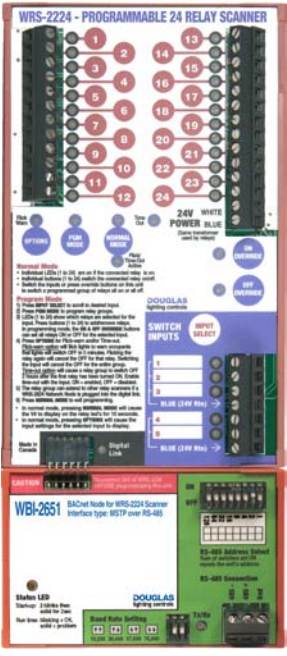


	PART No.	DESCRIPTION	SPECIFICATION
	<p>WBI-2651</p>	<ul style="list-style-type: none"> The WBI-2651 is a BACnet MSTP device that allows Douglas WRS-2224 Relay Scanners to send and receive BACnet commands to or from a BAS. The WBI-2651 Node uses RS-485 networking technology that uses native BACnet MSTP protocol. Building Management Systems can configure and program from their database all of the functions inherent in the WBI-2651 and the WRS-2224. The WBI-2651 conforms to the open native BACnet variables for lighting. The WBI-2651 allows programming, control and monitoring of 5 groups. The WBI-2651 allows control and monitoring of 24 relays individually. The WBI-2651 allows control and monitoring of 5 switch inputs. The WBI-2651 allows programming, either from the WRS-2224 or the Network, of a 2-hour Time Out or a 5-minute Flick Warn. 	<p>Power</p> <ul style="list-style-type: none"> The WBI-2651 Node obtains power from the host WRS-2224 Relay Scanner. <p>CAUTION: Always disconnect 24VAC from the WRS-2224 Scanner prior to plugging/unplugging the WBI-2651 unit.</p> <p>Wire Type & Method</p> <ul style="list-style-type: none"> WBI-2621 Nodes are connected together using a shielded single twisted pair cable in a serial loop. Conform to wiring specifications issued by the host Building Management System. <p>Networking Technology Specification</p> <ul style="list-style-type: none"> Network signal: RS-485 Transceiver. MSTP Protocol. 100K Ohm bias (120 Ohm termination recommended). BACnet Spec 9.2.2 compliant. Up to 32 devices per segment. <p>Baud Rates (selectable)</p> <ul style="list-style-type: none"> 19,200 Baud. 38,400 Baud. 57,600 Baud. 76,800 Baud. <p>Environment</p> <ul style="list-style-type: none"> Environment: Indoors, stationary, non-vibrating, non-corrosive atmosphere and non-condensing humidity. Ambient temp: -0° to +120°F (-15° to +50°C).

Relay Outputs

24 output terminals (12 per side) are provided for relay control. Douglas 2-wire switches can be connected in parallel to permit individual control of a relay by a switch.

Select Buttons & LED's for:

- 1) Operating mode.
- 2) Program mode.
- 3) Flick Warn, Time Out and Flick Warn with Time Out options.

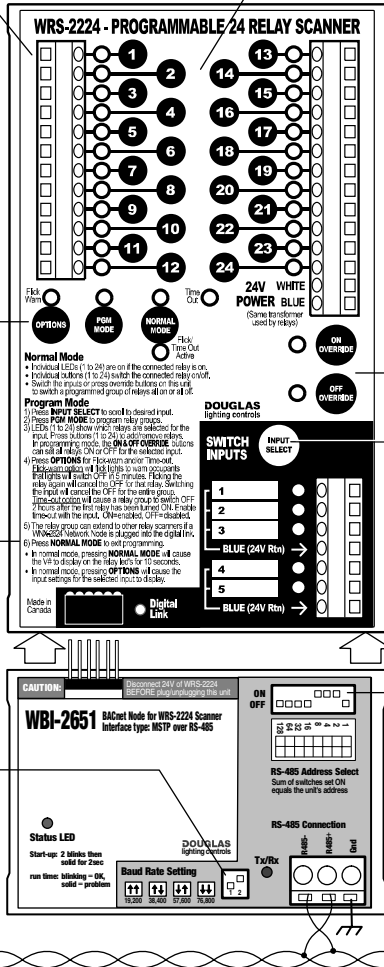
Directions

Programming directions are printed on keypad for handy user reference.

Baud Rate Select

Use the binary DIP switch to set the Baud Rate:

- 19,200 (both up)
- 38,400 (#1 up)
- 57,600 (#2 up)
- 76,800 (both down)



Individual Output Buttons

In operating mode, use buttons to switch the connected relay ON or OFF. In programming mode, use buttons to enter or remove the relay from the switch input being programmed.

Override Buttons

Use ON and OFF override buttons to switch relay groups.

Relay Group Select

Use the Input Select button to choose the relay group input 1, 2, 3, 4 or 5.

The selected input will have its indicator LED ON.

Inputs are momentary or maintained Douglas switches

Device ID Select

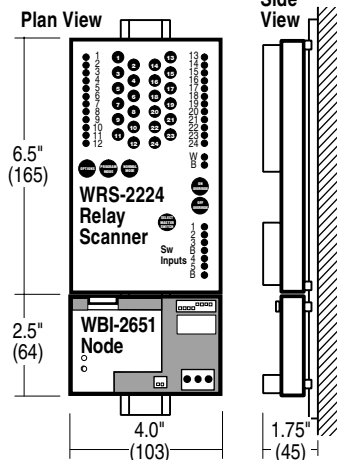
Use the binary DIP switch to set the Device ID (0-255).

Data Signal

RS-485 transceivers are used to communicate the BACnet protocol. Data signal cable is a shielded single twisted pair in a serial loop.

DIMENSIONS & MOUNTING

- Be sure to disconnect 24VAC from relay scanner before plugging or unplugging network node to scanner.
- Mount node to 35mm DIN rail installed in Douglas relay panel.



EXTERNALLY CONFIGURED NETWORKS

Integrated Systems

- Douglas Relay Panels can be incorporated into Building Management Control Systems that use BACnet technology. It is assumed that the BMS supports standard BACnet objects that can be used for lighting control.
- The WBI-2651 Node plugs into the WRS-2224 Relay Scanner and is connected to the BACnet network.
- Individual relay and groups status indicators are available on the keypad on the attached relay scanner.
- Individual relay and group momentary overrides are available on the keypad on the attached relay scanner.

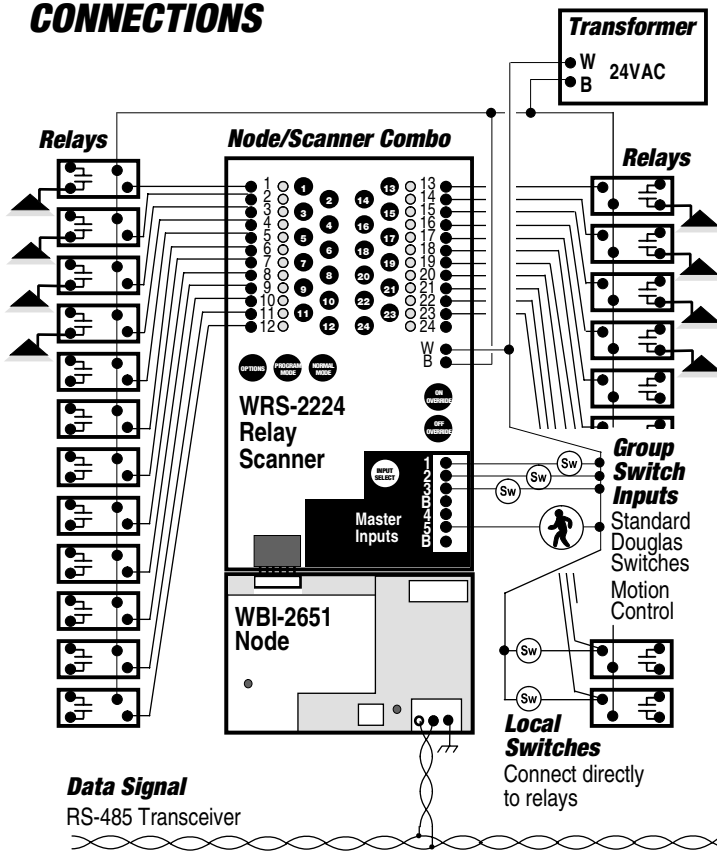
Device ID and Configuration

- The Device ID (0-255 address range) for each WBI-2651 is set using the binary DIP switch on the WBI-2651 unit.

WBI-2651 FUNCTIONS & FEATURES

- Activates a group (one command per group).
- Reads the group status (one command per group).
- Activates relays (one command per relay).
- Reads 'enhanced' group status (one command per relay: 0 = Absent, 1 = ON, 2 = OFF, 3 = Defective).
- Activates a group switch (changes the state, one command per switch).
- Reads a group switch (monitors the state, one command per switch).
- Reads the module status (version numbers and address).
- Provides remote programming of the five scanner resident groups (including Flick Warn, Time Out and Flick Warn with Timeout options).
- Queries programming of the five scanner resident groups (including Flick Warn, Time Out and Flick Warn with Time Out options).
- Provides local programming of the five scanner resident groups (by the keypad on the attached scanner).

CONNECTIONS



OBJECT TYPES

This information is provided for System Integrators who are configuring this device into an HVAC system.

Object Type	Objects	Quantity
Multi-state input to check relay status (0 = absent, 1 = ON, 2 = OFF, 3 = defective)	MI0 - MI23	24
Multi-state input to check device status	MI24	1
Multi-state input to check group programs	MI25 - MI29	5
Multi-state input to check to check Flick and Time Out status	MI30 - MI34	5
Multi-state input to check to check Flick and Time Out status	MI35 - MI39	5
Binary input to monitor group status (ON or OFF)	BI0 - BI4	5
Binary input to monitor switch status (ON or OFF)	BI5 - BI9	5
Binary input to monitor Flick status (Flick ON or OFF)	BI10 - BI14	5
Multi-state output for for programming groups, switches and Flick	MV0 - MV4	5
Binary output (read/write) for individual relay control (ON or OFF)	BV0 - BV23	24
Binary output (read/write) for group control (ON or OFF)	BV24 - BV28	5
Binary output (read/write) for group status control (ON or OFF)	BV29 - BV33	5
Binary output (read/write) for Flick control (ON or OFF)	BV34 - BV38	5