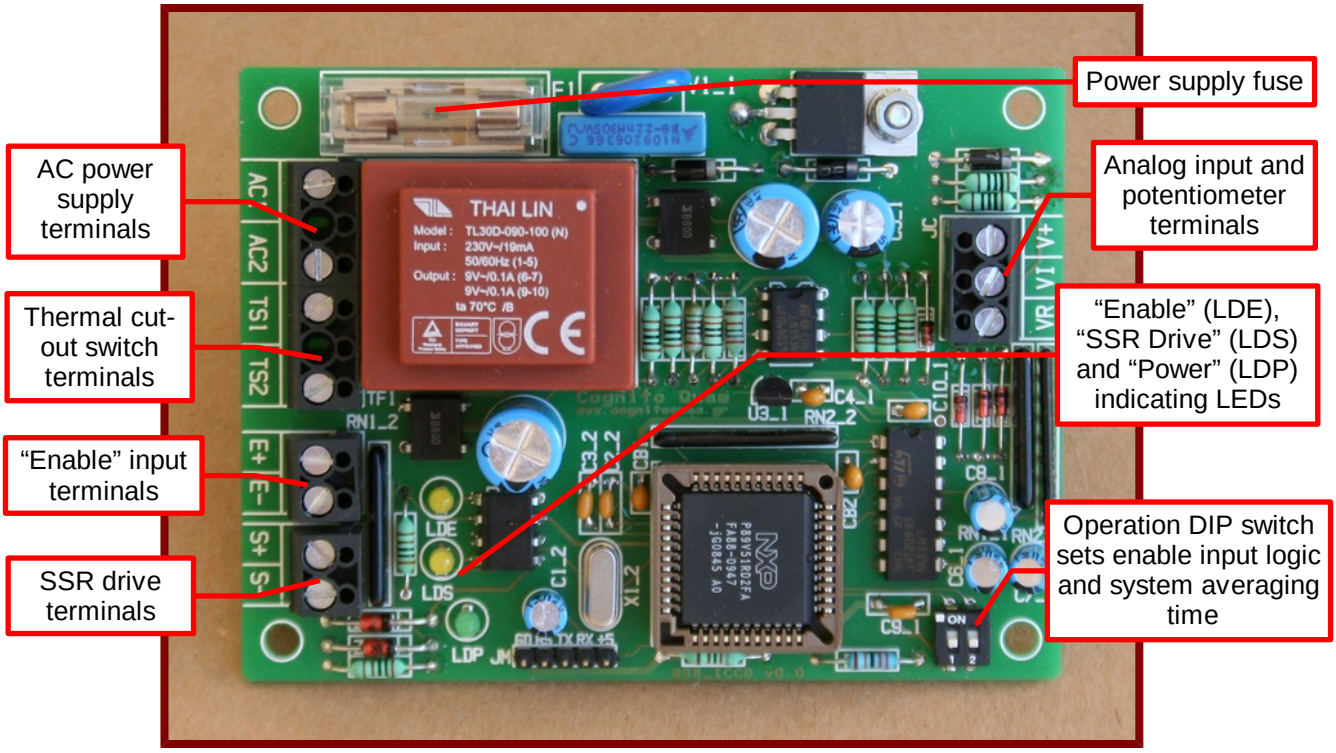
SSR_ICCD Solid State Relay (SSR) Integral Cycle Control Drive

The SSR_ICCD accepts a 0–5 VDC, PWM or potentiometer signal to drive the target SSR with complete (integral) line half-cycles minimizing supply and load line disturbances and noise. SSR_ICCD operation is enabled by two dedicated inputs, one interfacing to general function enabling dry contacts and the other to a thermal cut-out device. The enabling logic type (positive or negative) and the averaging period during which the on/off integral cycle sequence is proportional to the analog input signal are set at the board DIP switch.



The SSR_ICCD board

The SSR_ICCD is designed for standard single- and three- phase line systems. The characterizing features are as follows:

SSR_ICCD Feature Summary	
Power supply	230 VAC power supply is protected against line noise and disturbances.
Temperature switch input	Normally closed temperature switch is internally wired to cut-out board AC power. The switch can be used in sensing SSR or load overheating conditions.
Enable input logic	Set at the DIP switch ensuring versatile external control (positive, ON-for-ON or negative, ON-for-OFF).
SSR drive output	Current limited SSR drive handles SSR input problems.
Analog input protection	Analog/potentiometer input is protected against reverse polarity connection, shorts and out-of-range potentials.
Output accumulation time	DIP switch selectable averaging/accumulating time of 25 and 50 line cycles offers 2% and 1% output power resolution respectively.
SSR drive integral cycle	Output ON/OFF half-cycle sequence is proportional to the analog input and synchronized to AC power supply zero-crossings.
Low voltage detection	Low voltage detecting circuit keeps SSR drive off during power-downs and brown-outs.
LEDs	Indicating LEDs show system state.
Isolated I/O circuits	Isolated control and analog circuits enhance safety and noise immunity.

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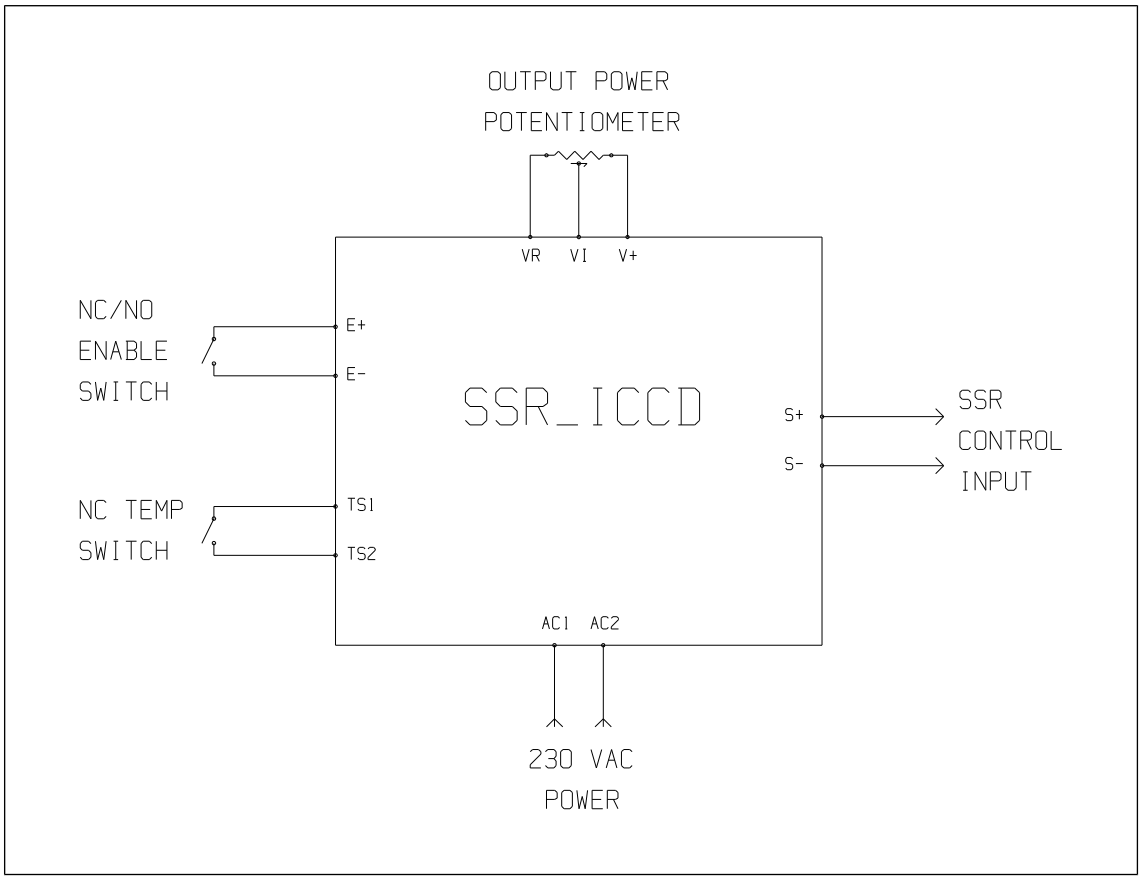
While powered and enabled, the SSR_ICCD reads the analog input and ouputs a sequence of ON half-cycles which are synchronized to its AC supply. The number of ON half-cycles in the accumulating sequence and, as a result, the power conducted by the SSR to the load is proportional to the analog input.



Typical potentiometer controlled SSR_ICCD system. The unit is powered by 230 VAC and enabled by the normally-closed temperature switch and the enable dry contacts. The SSR is driven with a line synchronized ON/OFF integral cycle sequence which is proportional to the potentiometer setting. The V+ connection is not used in the case of an analog 0-5 VDC signal controlling the unit.

Ordering information	
Model	**Description**
SSR_ICCD	Solid State Relay Integral Cycle Control Drive

Supplied by