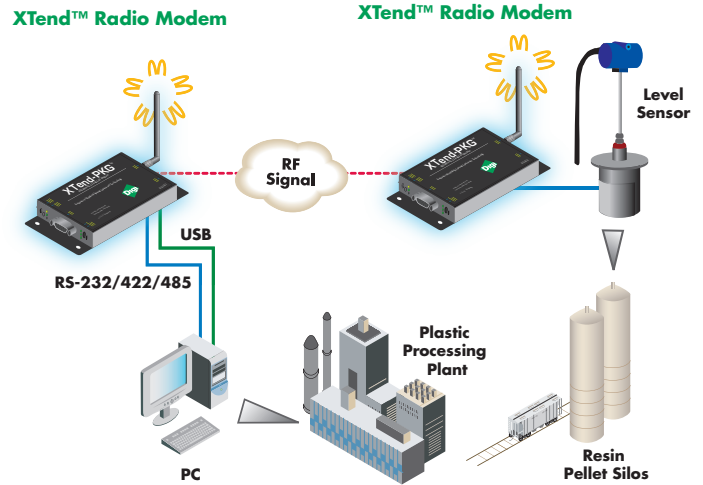# XTend-PKG™ RF Modems

1 Watt/900 MHz Stand-Alone Radio Modems

900 MHz radio modems offer long rang performance, advanced networking and simple out-of-the-box operation with multiple data interface options.

XTend™ Radio Modem   **XTend™ Radio Modem**

Level Sensor

RF Signal

USB

RS-232/422/485

Plastic Processing Plant

PC

Resin Pellet Silos

Features/Benefits

- **Indoor/urban range up to 3000 feet**

- **Outdoor line-of-sight range up to 40 miles (with high gain antenna)**

- **Outstanding receiver sensitivity (-110 dBm @ 9600 bps)**

- **Adjustable power output from 1 mW to 1 W; up to 4 W EIRP (with 6 dB antenna)**

- **Low power consumption for power-sensitive applications**
  - **Pin, serial port and cyclic sleep modes available**

- **Streaming, acknowledged and multi-transmit modes supported**

- **Easy out-of-the box operation — no configuration necessary**

- **Durable industrial grade enclosure**

Overview

Digi's XTend-PKG RF modems provide everything you need for out-of-the-box serial cable replacement, enabling quick wireless connectivity of electronic devices across a broad range of applications. Simply feed data into one modem and the data is transported to the other end of a long range wireless link. Data security is provided by 256-bit AES encryption (128-bit AES is available outside of North America). If more advanced functionality is needed, the modems support an extensive set of AT and binary commands.

With superior receiver sensitivity, XTend modems hear what others can't, yielding two- to eight- times the range of competing RF modems. This allows OEMs and integrators to cover more ground with fewer transceivers, reducing the cost of deployment. And with no configuration required, complexity is minimized.

Available in multiple interface options, including RS-232/422/485 and USB, and with an optional NEMA 4-rated enclosure, XTend modems are ideally suited for remote monitoring, building automation/security, industrial automation/SCADA, fleet management/asset tracking and sensor data capture in embedded systems. For hazardous locations, a Class 1, Division 2 rated model is also available.

Features/Specifications

PERFORMANCE

- Indoor/Urban range (w/ 2.1 dB dipole antenna): Up to 3000 feet (900 m)
- Outdoor RF line-of-sight range (w/ high gain antenna): Up to 40 miles (64 km)
- Outdoor RF line-of-sight range (w/ 2.1 dB dipole antenna): Up to 14 miles (22 km)
- Transmit power output (software selectable): 1mW - 1W (0 - 30 dBm)
- Interface data rate: 10 - 230,400 bps (including non-standard baud rates)
- Receiver sensitivity: -110 dBm (@9,600 bps throughput data rate), -100 dBm (@115,200 bps)
- Throughput data rate (software selectable): 9,600 or 115,200 bps
- RF data rate:
  - 10,000 bps (@9,600 bps throughput data rate)
  - 125,000 bps (@115,200 bps)

CONNECTION OPTIONS

- RS-232/422/485, DB-9 (XTend-PKG-R)
- USB (XTend-PKG-U)
- RS-232/422/482, DB-9/screw terminal (XTend-PKG-NEMA)

DIMENSIONS

XTend-PKG-R, XTend-PKG-U,
- Length: 2.75 in (6.99 cm)
- Width: 5.50 in (13.97 cm)
- Depth: 1.13 in (2.86 cm)
- Weight: 7.10 oz (200 g)

XTend-NEMA
- Length: 5.13 in (13.02 cm)
- Width: 7.13 in (18.10 cm)
- Depth: 1.50 in (3.81 cm)
- Weight: 12.30 oz (348.70 g)

ENVIRONMENTAL

XTend-PKG-R, XTend-PKG-NEMA
- -40° C to 85° C (industrial)

XTend-PKG-U
- 0° C to 70° C (commercial)

Please visit www.digi.com for part numbers.

POWER REQUIREMENTS

All models
- Power supply voltage: 7 - 28V

XTend-PKG-R
- Receive current: 110 mA
- Pin sleep power-down: 17 mA
- Serial port sleep power-down: 45 mA
- Idle current (various cyclic sleep intervals): 19 - 39 mA
- Transmit current (1 mW - 1W TX power output): 110 - 900 mA

XTend-PKG-U
- Receive current: 100 mA (Self Power)
- Pin sleep power-down: 17 mA
- Serial port sleep power-down: 45 mA
- Idle current (various cyclic sleep intervals): 21 - 35 mA (Self Power)
- Transmit current (1 mW - 1W TX power output): 88 - 480 mA

XTend-NEMA
- Receive current: 100 mA
- Pin sleep power-down: 17 mA
- Serial port sleep power-down: 45 mA
- Idle current (various cyclic sleep intervals): 19 - 39 mA
- Transmit current (1 mW - 1W TX power output): 110 - 900 mA

ANTENNA

XTend-PKG-R, XTend-PKG-U
- Connector: RPSMA (Reverse Polarity SMA)
- Impedance: 50 ohms unbalanced

XTend-NEMA (Weatherproof)
- External antenna version
  - Connector: RPTNC
  - Impedance: 50 ohms unbalanced
- Internal antenna version
  - Connector: MMCX
  - Impedance: 50 ohms unbalanced

CERTIFICATIONS

All models
- FCC Part 15.247: OUR-9XTEND
- Industry Canada (IC): 4214A-9XTEND

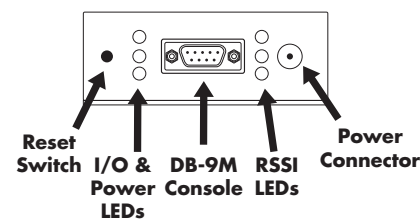**NEMA enclosure**
- IP 66/67, IP 66
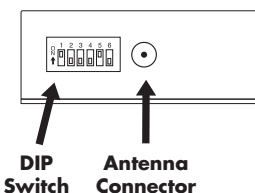- IK 08
- NEMA 1, 4, 4X, 6 (12 and 13)
- UL 94-5V, UL 508

NETWORKING AND SECURITY

- Frequency: ISM 902 - 928 MHz
- Spread Spectrum: FHSS (Frequency Hopping Spread Spectrum)
- Modulation: FSK (Frequency Shift Keying)
- Supported Network Topologies: Peer-to-peer (no master/slave dependencies), point-to-point, point-to-multipoint and multidrop
- Channel Capacity: 10 hop sequences share 50 frequencies
- Encryption: 256-bit AES Encryption
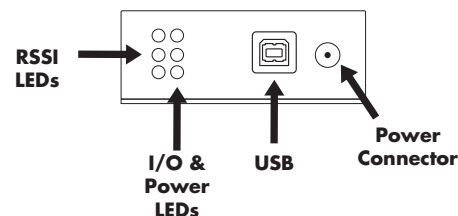 - AES algorithm meets Federal Information Processing Standard-197 (FIPS-197)
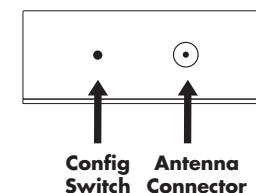
XTend-PKG-R - Front

Reset Switch | I/O & Power LEDs | DB-9M Console | RSSI LEDs | Power Connector

XTend-PKG-R - Back

DIP Switch | Antenna Connector

XTend-PKG-U - Front

RSSI LEDs | I/O & Power LEDs | USB | Power Connector

XTend-PKG-U - Back

Config Switch | Antenna Connector

WHEN RELIABILITY MATTERS™

Digi International, the leader in device networking for business, develops reliable products and technologies to connect and securely manage local or remote electronic devices over the network or via the web. With over 20 million ports shipped worldwide since 1985, Digi offers the highest levels of performance, flexibility and quality.

www.digi.com

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