
TELEMETRY INTERFACE MODULE

DESIGNED FOR USE WITH THE 200 SERIES RTU FAMILY, DFS RTU MODULES ARE ASSEMBLED FROM THE HIGHEST QUALITY COMPONENTS AND DESIGNED TO MAXIMIZE USABILITY WHILE MINIMIZING INSTALLATION, MAINTENANCE, AND DOWNTIME.

The Telemetry Interface Module (TIM) is a microprocessor-controlled module specifically designed for use with our TAC II Central Terminal Units (CTUs), Forwarding Terminal Units (FTUs), and 200 Series RTUs. The TIM, with its integrated serial digital radio, can interface with up to 15 I/O modules of any combination.

A data buffer on the TIM enables it to query its modules for status between radio polling loops and store that information until it is requested from the central site – a particularly useful feature for sites with long radio polling loops. The TIM also features a wake up / report / sleep mode that aids in battery conservation in solar-powered applications.

The TIM supports four levels of digipeating (store and forward). Digipeating enables the radio signal from a distant RTU to be routed to the central site by passing its message through up to three RTUs. This is a powerful option for RTU locations that require short antenna heights or those with distance or terrain challenges.

AES-128 Encryption is offered as an optional upgrade. When encryption is activated, the TIM radio is FIPS 140-2 Validated for Security Level 1 under the Cryptographic Module Validation Program (CMVP) OpenSSL FIPS Object Module 2.0 (Certificate #1747).

The TIM includes a service port to provide communications link monitoring as well as the ability to directly monitor and/or control each module in the remote terminal unit using DFS provided WinRTU Test software.



FEATURES AT A GLANCE

- 505 addresses per communications link
- Board-mounted serial digital radio
- Wake up / report / sleep operation for solar-powered applications
- Uses Piezo speaker to indicate signal from central site (Test mode only)
- Digipeat (store and forward) up to four levels
- Data buffer stores status changes between polls and during communication failures
- 2x8 LCD display and 3-button user interface
- RS-232 serial port monitor
- Test mode switch for radio service
- Battery backup during a power supply failure
- Uses data-compression algorithm on radio link
- Monitors RTU power and DC bias
- 9, 17, or 34 kb/s baud communication
- LEDs for TX, RX, power, and CPU fault
- LCD display for field diagnostics and support data
- On-board communications and functional firmware
- On-board voltage regulation
- No on-board adjustments, switches, or straps (self-configuring)
- Fully downward compatible with RIM006 modules
- Downward compatible with legacy T series radios
- Optional FIPS 140-2 Validated AES-128 Encryption

SPECIFICATIONS

Model	TIM007
Board Size	5.25" x 6.88"
Service Port	RS-232 (ASCII)
Power Requirements	12-14 VDC, 165 mA average, 1 amp peak
Radio Interface	Digital, High-speed digital, TTL
Status LEDs	Transmit Data (TX), Receive Data (RX), Power, and CPU Fault
User Interface	2x8 LCD display and 3-button user interface
Operating Temperature Range	-30 to 55° C (-22 to 131° F)
Operating Humidity	Up to 95%, non-condensing

RADIO SPECIFICATIONS

RF Module Frequency Band	145-220 MHz
RF Transmit Power	14 to 32 dBm
Noise Figure	4 dB
Spurious and Harmonic Emissions	FCC Part 15 & 90 compliant
Data Rates	9, 17, or 34 kb/s
Modulation	DFS T-200 compatible, 2-FSK
Channel Spacing	6.25, 12.5, 25, or 50 kHz
Operating Mode	Half-duplex or simplex
Ethernet Port	RJ45 (10/100 BT)
Input Voltage	9-14 VDC
Current	0.5A (RX); 1.5A (TX)
Connector	DB9 (DFS TTL)
Dimensions	3.5" x 5.0" x 1.4"
Certifications	Radiated and Conducted Emissions (US), FCC Part 15, 90
Encryption (Optional)	AES-128 Encryption, FIPS 140-2 Validated for Security Level 1 (Certificate #1747)

WARRANTY

This product carries a one (1) year return-to-factory warranty against defects in material and workmanship. When installed with factory recommended surge protection, the return-to-factory warranty is extended to three (3) years. The extended warranty also covers damage due to lightning and surge for the entire three-year period when installed per factory-approved requirements. DFS will repair or replace at its option, F.O.B. Melbourne, Florida, any part or parts of this product during the warranty period. A Return Authorization (RA) must be obtained by contacting the DFS Factory Repair Center at 321-259-5009 or by email at rma@dataflowsys.com.