

# 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 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:



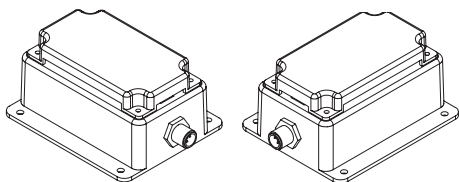
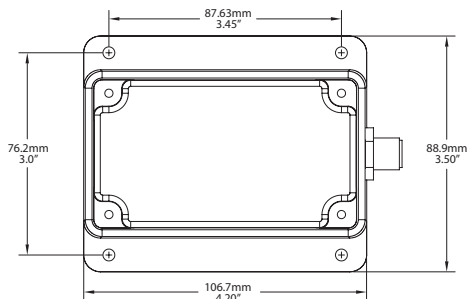
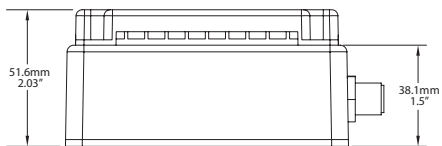
**M000630**



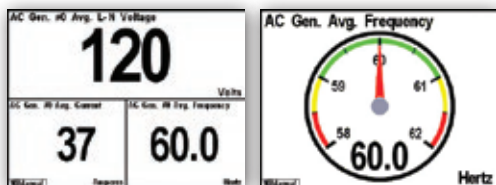
**M000612**



- 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



DSM250 Screen Shots

**Specifications**

| Parameter                    | Value       | Comment                           |
|------------------------------|-------------|-----------------------------------|
| Measurement Voltage Range    | 0 to 240VAC | AC Voltage                        |
| Measurement Voltage Accuracy | ± 1%        | 0 to 240 VAC                      |
| Measurement Current Range    | 0 to 200A   | With included current transformer |
| Measurement Current Accuracy | ± 1%        | With included current transformer |

**Certifications**

| Standard  | Comment                       |
|---|-------------------------------|
| NMEA 2000® Standard   | Level A                       |
| Maritime Navigation and Radio Communication Equipment & Systems | IEC 61162-3                   |
| Maritime Navigation and Radio Communication 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  | Bus #1 Phase C Basic AC Quantities    | 10 times/second |
|                            | 65002  | Bus #1 Phase B Basic AC Quantities    | 10 times/second |
|                            | 65003  | Bus #1 Phase A Basic AC Quantities    | 10 times/second |
|                            | 65004  | Bus #1 Average Basic AC Quantities    | 10 times/second |
|                            | 65005  | Utility Total AC Energy               | 10 times/second |
|                            | 65006  | Utility Phase C AC Reactive Power     | 10 times/second |
|                            | 65007  | Utility Phase C AC Power              | 10 times/second |
|                            | 65008  | Utility Phase C AC Basic Quantities   | 10 times/second |
|                            | 65009  | Utility Phase B AC Reactive Power     | 10 times/second |
|                            | 65010  | Utility Phase B AC Power              | 10 times/second |
|                            | 65011  | Utility Phase B AC Basic Quantities   | 10 times/second |
|                            | 65012  | Utility Phase A AC Reactive Power     | 10 times/second |
|                            | 65013  | Utility Phase A AC Power              | 10 times/second |
|                            | 65014  | Utility Phase A AC Basic Quantities   | 10 times/second |
|                            | 65015  | Utility Total AC Reactive Power       | 10 times/second |
|                            | 65016  | Utility Total AC Power                | 10 times/second |
|                            | 65017  | Utility Average Basic AC Quantities   | 10 times/second |
|                            | 65018  | Generator Total AC Energy             | 10 times/second |
|                            | 65019  | Generator Phase C AC Reactive Power   | 10 times/second |
|                            | 65020  | Generator Phase C AC Power            | 10 times/second |
|                            | 65021  | Generator Phase C AC Basic Quantities | 10 times/second |
|                            | 65022  | Generator Phase B AC Reactive Power   | 10 times/second |
|                            | 65023  | Generator Phase B AC Power            | 10 times/second |
|                            | 65024  | Generator Phase B AC Basic Quantities | 10 times/second |
|                            | 65025  | Generator Phase A AC Reactive Power   | 10 times/second |
|                            | 65026  | Generator Phase A AC Power            | 10 times/second |
|                            | 65027  | Generator Phase A AC Basic Quantities | 10 times/second |
|                            | 65028  | Generator Total AC Reactive Power     | 10 times/second |
|                            | 65029  | Generator Total AC Power              | 10 times/second |
|                            | 65030  | Generator Average Basic AC Quantities | 10 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  | 128720 | Configuration                         | N/A             |

**Environmental Mechanical Electrical**

| Parameter                     | Value         | Comment                         |
|-------------------------------|---------------|---------------------------------|
| Operating Voltage             | 9 to 32 Volts | DC Voltage                      |
| Power Consumption             | 100 mA        | NMEA 2000@v 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      |

| Parameter | Value   | Comment                                |
|-----------|---|--|
| Size      | 3.50" x 4.20" x 2.03" (88.9mm x 106.7mm x 51.6mm) | Excluding NMEA 2000® Connector & Cable |
| Weight    | 13 oz. (368.5 g)                                  |  |

| 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/s² 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    |



Copyright 2012 Maretron, LLP. All rights reserved. As Maretron is constantly improving its products, all specifications are subject to change without notice. Maretron's products are designed to be accurate and reliable; however, they should be used only as aids to navigation and vessel monitoring, and not as a replacement for traditional navigation and vessel monitoring techniques. A prudent captain or navigator never relies on a single source for navigation or system monitoring information. "NMEA 2000" is a registered trademark of the National Marine Electronics Association.