

FEATURES

- **Plug-N-Play!**
- Relative Humidity, Thermocouple or RTD Inputs
- 1 or 2 Inputs
- 1 or 2 Analog Out (V or 4-20mA)
- 12 Bit ADC & DAC
- RS232C/485 I/O
- Polling or Continuous TX
- Low Power (250mW)
- 1.2 To 19.2K Baud Rate
- 916.5MHz (RF) Licenseless Band
- Zero, Span, Tare & Average
- Integral Display (Optional)
- 100-300 Ft. Range (Indoor/Outdoor)
- Programmable Fail-Safe & WDT
- I/O for short range
- 255 Addresses (Nodes)
- Low power for battery operated systems
- Temporary or permanent wireless applications



NEMA 4x Housing



**Explosion Proof
Class I,II,III, DIV 1&2**



**Panel & AC Wall
Mount Housing**

DESCRIPTION:

Automation NetLinx's RF503 accepts capacitance type (included) relative humidity sensor (1 or 2), or 1 each RH and TC (Thermocouple) or 1 each RH & RTD (Res. Temp. Dep.) sensors to give you total Wireless Control of Relative Humidity and Temperature, Reliably and Economically! The RH and/or Temperature inputs are conditioned, digitized and transmitted (RF) using the License Free 916MHz carrier. The receiver then extracts the digital data, linearizes its outputs it through its Serial Port and converts it to 4-20mA or VDC for On-Off and proportional control. Now you can eliminate expensive wiring! The simple Low Cost & Reliable **Wireless** communications is ideal for permanent or temporary data transmission, logging and control, especially in hazardous applications.

The input signal(s) are conditioned, digitized and transmitted via (R.F.) using the 916MHz carrier. The Receiver extracts the digital data, scales, offsets, linearizes this data, outputs it through its serial port and converts it back to analog (0-2.0VDC or 4-20mA) outputs so you can On-Off and proportionally control your process or just display it. Most applications are for Realtime (1:1) Monitor/Control but you can also use up to 255 Slaves Polled (Addressed) by the Master to form a SCADA/DCS/PLC application.

When the receiver is ordered with its optional serial output you can data log **one** or up to **255** transmitters using the Poll On/Poll Off command. All units are Transceivers, meaning that you can have two way communications (half duplex) and have a Master with up to 255 Slaves.

APPLICATION:

The most typical application is 1 to 1 Mode where a "RF503" transmits continuously to a remote receiver, which converts the data to 4-20mA or V/mADC output.

RANGE FINDER: Another exclusive feature. Press the "TEST" button on any unit and, if within range, the other will acknowledge the "TEST" blinking its green LED.

FAIL SAFE: Fail Safe "FS" Algorithm. The Receiver's watch dog timer W.D.T. will warn you when it has not received a valid transmission within the programmed rate of 10mS to 60 seconds (if not on hold). The green LED will "Turn Red" and the output will freeze, clamp low or clamp high for Fail-Safe operation.

PACKAGE OPTIONS:

Miniature: 1.5" x 2.5" x 1" Plastic Miniature Housing, or 1.5" x 2.5" x 3/4" Metal Case Housing for Panel, Pipe, DIN Rail or Chassis Mount.
5VDC or 6-14VDC power input

A.C. Wall Mount Case: Plugs into 120VAC outlet, all options available!

Front Panel Mount: Same as AC plug mount, without the plugs.

NEMA 4X Case: Mounts anywhere, water tight, 1/2" NPT, all options available.

Explosion Proof: For Class I, II, III Div. 1 & 2

Sanitary: Withstands up to 250°F Steam Cleaning.

You can **mix packages** for Receivers and Transmitters

ADDITIONAL FEATURES:

Data Logger: Serial RS232 or 485 I/O. You can data-log your process *Wirelessly!*

Serial I/O Wirelessly: Use the **RF503** as a wireless link between two (or more) devices (P.C. - P.C., PLC) while transmitting data.

Built-In Display! An optional 3 1/2 digit DPM is available for localized display on both (or either) the transmitter or receiver. Assigned only to Channel #1. Not Available In Miniature Case.

Forgot the Address? Just type S000SHOW and any unit will transmit its "SHOW" configuration and address!

SPECIFICATIONS: @ 25°C & 5VDC(± 1/4V) Power:

Transmitter: (Slave)

RH Range: 5-95% RH N.C.; Accuracy: ±3% RH; Temp. Range: 0-60 °C. Media: Non-Corrosive Air/Gas. Sensor Included. **Thermocouple:** Specify Type (J, K or T) and Range (0-300 °C Span); Accuracy & Linearity: ±2 °C ±1LSB. Supplied on Request. **RTD:** PT100 (PT1000 on request); Range: 0-800 °C (Specify Range), Accuracy & Linearity: ±0.5 °C ± 1 LSB. Supplied on Request.

NO Isolation to Non-Isolated Power Input

Power Consumption: 50mA at 5VDC.

Receiver: (Master)

DAC: Resolution: 12 Bit, Accuracy: ± 1LSB; Offset Error: 25mV; F.S. Error: 25mV; Offset Adjustment: ±1.00V, F.S. Adjust: 0-2V, Tare range: 0-2V; Average: 16 or None; Output Impedance: (V:)10KΩ

Current Loop Output: Accuracy: ± 0.5% of F.S.; Min/Max Load: 0/500Ω; Compliance Voltage: 24VDC

Power Consumption At 5VDC: 60mA For V Out Only, 250mA for 4-20mA Output.



Common Specifications:

Power: 5VDC ± 1/4V; Optional Power Input: 6-14VDC or 10.5-28VDC or 90-265VAC.

Operating/Storage Temperature : 0-50°C/ -10-65°C

R.F.: 916.5MHz, Licensed By F.C.C., 1mW Output.

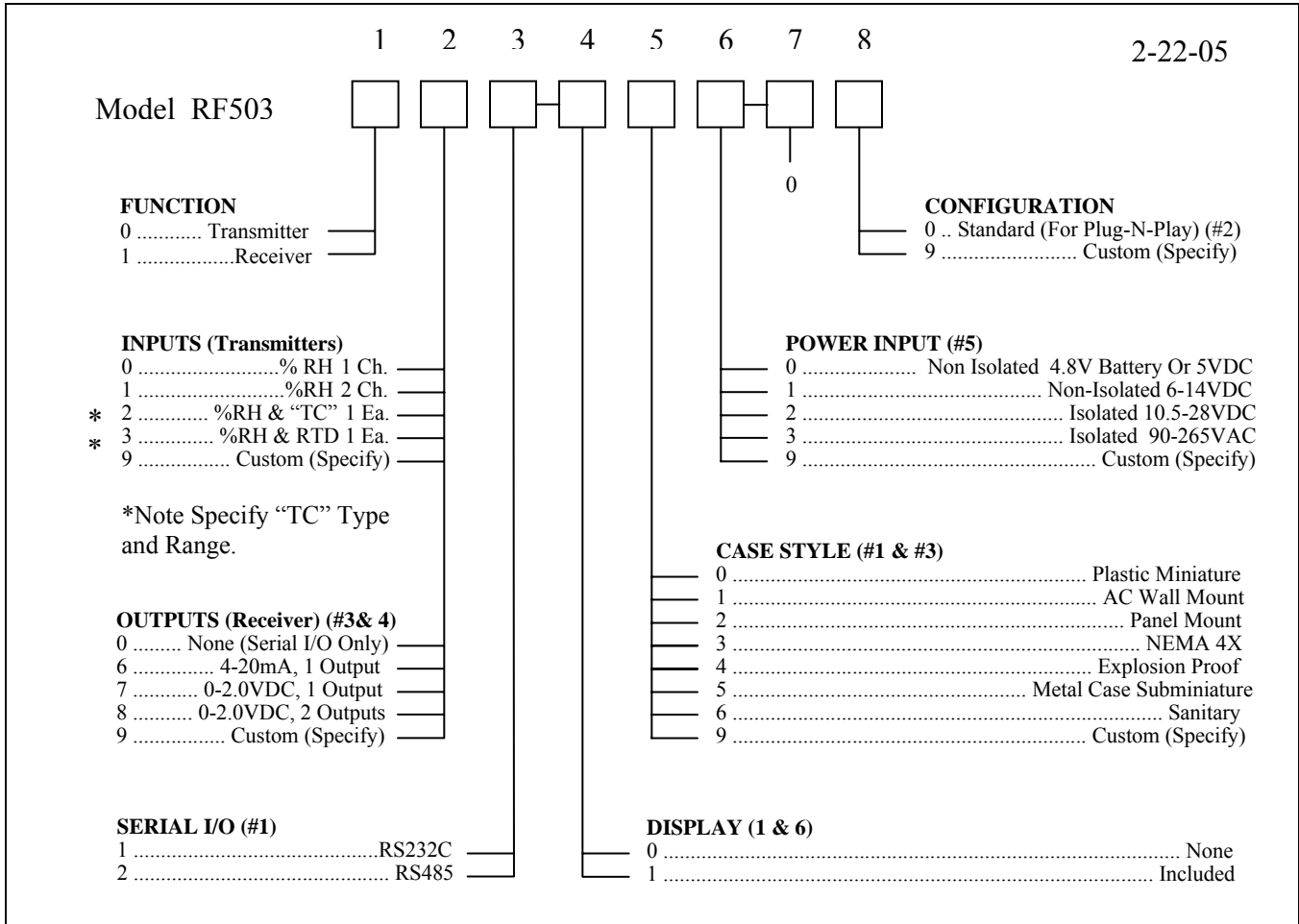
Typical Range: 100/300 Ft. (Indoor/Outdoor).

Serial I/O: RS232C/RS485 Open Protocol ASCII, 8N1, 1.2K - 19.2 KB

Display: 3 1/2 Digit (No D.P.), 1/2" Digits (Optional) Accuracy ± 0.1% of F.S.

Warranty: 2 Years

ORDERING INFORMATION – Model RF503



NOTES:

1. No "DB9" Or Display Available with Miniature Case
2. Standard Configuration:
Receiver: Address: 01, BAUD: 96, Broadcast: Off, Out 1 and/or 2: On, WDT: 1 sec., Delay: 1 sec., Offset: 0.00 or 0.40 (for 4-20mA), Scale: 2.50, TARE: Off, Fail-Safe: None.
Transmitter: Address: 01, BAUD: 96, Broadcast: Off, Channel 1 and/or 2: On, Poll Off, Run RF: Fastest. See #7
3. Receiver's 4-20mA transmitter power is included. External 10-30VDC required for miniature case. Specify input to output calibration ie: 0-100% RH = 4-20mA, 0-500°C = 0-2.50V.
4. Receivers have only 2 analog outputs maximum.
5. Option 3 For Miniature Case Is External (120VAC To 5VDC P.S.) A.C. Wall Plug-In Module. Option 2 (Isol. 10.5-28VDC) not available in miniature case.
6. Display is connected to Channel 1 or Output 1 and calibrated for 0-2.50 input/output for VDC and 0-100.0 for 4-20mA unless otherwise specified with order. Not available in miniature cases.
7. Charge for factory reconfiguration and/or display scaling after shipping is \$50 each.