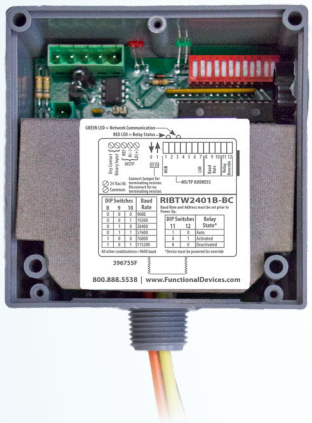
BACnet® MS/TP Network

Relay Device & Relay/Current Sensor Device

Application:

These relay devices can be used instead of a more expensive multi-output controller when a few more control points are needed and a large controller is too much for the job. They can also be widely spread throughout the job site.



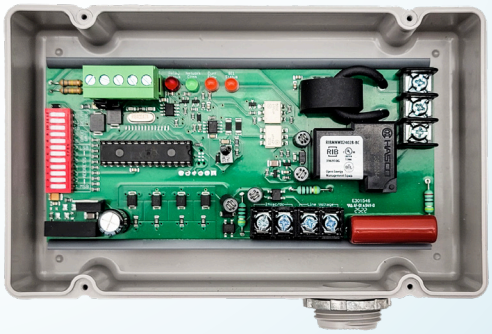
Model # RIBTW2401B-BC

Features

- Dip switch selectable baud rate
- Powered by 120 Vac or 24 Vac
- On board dry contact input that is a separate object
- 1 discrete DO (20 Amp)
- Attaches to the MS/TP bus as one address
- External LEDs indicate energized relay and network activity

Features

- Same great features as above
- Includes internal current sensor which senses the relay load
- May be ordered without enclosure (panel style)



Model #
RIBTWX2401B-BC (Enclosed)
RIBMNWX2401B-BC (Panel Style)

RIB® Building Automation

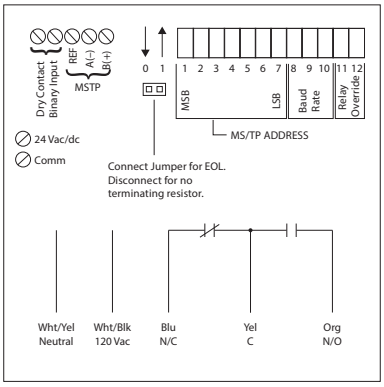
www.FunctionalDevices.com

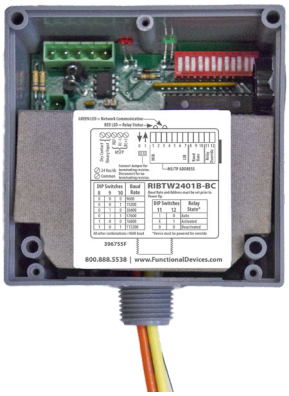
C1137A 11.03.23

INTELLIGENT FIELD DEVICE

RIBTW2401B-BC

BACnet MS/TP Network Relay Device, One Binary Output + Override, One Binary Input, 24 Vac/dc/120 Vac Power Input, NEMA 1 Housing





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
Green LED: Network Communication
Red LED: Relay Status
Dimensions: 4.00"H x 4.00"W x 1.81"D with 0.50" NPT nipple
Housing Detail: See **Housing C** in housing guide for dimensions
Origin: Made of US and non-US parts
Wires: 16˝, 600V Rated
Approvals: CE, UL Listed, UL916, C-UL, RoHS
Housing Rating: UL Accepted for Use in Plenum, NEMA 1
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 M S/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
96 mA @ 120 Vac

Power Input:
24 Vac/dc ; 120 Vac ; 50/60 Hz

Notes:
- 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 Device ID - 277004
MS/TP Address - 121 Device ID - 277121

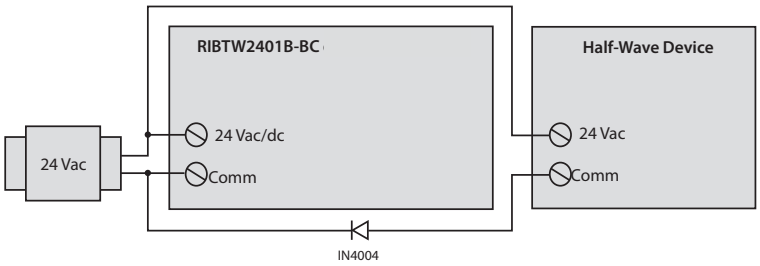
- Device ID can be changed via network command. Once changed, it will no longer default to 277XXX. (MS/TP Address & Device ID must be unique.)
- This model utilizes: BO 1 (Relay output), BI 1 (Dry contact binary input).
- Device Instance changed via Object Identifier Property of Device Object
- PIC Statement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

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



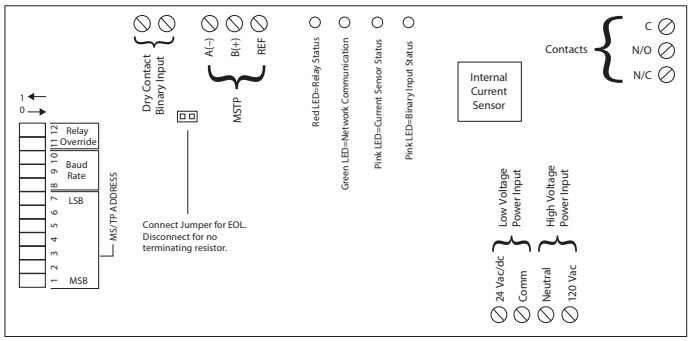
^^ Option 2: Add diode on 24 Vac power (Comm) interconnection between devices. Band on diode faces towards RIB(s).

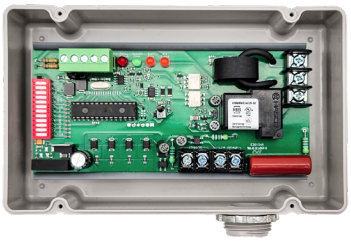
- Dry contact binary input is a general purpose input that is not tied to the relay internally. Can be used with any dry contact switching device, such as a current sensor, to report back to the network.

INTELLIGENT FIELD DEVICE - RELAY / CURRENT SENSOR COMBO

RIBTWX2401B-BC

BACnet MS/TP Network Relay Device, One Binary Output + Override, Two Binary Inputs (One Current Sensor Relay Load Sensing & One Dry Contact Digital Input), 24 Vac/dc/120 Vac Power Input, NEMA 1 Housing





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: 4.28"H x 7.00"W x 2.00"D with 0.75" NPT nipple
Housing Detail: See **Housing D** in housing guide for dimensions
Origin: Made of US and non-US parts
Track Mount: MT212-6 Mounting Track Provided
Approvals: CE, UL Listed, UL916, C-UL, RoHS, BTL Certified
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:
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1110 VA Pilot Duty @ 277 Vac
770 VA Pilot Duty @ 120 Vac
2 HP @ 277 Vac
1 HP @ 120 Vac

Power Input:
24 Vac/dc ; 120 Vac ; 50/60 Hz

Power Input Ratings:
105 mA @ 24 Vac
78 mA @ 24 Vdc
105 mA @ 120 Vac

Current Sensor Range:
0.25 - 20 Amps
Threshold fixed at .25 Amps.

Notes:
- Device can be powered by either 24 Vac/dc or 120 Vac, but not both.
- Order NEMA 4 housing by adding "-N4" to end of model number. (RIBTWX2401B-BC-N4)
- Order with grey lid by adding "-GY" to end of model number. (RIBTWX2401B-BC-GY)
- Order NEMA 4 housing with grey lid by adding "-N4-GY" to end of model number. (RIBTWX2401B-BC-N4-GY)
- 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. ^^

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- 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:

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- 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 (Internal current sensor input)
- Device Instance changed via Object Identifier Property of Device Object
- PIC Statement available on website.

DIP SWITCHES*			BAUD RATE
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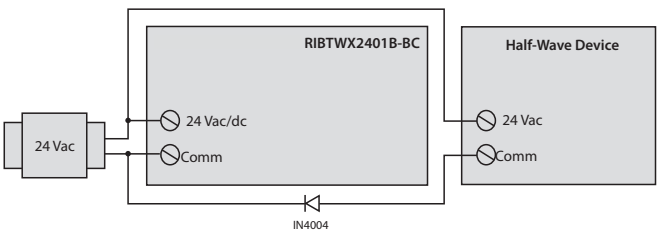

^^ Option 2: Add diode on 24 Vac power (Comm) interconnection between devices. Band on diode faces towards RIB(s).