

Low Power Remote Telemetry Unit (RTU)

“Battery life greater than two years”

The Low Power Remote Telemetry Unit is perfect for monitoring remote operational assets with small point counts. This RTU is very cost effective and allows you to extend your monitoring network beyond the point economically possible with larger devices. It is designed to operate for at least two years on an internal battery pack. Its unique power management system allows the RTU to continue to take measurements such as pulses from flow meters while it stays in extremely low power mode. It will also turn power on to analogue transmitters when measurements are required then remove power after measurements have been taken. The DNP3 protocol is used to transmit data to the host via a wireless 3G connection. The RTU can also act as a Modbus master so it can get information from your remote instruments when required.

Features and Benefits

- Ultra low power mode allows operation for more than two years on one battery pack
- DNP3 Protocol – Store alarms and events with timestamp
- Modbus Master – Connect to instruments in the field and return live data
- Integrated 3G wireless connectivity with SIM
- Count pulses (flow) while in very low power mode
- Power analogue transmitters when taking measurements
- High and low configurable alarm set points with dead band
- IP68 enclosure for complete protection

Applications

- Water and waste water
- Industrial
- Agriculture and wineries
- Traffic signs
- Telecommunications base stations
- Forests and weather stations
- Railway rolling stock and trackside
- On-board heavy vehicles
- Pipelines



Specification

Input Voltage	Nominal External DC Input Voltage: 12 VDC Input Range: 9 VDC to 15 VDC Reverse Voltage Protection Nominal Primary Battery Voltage: 7.2 VDC
Power consumption (from Nominal Primary Battery @ 7.2VDC)	Sleep mode (modem and primary processor asleep): 7.7 mW Active mode (primary processor active, modem asleep): 130 mW Communicating (primary processor and modem active): 800 mW Add up to 500mW for each 4-20mA transducer powered by RTM
Environmental	Operational 0°C to +50°C, 10% to 100% condensing Relative Humidity
Processor Speed	8 bit Rabbit RCM3100 Module 14.7456MHz (Rabbit3000)
Processor SRAM Memory	512kB
Processor FLASH Memory	512kB
Backup Battery	SRAM and RTC battery backed via field-replaceable 950mAH coin cell
Real Time Clock	Yes
Watchdog	Primary processor hardware watchdog Secondary processor software watchdog
RS232 Ports	Two (2) RS232 port (3 wire: 2 signal + GND) One (1) DB9F Connector for User Interface One (1) DB9M Connector for Modbus Master
3G Modem	One (1) Cinterion PH8-P UMTS/HSPA+ and GSM Modem module
Digital Inputs	Four (4) 18 VDC Current Sinking or Sourcing capable of pulse counting up to 500 Hz at a 30% duty cycle. Nominal Close current: 0.1 mA (100 µA)
Digital Outputs	Two (2) 12-18 VDC Current Sourcing 20mA Automatic Resetting Short Circuit Protection
Analogue Inputs	Two (2) 12 Bit analogue inputs configured as: 4-20mA Current or 0-10V Voltage inputs
Protocol Support	DNP3 over TCP/IP Modbus RTU Master
Enclosure Material	Polycarbonate
Enclosure Size	297mm (L) x 238mm (W) x 139mm (H)
Weight	3.0 kg (070-0287-1 with primary battery pack) 2.25 kg (070-0287-3 with secondary battery pack)
IP Rating	IP68
Antenna Connectors	Internal: SMA jack (female socket) on board External: QMA on enclosure

Ordering Options

1. RTU board only with 3G module
2. Primary Battery Cell – 8 Cell 7.2VDC packaged battery for unpowered sites.
3. 240Vac Site Power – Lithium Ion (Secondary cell) for maintaining power for minimum of 10 minutes during a black out and one 240Vac to 12Vdc power supply.
4. Non-loomed IP68 enclosure to support custom terminations, glands and looming. Gear plate for mounting of RTU board. Battery bracket and straps.
5. Looming and IP68 Connectors – looming of power and I/O signals to IP68 panel mount jack connectors. Internal 3G modem cable and antenna. Looming of antenna cable to an IP68 panel mount coax connector. IP68 panel mount jack connectors for the power and I/O signals. IP68 plug connectors for the power and I/O signals. IP68 dust caps for all panel mount connectors. Excludes IP68 coax plug as this needs to be terminated to the external antenna of choice. Must be purchased in conjunction with “Non-loomed IP68 Enclosure”.

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