

# TransNET

Long Range, High Speed  
Serial Communications



## Data Acquisition | Compact and Unlicensed

Today's SCADA and Telemetry systems transport large amounts of data at ever-increasing speeds. Additionally, the need for greater packaging flexibility has redefined the "ideal" wireless platform. The MDS TransNET™ utilizes FHSS (Frequency Hopping Spread Spectrum) to provide reliable long range data transportation at up to 115.2 kbps. The TransNET provides transparent data communications for nearly all SCADA, Telemetry, and EFM protocols including Modbus.

Any MDS TransNET may be configured as a repeater to extend the operating range of the network. Multiple repeaters may exist at any level of the network preventing a single radio failure from disabling the entire network.

### Key Benefits

- Digital signal processing (DSP) technology with self-equalization, automatic CRC/ARQ and powerful forward error correction
- Quick return on investment with plug-and-play installation
- Unlicensed radio design
- Communicate with any asynchronous protocol without extra software or additional programming
- Excellent performance in the face of interference or difficult signal paths
- Network-wide diagnostics software simplifies tasks and reduces costs

### Application Specific Wireless Solution



#### Oil & Gas

- Remote monitoring of pipeline flow and status signals
- Monitor and transmit wellhead pressure and tank levels collected by RTUs



#### Energy

- Remote control of IED and PLC at distribution substations
- Condition monitoring for pole-top circuit breakers and capacitor banks



#### Water & Wastewater

- Monitor lift stations across multiple sites from control room



#### Heavy Industrial

- Activation of perimeter gates based on detection of vehicle
- Monitor and control remote pumps and compressors

## Industrially Hardened

- Operational temperature range from -40°C to 70°C
- CSA Class I, Div. 2 groups A, B, C, D for hazardous locations

## Application Flexibility

- Low power consumption sleep mode for solar powered applications
- Long range wireless communication, up to 30 miles
- High speed throughput to 115.2 Kbps

## Reliable & Scalable

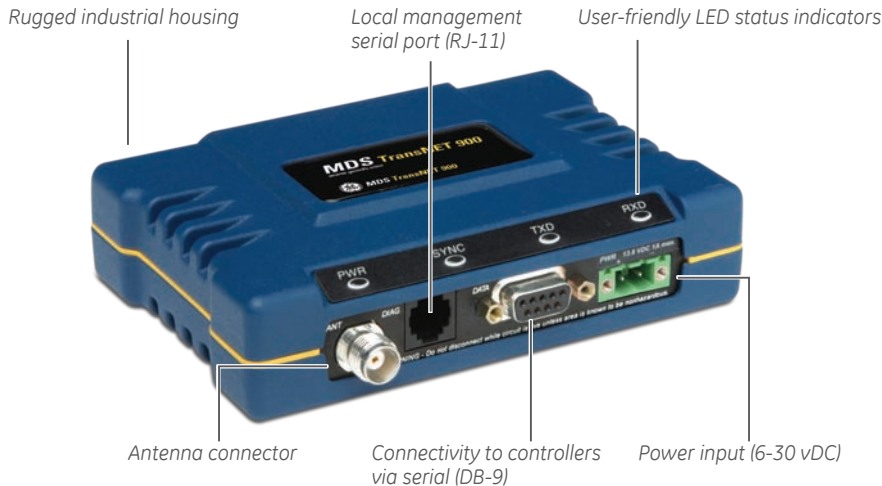
- Point-to-Multipoint, 2-way communication
- High receive sensitivity for noisy environments and long distances
- Compatible with multiple industry protocols including Modbus and DNP3
- Unparalleled robustness with forward error correction and CRC/ARQ multiple re-sends
- Store and forward to extend network range cost-effectively

## Secure

- Proprietary hopping algorithm among 128 channels



## Remote & Access Point



## Specifications

### GENERAL

Frequency Band 902-928 MHz ISM band  
 Dimensions 8.9 D x 12.7 W x 2.5 H cm.  
 (3.5 D x 5 W x 1 H in.)  
 Input Power 6 to 30 Vdc  
 Current Drain for AP and Remote

Mode	30 Vdc	13.8 Vdc	6 Vdc
Transmit	236 mA	510 mA	1.18 A
Receive	51 mA	100 mA	155 mA

Sleep Mode 4 mA typical  
 Temperature -40° C to +70° C  
 Range Up to 30 miles  
 Humidity < 95% RH (Non-Condensing)

### TRANSMITTER

Power Output 1 Watt (30 dBm) at 6 Vdc to 30 Vdc, user selectable down to 100 mw (+20 dBm)  
 Modulation CPFSK

### RECEIVER

Sensitivity -105 dBm (1 x 10<sup>-6</sup> BER) typical  
 Error Detection CRC16; Resend on Error  
 Interference Avoidance  
 64,000 hop patterns selected automatically via network address  
 FEC, CRC/ARQ and/or Multiple Packet Transmits  
 Excellent Strong Signal (interference) Characteristics  
 Band Segmentation for Friendly Coexistence with other services such as LMS

### DATA

Interface RS-232/RS-485 (User Selectable)  
 Usable Throughput 115.2 kbps  
 Port Speeds 1.2 to 115.2 kbps

### CONNECTORS

Power, User, NMS 2 Pin Phoenix, DB-9, RJ11  
 RF TNC

### OPERATING MODES

Point-to-Multipoint  
 Master  
 Remote  
 Repeater Extension (store and forward) – Unlimited repeaters, self healing networks

### NETWORK MANAGEMENT

Diagnostics  
 Centralized network control eliminates site visits  
 Create store and forward configurations  
 Compatible with other MDS Products  
 MDS InSite

### AGENCY APPROVALS

FCC Part 15 Approved  
 UL/CSA Class 1 Div. 2 approved (UL 508, UL 1604)  
 IC Approved

## Ordering

### TransNET Remote and Access Point

EL805-MD	* X * A * C * * * N	
Frequency	9	MDS 900-928 MHz long range (up to 30 miles), FCC and IC approved
	2	MDS 2.4 GHz long range (up to 15 miles), not FCC/IC/ETSI approved
Interface	0	RS-232
	1	RS-485
Diagnostics	N	None
	W	Network-wide

#### Order Code Example

EL805-MD9X1AFCS0WN

- Chassis-enclosed radio
- 902-928 MHz band
- RS-232 interface
- Include network diagnostics

### Accessories for the TransNET

Fixed Remote Kit with Yagi	KFR-N09-D1
Power Supply (AC Input)	01-3682A02

View Accessories catalog at [www.gemds.com](http://www.gemds.com)

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