www.encorp.com

9351 Eastman Park Drive
Windsor, Colorado 80550
888-295-4141

Pick Your Power℠

# *en*power MMC Meter/Monitor Control


With our 2-year standard warranty and 24-hour technical support, the *en*power-MMC is the complete solution to all power metering/monitoring needs.

## Highlights

- UL recognized component
- Communication through LONWORKS® and Modbus® (RS-232/485)
- 3-phase power metering and monitoring of voltage, current, power factor, kW, kWh, kVa, kVAh, kVAR, kVARh, harmonic distortion (THD, TOHD, TEHD and individual harmonics 2 to 15), and A-phase frequency, aux frequency
- Integral load-shedding algorithms manage power consumption
- True RMS metering accuracy for voltage, current, power and energy
- 8 individually isolated, programmable, dry contact outputs
- 8 individually isolated, programmable discrete inputs (AC or DC), each input selectable for low or high voltage
- 2 programmable, analog outputs that connect to PLCs, SCADA systems, panel meters, data recorders, etc.
- Setup and configuration using a standard PC interface

## Product Benefits

- Intuitive setup tailors device to application and saves time
- 0.2% accuracy, current, and voltage
- Flexibility to operate as a stand-alone or integrate with a network
- Easily integrates with energy management, BSA and SCADA systems
- External power supply not required (device operates on power being metered)

## Advanced Utility-Grade Meter/Monitor Control

The *en*power™-MMC (Meter/Monitor Control) is a full-featured, configurable metering and monitoring control. The open communications network, integral load-shedding algorithms and inherent ease-of-use make this device perform. Combined with our 2-year standard warranty and 24-hour technical support, the *en*power-MMC is the complete solution to all power metering/monitoring needs.

# *en*power MMC Meter/Monitor Control

## Intuitive Graphical User Interface

- Includes *en*telligent™-NST (Network Service Tool) setup and configuration tool for LONWORKS®-based hardware
- Store parameters for easy transfer between units
- 32-bit application, Windows® 95 and NT® 4.0 compatible
- Runs on standard desktop or laptop PC, eliminating the need for a hand-held programmer
- Basic monitoring functions built in
- Simple "drag-and-drop" interface
- Reads and displays LONMARK® object names
- Utilizes simple user-createdforms
- Industry standard ODBC-compliant database
- High-speed OLE automation server
- Reads and displays values and documentation for monitored data points

## Protective Relaying Functions

- Sync check (25)
- Auto-synchronizer (25A) w/ voltage matching, two modes available:
    1. Frequency and phase matching
    2. Slip frequency
- Over/under voltage for generator and utility tie (27/59)
- Over/under frequency for generator and utility tie (81 O/U)
- Directional power (32)
- Directional reactive power (32VAR)
- Reverse-phase/phase-balance current (46)
- Phase sequence voltage (47)
- Voltage-restrained overcurrent (51VR)

## Specifications

**Environmental:**

Humidity: 95% at 38° C
Temperature: -25°C to 70° C

**Power Requirements:**

18 to 75 Vdc (<10W)
85-265 Vac (<25W)

**Single Phase Potential Input:**
60-150 Vac; 50/60 Hz; delta, open delta or wye configurations

**3-Phase Potential Inputs:**
60-150 Vac; 50/60 Hz; delta, open delta or wye configurations

**Single Phase Current Input:**
0-5 Amps; 50/60 Hz

**3-phase Current Inputs:**
0-5 Amps; 50/60 Hz

**Digital Inputs:**
20-40 Vac/Vdc; 85-150 Vac/Vdc

**Digital Outputs:**
1-120 Vac/Vdc; 0.15 Amps Max

**Frequency and Voltage Bias Outputs:**
+/- 3 Vdc and 4-20 mA

Designed to meet or exceed ANSI/IEEE C37.90-1989, IEEE Standards for Relays and Relay Systems associated with Electrical Power Apparatus (5000 Volt Surge Withstand)

**Designed to comply with:**
IEC 1000-4-2 Electrostatic Discharge
IEC 1000-4-3 Radiated Immunity
IEC 1000-4-4 Fast Transient
IEC 1000-4-5 Surge Withstand
IEC 1000-4-6 Conducted Immunity
ANSI/IEEE C37.90.1 Surge Withstand/Fast Transient
ANSI/IEEE C37.90.1 Radiated Immunity

Designed for LONMARK® Compatibility

Recognized to U.S. and Canadian requirements under the Component Recognition Program of Underwriters Laboratories Inc.

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