

# St. Croix Electric Cooperative

## Wiring Diagram for Current Transformer (CT) submetering of Off-peak Electric

Contact Information:  
 If you have any questions or other off-peak metering options, please call Member Services at 715-796-7000

### LMR Schematic

R1 – Water Heater (240 VAC, 30A)  
 Blue wires (N.C.)

R2 – Dual Fuel (120 VAC, 5A)  
 • Electric Boiler : Orange } (N. O.)  
 • Heat Pump Yellow } (N. C.)  
 • Base board White/green }  
 • A/C

R3 – Storage (120 VAC, 5A)  
 • In-floor heat White / Blue } (N. O.)  
 • ETS heaters Grey } (N. C.)  
 • EV chargers Violet }

R4 – Warning  
 • Brown / White – Relay driver

Load Control (L.C.) Power –  
 • Red (N) } (120 V)  
 • Black }  
 White/Red } (240 V)

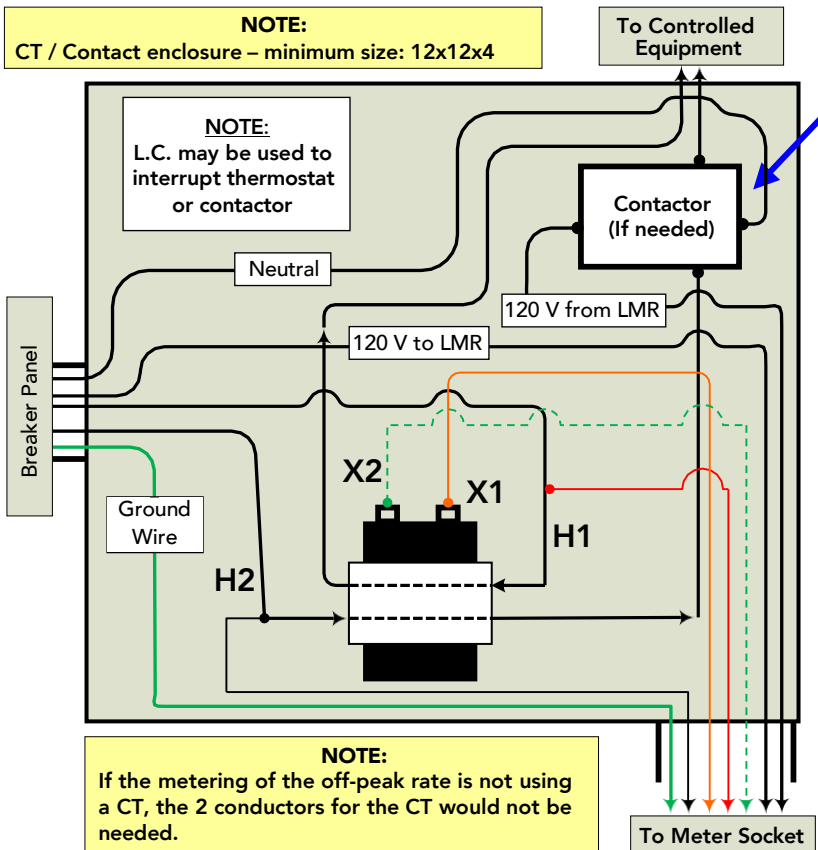
Current Transformer (CT) provided by SCEC

**NOTE:**

All wires of the same leg in the breaker panel must pass through the CT in the same direction.  
 CT X2 must be grounded either in the meter socket or the CT enclosure but not at both ends.



**NOTE:**  
 CT / Contact enclosure – minimum size: 12x12x4



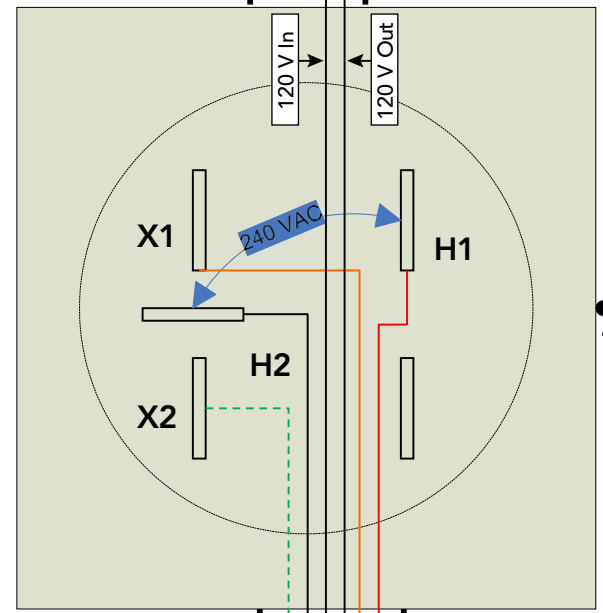
**NOTE:**  
 L.C. may be used to interrupt thermostat or contactor

**NOTE:**

- No Contactor is needed for the Water Heater (use 30A relay in L.C.)
- Use contactors with 120 V Coils, normally open contacts

- Wire sizes & colors pulled/ran by Electrician from Members panel**
- 2 – Blue #10 THHN (Water Heater)
  - 2 – Yellow #12 THHN (Dual Fuel: Electric heat / A/C)
  - 2 – Purple #12 THHN (Storage Heat / EV Charger)
  - 2 – Brown #14 THHN (Alert) – [If needed]
  - 1 – Black (H2) } (240 V) #12 THHN
  - 1 – Red (H1) }
  - 1 – Orange (X1) #12 THHN
  - 1 – Green (X2) #12 THHN
- (NOTE: Check CT burden table to verify wire size)
- 1 – Green #12 THHN to ground meter socket

**NOTE:**  
 If the metering of the off-peak rate is not using a CT, the 2 conductors for the CT would not be needed.



**NOTE:**  
 5-Jaw meter socket mounted outside of house.

Conduit between meter socket and CT enclosure:  
 Minimum 3/4" ID

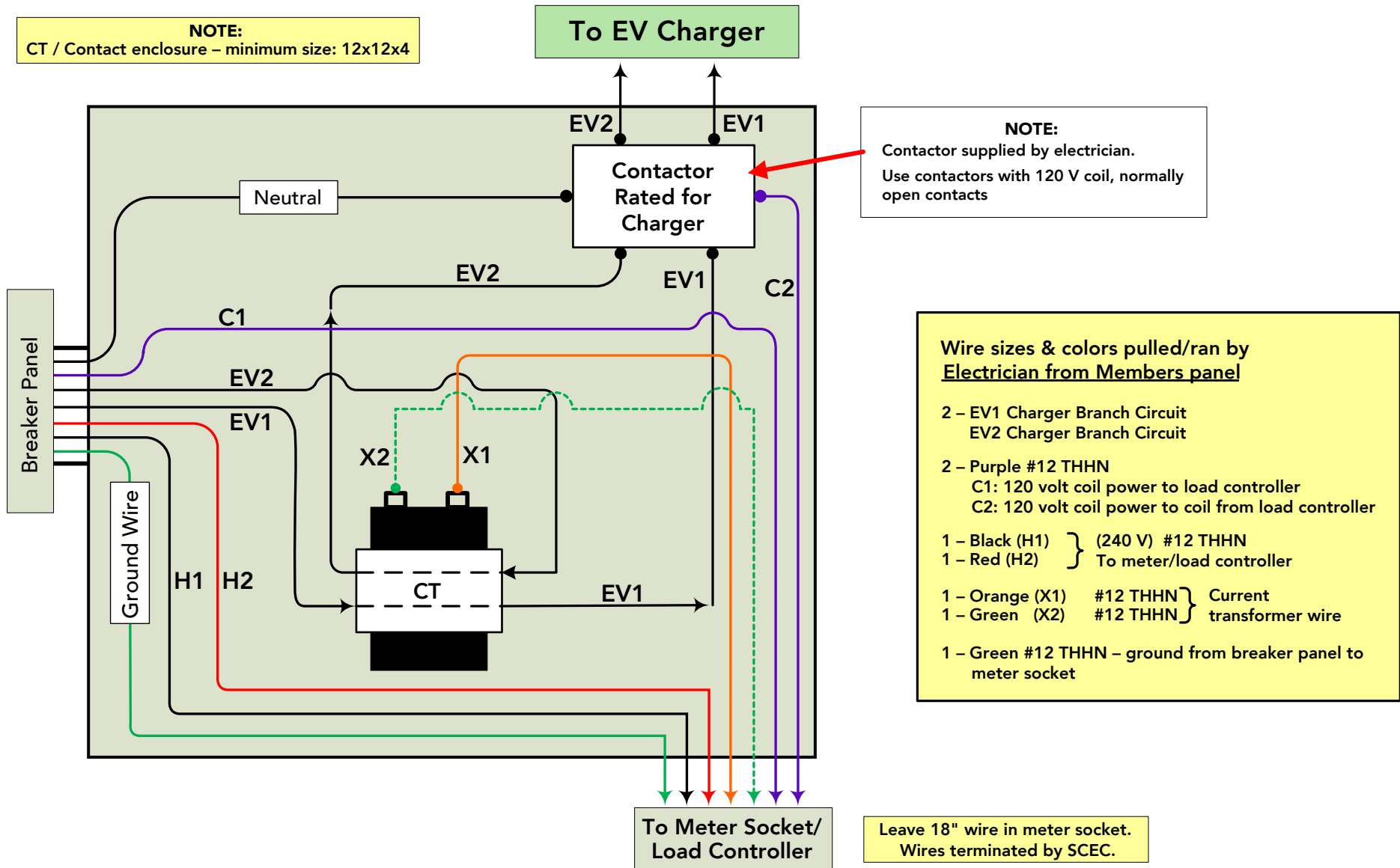
Leave 18" of wire in meter socket. Wires terminated by SCEC.

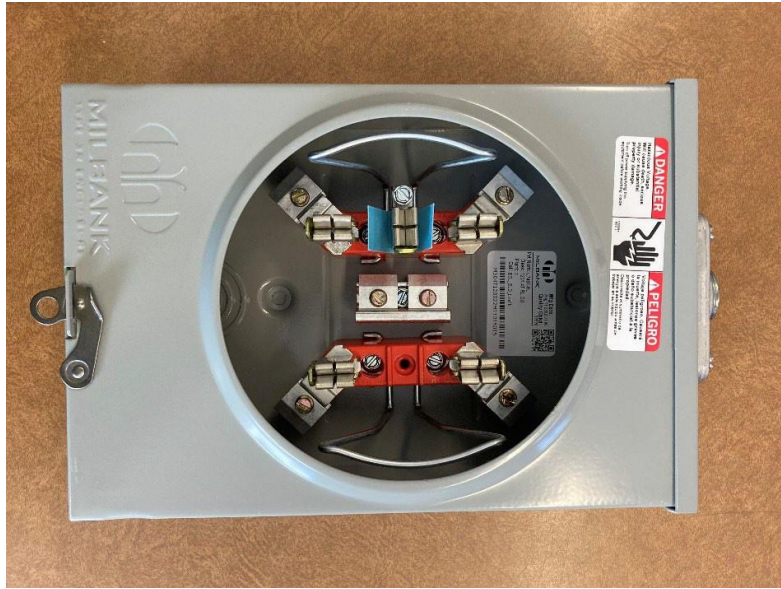
# St. Croix Electric Cooperative

Wiring Diagram for Current Transformer (CT) submetering of Off-peak Electric for EV Charger

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Off-peak (subtractive) Meter Socket



Current transformer – supplied by SCEC



Example of off-peak installation

**NOTES:**

Meter socket needed = Mill bank MLB U748-RL or equivalent

1" Meter Hub = Millbank MLB A7514 or equivalent

1" to 3/4" reducing hub

5<sup>th</sup> terminal = MLB5TK2 or equivalent

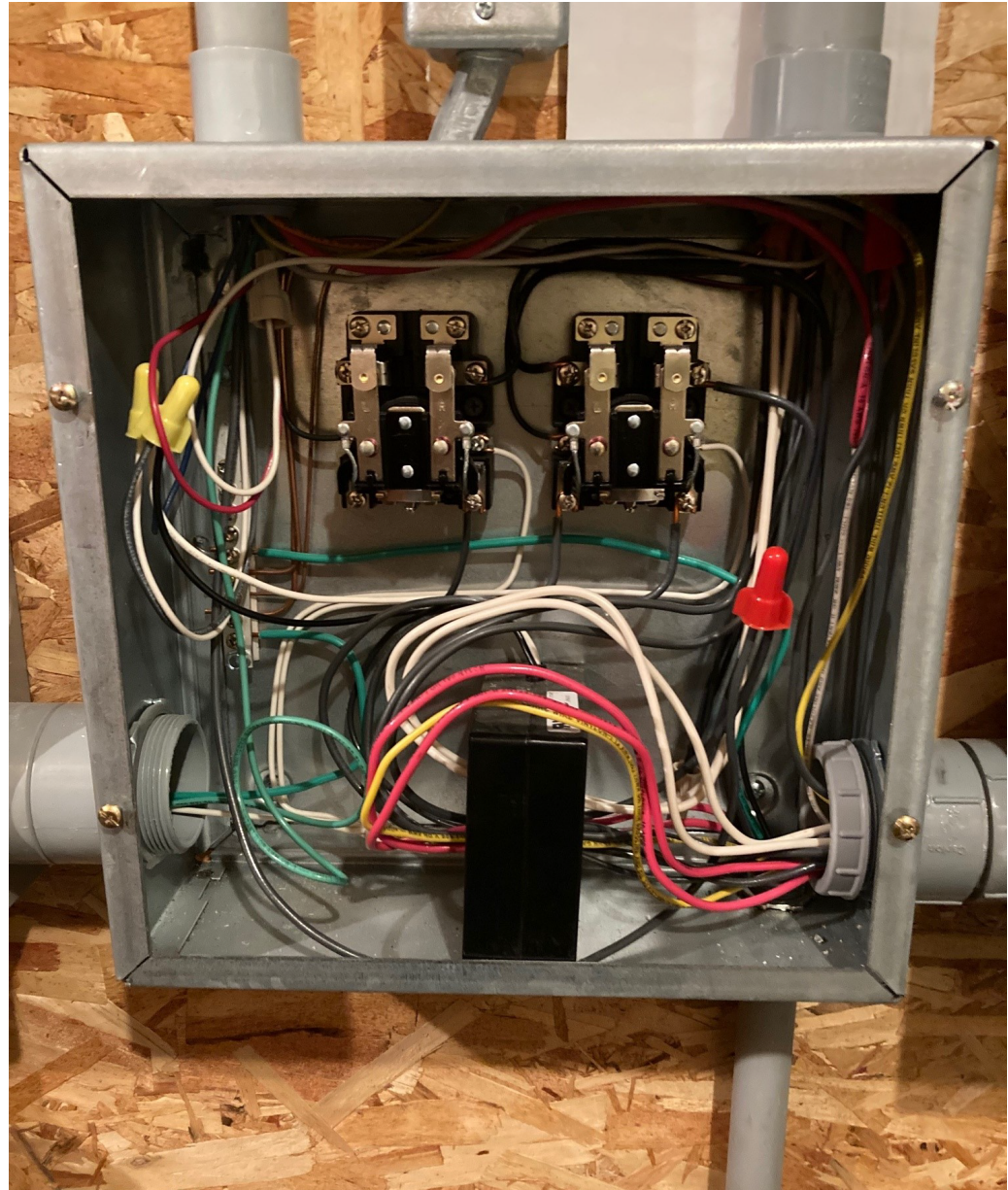
Off-peak Meter Socket package available for purchase. See price list for current price.

Current transformer provided by SCEC and can be picked up at SCEC headquarters.

**Contact Information:**

If you have questions, please call Member Services at 715-796-7000.

**12" x 12" Off-Peak Junction Box**



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