

TIMER LINE SENSE MODULE

DESCRIPTION

The Timer Line Sense Module is used to sense the presence or absence of commercial 115vac and then provide inputs to the 1A1 Timing Control circuits.

When commercial 115vac is present, the Timer Line Sense Relay is energized. The relay contacts send inputs to the 1A1 Timing Control circuits which disable the 2 minute timer.

With a loss of commercial 115vac, the Timer Line Sense Relay de-energizes, the relay contacts then provide an input to the 1A1 Timing Control circuits which trigger the 2 minute timer and disable the 5 minute timer.

When commercial 115vac is again restored, the Timer Line Sense Relay again energizes, enabling the 5 minute timer and disabling the 2 minute timer.

The Module is a pre built relay assembly which has been modified for operation in this system. Basically commercial 115vac is stepped down, rectified, and applied to a relay. Modifications included the removal of an on/off switch, addition of an LED, removal of AC power cord which was replaced with a terminal block, and removal of internal fuse which was replaced with an externally changeable fuse.

DETAILED THEORY OF OPERATION

Commercial 115vac is applied to TB2 pins 1 and 3. Commercial 115vac is fused by F1 and applied to step down transformer T1. T1 steps voltage down to 24vac, which is rectified by D1 and filtered by C1. This 24vdc is applied to relay RY1. Resistor R1 is an LED dropping resistor and LED1 is a green Jumbo type LED. D2 dampens inductive kickback from RY1 when it de-energizes. RY1 is two sets of DPDT contacts. The top set of contacts provide inputs to the 5 minute timer circuits and the bottom set of contacts provide input to the 2 minute timer circuits.