



Intrinsically Safe Nodes

Hazardous area radios are a state-of-the-art combination of wireless communication, battery technology and intrinsically safe electronics. Networks are formed using DX80 Performance Gateways installed beyond the hazardous area and one or more Nodes operating in the same frequency band.

Key Features:

- The DX99 is a state-of-the-art combination of wireless communication, battery technology and intrinsically safe electronics
- All models are certified for operation in Class I, Division 1 and ATEX Zone 0 locations
- Networks formed using DX80 Performance Gateways installed beyond the hazardous area and one or more Nodes operating in the same frequency band
- Both 900 MHz 150 mW and 2.4 GHz 63 mW models are available



Models	I/O	Power Boost	Frequency
DX99N9X1S2N0M2X0D1	Discrete: Two inputs Analog: Two inputs (0-20 mA)	10 V	900 MHz
DX99N9X1S2N0M2X0D2		18 V	
DX99N9X1S2N0V2X0D1	Discrete: Two inputs Analog: Two inputs (0-10 V)	10 V	
DX99N9X1S2N0V2X0D2		18 V	
DX99N2X1S2N0M2X0D1	Discrete: Two inputs Analog: Two inputs (0-20 mA)	10 V	2.4 GHz
DX99N2X1S2N0M2X0D2		18 V	
DX99N2X1S2N0V2X0D1	Discrete: Two inputs Analog: Two inputs (0-10 V)	10 V	
DX99N2X1S2N0V2X0D2		18 V	
DX99N9X1S2N0T4X0D0	Thermocouple: Three inputs, one thermistor input Discrete: Two (NPN) inputs	n/a	900 MHz
DX99N2X1S2N0T4X0D0		n/a	2.4 GHz
DX99N9X1S0N0R4X0D0	RTD: Four inputs	n/a	900 MHz
DX99N2X1S0N0R4X0D0		n/a	2.4 GHz
DX99N9X1S2N0B2X0D0	Bridge: Two inputs Discrete: Two inputs	n/a	900 MHz
DX99N2X1S2N0B2X0D0		n/a	2.4 GHz
DX99N9X1S1S0V2X0D4	Inputs (Modbus Mode): One RS-485 Inputs (Voltage Mode): Two analog, one discrete	13 V	900 MHz
DX99N2X1S1S0V2X0D4			2.4 GHz
DX99N9X1S1N0M3X0D5	Inputs: One analog input with a 29 second warm-up time; one sinking discrete Additional Input Configurations: One 3-wire 100-Ohm Platinum RTD, one sinking discrete, and two analog (0-20 mA)	19 V	900 MHz
DX99N2X1S1N0M3X0D5			2.4 GHz

DX99 FlexPower Node Specifications

Radio Range	900 MHz, 150 mW: Up to 4.8 km (3 miles)	2.4 GHz, 65 mW: Up to 3.2 km (2 miles)
Minimum Separation Distance	900 MHz, 150 mW: 2 m (6 ft)	2.4 GHz, 65 mW: 0.3 m (1 ft)
Radio Transmit Power	900 MHz, 150 mW: 21 dBm (150 mW) conducted	2.4 GHz, 65 mW: 18 dBm (65 mW) conducted, less than or equal to 20 dBm (100 mW) EIRP
Compliance	900 MHz Compliance FCC ID TGUDX80 - This device complies with FCC Part 15, Subpart C, 15.247 IC: 7044A-DX8009	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)	
RS-485 Inputs	Interface: 2-wire half-duplex RS-485 Baud Rates: 9.6k, 19.2k (default), or 38.4k Data Format: 8 data bits, no parity, 1 stop bit (even and odd parity selection are available)	
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	
Link Timeout	Gateway: Configurable via User Configuration Tool (UCT) software Node: Defined by Gateway	
Supply Voltage	3.6 V dc low power option from an internal battery	
Power Consumption	Consumption: Application dependant	
Housing	Glass and cast aluminium with chromating and chemically-resistant paint (outside only)	
Antenna Connection	Ext. Reverse Polarity SMA, 50 Ohms Max Tightening Torque: 0.45 N-m (4 lbf-in)	
Interface	Indicators: Two bi-color LEDs Buttons: Two Display: Six character LCD	
Wiring Access	Two 1/2-in NPT ports, one 3/4-in NPT port (internal threads)	
Environmental Rating	IEC IP68	
Operating Conditions	-40 °C to +65 °C (-40 °F to +149 °F) (Electronics); -20 °C to +80 °C (-4 °F 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	

Certifications



CSA: Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III, Division 1 (Ex ia IIC T4 / AEx ia IIC T4)
Certificate: 2008243



LCIE/ATEX: Zone 0 (Category 1G) and 20 (Category 1D), Temperature Class T4 (II 1 GD / Ex ia IIC T4/Ex iaD 20 IP68 T82°C)
Certificate: LCIE 08 ATEX 6098 X

Special Conditions for Safe Use imposed by Intrinsic Safety Certificate LCIE 08 ATEX 6098 X:

Ambient temperature range is -40 to 70 °C. Sure Cross® DX99 FlexPower devices can only be connected to Intrinsically Safe certified equipment or simple apparatus as defined by EN 60079-11. All connected equipment must comply with the Entity Parameters (Safety Parameters) listed in the Control Drawings (p/n 141513). The device must only use a lithium battery manufactured by XENO, type XL-205F.

K50 and K30 Hazardous Indicators



Banner's K50 and K30 Indicator Lights for hazardous areas have a smooth 50 or 30 mm diameter dome that provides uniform illumination from all directions.

- Up to three colors in one device and five colors to choose from
- Models rated to IP67 and IP69K for use in harsh environments
- Unique design appears gray when OFF, eliminating false indication from ambient light
- Easy mounting and configuration
- Worldwide IECEx approval for quicker access into countries outside Europe and North America