



**INTELLIGENT RADIO MODEM TO SECURELY MONITOR YOUR ASSETS OVER ASTRO® 25 SYSTEM**

# IRM1500 INTELLIGENT RADIO MODEM

The IRM1500 is a radio modem for supporting a multitude of data applications over the ASTRO 25 Integrated Voice and Data (IV&D) radio system. Utilities, petrochemical, and other critical infrastructure markets need to know exactly what is happening in their systems at all times. Pipeline pressure and flows, capacitor banks, reclosers, and lighting systems are just some of the many areas that the IRM1500 can efficiently communicate the status of the remote site back to the operator at the central control site.

The IRM1500 can pass both IP and non-IP, legacy serial devices & protocols to enhance the user's ability to monitor and communicate with their assets over their ASTRO 25 systems. Once you migrate to an ASTRO 25 digital system, you will immediately receive the benefits of IRM1500 on a mission critical network for voice and data applications in a small, compact device that will increase your overall ROI.

## KEY BENEFITS

- Increases the value of ASTRO 25 systems by facilitating fixed data/M2M applications
- Fully integrated ASTRO 25 data modem for 700MHz, 800MHz, and 900MHz systems.
- Small, compact form factor
- Meets IEEE 1613 specifications
- Supports Serial, Ethernet & USB interfaces for IP & serial products
- Supports P25 Trunking Data and ASTRO 25 Enhanced Data operation

## PRODUCT DATA SHEET

M2M SOLUTIONS - IRM1500

### PROVIDES VALUE-ADD TO YOUR ASTRO 25 SYSTEM

The IRM1500 gives users an opportunity to increase the value of their ASTRO 25 system by enabling communications to various assets in your network. With the ability to work as a modem providing communications to various devices in the field, the IRM1500 can relay this information back to the communications facility to provide awareness for status in numerous situations.

### READY FOR THE FUTURE WHEN YOU ARE

With technology expanding and evolving every day, you need a device that is reliable and ready to provide data communications to where you need it the most. The IRM1500 comes with the latest hardware and ergonomics to ensure that it is equipped for the future. The future of the IRM1500 includes hardware, such as a WLAN connector, a 4G MIMO SMA connector, and a Micro SD card slot, as well as planned software updates to continually take advantage of newly released features to improve data performance. With this, you'll minimize your need for IRM hardware updates, therefore saving time and budget.

### SMALL, RUGGED DEVICE TO RELAY YOUR DATA INFORMATION INSTANTLY

A budget-friendly solution for M2M data communications, the IRM1500 is a compact and durable smart modem to facilitate use of planned or new ASTRO 25 digital systems. With this, the IRM1500 then enables the use of communications via IV&D. The IRM1500 is also certified and tested to meet IEEE 1613 class 1 specifications for high EMI and ESD levels. For markets such as electric utilities, as well other markets that utilize critical communication networks, the IRM1500 will provide secure communication options to remote devices.

#### IRM1500 (FRONT VIEW)



### STANDARD FEATURES

- One (1) On-board user configurable RS-232/RS-485 port
  - Supports TX, RX, DCD, DTR, RTS, CTS, GND
- On-the-Go USB 2.0
- On-board Ethernet Port
- Date & Time, Time Synchronization
- LED Display
- Failsafe Operation
- On-board Temperature Sensor

### OPTIONAL FEATURES

- RS-232 Port Plug-In Board: Contains one (1) on-board bay for a plug-in serial expansion board containing two (2) isolated user configurable RS-232 ports.
  - Supports TX, RX, DCD, DTR, RTS, CTS, GND
  - Supports TX, RX, GND
- AC Power Supply Units 12V/5A

**PRODUCT DATA SHEET**  
M2M SOLUTIONS- IRM1500

**GENERAL SPECIFICATIONS**

Operating Temperature	-30 °C to + 60 °C
Storage Temperature	-40 °C to + 85 °C
Operating Humidity	5% to 95% RH @ 50 °C
Operating Altitude	-400 meters to +4000 meters
Dimensions	132.48mm (w) x 198.9mm (h) x 123.8mm (d)
Weight	2.1 Kg
Input Power	9-30vDC
Power Consumption: Normal Mode	~250mA at 12V (while radio is in standby mode)
Real Time Clock Back-up Battery: Type	Coin Rechargeable Battery (30 days)
Temperature	- 40 °C to + 70 °C
CPU Reset	Yes
SDIO Card	Up to 32 GB
UART	Yes
USB OTG	Yes
USB Device	Shared with USB OTG
LAN Port (10/100Mbps)	Yes
<b>SOFTWARE</b>	
SW Tool	Configuration/Monitoring - Web Interface HW Test - Yes
Failsafe Mechanism	Yes
Diagnostic (Local, Remote)	Via Web
HW Test	Local (via CLI)
Error Logger (Local, Remote)	Access (Local/Remote) - Yes Mechanism - Non-Cyclic
Security	MDLC Password, Authentication Login, Firewall, HTTPS, SFTP, SSH
Time Synchronization	Yes
Set Date/Time	Yes (with Time Zone and Daylight-Savings)
Services	DNS - Yes DHCP - Yes - Slave

**CPU**

Processor	Sitara CPU (Cortex-A8)
Clock	300 MHz
OS	Linux
Memory: Flash RAM	256 MB, 32 MB for User 256 MB, 16 MB for User
Real Time Clock	YES
Ports: RS232	Up to 1 port on main board (shared with RS485) (<115.2Kbps) Non-Isolated Up to 2 ports on piggyback (<115.2Kbps) Isolated
RS485	Up to 1 port on main board (shared with RS232) (<460.8Kbps) Non-Isolated
Ethernet	Up to one port, 10/100 Mbps (auto-negotiation) (+ interface for plug-in board)
Radio Internal Data Modem Plug in port	700/800MHz or 900MHz 1

**LED INDICATIONS**

LEDS: Capacity Main	4 General Purpose LEDs
CPU	Power (physical indication) ERR (physical indication, detailed error can be seen in error logger) RST Process (Indication on the PWR LED)
Ports	Tx/Rx on main RS-232 (dedicated physical LED) Tx/Rx on Piggyback RS-232 (UI Indication)

**INFRASTRUCTURES**

Port Forwarding (Site Level)	Yes IP to ASTRO 25
Port Mapping and Emulating	Yes