



# Intrinsically Safe Nodes

## 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

## DX99 FlexPower® Nodes — Class 1, Div 1 and Zone 0 (metal housing)

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