



## NETWORK COMPATIBLE RELAYS

### RIBMNW24B-MBAI

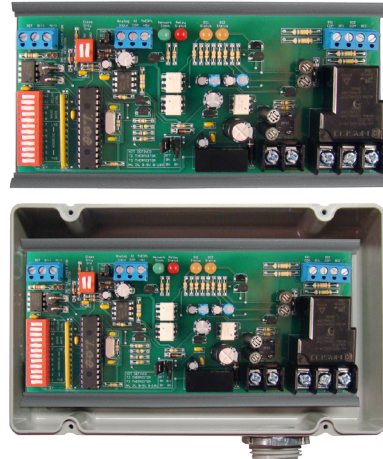
2.75" Track Mount Modbus® RTU Network Relay Device; One Binary Output (20 Amp Relay SPDT + Override); Two Binary Inputs (Dry Contact, Class 2); One Analog Input (T2 Thermistor / 0-5 Vdc / 0-10 Vdc); 24 Vac/dc Power Input; **Optional End of Line Resistor (EOL) Included.**

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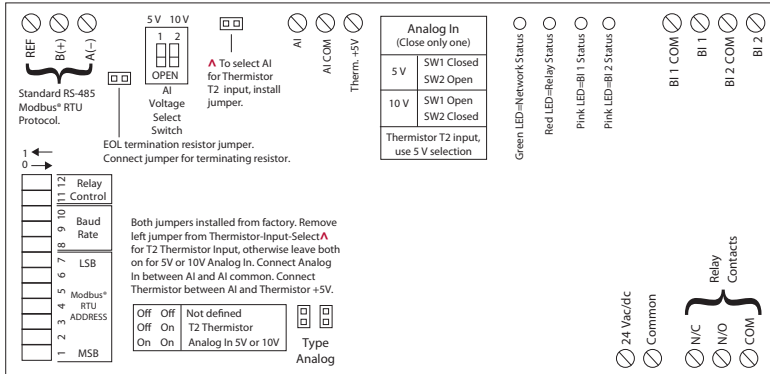
Enclosed Modbus® RTU Network Relay Device; One Binary Output (20 Amp Relay SPDT + Override); Two Binary Inputs (Dry Contact, Class 2); One Analog Input (T2 Thermistor / 0-5 Vdc / 0-10 Vdc); 24 Vac/dc Power Input; **Optional End of Line Resistor (EOL) Included.**



Meets "Buy American" of ARRA 2009



RELAYS



## SPECIFICATIONS

- # Relays & Contact Type:** One (1) SPDT Continuous Duty Coil
- Expected Relay Life:** 10 million cycles minimum mechanical
- Operating Temperature:** -30 to 140° F
- Humidity Range:** 5 to 95% (noncondensing)
- Operate Time:** 18ms
- Network Communication:** Green LED
- Relay Status:** Red LED On = Activated
- Current Sensor Status:** Pink LED On = Activated
- Binary Input Status:** Pink LED On = Activated
- Dimensions:** 6.25" x 2.75" x 1.75" (RIBMNW24B-MBAI)  
4.28" x 7.00" x 2.00" with .75" NPT Nipple (RIBTW24B-MBAI)
- Track Mount:** MT212-6 Mounting Track Provided
- Approvals:** CE, UL Listed, UL916, C-UL, RoHS
- Housing Rating:** UL Listed, NEMA 1, C-UL, CE Approved, UL Accepted for Use in Plenum, Also available NEMA 4 / 4X
- Gold Flash:** No
- Relay Override Switch:** DIP Switch Control

- Contact Ratings:**  
20 Amp Resistive @ 277 Vac  
20 Amp Ballast @ 277 Vac  
16 Amp Electronic Ballast @ 277 Vac (N/O)  
10 Amp Tungsten @ 120 Vac (N/O)  
1110 VA Pilot Duty @ 277 Vac  
770 VA Pilot Duty @ 120 Vac  
2 HP @ 277 Vac  
1 HP @ 120 Vac

- Power Input Ratings:**  
81 mA @ 24Vdc  
111 mA @ 24 Vac

### Notes:

- Modbus® Address & Baud Rate must be set prior to power up via DIP switches.
- Order NEMA 4 housing by adding "-N4" to end of model number. (RIBTW24B-MBAI-N4)
- Order with grey lid by adding "-GY" to end of model number. (RIBTW24B-MBAI-GY)
- Order NEMA 4 housing with grey lid by adding "-N4-GY" to end of model number. (RIBTW24B-MBAI-N4-GY)
- This model utilizes:  
Physical coil 1 (Relay output)  
Physical binary input 1 (Dry contact binary input)  
Physical binary input 2 (Dry contact binary input)  
Physical input register AI 1 (Analog input)
- Thermistor Type 2 (T2) Precon 10 K @ 77°F (25°C) PN ST-R24, Model 24, (or equivalent.) Thermistor not included. (Range -39 to 187°F)
- For all versions, raw analog default settings are 0 and 1023 (real), respectively.
- When connecting 24 Vac to both the RIB(s) and a half-wave device, damage to device can occur.  
**Option 1: Use separate transformers for each device.**  
**Option 2: Add diode between devices, see Option 2 note below.^^**
- Address and Baud Rate Settings on Bulletin B1676 available on website.  
[http://functionaldevices.com/pdf/bulletins/B1676\\_393208.pdf](http://functionaldevices.com/pdf/bulletins/B1676_393208.pdf)  
Or scan QR code with your smart phone.



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- Network Media:** Twisted Pair 22-24AWG, shielded recommended, EIA/TIA-485 (standard RS485)
- Terminations:** Functional Devices product installed at both ends of the standard RS485 Modbus® RTU network  
– Use 120 Ω end of line resistors. All other cases – Follow instructions from the device installed at the end of the Modbus® network.
- Polarity:** Network is polarity sensitive
- Baud Rate:** 9600, 19200, 38400, 57600 (DIP Switch Selectable)

DIP SWITCHES*			BAUD RATE
8	9	10	
0	0	0	9600
0	0	1	19200
0	1	0	38400
0	1	1	57600

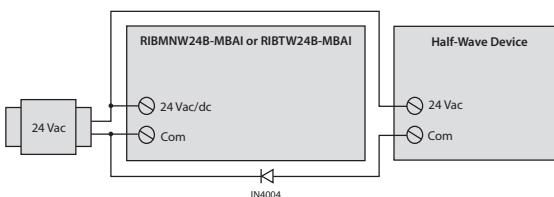
DIP SWITCHES*		RELAY STATE**
11	12	
1	0	Auto
X	1	Override on
0	0	Override off

\* 0 = Open ; 1 = Closed

\*\* Device must be powered for override

All other combinations=9600 baud

- Dry contact binary input is a general purpose input that is not tied to the relay internally. Can be used with any dry contact switching device, such as a current sensor, to feed back to the network.



- ^^ Option 2:** Add diode on 24 Vac power (Com) interconnection between devices. Band on diode faces towards RIB(s).