Application Note #9911

Connecting External Relays

Introduction

The TTClock and certain TransTerm data terminals can be equipped with an optional output relay used to activate one or more electrical devices. Typically, the internal relay contacts are used to activate another external relay for control of larger loads such as bells, motors, or lamps. This application note will explain how to control these devices with an external control relay.

Internal Relay

The number of optional internal relays available depends on the model and type of option ordered. Each internal relay provides a single normally open (N.O.) contact which is closed when the relay is activated. The internal relays are Solid State Relay (SSR) and have no moving parts. They provide excellent electrical isolation and are not effected by stray magnetic interference. Each relay contact is rated at 10VA (100ma @ 100vdc, 50ma @ 200vdc) maximum.

External Relay

Typically, the internal relay is used to switch an external relay which in turn will switch the load to be controlled. The contact rating of the external relay should be selected according to the load to be switched. Usually, a 12vdc – 24vdc “coil” of the external relay is activated by an external power supply and controlled by the internal relay contact (see Figure 1). The external relay can be either a mechanical type or a Solid State Relay type depending on preference and the application. If a mechanical relay is used a diode should be placed in reverse polarity across the coil to dampen the kick back voltage spike.

Sample External Relays

The following table gives some sample part numbers that could be used for the external relay. These relays are readily available from many electrical supply companies.

Potter & Brumfield Solid State Relay	Potter & Brumfield Mechanical Relay
SSR-240D25	KUP-11D15-24
SSR-240D50	KUP-14D15-12
SSR-240D110	KUP-17D15-12
SSR-480D110	

External Relay Connection

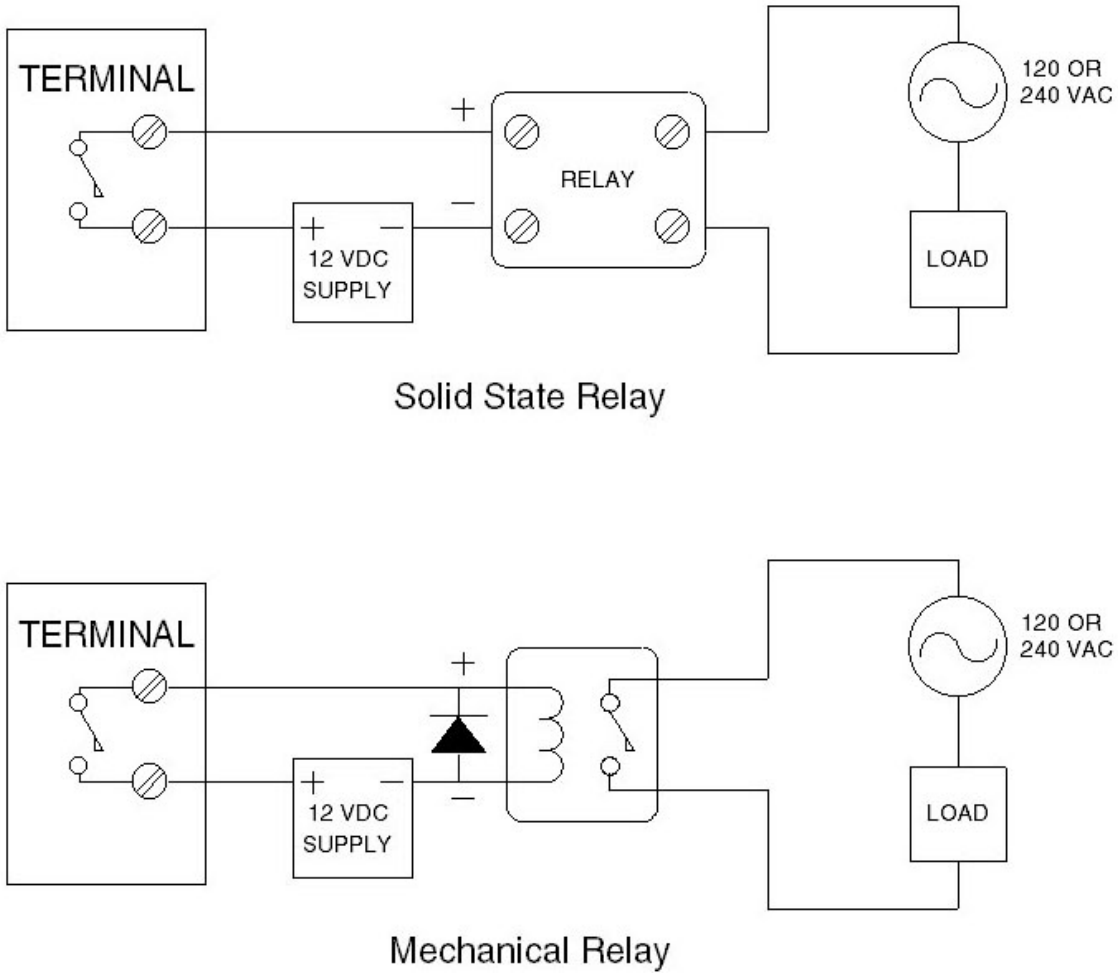

Figure 1