

MDS TransNET 900™

902-928 MHz
Frequency Hopping
Spread Spectrum
Transceiver

industrial wireless PERFORMANCE



FEATURES

- High Speed! Throughput to 115.2 Kbps
- Unparalleled Robustness
 - Forward error correction
 - CRC/ARQ, multiple re-sends
- Industrial grade – Extended -40° C to +70° C temperature range for trouble free operation in extreme environments
- Sleep Mode – ≈ 7 ms, ideal for solar power applications
- Store and Forward – with self healing networks
- MDS NETview MS™ Diagnostics¹ – Central network control without the need to visit sites

APPLICATIONS

- SCADA
- Industrial Automation
- Process Control
- Gas and Oil Exploration, Production and Transportation
- Electric, Water and Gas Utilities

MDS...Global wireless solutions. Industrial Wireless Performance.

For over 15 years, Microwave Data Systems (MDS) has been providing wireless networking solutions with applications in SCADA, telemetry, telecommunications, and online transaction markets. MDS provides licensed and unlicensed solutions, with more than 500,000 radios installed in over 110 countries.

Introducing MDS TransNET™

Today's SCADA/Telemetry systems require the transport of large amounts of data at ever-increasing speeds. Additionally, the need for greater packaging flexibility has redefined the "ideal" wireless platform in many applications. MDS is pleased to introduce MDS TransNET™ a flexible, high speed, compact license-free wireless solution.

Product Overview

The MDS TransNET utilizes FHSS (Frequency Hopping Spread Spectrum) in the ISM Band of 902 – 928 MHz 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 extension. This allows store and forward data operation 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. There is no limit to the number of repeaters which may be used. This product is available for use in Class I, Division 2, Groups A, B, C & D hazardous locations.*

Why Consider an MDS TransNET™ Solution?

High system performance and data integrity! Robust construction, digital signal processing (DSP) technology with self-equalization, automatic CRC/ARQ and powerful forward error correction.

Flexibility and rapid installation! Quick return on investment due to plug-and-play installation. License-free radio design with the ability to communicate with any asynchronous protocol without extra software or additional programming.

Performance under the most adverse conditions! Robust design provides excellent performance in the face of interference or difficult signal paths.

Small footprint! Exceptionally small design allows installation inside RTU or PLC housing. MDS NETview MS™ Network Management¹ software simplifies tasks and reduces the cost of managing the network infrastructure by eliminating trips to the field. Provides a non-intrusive means of maintaining link and radio network performance.

Flexible interfaces! All TransNETs come equipped with RS-232 for direct connection to most RTU/PLC's and RS-485 for multidrop environments.

Low Power Consumption! Sleep mode for extremely low power consumption requirements – typically draws 7 mA – yet still recovers quickly for fast access to your critical data.

MDS TransNET is the price/performance leader; offering flexibility and reliability for both point-to-point and point-to-multipoint requirements.

industrial/wireless/performance



MDS TransNET 900™ Radio Specifications

Frequency Band 902-928 MHz ISM band

Physical and Environmental

Dimensions: (Approx. 3.5 D x 5 W x 1 H inches)
(Approx. 8.9 D x 12.7 W x 2.5 H cm)

Input Power: 6 to 30 Vdc

Current Drain:

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: 7 mA typical

Temperature Range: -40° C to +70° C

Humidity: < 95% RH (Non-Condensing)

Transmitter

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

Modulation: CPFSK

Receiver

Sensitivity: -110 dBm (1 x 10⁻⁶ BER)

Error Detection: CRC16; Resend on Error

Interference Avoidance: 64,000 hop patterns selected automatically via network address

Transmits: FEC, CRC/ARQ and/or Multiple Packet

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-Point: Full Duplex (57.6 kbps) TDD²

Point-to-Multipoint: Master
Remote
Repeater Extension (Store-and-Forward)
- Unlimited repeaters
- self healing networks

Network Management

Diagnostics
Centralized network control eliminates site visits¹
Create store-and-forward configurations
Compatible with Other MDS Products
MDS InSite and MDS NETview MS¹ compatible

Agency Approvals

FCC: Part 15 Approved

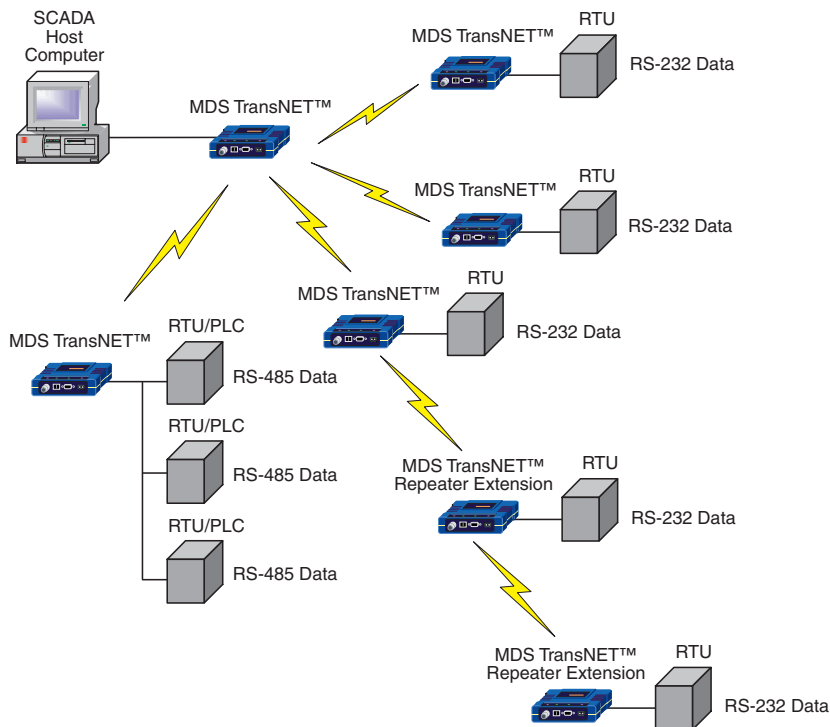
UL: Class 1 Div. 2 approved* (UL 508, UL 1604)

IC: Approved

CSA: Pending

¹Available 3rd Quarter 2002
²Available June, 2002

High Speed Flexible Transparent - Communications



* The transceiver is not acceptable as a stand-alone unit for use in the hazardous locations described above. It must either be mounted within another piece of equipment, which is certified for hazardous locations, or installed within guidelines, or conditions of approval, as set forth by the approving agencies.

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MDS products are manufactured under a quality system certified to ISO 9001. MDS reserves the right to make changes to specifications of products described in this data sheet at any time without notice and without obligation to notify any person of such changes.
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