



MultiHop Modbus-H14

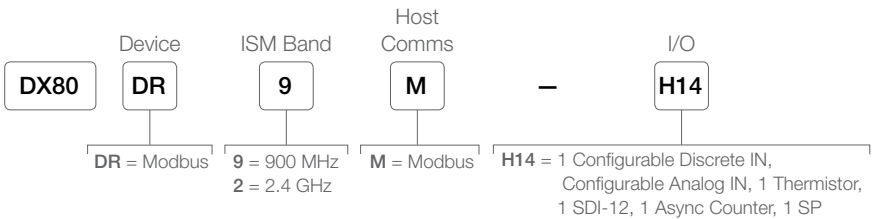
The -H14 MultiHop Modbus Data Radio makes it easy to add a remote monitoring point to a wireless network. Simply select one I/O from multiple options, then wire a sensor into the easily accessible wiring terminals inside the Node. The integrated D-cell lithium battery makes it easy to deploy, even where power is not readily available.

Key Features:

- Inputs include: One configurable discrete, one configurable analog, one thermistor, one asynchronous counter, and one SDI-12
- Battery-powered models for a completely wireless solution
- Tree topology allows for multiple hops to cover longer distances and circumvent obstacles
- Field-wireable terminal for wiring I/O

Applications:

- Door monitoring
- Tank level monitoring
- High speed counting
- Flow monitoring
- RPM monitoring
- Non-contact temperature monitoring
- Pressure monitoring



Used with		
T30UX	Long-range ultrasonic sensor	see bannerengineering.com
QT50ULB	Long-range ultrasonic sensor	see bannerengineering.com
M18T	Non-contact temperature sensor	see bannerengineering.com
TL70	Wireless modular tower light	see page 22

DX80 Performance H14 Specifications

Radio Range	900 MHz, 1 Watt: Up to 9.6 km (6 miles)	2.4 GHz, 65 mW: Up to 3.2 km (2 miles)
Minimum Separation Distance	900 MHz, 1 Watt: 4.57 m (15 ft)	2.4 GHz, 65 mW: 0.3 m (1 ft)
Radio Transmit Power	900 MHz, 1 Watt: 30 dBm (1 W) conducted (up to 36 dBm EIRP)	2.4 GHz, 65 mW: 18 dBm (65 mW) conducted, less than or equal to 20 dBm (100 mW) EIRP
Compliance	900 MHz Compliance (1 Watt) FCC ID UE3RM1809: This device complies with FCC Part 15, Subpart C, 15.247 IC: 7044A-RM1809	2.4 GHz Compliance FCC ID UE300DX80-2400 - This device complies with FCC Part 15, Subpart C, 15.247 ETSI/EN: In accordance with EN 300 328: V1.8.1 (2012-04) IC: 7044A-DX8024
Spread Spectrum Technology	FHSS (Frequency Hopping Spread Spectrum)	
Supply Voltage	3.6 V dc low power option from an internal battery	
Current Draw at 3.6 V dc	900 MHz, 1 Watt Approximately 1 mA 900 MHz, 250 mW: Approximately 0.5 mA 2.4 GHz, 65 mW: Approximately 0.3 mA	
Communication Hardware (MultiHop RS-485)	Interface: 2-wire half-duplex RS-485 Baud rates: 9.6k, 19.2k (default), or 38.4k via DIP switches; 1200 and 2400 via the MultiHop Configuration Tool Data format: 8 data bits, no parity, 1 stop bit	
Packet Size (MultiHop)	900 MHz: 175 bytes (85 Modbus registers) 2.4 GHz: 75 bytes (37 Modbus registers)	
Intercharacter Timing (MultiHop)	3.5 milliseconds	
Antenna Connection	Ext. Reverse Polarity SMA, 50 Ohms Max Tightening Torque: 0.45 N·m (4 lbf·in)	
Construction	Polycarbonate housing and rotary dial cover; polyester labels; EDPM rubber cover gasket; nitrile rubber, non-sulphur cured button covers Integrated battery models: Weight: 0.30 kg (0.65 lbs) Non-battery models: Weight: 0.26 kg (0.57 lbs) Mounting: #10 or M5 (SS M5 hardware included) Max. Tightening Torque: 0.56 N·m (5 lbf·in)	
Interface	Indicators: Two bi-color LEDs	Buttons: Two Display: Six character LCD
Wiring Access	Two 1/2-inch NPT	
Operating Conditions	-40 to +85 °C (-40 to +185 °F) (Electronics); -20 to +80 °C (-4 to +176 °F) (LCD) 95% maximum relative humidity (non-condensing) Radiated Immunity: 10 V/m (EN 61000-4-3)	
Shock and Vibration	IEC 68-2-6 and IEC 68-2-27 Shock: 30g, 11 millisecond half sine wave, 18 shocks	Vibration: 0.5 mm p-p, 10 to 60 Hz
Discrete Input	Rating: 3 mA max current at 30 V dc Sample Rate: 40 milliseconds ON Condition (NPN): Less than 0.7 V OFF Condition (NPN): Greater than 2 V or open	
Analog Input	Rating: 24 mA Impedance: Approximately 220 Ohms Sample Rate: 1 second Accuracy: 0.1% of full scale +0.01% per °C Resolution: 12-bit	
Thermistor Input	Model: 44006 or 44031 Series of 10 kOhm thermistors Sample Rate: 1 second Report Rate: 64 seconds Accuracy: 0.4 °C (10 °C to 50 °C); Up to 0.8 °C (-40 °C to 85 °C)	
Counter Input	Event counter: Input rating 1 Hz to 10 kHz (For battery powered devices, the recommended input rating is less than 1 kHz) Rate (frequency) counter: 1 Hz to 10 kHz Threshold: 1.7 V	
Environmental Rating	IEC IP67; NEMA 6	
Certifications		