
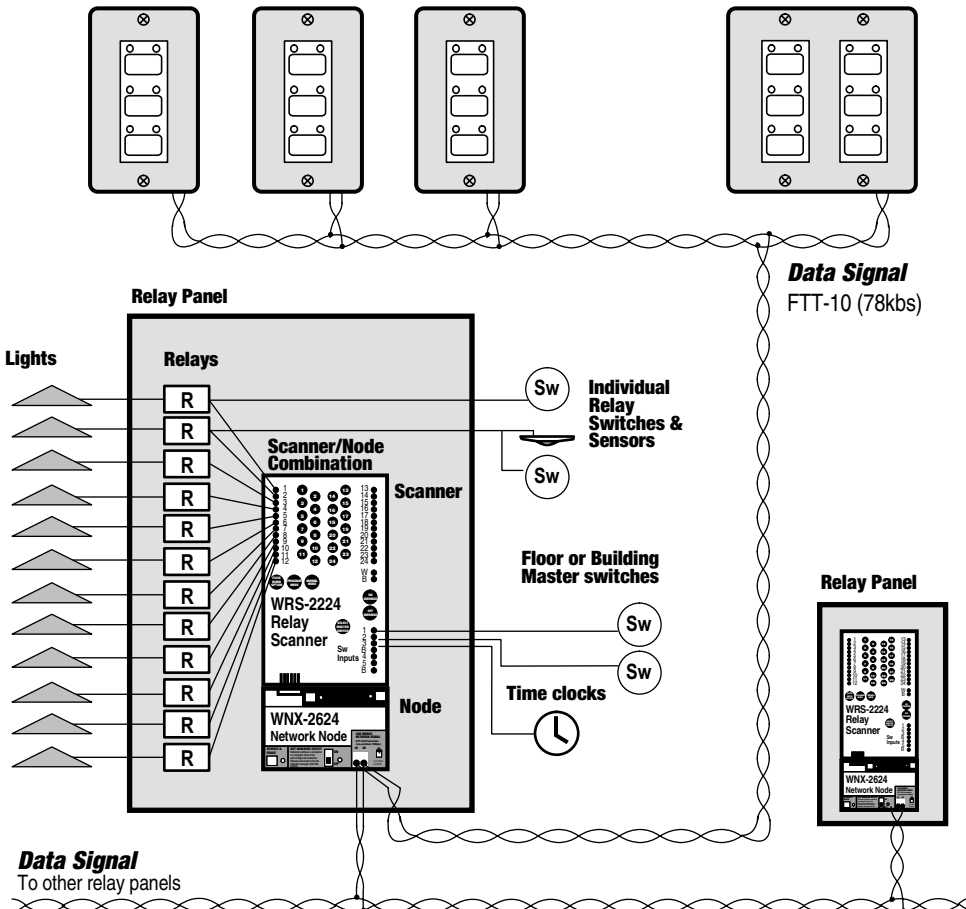


	PART No.	DESCRIPTION	SPECIFICATION
	<p>WNS-2313</p>	<ul style="list-style-type: none"> The WNS-2313 Data Line Switch Module provides 3 switches each with an ON and OFF led indicator. The WNS-2313 mounts to a standard 1 gang wall box. Additionally, switch modules can be ganged to make up larger switch stations. The WNS-2313 Data Line Switches are used to control a group of Douglas relays located anywhere in the system. Programming the WRS-2313 <p>Self-configured Douglas System: The WNS-2313 is placed into program mode. Then, by pressing the relay buttons on the target WRS-2224 relay scanners, relays can be entered/removed from the switch group.</p> <p>Externally Configured System: The module can be identified and programmed by an external system/tool. SNVT_scene and SNVT_switch are both available to the external system and can be used to control relays or other devices.</p>	<p>Connections</p> <ul style="list-style-type: none"> Power: 24VAC, 15mA Data Signal: FTT-10 (78kbs) Standard LonTalk® data signal. The data signal wiring to the switch must be included in the overall data signal line length calculations. <p>Operation</p> <ul style="list-style-type: none"> 3 push button switches. Each switch has a set of status leds. Status shows ON (red led) when some or all of the group's relays are ON and shows OFF (green led) when all of the group's relays are OFF. Push button switches send an ON or OFF command that is opposite of the status shown by the switch's leds. <p>Douglas Self-Configured Systems</p> <ul style="list-style-type: none"> A maximum of 16 unique WNS-2313 switch addresses can exist in a self-configured system. Set the switch module address with the 16 position dial on the back of the switch. If 2 switches have the same address setting, they will switch together. Douglas self-configured systems do not require any external devices to program the switch. <p>Externally Configured Systems</p> <ul style="list-style-type: none"> Other systems that use LonWorks® technology can incorporate WNS-2313 switches as a part of their system to operate Douglas relays or any device that responds to the SNVT_scene or SNVT_switch commands. Configuring and programming the WNS-2313 in these installations is done by the network manager tool provided by the external system.

WNS-2313 Data Line Switch Modules

- Use to control relay groups controlled by WRS-2224 Relay Scanner / WNX-2624 Network Node Combination.
- Install switch module to LonWorks® Data Signal.
- Originate Data Signal for Switch Modules from a relay panel.
- Avoid splicing switch modules to data signals that connect panels together.



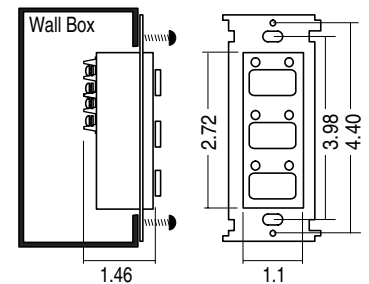
- Other systems that use LonWorks® technology can incorporate WNS-2313 switches as a part of their system to operate Douglas relays or any device that responds to the SNVT_scene or SNVT_switch commands.
- Configuring and programming the WNS-2313 in these installations is done by the network manager tool provided by the external system.

Environment

- Indoors, stationary, non-vibrating, non-corrosive atmosphere and non-condensing humidity.
- Ambient operating temperature: -0°F to +120°F (-15°C to +50°C)

DIMENSIONS & MOUNTING

- Switch made from off-white plastic.
- Mount to standard wall box. Switches can be ganged for larger stations.
- Use Douglas WN-7600 stainless or WN-6000 plastic cover plates (not



DOUGLAS SELF-CONFIGURED NETWORKS

Overview

- Each self-configured network may have up to 16 unique WNS-2313 switch modules on the dataline.
- Each WNS-2313 module has an address which is set with a rotary, 16 position dial on the back of the module. If two modules have the same address, they will operate in parallel.
- Ensure that the addresses have been set and that the connections of 24VAC and LonWorks® Data Signal have been made. Install the switch modules into standard wall boxes.

Network Wiring (LonWorks® Data Signal)

- There are 2 methods that can be used to wire a LonWorks® Network. Both methods are shown in the simple diagrams at right.
- Most network wiring faults occur at switch stations. A free topology network with the relay panels connected together and the switch legs emanating from the panels is the easiest to trouble shoot.
- If a longer data signal is required for a network, use the bus topology method of wiring. Be sure to carefully document how the bus topology is laid out. Use a diagram similar to those shown at right. Ensure that connections are properly made.

Programming

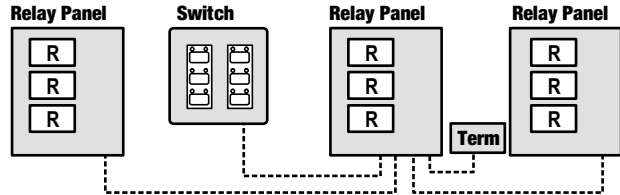
- 1) Press and **hold** the two buttons **not** being programmed for 3 secs. The LEDs on these two buttons will both go off after 3 seconds.
- 2) While still holding the two buttons down, press the third button (the one to be programmed). Its green LED will start to flash.
- 3) The network is now in program mode. Relay groups may be edited at the relay scanner/network node (WRS-2224/WNX-2624) combination. The relay LEDs of the scanner display which relays are included in the switch's program. Use the relay buttons on the WRS-2224 to add/delete relays from the switch's program.
- 4) To exit program mode and resume normal mode, reverse the procedure. Press and **hold** the two buttons **not** being programmed for three seconds. While still holding the two buttons, press the button being programmed once. The network will exit the program mode.
- 5) If the network is left in program mode, it will revert automatically to normal mode after 1 hour.

Diagnostics

- a) LEDs not flashing (one LED is on per switch button) indicates that the system is in normal run mode.
- b) One flashing green LED indicates that the switch button is selected for programming.
- c) All red LEDs flashing indicates that another device has placed the network into program mode. These switches are inoperable until the network returns to normal mode.
- d) All LEDs off indicates a fault (check for 24VAC and that data signal is correctly connected on back of WNS-2313 module)
- e) Both red and green LEDs on simultaneously indicates a fault with the WNS-2313 module.
- f) All LEDs alternately flashing indicates a wink network command has been received (this function will time out after 2 minutes). Note: Externally configured networks use the wink function.

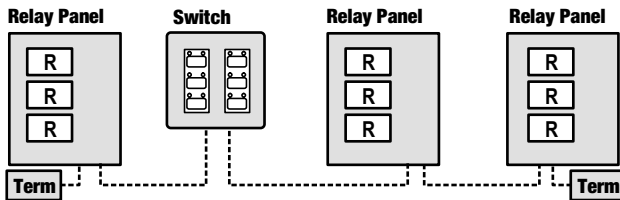
Free-Topology Network

Maximum accumulated wire length: 500m (1600 ft)
 Wire type: 16 AWG, twisted pair, no shield (Belden 85102, 8471 or equivalent)
 Single termination unit (WNT-2999) recommended in center.



Bus-Topology Network

Maximum length of bus: 2700m (8500 ft)
 Wire type: 16 AWG, twisted pair, no shield (Belden 85102, 8471 or equivalent)
 Termination units (WNT-2999) at each end of bus recommended



EXTERNALLY CONFIGURED NETWORKS

LonWorks NETWORK DATA

This information is provided for the benefit of system integrators who are integrating the WNS-2313 module into a system.
 Note: The 16 switch address limitation for self-configured systems does not apply to externally configured systems.
 To help with the integration process, a software plug-in for LNS systems is available.

Functional Profiles	Network Variables
<ul style="list-style-type: none"> ■ Node Object Type: 0 (x1) ■ Scene Panel Type: 3250 (x1) ■ Switch Object Type: 3200 (x3) 	<ul style="list-style-type: none"> ■ NvoScene for group activation (via external LPC) ■ NviSceneFb for group status feedback. ■ NvoSwitch for alternate hardware output method. ■ NviSwitchFb for alternate hardware feedback method.

LonMark® Profiles

The diagram shows two profiles: 'ScenePanel Object Type 3250' and 'Switch Object Type 3200 (x3)'. For the ScenePanel profile, variable 1 is 'nviSceneFb SNVT_scene' and variable 2 is 'nvoScene SNVT_scene'. For the Switch profile, variable 1 is 'nviSwitchFb SNVT_switch' and variable 2 is 'nvoSwitch SNVT_switch'. Both profiles are linked to 'Mandatory Network Variables'.