



DX80 Wireless Transmitter & Receiver

Communication between a Gateway and up to 55 Nodes

K-TEK now offers a low cost way to connect process instrumentation to your control room. Our wireless system consists of a "node" (wireless transmitter) and a gateway (wireless receiver). Each node will accept (2) analog and (2) discrete switch inputs. Each gateway will accept up to 55 nodes, providing an economical answer to many industrial applications. The output from the gateway can be connected to a DCS or SCADA system or can be tied directly to the K-Tek HMI (color display) for a stand alone wireless system.



FEATURES

- **Eliminate** High Cost of Wiring
- Works with All 4 to 20 mA Transmitters
 - Level
 - Pressure
 - Temperature
 - Flow
 - And more...
- Works with Dry Contact Switch Inputs Too
- Line of Sight Ranges Up to 3 Miles with Included Antenna

SPECIFICATIONS

General

| | |
|---------------------------------------|---|
| Power | +10 to 30V dc (For European applications: +10 to 24V dc, ± 10%) |
| Power Consumption | Less than 1.4 W (60 mA) at 24V dc |
| Mounting | #10 or M5 (M5 hardware included) |
| M5 fasteners - Max. Tightening Torque | 0.56 N•m (5 in•lbf) |
| Case Material | Polycarbonate |
| Weight | 0.26 kg (0.57 lb.) |
| Indicators | Two LED, bi-color |
| Switches | Two Push Buttons |
| Display | Six Character LCD |
| External Cable Glands | Four PG-7 type, One 1/2 NPT type |
| Cable Glands, Max Tightening Torque | 0.56 N•m (5 in•lbf) |

⚠ WARNING . . . Not To Be Used for Personnel Protection

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death. These devices do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A device failure or malfunction can cause either an energized or de-energized output condition. Consult your catalog for safety products that meet OSHA, ANSI, and IEC standards for personnel protection.

SPECIFICATIONS (continued)

Radio

| | |
|-----------------------------------|--|
| Range, with standard 2 dB antenna | Up to 4.8 kilometers (3 miles) |
| Frequency | 902 to 928 MHz ISM band |
| Transmit Power | 21 dBm Conducted |
| Spread Spectrum Technology | FHSS (Frequency Hopping Spread Spectrum) |
| Antenna Connector | Ext. Reverse Polarity SMA - 50 Ohms |
| Antenna - Max Tightening Torque | 0.45 N•m (4 in•lbf) |
| Link Timeout | Configurable, up to 2 minutes |

Node Inputs

| | |
|------------------------------|---|
| Discrete Inputs | Two Sourcing |
| Discrete Inputs Rating | 3 mA max current at 30V dc |
| Discrete Input Sample Rate | 62.5 milliseconds |
| Discrete Input Report Rate | On Change of State |
| Discrete Input ON Condition | Greater than 8V |
| Discrete Input OFF Condition | Less than 5V |
| Analog Inputs | Two, 0 to 20 mA |
| Analog Input Sample Rate | 62.5 milliseconds |
| Analog Report Rate | 1 second or on Change of State (1% change in value) |
| Accuracy | 0.1% of full scale +0.01% per °C |


Gateway Outputs

| | |
|---|---|
| Discrete Outputs | Two Sourcing |
| Discrete Output Rating | 100 mA max current at 30V dc, ON-State Saturation: Less than 2V at 100 mA, OFF-state Leakage: Less than 10 µA |
| Discrete Output ON Condition | Supply minus 2V |
| Discrete Output OFF Condition | Less than 2V |
| Discrete Output State Following Timeout | De-energized (OFF) |
| Analog Outputs | Two, 0 to 20 mA |
| Discrete, Analog Update Rate | 62.5 milliseconds |
| Output State Following Timeout | De-energized (OFF) |
| Serial Output/Modbus | RTU Out |

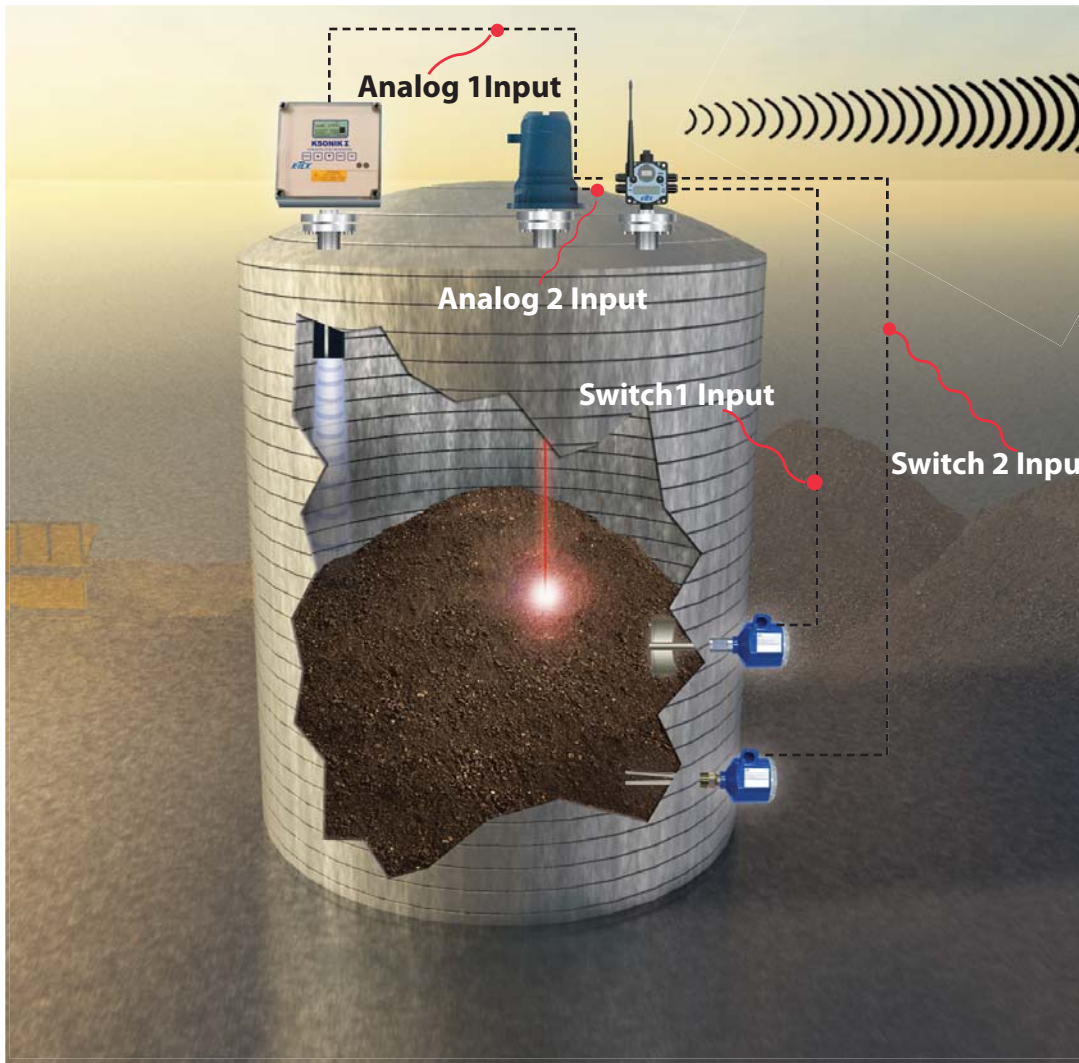
Environmental

| | |
|-----------------------|--|
| Environmental Rating | IEC IP67; NEMA 6 |
| Operating Temperature | -40 to +85°C (Electronics); -20 to +80°C (LCD) -40 to +185°F (Electronics); -4 to +176°C (LCD) |
| Operating Humidity | 95% max. relative (non-condensing) |
| Radiated Immunity | 10 V/m, 80-2700 MHz (EN61000-6-2) |
| Shock and Vibration | IEC 68-2-6 and IEC 68-2-7 Shock: 30g, 11 millisecond half sine wave, 18 shocks Vibration: 0.5 mm p-p, 10-60 Hz |

Compliance

| | |
|----------------|---|
| 900 MHz Models | FCC ID TGUDX80: This device complies with FCC Part 15, Subpart C, 15.247 IC: 7044A-DX8009  |
|----------------|---|

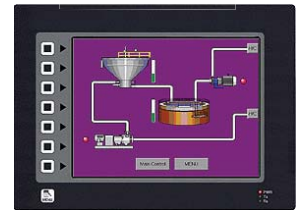
DESCRIPTION



GATEWAY



VB2 CABLE



HMI

ORDERING INFORMATION

General

| | |
|---------------|---|
| DX80N9C-80928 | Node |
| DX80G9C-80927 | Gateway |
| G310C000 | 10" Touchscreen, Indoor |
| G310S000 | 10" Touchscreen, Outdoor |
| VB2-RS4.5-1 | Cable for HMI (required for use with touchscreen) |

FAQS FOR THE K-TEK DX80 WIRELESS SYSTEM

1. How far will it go?
 - Our radios have 150mW of power, which allows us to call out a 3 mile line of sight range.
2. How many Nodes can I have on one Gateway?
 - You can deploy up to 55 Nodes on a single Gateway.
3. How many sensors can I plug into one Node?
 - The Node is capable of accepting two 4-20ma signals and 2 digital input signals.
4. What protocol does the wireless use to communicate?
 - Our units use a proprietary protocol developed in house to communicate. This enables us to have a high resistance to noise interference.
5. Do I have to put the Node and Gateway in a box (panel)?
 - You don't "have to" put the Node and Gateway in a box, but it is recommended for mechanical protection. The units have an IP67 rating when installed properly.
6. Can the wireless products run off of AC power?
 - No, it is designed to run off 10-30VDC.
7. How fast can it scan the network?
 - This is based on the number of Nodes in the network. The fastest it can scan the network is every 64ms, using 7 Nodes.
8. What happens if I lose comms?
 - You can set up the Node and Gateway to either retain the last value received or you can program them to go to a set value. This is our "Safe Harbor" mode.
9. Can it tell me when I lose comms?
 - Yes, you can program the Gateway to turn an output on when communications are lost.
10. Is there any kind of hazardous rating on the units?
 - Currently there is no hazardous rating on the wireless products. Please let your K-Tek contacts know if it is needed for an application.
11. Can the Nodes function as a repeater?
 - No, the Nodes are designed to strictly communicate their values to the Gateway.