

# GLS-EM-MCU

## Crestron Green Light® Power Meter Control Unit

- > Power metering across 3 phases (main legs)
- > Reports data to control system and Fusion EM®
- > Monitors and logs RMS Voltage, current, and active power
- > Monitor up to 84 individual branch circuits for more detailed data
- > Installs next to electrical panel
- > Operable with 100-347 Volt, 2- and 3-phase systems
- > Non-volatile memory reliably stores internally logged data

The GLS-EM-MCU is an Ethernet-based power metering control unit, designed to log overall electricity usage in real time. It measures and tracks actual energy consumption by attaching to the incoming electrical service and branch circuits. The GLS-EM-MCU also works in unison with the [GLS-EM-CTI](#) and [GLS-EM-CT](#) to provide more detailed data by tracking individual branch circuits in a home or office<sup>[1]</sup>. This data is then displayed on a touch panel, mobile device or computer for viewing by users. Additionally, the GLS-EM-MCU system interfaces with [Fusion EM® Energy Management Software](#) to provide reports with greater detail, showing total building consumption.

### Three-Phase Monitoring

The main control unit (MCU) monitors both voltage and current to provide complete statistics of a building's electricity consumption. To achieve this, the MCU connects to line voltage of each phase (up to 3) and neutral. Current transformers (GLS-EM-CTs) clamp around each of the incoming feed wires. These CTs then wire into the MCU's inputs. With the voltage and current data, the MCU calculates power usage.

### Individual Branch Monitoring

In many cases, users may want to monitor consumption by area, or even device. The main control unit, in conjunction with the current transformer interface, enables metering of multiple branch circuits. GLS-EM-CT current transformers are placed around the feed wire of each circuit, and then connected to the GLS-EM-CTI current transformer interfaces. Up to four (4) GLS-EM-CTI can connect to a single GLS-EM-MCU for monitoring of up to 84 branch circuits.

### Current Transformers

Current transformers are vital to metering power. Crestron® offers various split core models that work with 600, 400, and 200 Amp feeds. These devices clamp around main feeds. Solid-core models exist for 50 and 20 Amp circuits. The wire must be routed through the closed loop of the core.

### Real-time and Logged Data

Inherent to the GLS-EM-MCU is the ability to provide both real-time and logged power usage data. Real-time data can be used on touch panels or lobby displays to show instantaneous usage. The energy usage screen within [Fusion EM](#) software provides attractive charts and graphs that illustrate the facility's energy consumption. Additionally, logged data can be shared with Fusion EM for more detailed reporting. The GLS-EM-MCU stores the logged data in non-volatile memory to prevent data loss.



## SPECIFICATIONS

### Wired Communications

**Ethernet:** 10/100 Mbps; auto-switching; auto-negotiating; auto-discovery; full/half duplex; industry-standard TCP/IP stack; UDP/IP; CIP; DHCP; IPv4; installer setup via Crestron Toolbox™

**Branch Circuit Monitor Bus:** Addressable data bus for connecting MCU to CTI units; transfers value provided by CT connected to CTI<sup>[1]</sup>

### Operating Voltage

100 to 347 Volts AC, 50/60Hz

### Connectors

**BRANCH CIRCUIT MONITORS:** (1) 8-pin detachable terminal block to be attached to a current transformer interface (GLS-EM-CTI)

**CT1-CT3:** (3) 2-pin detachable terminal block, input for main leg current transformer

**L1-L3:** (3) terminal blocks, line input for each of 3 separate phases

**NEUT:** (1) terminal block, neutral input

**LAN:** (1) 8-wire RJ45 jack (8P8C modular female); 10BaseT/100BaseTX Ethernet port

**INPUTS 1-4:** (1) 8-pin 3.5mm detachable terminal block comprising (4) programmable digital inputs (referenced to GND);

**Input Voltage Range:** 0-24 Volts DC;

**Logic Threshold:** ≥1.25 Volts DC active/high, ≤0.46 Volt DC inactive/low;

**Frequency Range:** 0.05 - 100 Hz

### Controls & Indicators

**NET:** (1) Yellow LED, indicates communication to one or more GLS-EM-CTI

**SETUP:** (1) Miniature pushbutton for setup; (1) Red LED, indicates device is in setup mode

**RESET:** (1) Pushbutton for hardware reset

**L1-L3:** (3) Green LEDs, indicate line voltage is present on each input L1 through L3

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**CT1-CT3:** (3) Green LEDs, indicate current is flowing through CTs connected to ports CT1 through CT3

## Enclosure

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Galvanized steel with powder coat finish

## Environmental

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**Temperature:** 32° to 104°F (0° to 40°C)

**Humidity:** 0% to 95% RH (non-condensing)

## Dimensions

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**Width:** 10 13/16 in (259 mm)

**Height:** 10 1/4 in (261 mm)

**Depth:** 3 7/16 in (88 mm)

## Weight

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64 oz (1815 g)

## MODELS & ACCESSORIES

### Available Models

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**GLS-EM-MCU:** Crestron Green Light® Power Meter Control Unit

### Available Accessories

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**GLS-EM-CT-200A:** 200A Split Core Current Transformer

**GLS-EM-CT-200A-HA:** 200A Split Core Current Transformer, High Accuracy

**GLS-EM-CT-20A:** 20A Solid Core Current Transformer

**GLS-EM-CT-20A-HA:** 20A Solid Core Current Transformer, High Accuracy

**GLS-EM-CT-400A:** 400A Split Core Current Transformer

**GLS-EM-CT-400A-HA:** 400A Split Core Current Transformer, High Accuracy

**GLS-EM-CT-50A:** 50A Solid Core Current Transformer

**GLS-EM-CT-50A-HA:** 50A Solid Core Current Transformer, High Accuracy

**GLS-EM-CT-600A:** 600A Split Core Current Transformer

**GLS-EM-CT-600A-HA:** 600A Split Core Current Transformer, High Accuracy

**GLS-EM-CTI-2P15:** 15 Channel 2-Phase Current Transformer Interface

**GLS-EM-CTI-2P21:** 21 Channel 2-Phase Current Transformer Interface

**GLS-EM-CTI-2P6:** 6 Channel 2-Phase Current Transformer Interface

**GLS-EM-CTI-3P15:** 15 Channel 3-Phase Current Transformer Interface

**GLS-EM-CTI-3P21:** 21 Channel 3-Phase Current Transformer Interface

**GLS-EM-CTI-3P6:** 6 Channel 3-Phase Current Transformer Interface

### Notes:

1. To prevent wire noise, the maximum distance between a GLS-EM-MCU or GLS-EM-CTI and a GLS-EM-CT should not exceed 50 feet (15.24 meters). This maximum distance applies to the following product models: GLS-EM-MCU, GLS-EM-CTI-\* and GLS-EM-CT-\*.

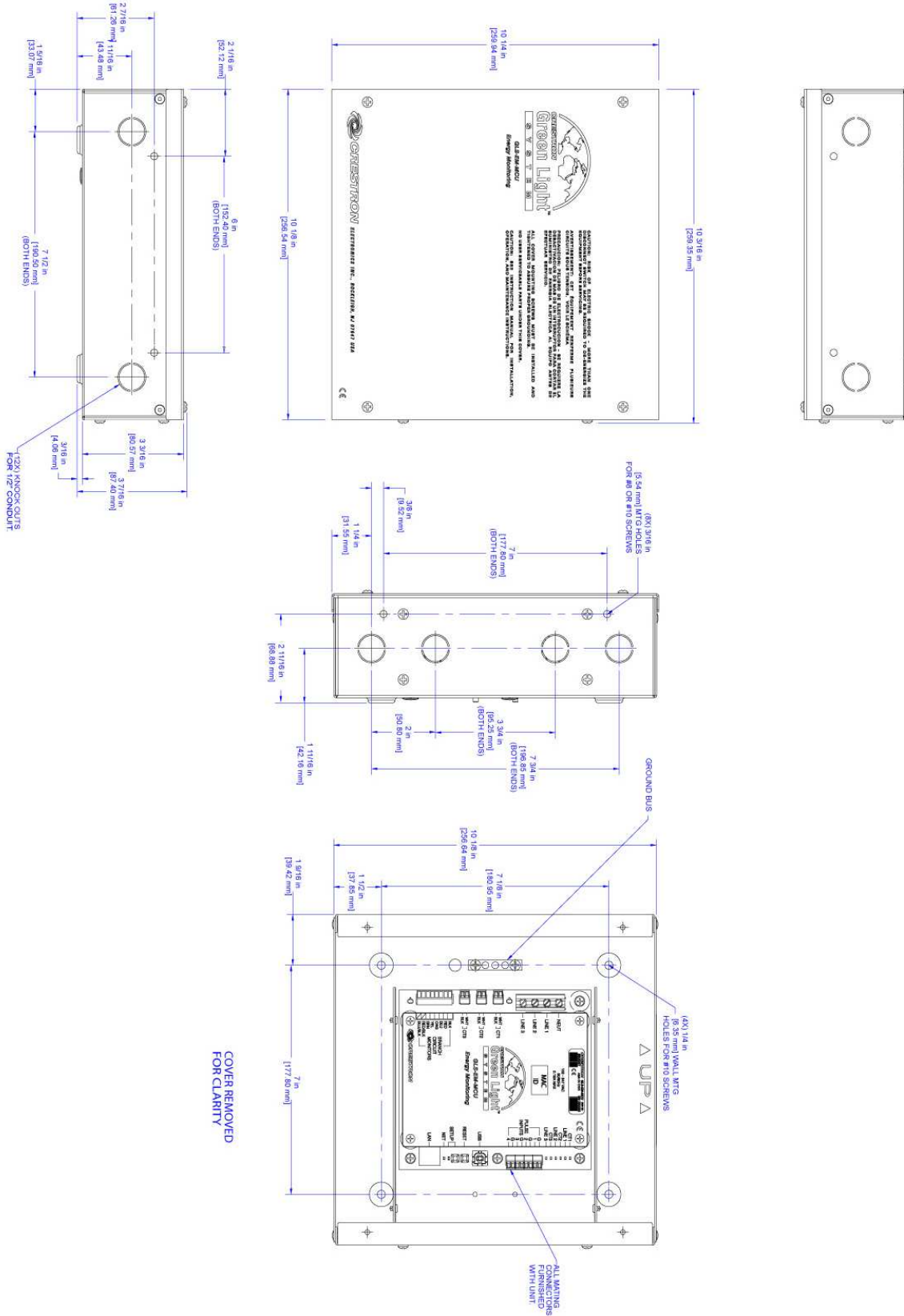
This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at [www.crestron.com/salesreps](http://www.crestron.com/salesreps) or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: [patents.crestron.com](http://patents.crestron.com).

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## CAD DRAWINGS



# GLS-EM-MCU Crestron Green Light® Power Meter Control Unit

## APPLICATION DIAGRAM

