NETWORK COMPATIBLE RELAYS

RIBMNW24B-BCAI

2.75" Track Mount BACnet® MS/TP Network Relay Device; One Binary Output (20 Amp Relay SPDT + Override); Two Binary Inputs (Dry Contact, Class 2); One Analog Input (T2/T3 Thermistor / 0-5 Vdc / 0-10 Vdc); 24 Vac/dc Power Input; Optional End of Line Resistor (EOL) Included.

RIBTW24B-BCAI

Enclosed BACnet® MS/TP Network Relay Device; One Binary Output (20 Amp Relay SPDT + Override); Two Binary Inputs (Dry Contact, Class 2); One Analog Input (T2/T3 Thermistor / 0-5 Vdc / 0-10 Vdc); 24 Vac/dc Power Input; Optional End of Line Resistor (EOL) Included.

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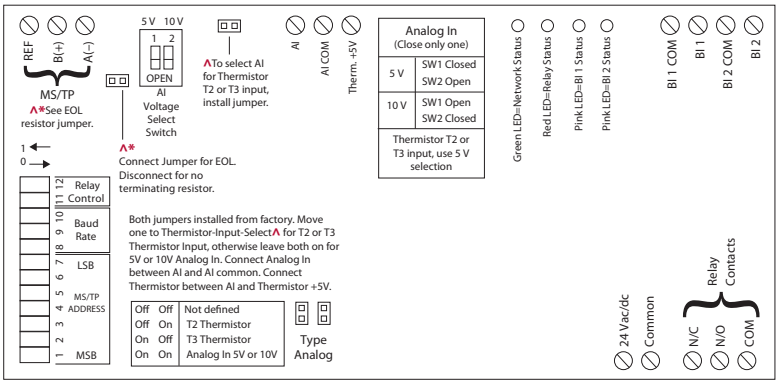


SPECIFICATIONS

 # 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-BCAI)
4.28˝ x 7.00˝ x 2.00˝ with .75˝ NPT Nipple (RIBTW24B-BCAI)
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

Network Media: Twisted Pair 22-24AWG, shielded recommended
Terminations: Functional Devices product installed at both ends of the MS/TP network – Use 120 Ω end of line resistors. All other cases – Follow instructions from the device installed at the end of the MS/TP network.
Polarity: Network is polarity sensitive
Baud Rate: 9600, 19200, 38400, 57600, 76800, 115200 (DIP Switch Selectable)

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 @ 24 Vdc
111 mA @ 24 Vac

- PIC Statement available on website.
  http://www.functionaldevices.com/pdf/datasheets/pics/BACnet-BCAI_PICS.pdf
  Or scan QR code with your smart phone.

Notes:
- Order NEMA 4 housing by adding "-N4" to end of model number. (RIBTW24B-BCAI-N4)
- Order with grey lid by adding "-GY" to end of model number. (RIBTW24B-BCAI-GY)
- Order NEMA 4 housing with grey lid by adding "-N4-GY" to end of model number. (RIBTW24B-BCAI-N4-GY)
- For all versions, raw analog default settings are 0 and 1023 (real), respectively. Units default to 95 (no units).
- 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.^^

BACnet® Details:
- MS/TP Address & Baud Rate must be set prior to power up via DIP switches.
- Device ID will default to 277XXX where XXX is the MS/TP Address.
  Examples:

MS/TP Address - 004	MS/TP Address - 121
Device ID - 277004	Device ID - 277121

- Device ID can be changed via network command. Once changed, it will no longer default to 277XXX. (MS/TP Address & Device ID must be unique.)
- This model utilizes: BO 1 (Relay output), BI 1 (Dry contact binary input), BI 2 (Dry contact binary input), AI 1 (Analog input)
- Device Instance changed via Object Identifier Property of Device Object

DIP SWITCHES*			BAUD RATE
8	9	10	
0	0	0	9600
0	0	1	19200
0	1	0	38400
0	1	1	57600
1	0	0	76800
1	0	1	115200

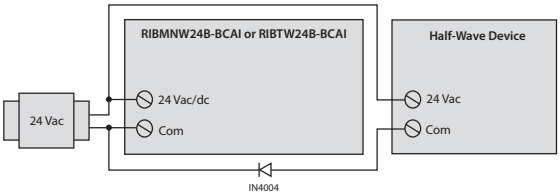
All other combinations=9600 baud

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

- 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 report back to the network.

Thermistor Specifications:
- Thermistor Type 2 (T2) Precon 10 K @ 77°F (25°C) PN ST-R24, Model 24, (or equivalent.) Thermistor Type 3 (T3) Precon 10 K @ 77°F (25°C) Model 3, (or equivalent.) Thermistor not included.
- If date code is prior to 083012, Version 1.03 or earlier:
  - For both T2 and T3, MIN_PRES_VAL must be set to -36 (real value) and MAX_PRES_VAL must be set to 987 (real value).
  - -35 to 100°C range in 1° steps.
- If date code is 083012 or later, Version 1.05:
  - For both T2 and T3, MIN_PRES_VAL must be set to -36 (real value) and MAX_PRES_VAL must be set to 66.3 (real value) for Celcius. For Fahrenheit, MIN_PRES_VAL must be set to -32.8 (real value) and MAX_PRES_VAL must be set to 151.34 (real value).
  - -35 to 10°C range in 1° steps / -31 to 50°F range in 1.8° steps
    10 to 32°C range in 0.1° steps / 50 to 90°F range in 0.18° steps
    32 to 100°C range in 1° steps / 90 to 212°F range in 1.8° steps



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

RELAYS