
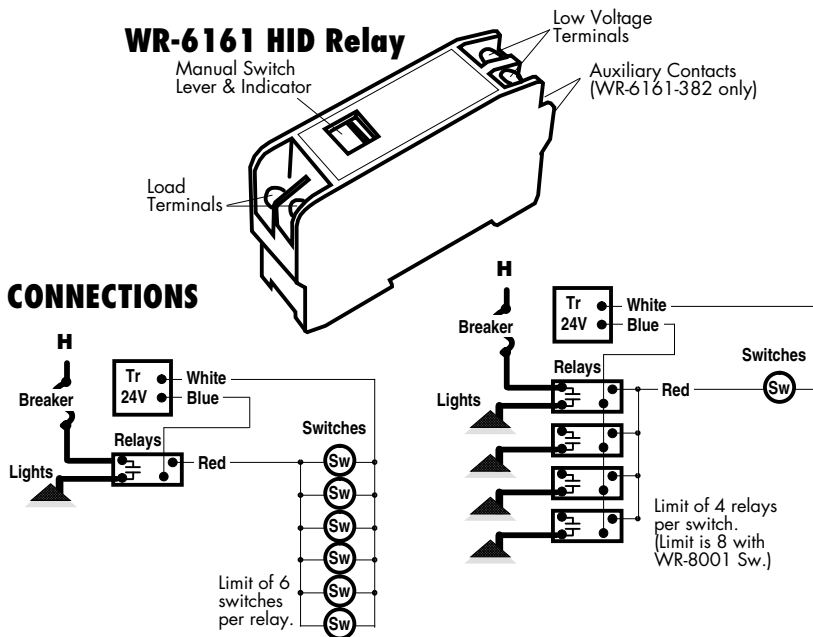
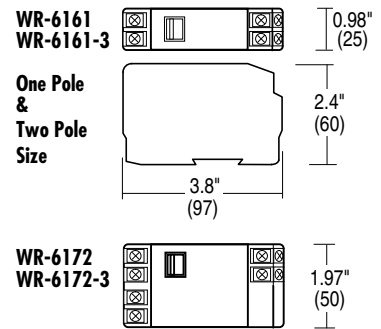


	PART No.	DESCRIPTION	SPECIFICATION
		<ul style="list-style-type: none"> • Douglas relays are 2-wire latching relays that are lighting load rated for standard 20A branch circuits. • Douglas 2-wire heavy duty HID relays are suitable for all types of lighting loads including capacitor corrected HID ballasts. • Manual operation lever and indicator are built-in for convenient operation and status check at the panel. • Douglas HID relays are available with auxiliary contacts on the low voltage side of the relay. Contact not required for Douglas system, but may have application for specialty requirements. • Douglas HID 2-pole relay is available with a 480V rating intended for 480V lighting applications. 	<p>Control Input</p> <ul style="list-style-type: none"> • Class 2 circuit. • 0.350A (350mA). • 24V reversible polarity pulse. • Input terminals: #16 - #20AWG <p>Output Contact Ratings</p> <ul style="list-style-type: none"> • More than 30,000 operations with 20A load, 2000A inrush @20 times / min. switch speed • UL Listing <ul style="list-style-type: none"> 20A 300VAC 2400W 120VAC "T" 20A 300 VAC "F" 20A 480 VAC "F" (WR-6172 only) UL Endurance test 150,000 cycles Motor Rating: <ul style="list-style-type: none"> 0.5HP at 120VAC 1.5HP at 240-277VAC SCCR Rating: <ul style="list-style-type: none"> 14KA (WR-6161, WR-6161-3) 5KA (WR-6172, WR-6172-3). • CSA Certifications <ul style="list-style-type: none"> 20A 347VAC 2400W 120VAC "T" 20A 347VAC "F".
	WR-6161	1 pole HID relay 20A: 120/240/277/347	
	WR-6161-382	1 pole HID relay with aux contacts 20A: 120/277/347 (aux contacts 1A: 125VAC)	
	WR-6172	2 pole HID relay 20A: 120/208/240/277/480	
	WR-6172-382	2 pole HID relay with aux contacts 20A: 120/277/347/480 (aux contacts 1A: 125VAC)	<p>• Output terminals: #10 - #14AWG</p> <p>Environment</p> <ul style="list-style-type: none"> • Indoors, stationary, non-vibrating, non-corrosive atmosphere and non-condensing humidity. • Ambient temperature: +15°F to +120°F (-10°C to +50°C). <p>Note:</p> <ul style="list-style-type: none"> • The 2 pole relay (WR-6172) has the same input ratings as the 1 pole relay. Use this feature to double the load switching capacity of a low voltage switch.



DIMENSIONS & MOUNTING

WR-6100 series relays mount to a snap rail built into Douglas PWEx series relay panels.



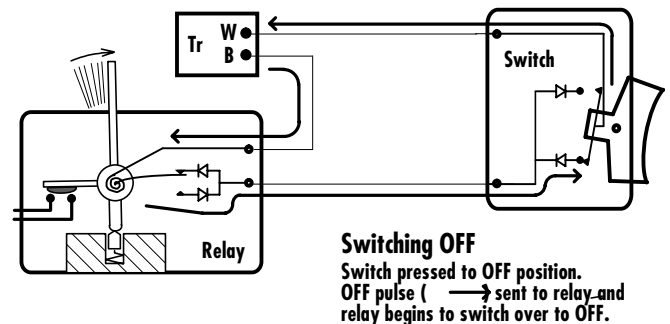
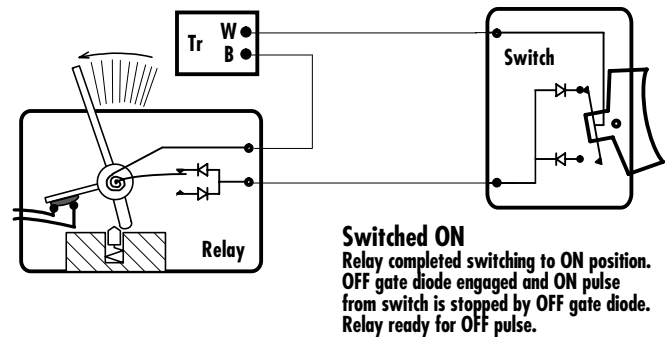
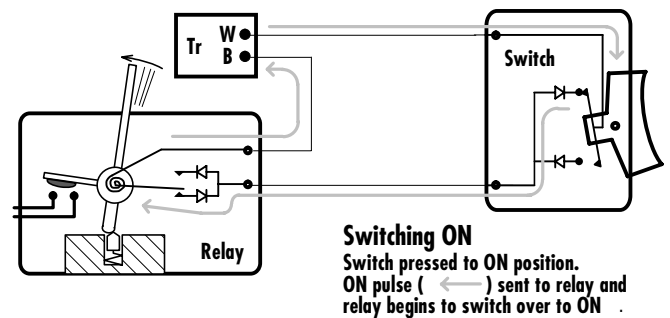
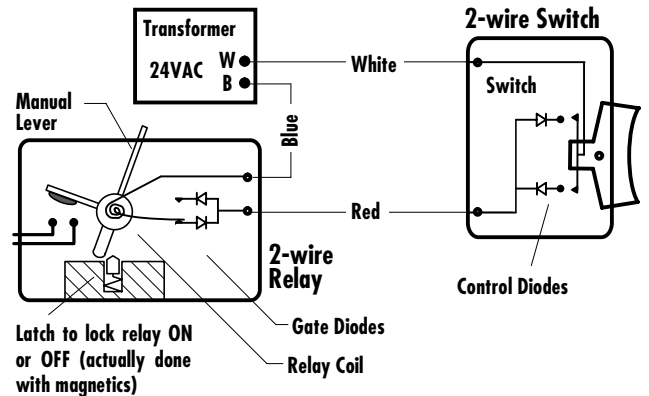
2-WIRE RELAY TECHNOLOGY

- Douglas 2-wire relays utilize an ingenious control method that permits simple and minimal wiring. All functions for low voltage control: on, off, indication and location are provided with only a 2-wire connection of which one is often a common. All Douglas relays manufactured over the past 30 years utilize the same principle. Thus, any Douglas switching device is compatible with any model of Douglas relay.

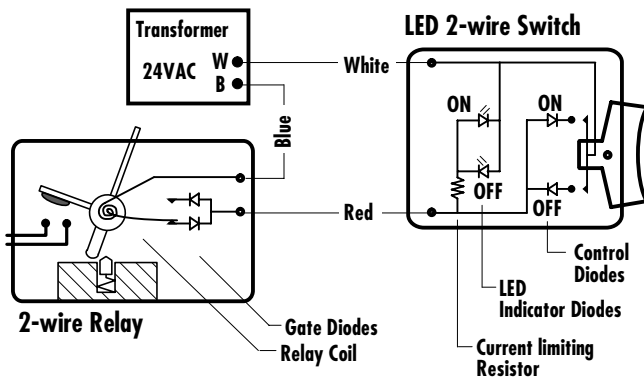
Operational Principle

- A negative pulse turns the relay ON and a positive pulse turns it OFF. Using a diode, an AC signal can be rectified to turn the relay either ON or OFF. Douglas switches have 2 diodes built into the switch to provide the ON and OFF signals.
- The relay has 2 similar diodes built inside that are in series with the relay coil. The diodes in the relay act as gates for the switch signal.
- To turn the relay ON or OFF, the rocker switch completes the circuit by selecting the ON or OFF diode. If the diode selected is in the same direction as the gate diode in the relay, the relay will switch. If the gate diode is not in the correct direction, then nothing will happen since the relay is already in the correct state for the action selected by the switch. When the switch is released, a spring returns it to the central neutral position
- Indication (ON state) and location (OFF state) are obtained by utilizing LED diodes built into the switch. Only the LED which is connected in the same direction as the gate diode in the relay will light. Although the LED current passes through the relay coil, it is not large enough to cause the relay to trip. However, there is a limit: the maximum number of LED switches that can be connected to the same relay is 6
- For additional convenience (especially during installation) all standard models have a manual control lever and indicator permitting a non-electrical method of switching and status check at the panel.

Detailed 2-wire Relay / Switch Circuit



Detailed LED Switch Circuit *



* LED Switch circuit actually not as shown. Switch is functionally similar except rocker switch is replaced with single push button.