# ACM100 *Alternating Current Monitor*


Maretron's ACM100 is a device which monitors AC power sources and outputs information about these sources onto the industry standard NMEA 2000® marine data network. ACM100 output information is then displayed with networked NMEA 2000® equipment such as the Maretron DSM150 or DSM250 dedicated display or with NMEA 2000® compatible software such as Maretron N2KView®.

## *Products*

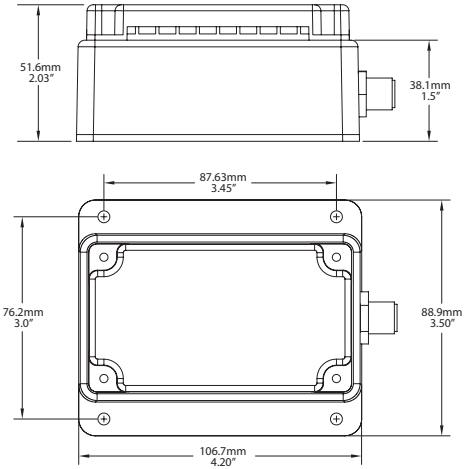
| PART NUMBER | DESCRIPTION |
|---|---|
| ACM100-01 | Alternating Current (AC) Monitor |
| M000630 | 100 Amp AC Transducer with Cable |
| M000612 | 400 Amp AC Transducer with Cable |

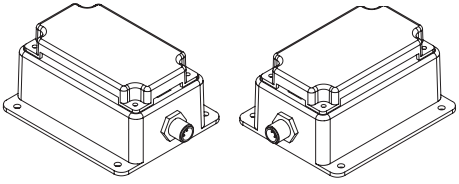
*The following accessories are available for the ACM100:*

***M000630***

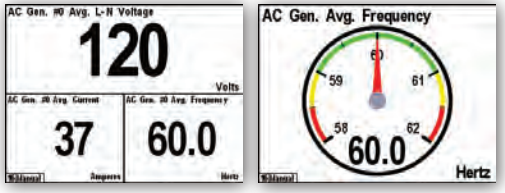
***M000612***

- NMEA 2000® Interface
- Waterproof Connectors
- Sealed Waterproof Enclosure
- Opto-Isolated from NMEA 2000® Eliminating Potential Ground Loops
- Monitoring of busses carrying AC power and transmitting:
  - Voltage
  - Frequency
- Monitoring AC Power Sources such as Utilities and Generators and transmitting:
  - Voltage
  - Current
  - Frequency
  - Real Power
  - Reactive Power
  - Apparent Power
  - Power Factor
  - Total Energy Imported
  - Total Energy Exported



N2KView Screen




DSM150 & DSM250 Screen Shots

## Specifications

| Parameter | Value | Comment |
|---|---|---|
| Measurement Capabilities | | Single Phase 120, 208, 230, 240 |
| | | Split Phase 120/240 |
| | | 3-Phase Delta 208, 230, 400, 480, 600 |
| | | 3-Phase Wye 208Y/120, 400Y/230, 415Y/240, 480Y/277, 600Y/347 |
| | | Delta with Wild Phase 120/208/240 |
| | | Corner Grounded Delta 120/208/240 |
| Measurement Voltage Range | 0-380 VAC | Line-to-Neutral |
| Measurement Voltage Accuracy | ±1% | |
| Measurement Current Range | 0-100 A | With included current transducer (0 to 400A with optional transducer) |
| Measurement Current Accuracy | ±1% | With included current transducer |
| Measurement Frequency Range | 30-80Hz | |
| Measurement Frequency Accuracy | 0.5Hz | Typical |

## Certifications

| Standard | Comment |
|---|---|
| NMEA 2000® Standard | Level A |
| Maritime Navigation and Radiocommunication Equipment & Systems | IEC 61162-3 |
| Maritime Navigation and Radiocommunication Equipment & Systems | IEC 60945 |
| FCC and CE Mark | Electromagnetic Compatibility |

## NMEA 2000® Parameter Group Numbers (PGNs)

| Description | PGN # | PGN Name | Default Rate |
|---|---|---|---|
| Periodic Data PGNs | 65001-65003 | Bus Phase A-C Basic AC Quantities | Disabled |
| | 65004 | Bus Average Basic AC Quantities | 2 times/second |
| | 65005 | Utility Total AC Energy | 2 times/second |
| | 65006-65014 | Utility Phase A-C Power and Basic Quantities | Disabled |
| | 65015 | Utility Total AC Reactive Power | 2 times/second |
| | 65016 | Utility Total AC Power | 2 times/second |
| | 65017 | Utility Average Basic AC Quantities | 2 times/second |
| | 65018 | Generator Total AC Energy | 2 times/second |
| | 65019-65027 | Generator Phase A-C Power and Basic Quantities | Disabled |
| | 65028 | Generator Total AC Reactive Power | 2 times/second |
| | 65029 | Generator Total AC Power | 2 times/second |
| | 65030 | Generator Average Basic AC Quantities | 2 times/second |
| Response to Requested PGNs | 126464 | PGN List (Transmit and Receive) | N/A |
| | 126996 | Product Information | N/A |
| | 126998 | Configuration Information | N/A |
| Protocol PGNs | 059392 | ISO Acknowledge | N/A |
| | 059904 | ISO Request | N/A |
| | 060928 | ISO Address Claim | N/A |
| | 065240 | ISO Address Command | N/A |
| | 126208 | NMEA | N/A |
| Maretron Proprietary PGNs | 126720 | Configuration | N/A |

## Electrical

| Parameter | Value | Comment |
|---|---|---|
| Operating Voltage | 9 to 32 Volts | DC Voltage |
| Power Consumption | 100 mA | NMEA 2000® Interface |
| Load Equivalence Number (LEN) | 2 | NMEA 2000® Spec. (1LEN = 50 mA) |
| Reverse Battery Protection | Yes | Indefinitely |
| Load Dump Protection | Yes | Energy Rated per SAE J1113 |

## Mechanical

| Parameter | Value | Comment |
|---|---|---|
| Size | 3.50" x 4.20" x 2.03" (88.9mm x 106.7mm x 51.6mm) | Including Flanges for Mounting |
| Weight | 13 oz. (368.5 g) | |

## Environmental

| Parameter | Value |
|---|---|
| IEC 60945 Classification | Exposed |
| Degree of Protection | IP64 |
| Operating Temperature | -25°C to 55°C |
| Storage Temperature | -40°C to 70°C |
| Relative Humidity | 93%RH @40° per IEC60945-8.2 |
| Vibration | 2-13.2Hz @ ±1mm, 13.2-100Hz @ 7m/s$^2$ per IEC 60945-8.7 |
| Solar Radiation | Ultraviolet B, A, Visible, and Infrared per IEC 60945-8.10 |
| Corrosion (Salt Mist) | 4 times 7days @ 40°C, 95%RH after 2 hour Salt Spray Per IEC 60945-8.12 |
| Electromagnetic Emission | Conducted and Radiated Emission per IEC 60945-9 |
| Electromagnetic Immunity | Conducted, Radiated, Supply, and ESD per IEC 60945-10 |
| Safety Precautions | Dangerous Voltage, Electromagnetic Radio Frequency per IEC 60945-12 |