

RM1 Radio Modem

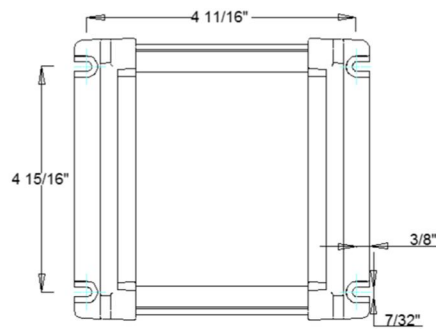
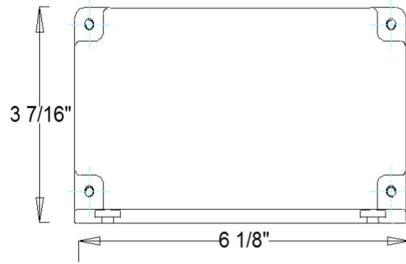


Features Include:

- **Long Range**, Reliable, **Wireless** data transfer.
- Long-term stability in the field for lower maintenance costs.
- **Store and Forward repeating** in all units with intelligent routing for several popular protocols.
- **Data Encryption** over Radio standard in all units.
- Multi-Level **Error Detection** for guaranteed accurate serial data.
- Diagnostics for Radio path and Modem troubleshooting.
- Multi-Use, Modbus RTU® compatible, Software included.
- RS232 Serial connection
- **Industrial grade** components and heavy duty construction.
- **Low power** consumption for solar sites.
- **Competitive pricing** for cost effective, large scale use.

RM1 Wireless Modem

DIMENSIONS AND SPECIFICATIONS



Radio Specifications

Band.....	UHF / VHF / VHF License Free
Transmitter	
Channel Spacing.....	12.5kHz programmable
RF Output Power.....	5 watt min @ 13.8VDC @ <1.2 A 2 watt nom @ 13.8VDC @ 0.75A
Deviation	
UHF.....	± 2.5kHz
VHF.....	± 2.5kHz
TX Keyup Lock Time.....	< 20 ms
Spurious and Harmonics.....	< -20 dbm
Receiver	
Sensitivity	
12db Sinad.....	UHF < -113dbm VHF < -110dbm
Spurious Rejection.....	-55 db
Squelch Attack time.....	< 5 ms
RSSI Squelch Sensitivity.....	Manually adjustable, factory set for -110dbm
Number of Channels.....	8 TX/RX
Power Supply.....	External Power Supply (12VDC Nominal Voltage) 10.0VDC —15.0VDC Extreme
Frequency Stability.....	± 2.5ppm (-30 C to + 50 C)
Current Consumption	
Standby (Muted).....	< 20mA @ 13.8 VDC
Transmit (5 watt).....	< 1.0 A
Transmit (2 watt).....	< 0.6 A

Modem Specifications

Store and Forward (SnF)

Unique Multi-Routing/Auto-Return method. Any unit will operate as a SnF repeater. Up to 4 units can be routed through to reach a destination. SnF is programmed in Master unit only. Repeaters and Remote modems automatically route and return data.

Protocol

Carries any protocol transparently. Multi routes Modbus, Other protocols can or may be supported. Check with factory. Responds to Modbus protocol for programming.

Programming

Setup/Service Software included for local programming through serial port or Over-the-Air. Software also serves as diagnostic tool.

Unit Synchronization

Continuous synchronization between Sending and Receiving units. True-Lock Sync insures fewer retries, longer distances and long term reliability.

Versatile

Operates transparently with almost any serial device. Operates intelligently with supported protocols for networking over wireless.

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RF Data Speed

4800 to 6400 bps (Narrowband 12.5Khz radio channel)

RF BER (conservative using Standard NB Radio)

1x10-3 @ -113dbm, 1x10-6 @ -110dbm, 1x10-8 @ -107dbm

RF Encryption

64 bit over radio channel (US only)

RF Packet Accuracy> Greater than 99.999% .

RF Error Checking

CRC-16 on RF packet, (CRC-16 on Modbus packet).
LRC-8 on RF packet, Frame error check on each byte.

Serial Port Communications

RS-232 @ 1200 to 115,200 bps, None, Even or Odd parity, 1 or 2 stop bits.

Current Drain: < 70ma in Receive Mode
< 1.5A in Transmit Mode

Voltage Requirement

10 to 15 VDC

Operating Temperature Range

Radio operating range -30 to +60 Deg. C