To install the Dual Display Kit:

1. Remove the rear panel from one LectroCount XL LED Remote Display.
2. Remove the cable wires from the J1 terminal block on the PCB.
3. Remove the cord grip and cable from the port on the bottom of the unit.
4. Attach the 4-port conduit box to the empty port on the bottom of the unit.
5. Attach the cord grips to the 4-port conduit box.
5. Route the shielded cable from the second LectroCount XL LED Remote Display through one of the cord grips on the 4-port conduit box.
6. Route the shielded cable from the first LectroCount XL LED Remote Display through the other cord grip on the 4-port conduit box.
7. Connect the wires from both shielded cables to the J1 terminal block on the PCB of the first LectroCount XL LED Remote Display.
8. Replace the rear panel of the display. *page 18 Torque Specifications*
9. Connect the cable wires from the first LectroCount XL LED Remote Display to the LectroCount electronic register CPU board. *pages 8-12*



### Secure Cable and Tighten Cover Upon Reassembly

*LectroCount XL LED Remote Displays are assembled and shipped ready for final cable termination. If the display's pre-installed shielded cable is removed during installation, be sure to secure the cable and tighten the cover so the vapor seal is maintained. See page 18 for proper torque specifications.*

# RATE OF FLOW SWITCH KIT - WIRING

## Wiring the Rate of Flow Switch Kit (PN 82593) - MODEL E1615

The Rate of Flow Switch Kit is an optional accessory that toggles the LectroCount XL LED Remote Display from the delivery volume to the current flow rate. To toggle to the current flow rate display, push select switch kit's push button. After 5 seconds, the display will return to the delivery volume. The select switch kit includes:

- Push button (w/ cord grip)
- Cord grip (2)
- 4-port conduit box
- 30', 2-wire, shielded cable

### For Model E1615 Only

*The Rate of Flow Switch Kit is compatible with LectroCount LCR-II and LCR 600 electronic registers only.*

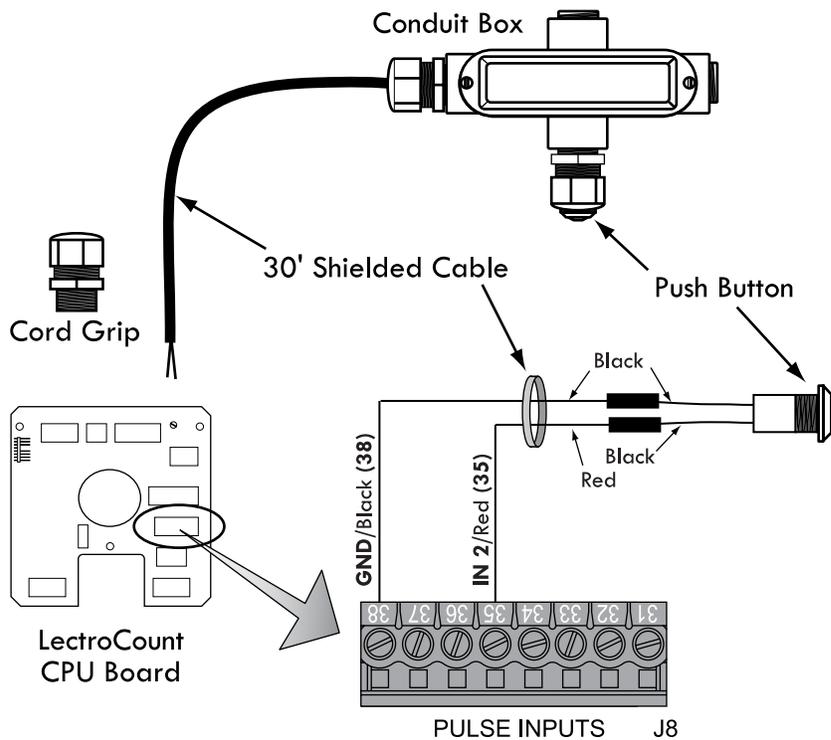
The switch kit accessory connects directly to a LectroCount LCR-II or LCR 600.

### To install the Rate of Flow Switch Kit:

1. Determine the best location for the push button.
2. Mount the conduit box at the determined location.
3. Screw a cord grip into the conduit box and a port in the LectroCount register.
4. Route the 30' shielded cable through the cord grips in the conduit box and the LectroCount register and tighten the cord grips.
5. Screw the push button into the conduit box and connect the push button wires to the cable wires.
6. Connect the 30' shielded cable's red wire to terminal 35 and black wire to terminal 38 on the J8 terminal block on the LectroCount CPU board.

### LCR 600 Software Requirements

*To function with an LCR 600, the Rate of Flow Switch Kit must be wired to a 840404 CPU board flashed with version 2.12 or higher of the SR600 firmware.*



### Secure Cable and Tighten Cover Upon Reassembly

*LectroCount XL LED Remote Displays are assembled and shipped ready for final cable termination. If the display's pre-installed shielded cable is removed during installation, be sure to secure the cable and tighten the cover so the vapor seal is maintained. See page 18 for proper torque specifications.*

# WIRING - RESET SWITCH KIT

## Wiring the Reset Switch Kit (PN 82592) - MODELS E1617 & E1618

The Reset Switch Kit (P. N. 82592) is required for the installation of XL LED Remote Display models E1617 and E1618. The reset switch resets the XL LED Remote Display to zero between deliveries.

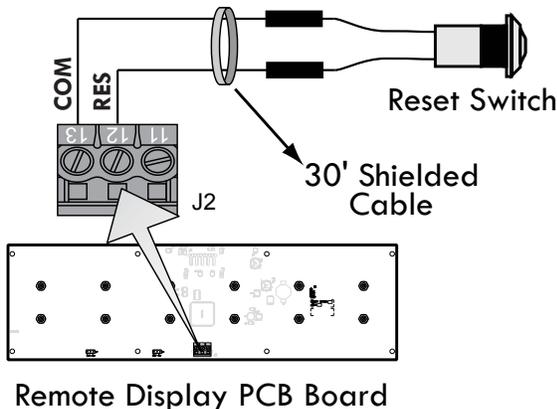
The reset switch can not zero out the totalizer while a delivery is active. To zero the display totalizer, the reset switch must be pushed when the display is not receiving a pulse output. The switch must be pushed and held for two seconds before the display will reset to zero.

### Reset Switch Kit includes:

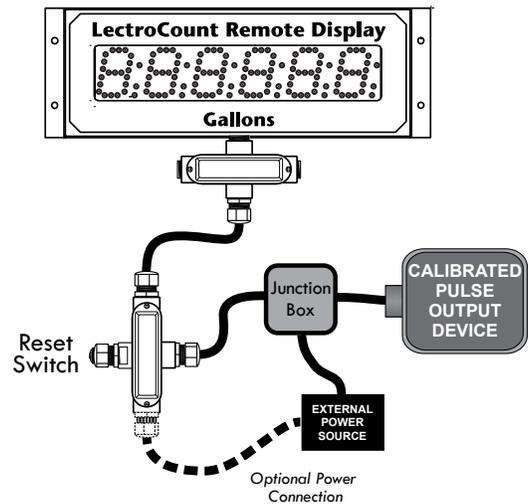
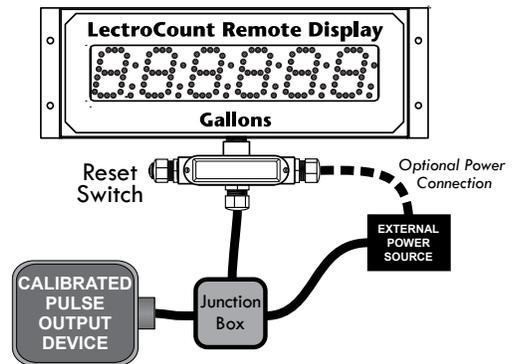
- ½", 4-port conduit box (2)
- Cord grips (3)
- Nipple
- Port plugs (2)
- Reset switch
- 30' shielded cable

### To install the Reset Switch Kit:

1. Remove the rear panel from the LectroCount XL LED Remote Display.
2. Remove the cord grip and shielded cable (supplied with the XL LED Remote Display) from the port at the bottom of the housing.
3. Attach a 4-port conduit box to the empty port on the bottom of the unit.
- 4a. If mounting the reset switch directly to the XL LED Display, screw the reset switch into a port on the 4-port conduit box.
- 4b. If mounting the reset switch remotely, mount the second 4-port conduit box and screw the reset switch into a port on the second 4-port conduit box.
5. Screw the cord grips into the conduit box(es). Use diagrams on the right to determine the best ports for cord grips.
6. Route the 30' shielded cable (supplied with the reset switch kit) from the reset switch through the conduit box(es) into the XL LED Remote Display housing.
7. Connect the shielded cable wires to the reset switch inside its conduit box and to terminals 12 and 13 on the J2 terminal block on the XL LED Remote Display PCB.



8. Route the shielded cable (supplied with the XL LED Remote Display) out of the display housing and through the conduit box(es).
9. Replace the rear panel of the display. *page 18 Torque Specifications*
10. Install and wire the calibrated pulse output device. *page 10, 11, or 12*



### Secure Cable and Tighten Cover

LectroCount XL LED Remote Displays are assembled and shipped ready for final cable termination. If the display's pre-installed shielded cable is removed during installation, be sure to secure the cable and tighten the cover so the vapor seal is maintained. See *page 18* for proper torque specifications.

# DECIMAL PLACE JUMPER SETTING

## Decimal Place Jumper Setting - MODEL E1616

The decimal place setting of model E1616 LectroCount XL LED Remote Displays is determined by the position of jumpers on the J3 and J4 terminals on the PCB. The terminals are located on the bottom of the PCB on the left side.

### To set the decimal place of Model E1616 LectroCount XL LED Remote Displays:

1. Remove the rear panel of the display.
2. Slide the J3 and J4 jumpers over the terminal pins in the desired position. *see table below*

#### Jumpers Must Be on Terminal Pins

*Do not remove and discard jumpers. The absence of a jumper does not qualify as the OFF position. If Whole Units is desired, J3 and J4 must both have a jumper in the OFF position.*

#### For Model E1616 Only

*The decimal place displayed on Model E1615 coincides with the LectroCount LCR-II/LCR 600 decimal place setting and does not require positioning of the jumpers.*

*If J3 and J4 are both in the ON position, two decimal points will appear on the display. This is not a valid jumper configuration.*

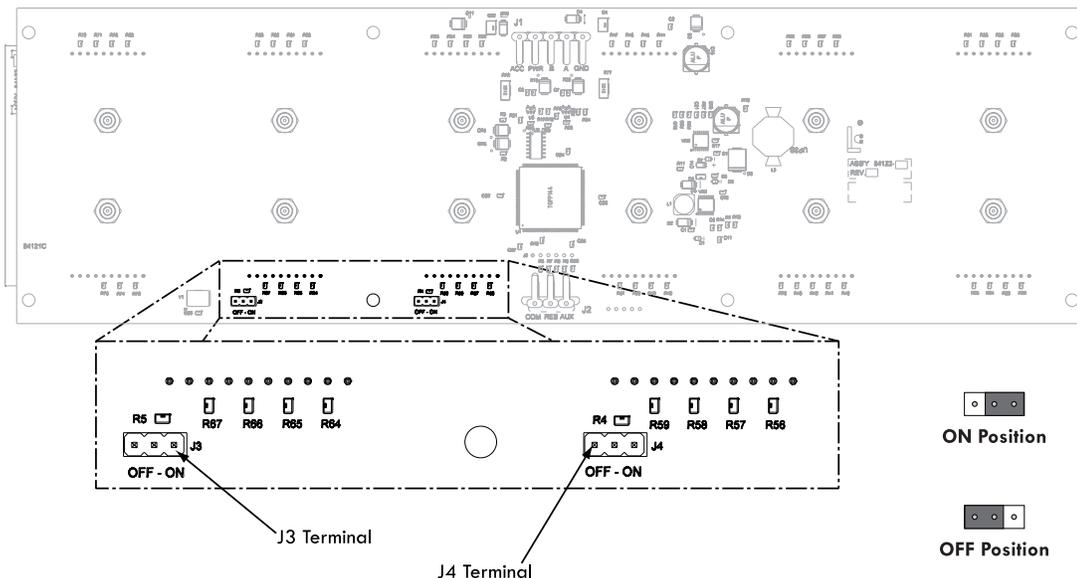
3. Replace the rear panel of the display. *page 18 Torque Specifications*

### Decimal Jumper Settings – Model E1616

UNITS	Whole		Tenths		Hundredths	
	J3	J4	J3	J4	J3	J4
JUMPER						
POSITION	OFF	OFF	ON	OFF	OFF	ON

#### Factory Default Setting

**TENTHS**



### Secure Cable and Tighten Cover Upon Reassembly

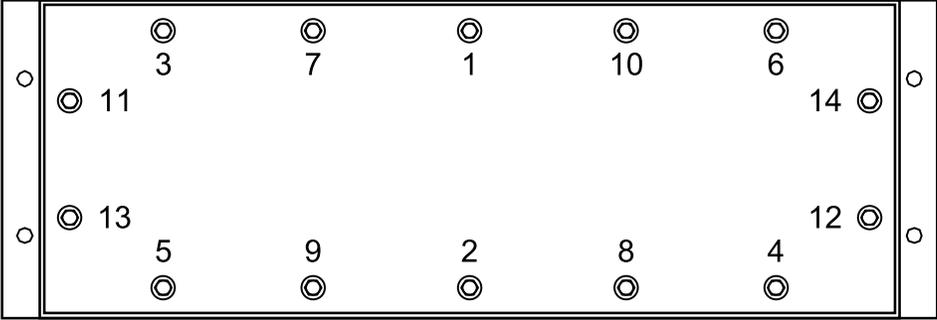
*LectroCount XL LED Remote Displays are assembled and shipped ready for final cable termination. If the display's pre-installed shielded cable is removed during installation, be sure to secure the cable and tighten the cover so the vapor seal is maintained. See page 18 for proper torque specifications.*

# TORQUE SPECIFICATIONS

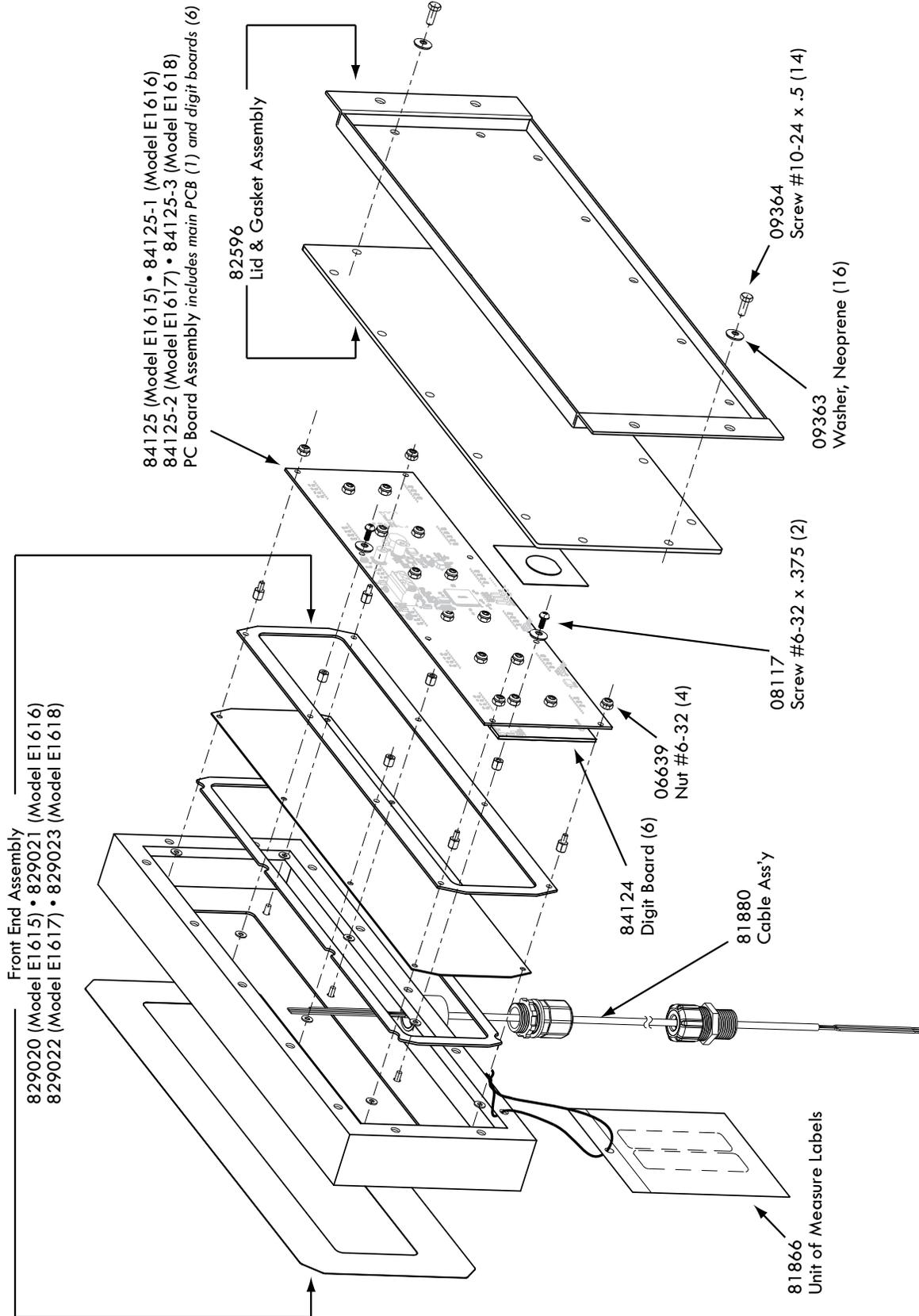
## Torque Specifications

When reassembling the LectroCount XL LED Remote Display, follow the torque pattern shown below to reattach the rear panel of the display.

TORQUE BOLTS TO 5 TO 8 IN/LB.



# BILL OF MATERIALS



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