

GE Digital Energy MDS

MDS SD4™ OVERVIEW

The MDS SD4™ is the next generation of licensed narrowband radios in 400 MHz. With a software-defined modem and an optimized hardware platform, this radio is the ideal platform for current and future deployments of SCADA and telemetry systems that monitor and control oil and gas wells, compressor stations, pipelines, fluid storage tanks, pole top transformers, circuit reclosers, capacitor banks and many others.

The MDS SD4™ digital radio transparently supports all standard asynchronous protocols including DNP3, MODBUS, IEC-870 and many others. The RS232 port configured for RS485 allows multiple devices to be daisy-chained in the same location without external adapters. A general purpose (unconditioned) digital output is available.

The MDS SD4™ is configured as a master station or remote radio. It can operate as a half-duplex or simplex radio. Duplex frequency split is configurable via software, providing a more flexible radio that can be used in different scenarios. Remote network management and diagnostics are available. This product is available for use in Class I, Division 2, Groups A, B, C & D hazardous locations.*

WHY CONSIDER A MDS SD4™?

More Reliable. With hardened industrial specs like a wider temperature range of operation and a more stable TCXO, the MDS SD4™ meets the stringent environmental requirements for mission-critical applications, as well as the approvals that support it.

More Convenient. Multiple interfaces accommodate different connectivity needs with the same unit without the need of external equipment.

Lower Cost of Ownership. Integrated serial and Ethernet interfaces provide a path for future equipment connectivity needs. Lower power consumption reduces the size of batteries and solar panels. The wide frequency plan reduces the number of spares required to support a system. Remote management software simplifies maintenance tasks and reduces the cost of managing the network infrastructure, and provides a non-intrusive means of maintenance and link monitoring.

MDS SD4™ Software-Controlled Digital Radio



MDS
industrial wireless networks



FEATURES / BENEFITS

- No Interference - operation in exclusively licensed narrowband channels
- Flexibility – single Unit Configurable as Master or Remote Radio
- Eco-friendly - complies with RoHS/ WEEE regulations for environmental protection
- Class 1 Div II for installation in hazardous locations
- 9600 bps operation in ETSI

Applications

- Electric SCADA
- Electric distribution automation
- Oil/Gas production and distribution
- Water/waste water SCADA
- Lottery terminals
- Traffic control
- Industrial process control

MDS SD4™ SPECIFICATIONS

General

- Freq. Bands: 330 to 400 MHz
400 to 450 MHz
450 to 512 MHz
- Data Rate:
4800 bps @6.25 kHz Channel Spacing
9600 bps @12.5 kHz Channel Spacing
19,200 bps @ 25 kHz Channel Spacing
- Freq. Programmability: 6.25 kHz increments
- Operational Modes: Simplex, half-duplex
- Modulation: Digital / CPFSK

Transmitter

- Frequency Stability: +/- 0.00015% 1.5 ppm
- Carrier Power: 0.1 to 5 Watts Programmable
- Carrier Power Accuracy: Normal +/- 1.5 dB
- Duty Cycle: Continuous
- Output Impedance: 50 Ohms

Receiver

- Type: Double Conversion Superheterodyne
- Bit Error Rate: BER 1x10⁻⁶ @ -112 dBm typical
- Frequency Stability: +/- 0.00005% (0.5 ppm)
- Adjacent Channel (EIA): 60 dB nominal

Interfaces

- Serial COM1: RS-232, DB-9
- Serial COM2: RS-232, RS-485 DB-9
- Ethernet: 10/100 BaseT, RJ 45
- Antenna: TNC Female

Mechanical

- Case: Rugged Die Cast Aluminum
- Dimensions: 5.08 H x 14.29 W x 18.4 D cm.
(2.0 H x 5.625 W x 7.25 D in.)
- Weight: 1 kg (2.2 lbs)

Environmental

- Temperature Range: -40°C to +70°C (-22°F to +140°F)
- Humidity: 95% at 40C (104°F) non-condensing

Power Supplies

- Primary Power: (10.5 to 16 Vdc) 13.8 Vdc nominal
- Tx Current: 2A Typical at 5 Watts
- Rx Current: <125 mA

Agency Approvals

- CSA* Class 1 Div 2 for Hz Loc
- FCC Part 90
- Industry Canada & ENTELA
- ETSI, EMC, CE MARK
(ETSI: ETS 300 113, EMC: EN 300 279)

Management

- MDS InSite software
- MDS NetView software
- MDS Radio Configuration software

* 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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GE MDS products are manufactured under a quality system certified to ISO 9001.
GE 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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