MiniCloset-5c
Multi-Tenant Smart Meter
The MiniCloset-5c (MC-5c) is a multi-tenant digital electric meter in one compact, rugged enclosure. The MC-5c is easy to install and operate and its space-saving footprint is designed for use in retrofit and new construction. Our patented Power Line Communications technology is a standard feature eliminating the need for additional wiring to collect data remotely.

Understand your energy consumption and begin saving with the MC-5c as part of a complete metering system for your residential properties, commercial office sites, retail shopping malls, airports, government properties, campuses or industrial applications.

**Benefits**

- A single, compact, rugged enclosure saves significant installation costs
- Monitors up to 8 three-phase commercial customers or 12 two-phase residential customers
- Utility-grade kWh and demand meter with revenue-grade accuracy (ANSI C12.1)
- Built-in Power Line Communications (PLC) for optional remote meter reading
- Real-time power diagnostics allow for immediate verification of installation by phase (Voltage, current, phase angle, power factor, watts, and more)
- Reports power downs, demand resets and tampers
- Secure and reliable non-volatile flash memory
- Three-year manufacturer’s warranty
- UL, UL-C
- Options: Modem/232/485, RS-485, Modbus, Pulse data inputs (water, gas, BTU)

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**Power Line Communications for Remote Reading**

All of Quadlogic’s metering devices function as stand-alone units or can be used for remote reading with the simple addition of a Scan Transponder (data collector) and communication software. No additional wiring is required.

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**Thinking “Green”?**

Quadlogic meters can help you earn credits towards LEED certification under the “Energy and Atmosphere” criteria of several LEED Rating System categories, including:

- Existing Buildings Operations & Maintenance
- New Construction
- Core & Shell

In addition, by installing our contractor-friendly meters, you can analyze your “before and after” energy consumption and demand data to evaluate the effects of your property-wide green initiatives.

Are you saving the electric energy you expected to? How will you know without metering?
Typical 3-Phase Commercial Wiring
Monitor up to 8 3-Phase Loads with one MC-5c!

Model Numbers

The MC-5c consists of a Meterhead and an Enclosure. Required current transformers (CTs) are sold separately.

- **Amps L=0.1A, H=5A**
- **# of loads monitored**

<table>
<thead>
<tr>
<th>Meter Type</th>
<th>Volts</th>
<th>L</th>
<th>R</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC5c</td>
<td>120V</td>
<td>09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MC5c</td>
<td>277V</td>
<td>06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Residential**

120/208 Single-Phase 3-Wire* (Also requires 2 CTs per meter point)

<table>
<thead>
<tr>
<th>Amp</th>
<th>Voltage</th>
<th>Meter Points</th>
<th>Meterhead</th>
<th>Enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>120/208</td>
<td>3</td>
<td>MC5c120V L 03R</td>
<td>MC5c BBA 120V</td>
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<tr>
<td></td>
<td></td>
<td>6</td>
<td>MC5c120V L 06R</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>MC5c120V L 09R</td>
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<tr>
<td></td>
<td></td>
<td>12</td>
<td>MC5c120V L 12R</td>
<td></td>
</tr>
</tbody>
</table>

*NOTES:
- 1P3W 120/208V for each residential apartment where distribution panel service is 3P4W 120/208V.
- Models available for 120/240V split-phase metering. Contact manufacturer.

**Commercial**

3-Phase 4-Wire, Wye (Also requires 3 CTs per meter point)

<table>
<thead>
<tr>
<th>Amp</th>
<th>Voltage</th>
<th>Meter Points</th>
<th>Meterhead</th>
<th>Enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>120/208</td>
<td>6</td>
<td>MC5c120V H 06C</td>
<td>MC5c BBA 120V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>MC5c120V H 08C</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>120/208</td>
<td>6</td>
<td>MC5c120V H 06C</td>
<td>MC5c BBA 120V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>MC5c120V H 08C</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>277/480</td>
<td>6</td>
<td>MC5c277V H 06C</td>
<td>MC5c BBA 277V</td>
</tr>
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<td></td>
<td></td>
<td>8</td>
<td>MC5c277V H 08C</td>
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</table>

3-Phase 3-Wire, DELTA (Also requires 2 CTs per meter point)

<table>
<thead>
<tr>
<th>Amp</th>
<th>Voltage</th>
<th>Meter Points</th>
<th>Meterhead</th>
<th>Enclosure</th>
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</thead>
<tbody>
<tr>
<td>0.1</td>
<td>208</td>
<td>12</td>
<td>MC5c208V L 12C</td>
<td>MC5c BBA 208V</td>
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<tr>
<td></td>
<td>480</td>
<td>12</td>
<td>MC5c480V L 12C</td>
<td>MC5c BBA 480V</td>
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<td>480</td>
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<td>MC5c480V H 12C</td>
<td>MC5c BBA 480V</td>
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</table>

- Add suffix for desired option (M=Modem/232/485, RS=RS-485, P=Pulse Data Module)

Single-phase and other models available. Contact manufacturer.
MiniCloset-5c Technical Specifications (MC-5c)

Metering Specifications
Metered Voltage: 120, 208, 220, 230, 240, 277, 347, 380, 400, 416, 480, 600 (Voltage specific)
Delta or Wye, 50/60 Hz
Current Input: 0.1 Amp or 5 Amp (CL10) inputs available
Field programmable: (8) 3-phase meters, (12) network meters, or (24) single phase meters
Four quadrant Consumption & Demand for each of the 24 channels:
Delivered and received: kW, kVARLeading, kVARLagging, & kVA Volts-squared hours & amp-squared hours
Programmable interval data & peak demand:
5 min to hourly window, block or rolling block demand
Meter total and/or by phase
Real time per phase: Voltage, current, phase angle, power factor, THD, watts, VARs, VA and frequency
Time of Use: Up to 16 blocks per day available for all metering parameters
Meets ANSI C12.1, Industry Canada: MC#AE-1148
UL, UL-C File E204142

IEC Optical Communication Interface (Standard Feature)
Approved by California Div. Of Measurement Standards and Maryland Public Service Commission

Additional Features
Pulse Datalogger Module (PDM-12): Maximum 4 PDM-12 units per MC-5c
Up to 48 Form A dry contact pulse inputs for water, BTU, gas, other
Power supplied by MC-5c
Pulses can be logged in programmable intervals and will count during power outage

PDM-12 Specifications:
- Max. Distance: 300 feet from pulse meter to PDM (18 gauge min.)
- 300 feet of CAT5 cable (to connect all 4 PDMs to MC-5c)
- Min. Pulse Width: Power on: 50 msec, Power off: 500 msec
- When the MC-5c loses power or is disconnected from the PDM, the PDM has the capability to record pulses but the sample rate is reduced.
- Max. Pulse Rate: Power on: 10 pulses/sec max, Power off: 1 pulse/sec max
- Peak voltage: 5.5V, Peak current: not applicable
- Isolation: 2.5kV isolation between pulse output and AC line
- Max. signal debounce tolerance: 20 msec

Pulse Data Module Encoded (PDME): Reads Sensus UI-1203 protocol-encoded register
Maximum 4 PDME units per MC-5c. (Up to 24 Sensus meters) (Contact manufacturer for specs.)

Demand Reset:
Allows local reset of peak demand register

Data Interrogation Options:
- IQ Software
- MV-90 TIM module
- ASCII-based, open-data protocol
- Open-source data conversion program

Communications Options
- Power Line Communications (standard feature) Modbus RTU protocol (2-wire RS-485)
- IEC optical probe Network data link (4-wire RS-485)
- 19.2K internal modem RS-232 serial port

Accuracy
+ 0.5% @ unity and 50% power factor;
1-100% of full-scale (excluding external CT error)

Liquid Crystal Display
- Push button scroll, 32 digit liquid crystal display (16 digit x 2 rows)
- 6 whole digit consumption register, Data digit height: 0.31"
- Programmable display scroll & decimal place display

Memory
512 kbyte non-volatile flash memory retains daily and interval data
During power outage:
- Flash memory retains daily and interval data
- Long-life lithium battery maintains time, logs incoming pulses and retains data acquired within the incomplete interval at the time of the outage

Operating Range/Environment
Voltage: 90% to 110%
Temperature: -20°C to +60°C
Humidity: 0 to 95% R.H. (non-condensing)
Transient/Surge Suppression: ANSI C37.90.1-1989
NEMA 1 rating: Pollution Degree 2

Dimensions & Shipping Weight
18.2"H x 10.7"W x 6.1"D
Shipping weight: 1 meter assembly: 20.8 lbs

For Installation diagrams visit www.quadlogic.com

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