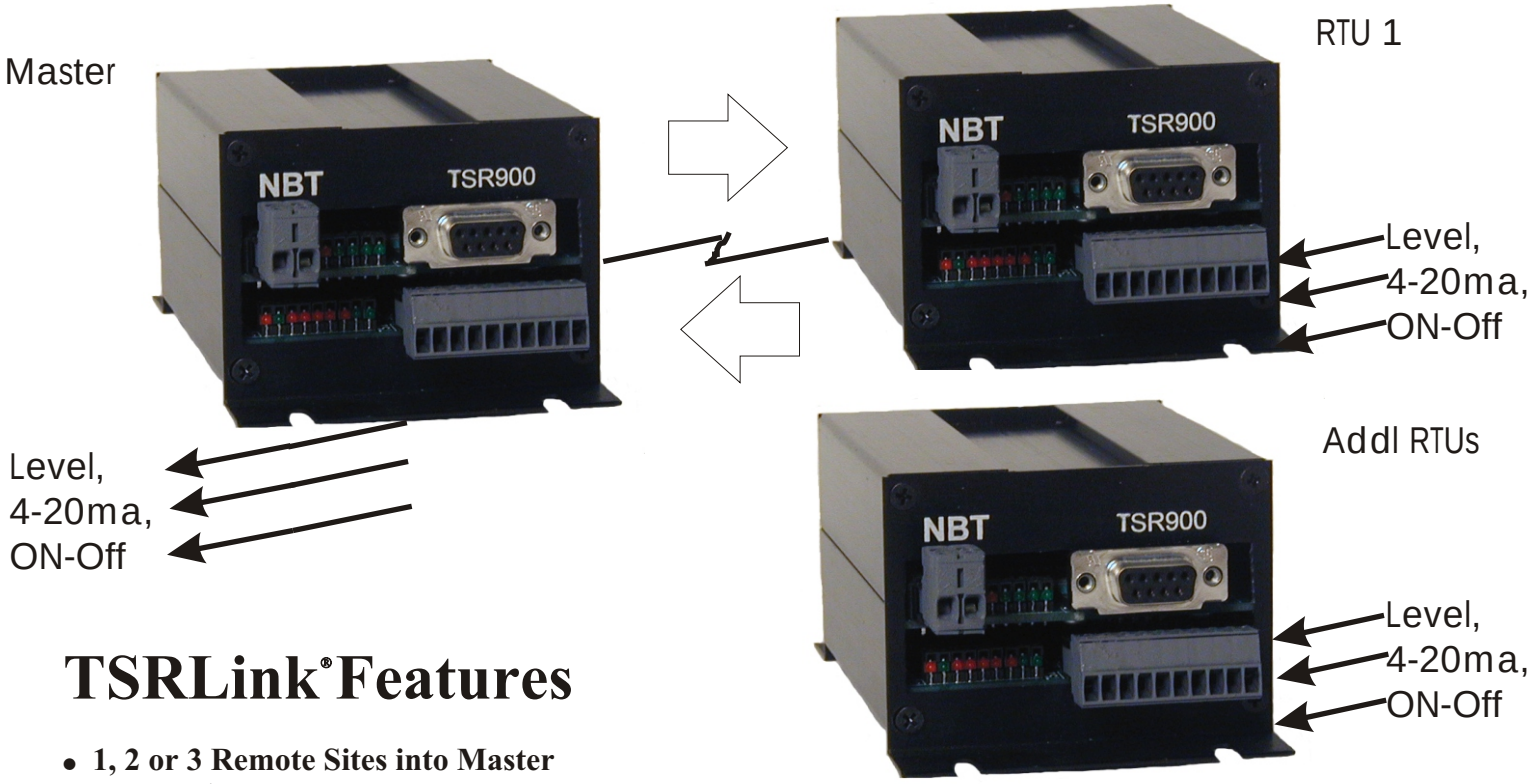
♦*Product Data* ♦

*for supervisory control and Data Acquisition*

NBT

# TSRLink® Spread Spectrum Wireless I/O

No Programming- Drop-In wire replacement- Secure Encryption
Over 10 miles - Unlimited Distance w/ Repeater(s)




## TSRLink® Features

- **1, 2 or 3 Remote Sites into Master**
- 2 Control Outputs sent to any remote
- **Modbus compatible- Easy upgrade to PLC Master**
- Power requirement of 12-24 VDC
- Incredibly small "footprint" ideal for panel mounting
- **Maximum allowable transmit power - 1 Watt**
- Programmable selection of channels
- License free band of the radio spectrum
- Addressing includes station ID, and network address
- Built-in CRC-16 error detection and auto-retransmit to provide accurate and reliable data
- Radio Test Software includes spectrum analysis utility
- Easy to use Windows based radio setup software

- **Avoid Trenching Costs**
- **Eliminate long wire runs**
- **Eliminate phone company problems**
- **Eliminate monthly line costs**
- **The TSRLink is the latest generation of industrialized license-free radio technology.**
- The TSR900 was designed and developed specifically for today's municipal and utility applications.
- Completely upward expandable
- LED indicators -Dig I/O -Comm Status
- **Common alarm/Comm Fail contact output**


Nota Bene Technology, Inc.
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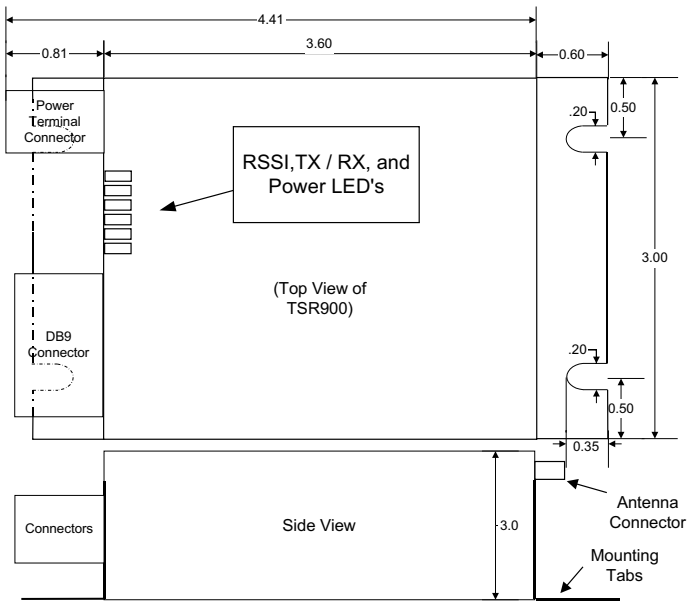
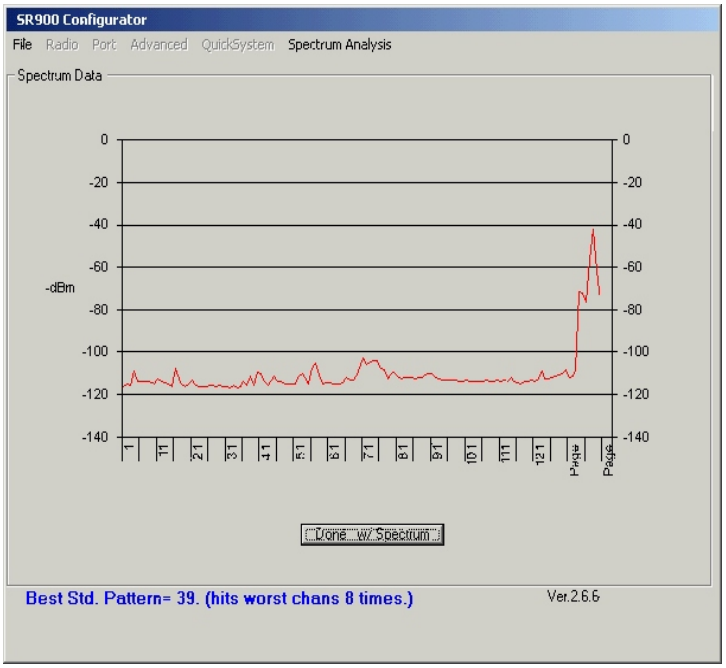
# Nota Bene Technology TSR900 - Technical Specifications




Spectrum analysis utility included with the software

## Transmitter and Receiver Details

| | |
|---|---|
| Operating Freq. | 902-928MHz |
| System Gain | 135 dB |
| Sensitivity | -105 dBm |
| Output Power | 1mW to 1 W (User-Configurable) |
| Spread Code | Frequency Hopping |
| Hopping Pattern | 20 pseudo-random, user selectable |
| Freq. Stability | ± 2.5ppm ± .00015% |
| TX Keying | Data Activated |

## Transmitter

Output impedance 50 ohms
Spurious Emissions , <60 dBa
Harmonic Emissions , <60 dBa
Power Output .1W to 1 Watt (20 - 30dBm 1dB)

## Receiver

Double Conversion superheterodyne
Intermodulation 75dB minimum
Desensitization 60dBc in band, 70dBc out of band
Spurious emissions 60dBc In band, 70dBc out of band

## General

| | |
|---|---|
| Approvals | FCC and Industry Canada |
| Data Interface | Asynchronous Serial - RS232 |
| RS-232 Signals | Sig. Gnd, TX, RX, DSR, DTR, RTS, CTS |
| Other Signals | CD, RXMode, TXMODE, RSSI1, 2, 3 |
| Communications Range | Up to 19 Miles (30 Kilometers) line-of-sight is optimum |
| Memory | Nonvolatile configuration memory |
| Operating Modes | Point-to-point, Point-to-multipoint |
| Power Requirements | 12-24VDC @ maximum of 542mA |
| Error Detection | CRC-16 with auto-retransmit |
| Data Latency | 25 - 50mS |

## Environmental

| | |
|---|---|
| Dimensions(WxDxH) | 3" x 4.8" x 2” |
| Weight | Approx. 11 ounces |
| Operating Environment | -40 to +65C; Humidity 5-95% Non-condensing |

## Primary Power

| | |
|---|---|
| Transmitter Supply Current | 1mW=193mA, 10mW=212mA, 100mW=294mA, 1W=542mA |
| Receive Supply Current | 194mA |
| Power Requirements | 12-24VDC @ maximum of 542mA (see TX & RX specification above) |
| Reverse Polarity Protection | Diode across primary power input |

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