

MiChroSat 2403

Low data rate communications for deployment in remote locations

Product Highlights

- Uses Iridium Global Network
- “Out of the Box” Ready
- Designed for SCADA/ Telemetry
- Seamless RTU/ PLC Connectivity
- Voice Capable
- Isolated RS-232 Interface
- Wide 9–30v DC Supply
- Low Power Operation
- Intelligent Boot Programming
- Watchdog Feature
- “MiChroFace” Setup Software



Overview

MiChroSat 2403 is a low data rate communications solution developed by Wireless Innovation for deployment in remote locations.

Operating via LEO (Low Earth Orbit) satellite networks, MiChroSat 2403 provides global coverage. MiChroSat 2403 offers data connectivity either via direct internet dial-up connectivity or ‘async’ type modem to modem connections. The system may also be expanded to provide data acquisition, alarm reporting and discrete I/O functionality.

System Operation

The MiChroSat 2403 system can provide data connectivity in two different manners:

When providing async data services the MiChroSat 2403 modem can be interfaced directly into existing applications utilising PSTN or GSM modems. The modem provides async data connectivity at 2400bps.

The MiChroSat 2403 system supports both Modem to PSTN/GSM connections and Modem to Modem

connectivity. The MiChroSat 2403 modem supports the full ‘Hayes’ AT command set allowing existing applications to be easily interfaced to the modem.

The MiChroSat 2403 modem can dial directly to PSTN/GSM numbers or can wait in ‘auto-answer’ mode to receive calls from PSTN/GSM as required.

MiChroSat 2403 also provides direct modem to modem connectivity, allowing one modem to call another directly with no terrestrial network connectivity. This method of configuration allows a number of modems in the field to call (or to be called) directly via a bank of modems located at the customers premises. This provides a secure independent communications network, removing any reliance on the existing terrestrial infrastructure.

The MiChroSat 2403 product contains an intelligent interface board to allow it to be operated in many different scenarios, typically found in remote monitoring environments.

Power Management

The modem may be scheduled to power on/off at fixed times, effectively allowing it power up to provide an operational window, and sleep out side this period to conserve power.

The modem can be configured to automatically power cycle at fixed intervals, this provides a method of automatically clearing any RTU/Modem communications issues, and re-initializes the modem without a trip to site.

DTR and TX data sensing, allows the modem to detect a change in state of the DTR pin or detect traffic on the TX line and automatically come out of sleep mode, initialize the modem and start communications, equally if nothing is detected on these lines for a user defined period of time the modem will automatically drop back into sleep mode.

Voice Integration

MiChroSat 2403 now has full voice functionality—allowing an Iridium Intelligent Handset to be plugged in and used as a normal Satellite Phone would be, without the additional cost of a full Handset.

MiChroSat 2403 Specifications

Modem Power Consumption

- Input Voltage +9 to +30 DC (12 or 24V DC Nominal)
- Power Consumption @ + 12V
- Sleep: 15mA
- Idle: 150mA (Approx)
- Transmit: 900mA(Average)

Environmental Conditions

- Operating Temperature: From -30°C to +70°C
- Storage Temperature: -40°C to +85°C
- Relative humidity: 95% IP44 Rated

Physical Specifications

- Weight 995g Approx.
- Dimensions 225 (l) x 170 (w) x 55 (h) mm

Automatic Configuration

The interface board may be configured to automatically program the modem with a user defined initialization file at power up.

The board allows the modem to be configured for use with 'dumb' logger type devices by for example automatically configuring the modem with the correct RS-232 setting and enabling auto-answer.

This functionality also ensures that the modem will always power up in a specific known configuration, and again ensures reliable communications between RTU and modem.

RS-232 Isolation

The interface board fully isolates the RS-232 connection between RTU/Device and the actual modem.

This ensures that the actual signals received by the modem are clean ensuring good communications, and further ensures that variations in RS-232 signal levels from the connected device (frequently seen from low power RTU's for example) will have no impact on effective communications.

Interface Specifications

- Application Interface
- RS-232: DB9 Male Connector
- Voice Port: RJ-45 Female Connector
- Power: Amphenol C091-31G003-100-2 Connector
- RF Interface
- 1 TNC Female Connector

Certification

- FCC, Industry Canada & CE. RoHS & WEEE




MiChroSat

From Wireless Innovation