

INSTALLATION NOTES

Applicable for the following catalog numbers ¹:

MC5c240V * 24R1 (1EL/24M 240V 1P3W)

* = "L" for 0.1 Amp inputs or "H" for CL10 (5 Amp) inputs.

¹ Also applicable when the same meter model number has the suffix: M, RS or P.

CRITICAL: The line association and polarity of the current transformers must be followed or meter will not be installed correctly.

CTs must be all 0.1A or 5A and cannot be mixed on the same meterhead.

1. Each CT has a white side, small white dot, or "H1" marking on only one side of its exterior moulding. Locate this marking since it is critical that the wires are passed through the CT in the correct direction, assuring the correct polarity.

Two wires coming from the line side are passed through each CT.

Line 1 (Wire 1): Line 1 should be passed through the CT from the side with the white side, dot, or H1 marking.

Line 2 (Wire 2): Line 2 should be passed through the CT from the side WITHOUT the white side, dot, or H1 marking. Note that these are opposite polarities.

2. The MCI runs CT terminals CT#1 to CT#24 with each terminal connected to Meter #1 (M#1) to Meter #24 (M#24). The number of CT terminal and meter connections will depend on the number of suites available. For example:

- M#1 connects to CT#1
- M#2 connects to CT#2
- repeat for M#3 to M#24

3. After completing all CT terminations, connect the four (4) current connectors from the MCI board to the meterhead and then remove shorting links for all meter points that are in use.

4. Follow local codes for installation requirement, e.g. conduit, fused disconnect, distance, and wiring.

5. Installation of 0.1A ("L") inputs and CL10 or 5A ("H") inputs are the same.

CAUTION: If breakers are energized, shorting links must be installed before:


- a) disconnecting the CT headers or
- b) replacing or installing meter heads on the panel.

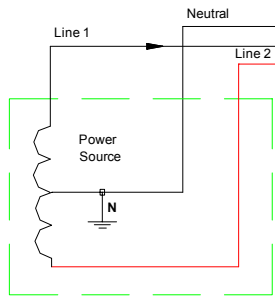
WARNING: Bodily injury or damage may result if shorting links are not installed.

Meter # (M#)	MCI Board CT #	Reference Voltage Line*
1	1	L#1 (+) & L#2 (-)
2	2	L#1 (+) & L#2 (-)
3	3	L#1 (+) & L#2 (-)
4	4	L#1 (+) & L#2 (-)
5	5	L#1 (+) & L#2 (-)
6	6	L#1 (+) & L#2 (-)
7	7	L#1 (+) & L#2 (-)
8	8	L#1 (+) & L#2 (-)
9	9	L#1 (+) & L#2 (-)
10	10	L#1 (+) & L#2 (-)
11	11	L#1 (+) & L#2 (-)
12	12	L#1 (+) & L#2 (-)
13	13	L#1 (+) & L#2 (-)
14	14	L#1 (+) & L#2 (-)
15	15	L#1 (+) & L#2 (-)
16	16	L#1 (+) & L#2 (-)
17	17	L#1 (+) & L#2 (-)
18	18	L#1 (+) & L#2 (-)
19	19	L#1 (+) & L#2 (-)
20	20	L#1 (+) & L#2 (-)
21	21	L#1 (+) & L#2 (-)
22	22	L#1 (+) & L#2 (-)
23	23	L#1 (+) & L#2 (-)
24	24	L#1 (+) & L#2 (-)

Note: L#1 (+) = Line #1 points toward DOT or H1 of CT
L#2 (-) = Line #2 points away Dot or H1 of CT

Table 1. Line Association Table

 QUAD LOGIC <small>Qualogic Controls Corporation</small>		TITLE	
SIGNATURES		DATE	
MODEL	JREA	07/09/08	
APPROVED	RSAN	07/10/08	SIZE DRAWING
APPROVED	JKIM	07/10/08	17-MC5c240RES1ELR1
APPROVED	NPAT	07/10/08	SCALE: REV 1.1.R
			SHEET 1 of 3



CRITICAL - Current Transformers (CT) must be installed correctly. See Diagram 1 for CT installation for each meter point. See Diagram 3 for CT polarity and Table 1 for Phase Association relationships.

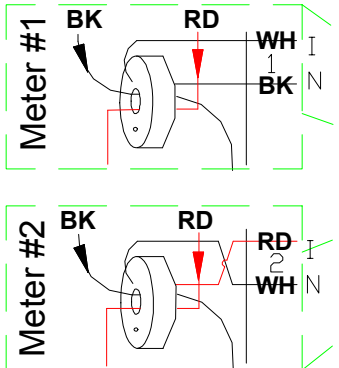
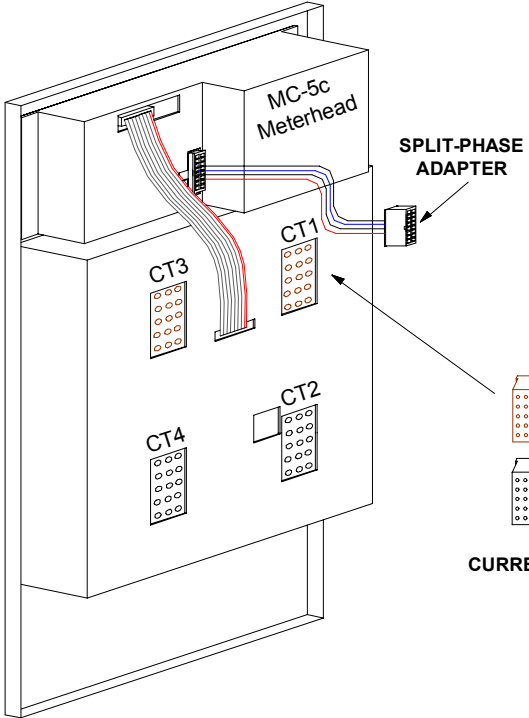


Diagram 1. Current Transformers installed inside tenant breaker panel.
Note: Conductor for each LINE 2 must be run reverse (backwards) through CT.



CURRENT CONNECTORS

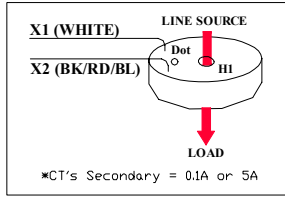
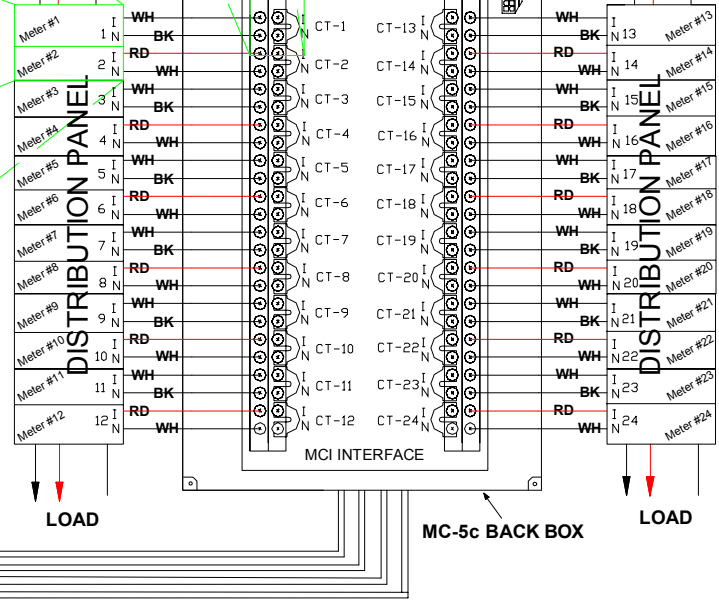
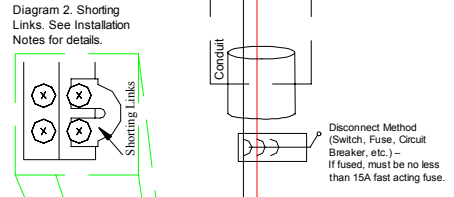


Diagram 3. CT Phasing. Dot or H1 should point towards the line or source.
*CT's Secondary = 0.1A or 5A

		TITLE 1-PHASE, 3-WIRE 240V 1EL WIRING DIAGRAM	
SIGNATURES		DATE	
MODEL	JREA	07/09/08	
APPROVED	RSAN	07/10/08	
APPROVED	JKIM	07/10/08	
APPROVED	NPAT	07/10/08	
SIZE DRAWING		REV	
17-MC5c240RES1ELR1		1.1.R	
SCALE:		SHEET 2 of 3	

BEFORE READING THE DISPLAY FOR ANY MC-5c PRODUCT

CAUTION: When reading the meter display, all consumption and demand values must be multiplied by the correct multiplier to calculate true value. This includes all register values (kWh, kW, kVARHLg, kVARHLd, etc.) and Phase Diagnostic values (real time Amps, Watts, etc.).

Volts, phase angle, frequency and power factor are displayed on the LCD as their true values and should not be multiplied.

The multiplier value is dependent upon the ratio of the external Current Transformers (CTs) and can be different for different meter points. Please consult Table 1 CT Multipliers for the appropriate value dependent upon the rating (or size) of the CT.

HOW CT MULTIPLIERS ARE CALCULATED:

0.1AMP CTs

The multiplier values for CTs with 0.1A secondary ratings are derived by dividing the primary side rating by 100. For example, a 50:0.1A-rated CT will have a multiplier of $50 \div 100$, which is 0.50. A 100:0.1A rated CT will have a multiplier of $100 \div 100$ which is 1.

5AMP CTs

For CTs with 5A secondary ratings, the multipliers are derived by dividing the primary side rating by 5. For example, a 200:5A-rated CT will have a multiplier of $200 \div 5$, which is 40.

EXAMPLE:

Meter point with 400:0.1A CT

LCD reading for meter is 3422.119kWh

The correct cumulative consumption (kWh) for this meter is **13688.476 kWh**.

($400 \div 100 = 4$. Multiply face value for consumption and demand values by 4. $3422.119 \times 4 = 13688.476$)


NOTE: Failure to use the appropriate multiplier will result in an incorrect diagnosis of the meter's functionality and incorrect revenue billing.

Meter Voltage Ratings	CT Rating	Multiplier for 0.1A CT	Multiplier for 5.0A CT
FOR 120V, 208V, 240V (Wye), 277V, 347V, 416V, 480V, 600V	50A	x0.5	x10.0
	100A	x1.0	x20.0
	200A	x2.0	x40.0
	400A	x4.0	x80.0
	600A	x6.0	x120.0
	800A	x8.0	x160.0
	1200A	x12.0	x240.0
	1500A	x15.0	x300.0
	1600A	x16.0	x320.0
	2000A	x20.0	x400.0
	3000A	x30.0	x600.0
	3200A	x32.0	x640.0
4000A	x40.0	x800.0	

FOR 240V (Split-Phase)	100A	x0.5	x20.0
	200A	x1.0	x40.0

Table 1. CT Multipliers

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

		Quadlogic Controls Corporation TITLE: 1-PHASE, 3-WIRE 240V 1EL WIRING DIAGRAM
SIGNATURES	DATE	SIZE DRAWING
MODEL: JREA	07/09/08	17-MC5c240RES1ELR1
APPROVED: RSAN	07/10/08	REV 1.1.R
APPROVED: JKIM	07/10/08	SCALE:
APPROVED: NPAT	07/10/08	SHEET 3 of 3