

## Multifunction Power Monitor

### FEATURES

- RS485 allowing communication up to 4000 feet
- Pulse input distance up to 200 feet using 18-24 gauge control wire
- DIN rail mounting makes installations quick and easy
- The onboard dipswitch sets the Modbus address.
- Industry standard pulse inputs connect to most pulse output meters
- LED verification of RS 485 TX/RX communications
- LED display counter for each device for fast indication and verification of pulses!
- Nonvolatile memory retains configuration and pulse totals during power failures.
- Effective filters to against electric noise to prevent miscounting
- Optional charger and battery bank for backup during power failure.
- Pulse divider is provision for high pulse signal application

### APPLICATIONS

- Demand response program control and reporting
- Cost allocation to tenants and third parties
- Measurement & verification of energy savings
- Gas, water, steam, and BTU meters
- Monitoring performance of building systems (e.g., chillers, boilers, fans)
- Optional charger and battery bank for backup during power failure.
- Pulse divider is provision for high pulse signal application
- Cost allocation to departments process or tenants
- Benchmarking building operations performance
- Verification of energy savings and utility costs



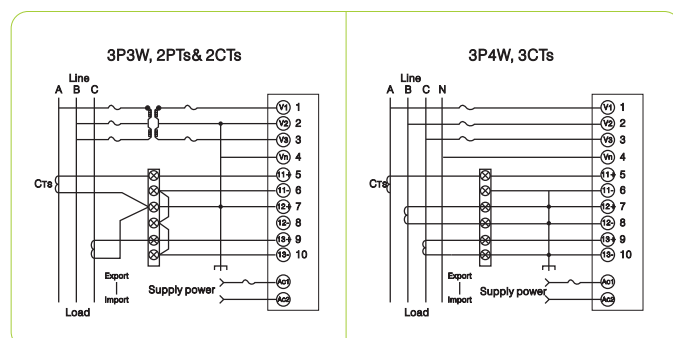
### OVERVIEW

The AMR module is designed for pulse counting applications where numbers of pulse output meter devices such as gas/water/electric /btu meters need to be connected to a Modbus network can be incorporated with cost effective data acquisition and auto metering solutions.

The AMR will count contact closures on 16 separate inputs and store the totalized pulse count internally using non-volatile memory. The pulse count data then can read through the RS485/Modbus protocol.

The module also offer optional charger with additional Nih rechargeable battery, this feature provides continuous meter counting going during the power is interrupt.

### WIRING DIAGRAM



Construction 1



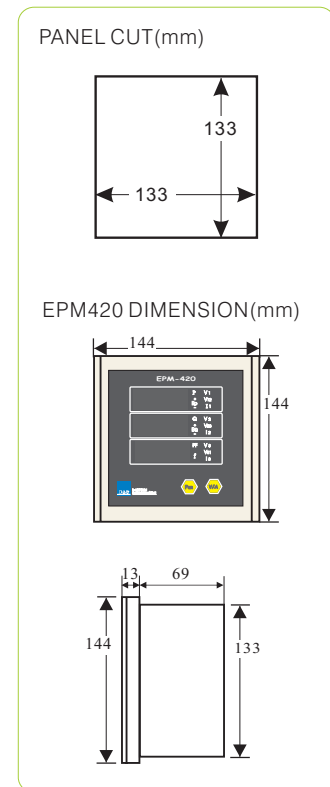
Construction 2



Construction 3

- Power measurement
  - Phase voltage (per phase)
  - Line voltage (per phase)
  - Current (per phase)
  - Overall 3 phase total
    - Hz, PF, KW, KVAR
    - Total Kwh, Kvarh
  
- Accuracy \*
  - Current and voltage: 0.5%
  - Frequency: 0.1Hz
  - Other power functions: 1%
  
- Voltage input
  - Max: 600 VAC Max. L/L
  - Overload: 2 x rating continuous
  
- Current input
  - Rating: 5 amps with 20% over range
  - Overload: 10 amps continuous
  - 100 amps for 1 sec. Nonrecurring
  
- Input frequency range
  - 40-70 Hz
  
- Low burden
  - PT burden 0.2 VA
  - CT burden 0.2 VA
  
- Microprocessor
  - 16 bit low power microprocessor
  - Special purpose metering processor IC
  - 32K-byte nonvolatile RAM and 4K-bit EEPROM
  
- Wiring configuration
  - 3 phase 3 wire and 3 phase 4 wire
  
- Data display
  - 3 lines of 4 digits data LED display
  - LED size: 20 mm high 7 segment
  - 4 digits resolution with decimal for V,A,kw,kvar,Hz,PF and 8 digits accumulators kwh,kvarh of energy display
  - Electric legends LED indicators
  - Update time: 0.5 sec
  - Auto scaling function

- User setting parameters
  - Saved in EEPROM, no batteries is required to maintain data
  - Parameter include: 3p3w or 3p4w, PT/CT ratio select, RS 485 address, baud rate selection,
  
- RS485 communication
  - Photo isolation up to 2500 Vrms
  - Up to 32 EPM420 can be used in the same shielded twist pair cable
  - Max.4000 ft between host and meter
  - Baud rate up to 19200 bps
  - Modbus-RTU mode protocol
  - Response time:100 msec ,max
  
- Seals
  - IP41/UL94 for front panel
  - Ip20 for Terminal
  
- Dimension and weight
  - 144x144x90mm, (DIN43700), panel mounting kit is provided
  
- Operating temperature
  - -20 to 70 °C
  
- Input/output isolation
  - 2500 VAC, between input and output
  - 500M ohm, between I/O and case
  
- Standard apply
  - Follow IEC, CE, ANSI Standard;
  - IEC870, ANSI 37.90A/ IEEE-472 SWC surge withstand
  
- Power supply
  - 115/230 VAC
  - Consumption: 5 VA
  - Optional:DC100V-125V



**ORDERING INFORMATION**

MODEL	Rating	Aux. Power
EPM420	110V 400V	AC DC110V



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