ALTA® by MONNIT

The Leading Enterprise Internet of Things Solution

500 AMP
THREE PHASE CURRENT METER

Industrial Wireless 500 Amp Three Phase Current Meter

General Description

The ALTA Industrial Wireless Three Phase Current Meter (500 Amp) measures the RMS current of an alternating current (AC) system using 3 current transformers (CTs) that wrap around the wires of a three phase power system. The sensor reports Minimum RMS current, Maximum RMS current, Average RMS current, and Duty Cycle for each phase and the combined amp hours of all three phases to the iMonnit system. The iMonnit system is capable of generating watt hour or kilowatt hour readings as well based on a user specified RMS voltage.

- Measures Maximum RMS current, Minimum RMS current, Average RMS current, and duty cycle for each phase and combined amp hours from all three phases
- 3 x 0-500 amp Current Transducers
- Capable of generating watt hour or kilowatt hour readings using iMonnit
- Configurable Accumulate mode for Amp Hours (When configured accumulated Amp Hours are saved and persist even through a power cycle)
- Can notify based on instantaneous current levels
- Simple and safe installation of current measurement hardware, no rewiring required

Principle of Operation

To measure current, clip the CT around only a single wire of a powered system (clipping around a hot and neutral wire at the same time will result in 0 current readings). After the sensor powers on and connects to the gateway it will begin taking measurements based on the averaging interval (5 seconds default). It will report data to iMonnit every heartbeat or if the current goes outside of the aware thresholds set in iMonnit. The current transducer measures current without making physical contact with the wire itself. This combined with the hinged clamping feature of the CT means no rewiring is needed (May have to open the outer sheath of multi pair wire to access a single wire, but no need to open the jacket around any inner wires).

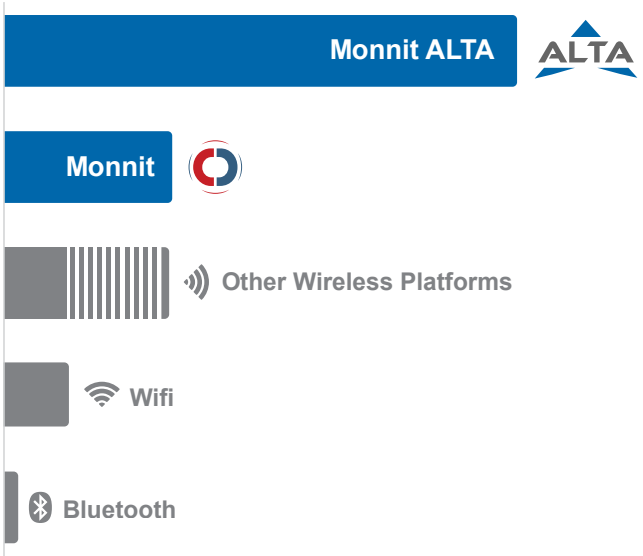
Features of Monnit ALTA Sensors

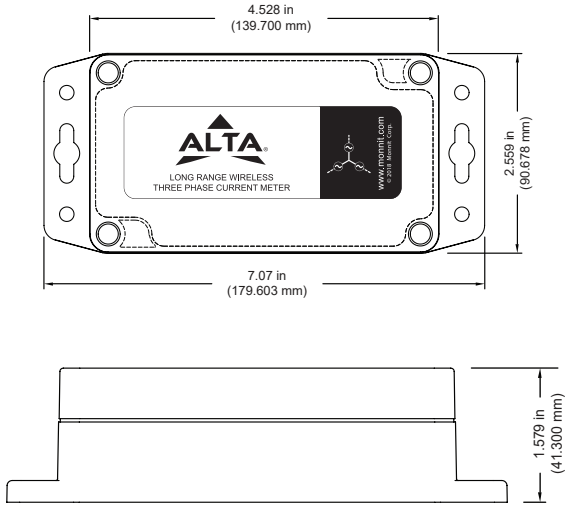
- Wireless range of 1,200+ feet through 12+ walls *
- Frequency-Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Improved power management for longer battery life ** (12+ years on AA batteries)
- Encrypt-RF® Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- All ALTA sensors now have up to 3200 readings:
  - 10-minute heartbeats = 22 days
  - 2-hour heartbeats = 266 days
- Over-the-air updates (future proof)
- Free iMonnit basic online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email

* Actual range may vary depending on environment.

** Battery life is determined by sensor reporting frequency and other variables. Other power options are also available.

Wireless Range Comparison





ALTA Industrial Wireless 500 Three Phase Current Meter | Technical Specifications		
Supply Voltage		2.0–3.8 VDC (3.0–3.8 VDC using power supply) *
Current Consumption		0.2 µA (sleep mode), 0.7 µA (RTC sleep), 570 µA (MCU idle), 2.5 mA (MCU active), 5.5 mA (radio RX mode), 22.6 mA (radio TX mode)
Operating Temperature Range (board circuitry and battery)		-40°C to +85°C (-40°F to +185°F) **
Included Battery	Max temperature range	-40°C to +85°C (-40°F to +185°F)
	Capacity	1500 mAh
Datalogged Memory		64 Kbytes (~2048 Message when Datalog is configured, datalog enabled by default)
Wireless Range		1,200+ ft non-line-of-sight
Security		Encrypt-RF® (256-bit key exchange and AES-128 CTR)
Weight		28.7 ounces
Enclosure Rating		NEMA 1, 2, 4, 4x, 12 and 13 rated, sealed and weather proof
UL Rating		UL Listed to UL508-4x specifications (File E194432)
Certifications		900 MHz product; FCC ID: ZTL-G2SC1 and IC: 9794A-G2SC1. 868 and 433 MHz product tested and found to comply with: EN 300 220-2 V3.1.1 (2017-02), EN 300 220-2 V3.1.1 (2017-02) and EN 60950
Current Transformer Specifications		
Number of Current Transducers		3 per sensor (3 ft wires)
Absolute Max CT Current		600 Amps RMS (A rms)
Maximum Accurate CT Current		500 Amps RMS (A rms)
Frequency Measurement Range		50–100 Hz
Accuracy		+/- (2% + 1.4 A rms)
Measurement Resolution		Average: 0.3 A rms Max: 1 A rms Min: 1 A rms Duty: 1% Amp Hours: 0.1 Amp Hours
Current transducer dimensions		93 mm X 68 mm X 52 mm (36 mm inner diameter)

* Hardware cannot withstand negative voltage. Please take care when connecting a power device.

** At temperatures above 100°C, it is possible for the board circuitry to lose programmed memory.

Example Interfacing

- Current monitoring
- Current usage
- Amperage monitoring
- Amp hour meter

Industrial Grade Sensors | Type 1, 2, 4, 4X, 12 and 13 NEMA Rated Enclosure

Monnit's Industrial sensors are enclosed in reliable, weatherproof NEMA-rated enclosures. Our NEMA-rated enclosures are constructed for both indoor or outdoor use and protect the sensor circuitry against the ingress of solid foreign objects like dust as well as the damaging effects of water (rain, sleet, snow, splashing water, and hose-directed water).

- Safe from falling dirt
- Protects against wind-blown dust
- Protects against rain, sleet, snow, splashing water, and hose-directed water
- Increased level of corrosion resistance
- Will remain undamaged by ice formation on the enclosure

For more information about our products or to place an order, please contact our sales department at 801-561-5555.

Visit us on the web at www.monnit.com.

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