

St. Croix Electric Cooperative

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

Contact Information:

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

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 -

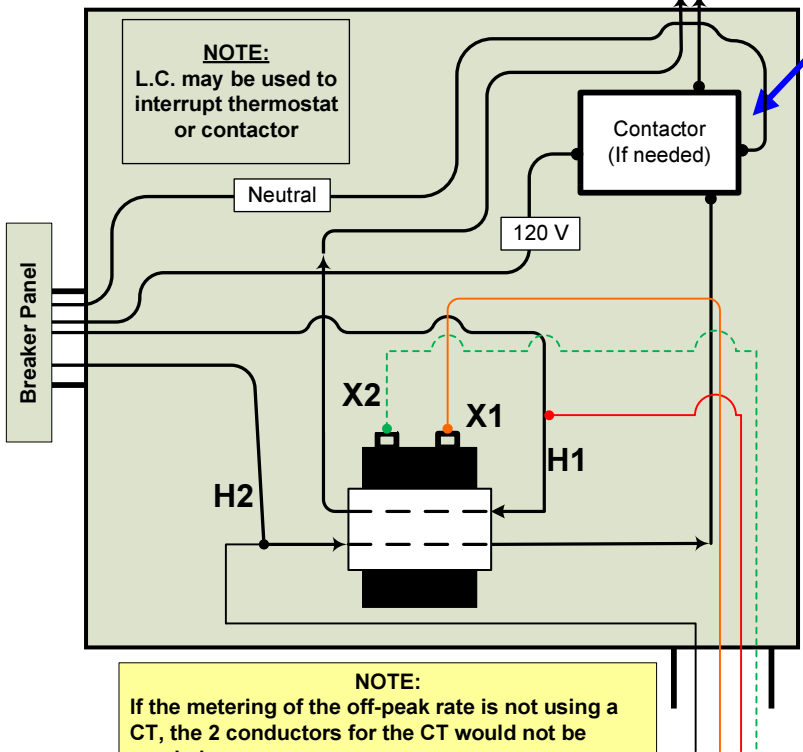
- Red (N) } (120 V)
- Black } (240 V)
- White/Red } (240 V)

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.



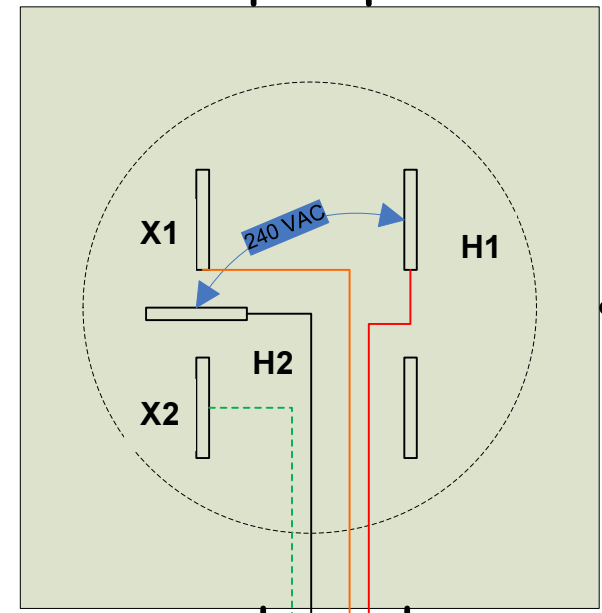
NOTE:
CT / Contact enclosure – minimum size: 12x12x4



NOTE:

- 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

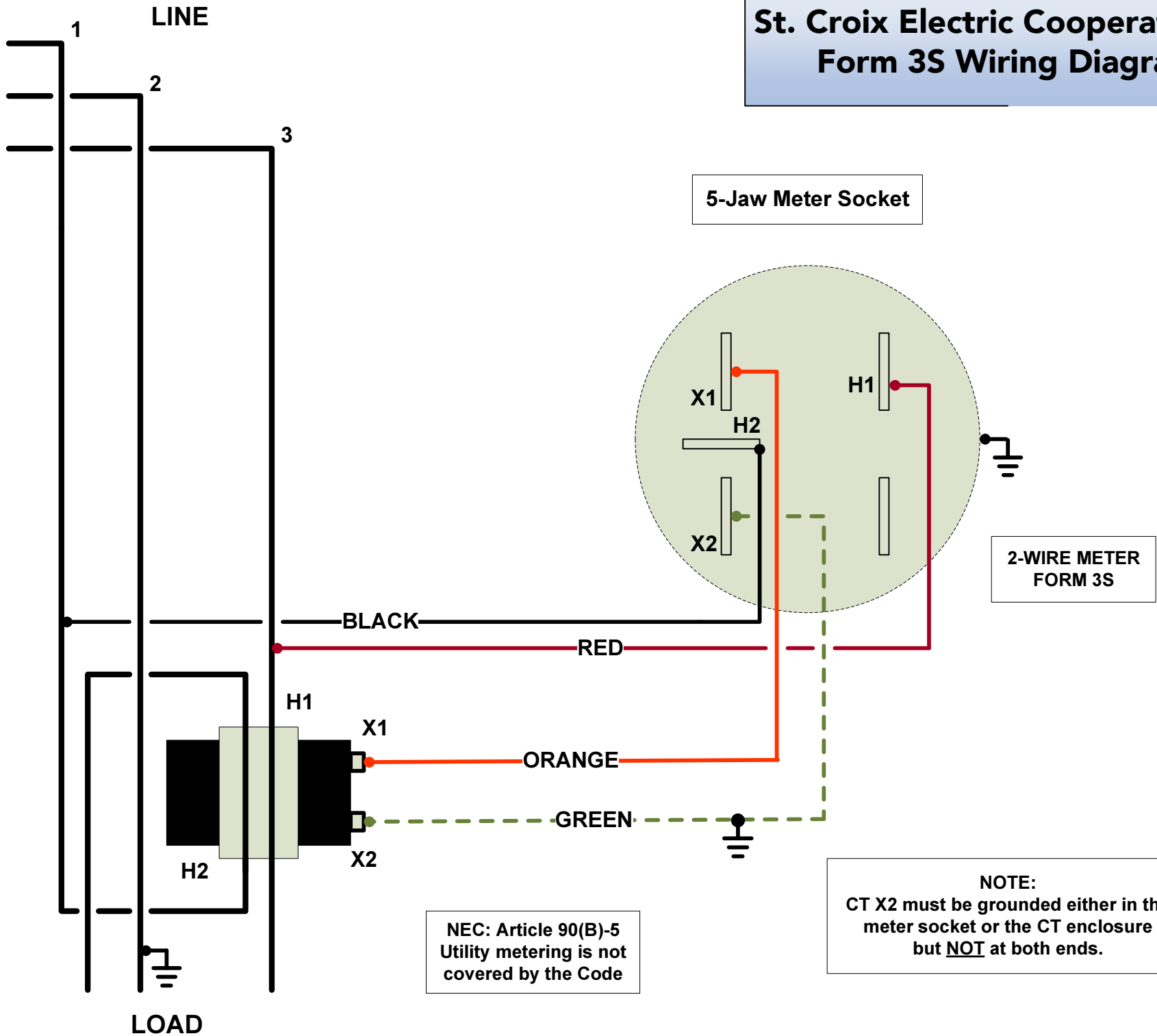


NOTE:
5-Jaw meter socket mounted outside of house.

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

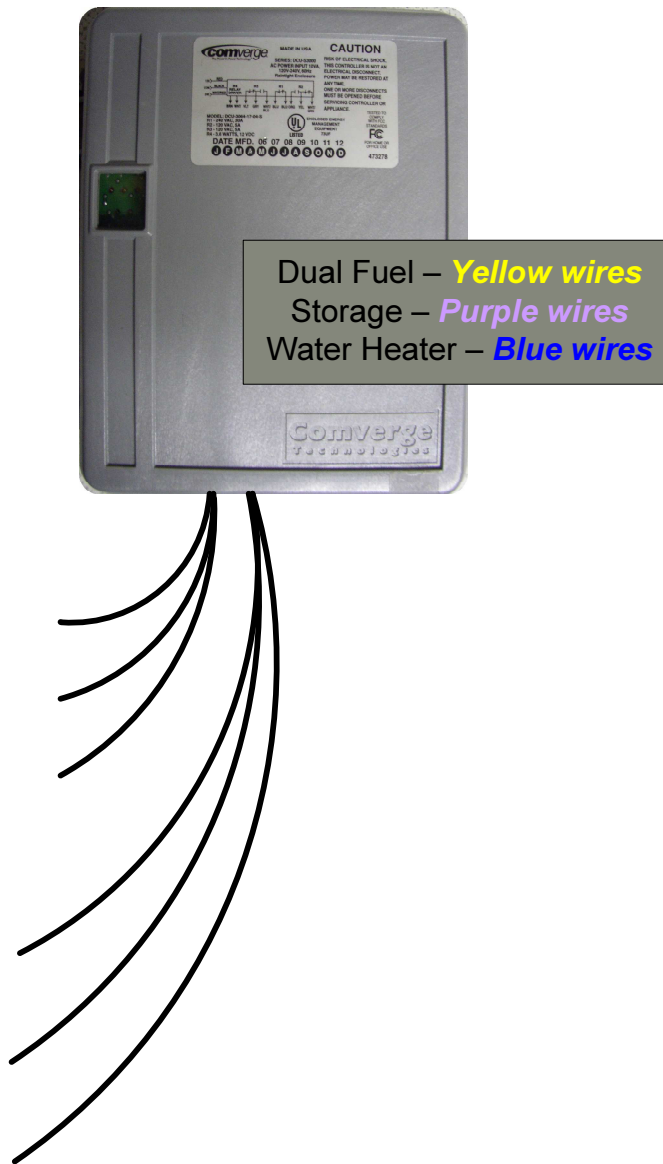
NOTE:
If the metering of the off-peak rate is not using a CT, the 2 conductors for the CT would not be needed.

St. Croix Electric Cooperative Form 3S Wiring Diagram



NEC: Article 90(B)-5
Utility metering is not
covered by the Code

NOTE:
CT X2 must be grounded either in the
meter socket or the CT enclosure
but NOT at both ends.



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Off Peak Wiring Diagram