

Relays

GE RR SERIES RELAYS HAVE SERVED as the heart of low voltage lighting controls for over 40 years. The basic power switching device, the relay serves as the foundation of a building's lighting control solution.

GE's Remote Control panels and frames are configured for either RR7P or RR9P relays with a five-pin female connector. The user can simply remove a knockout in the low voltage barrier, snap the relay into place, and plug it onto the interconnect board.

RR7P Operation

Each relay employs a split low-voltage (24V) coil to move the line voltage contact armature to the ON(OFF) latched position. As illustrated on the opposite page for the RR7P, the ON coil moves the armature to the left when a 24 volt control signal is impressed across its leads. The armature latches in the ON position and will remain there until the OFF coil is energized.

This operation provides several key control features:

- Positive action. The relay always goes to the state commanded. For example, multiple OFF commands will keep the contacts in the OFF position.
- Stable operation. Since the relay latches in the ON or OFF position, power outages do not result in a change of state.
- Minimal power consumption. Control power is only required when the relay changes state.
- Ability to support multiple input devices. After the relay responds to a momentary pulse, it is then "free" to accept another pulse from any other control devices wired to it. The relay position is always controlled by the last signal.

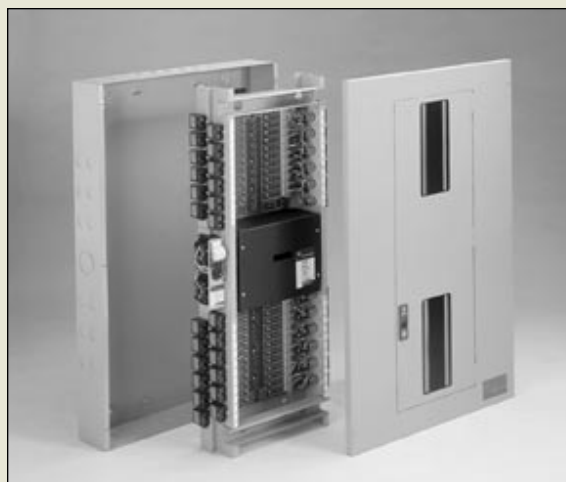
RR9P Operation

The RR9P includes an auxiliary contact on the low-voltage side of the armature to provide status indication for pilot light switches or indicator lights for remote annunciation of lighting status. It is also used to provide status information to more highly automated GE TLC systems (refer to page 3 for overviews of other systems).



RR7P Relay

RR9P Relay



Catalog #	Description
RR7P	Standard 3-wire relay with 5-pin connector
RR9P	Isolated pilot contact 5-wire relay with 5-pin connector

The RR7P and RR9P relays are designed for simple connection to TLC panels. Other relay wire terminations are available, including:

RR7	Standard 3-wire relay with stripped leads
RR8	Pilot contact 4-wire relay with stripped leads
RR9	Isolated pilot contact 5-wire relay with stripped leads
RR7EZ	Standard 3-wire relay with spade terminals
RR8EZ	Pilot contact 4-wire relay with spade terminals
RR9EZ	Isolated pilot contact 5-wire relay with spade terminals

Specifications

UL Listed, CSA Certified

Mounts in standard 1/2" KO, .865"-.875" diameter, 14 or 16 gauge material
Operates in any position

Rated Capacity

Lamp Load – 20 A Tungsten filament 125 VAC
20 A Ballast 277 VAC, 347 VAC Canadian
Resistive Load – 20 A 277 VAC, 347 VAC Canadian
Motor Load – 1/2Hp @ 110-125 VAC
1/2Hp @ 220 - 277 VAC

Operating Environment

Temperature – 0 to 60°C (32 to 140°F)
Relative Humidity – 10 to 95% RH, non-condensing
Atmosphere – Non-explosive, non-corrosive
Vibration – Stationary applications NEMA Level A

Endurance

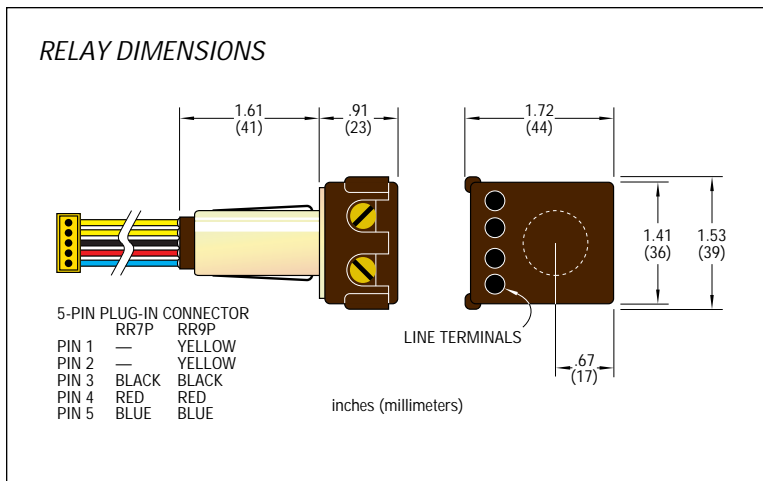
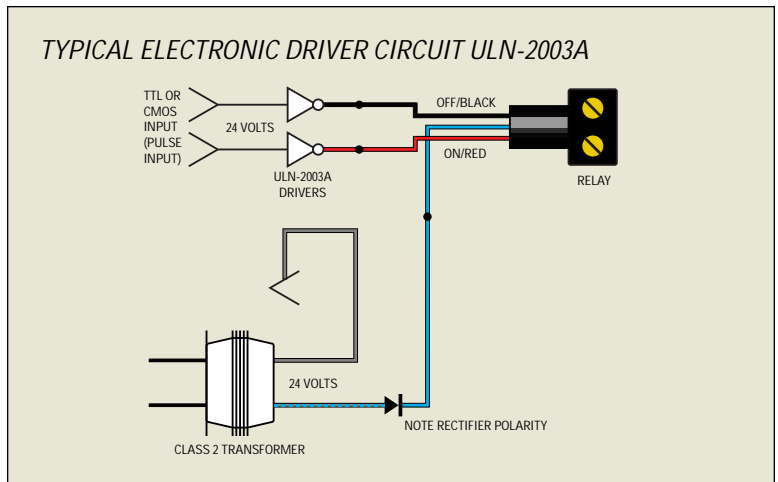
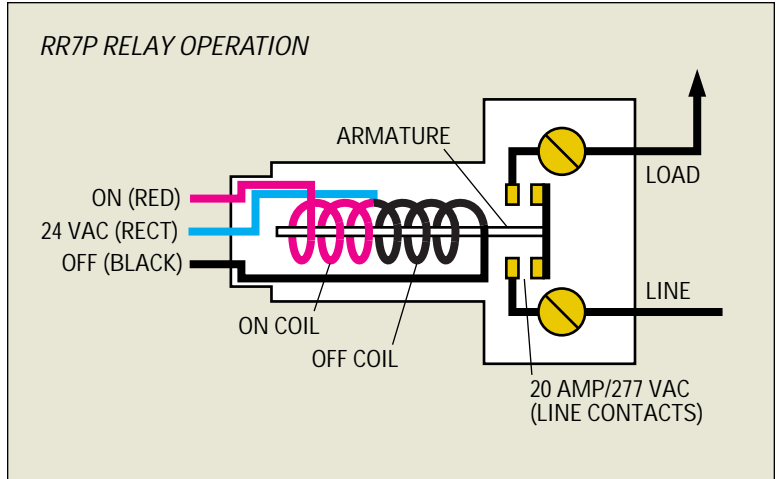
50,000 cycles, full load
100,000 cycles, no load

Line-Voltage Characteristics

Contacts – SPST maintained (mechanical latching)
Terminals – 2 Terminals
2 Back-wiring holes per terminal
Feedthrough wiring
Screw actuated clamps for use with #14-10
AWG solid or stranded copper wire only.

Low-Voltage Characteristics

Split Coil – 1/2 for "ON", 1/2 for "OFF"
Compatible with standard interface/drivers, ULN-2003A Darlington transistor arrays
Operating Voltage – Nominal
24-29 VAC (±10%) Rectified (Minimum at relay = 21 VAC rectified)
30-38 VDC (±10%) Filtered
Note: Do not use DC with pilot or locator switches
Duty Rating – Momentary
Minimum Activating Pulse Time – 50 Milliseconds
Coil Impedance – 75-85 Ohms at 60 Hz Unrectified
55-60 Ohms DC Resistance
Pilot Contact – 1 A 24-29 VAC Resistive



Important Considerations and Restrictions

Relays connected in parallel – Two or more relays connected in parallel, by grouping red leads and black leads, will operate together. The maximum number of relays connected in parallel is determined by the capacity of the power supply and the switch lead lengths. (See the table on page 13).

Pilot contacts connected in parallel – If the yellow switch connections for a group of RR9P relays are paralleled, any relay ON in the group will turn the pilot lighted switch ON.

Caution:

1 Do NOT use these relays to switch DC loads. This will damage the power contacts.

2 For proper pilot light operation, use only half-wave rectified AC voltage for relay control.