

CT Connections

Mount the current transformers (CTs) as close as possible to the meter for best accuracy. The following table illustrates the maximum recommended distances for various CT sizes, assuming the connection is via 2.5 mm²/14 AWG cable.

Table: 5-5: CT size and maximum distance

5 A CT size	Maximum Distance in meters (in feet) (CT to EM1000/EM1200/EM1220 Power and Energy meter)
2.5 VA	3.05 m (10 ft/ 120 in.)
5.0 VA	4.6 m (15 ft/ 181 in.)
7.5 VA	9.15 m (30 ft/ 360 in.)
10.0 VA	12.2 m (40 ft/ 480 in.)
15.0 VA	18.3 m (60 ft/ 720 in.)
30.0 VA	36.6 m (120 ft/ 1441 in.)

- User programmable CT primary range: (1 A to 99 kA) AC.
- CT secondary: (1 A or 5 A) AC (programmable)
Other values are also programmable to compensate CT errors if desired.
- Meters CT burden: 0.2 VA maximum per input.

Refer to the “PROG menu — Setup” on page 17 for more information.

NOTE:

1. The PT primary and secondary values must be user programmed before using the meter. Otherwise, the readings will be wrong.
2. For dual-range CTs; select the best range for programming the meter. If you change the range without re-programming the meter, then the meter will read erroneous values.

CT Polarity

When the meter is connected using the CTs, you must maintain correct CT polarities. CT polarities are dependent upon correct connections of CT leads, and also, on the direction the CTs are facing when they are clamped around the conductors. The dot on the CT must face the line side; the corresponding secondary connection must connect to the appropriate input on the meter.

CT Connection Reversal

To check the polarity of the CT after the meter has been installed, go to the **DIAG** (diagnostic) pages and check the **CT REV** display page. Refer to “EM1000/EM1200/EM1220 Power and Energy Meters Menu Hierarchy” on page 28 for more information.

Assuming that you are consuming power (import), check for one of the following conditions in the meter:

1. If the display shows **L 1** or **L 2** or **L 3**, then **CT phase 1** or **CT phase 2** or **CT phase 3** is reversed and the corresponding CT phase must be corrected.
2. If the display shows **L 12** or **L 23** or **L 32**, then **CT phases (1 and 2)** or **CT phases (2 and 3)** or **CT phases (3 and 1)** are reversed and the corresponding CT phases must be corrected.
3. If the display shows **L 123**, then all the phases are reversed and must be corrected.
4. If the display shows **L-**, then no CTs are reversed.