

SPECIFICATIONS:

AC input: NEMA 5-15P Plug, standard 120vac with ground.

AC output: NEMA 5-15R Receptacle, standard 120vac with ground.

Load capacity: 120vac, 450 watts maximum continuous load, non-inductive.

Switching Device: Solid state triac, indefinite life expectancy.

DC input: 3vdc @ 3ma to 12vdc @ 30ma, terminal block accepts #14-30 AWG wire.

ZeroCross output: Open collector. Requires a resistor connected to the supply voltage of the microcontroller. Not to exceed 30vdc. Positive going sync pulse to supplied voltage.

Operate times: Suitable for 50/60hz phase control of incandescent and LED light strings.

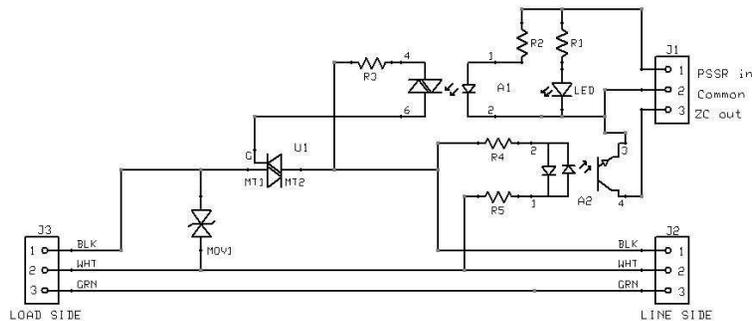
DC to ac circuit isolation: Optically isolated 5300Vrms

Indicator: LED indicates when dc side is energized.

Protection: AC side protected with 150vac MOV. DC side is transient free.

Mounting: Two #6 screws or free standing.

Usage: Indoor use only.



For technical support, please contact us at support@powerswitchtail.com.

For more product information, please visit <http://www.powerswitchtail.com>.

Other actuating voltage ranges and units optimized for minimum actuating signal power are available. Please contact us at sales@powerswitchtail.com.

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PowerSSR/ZeroCross Tail

PN 85010, US version

PowerSSR and ZeroCross Tails in one device for phase controlled power to 120vac non-inductive loads with a microcontroller.

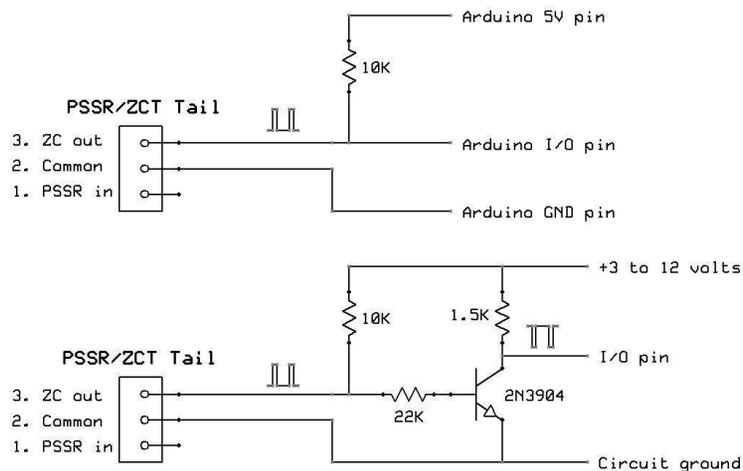
- Combines the functions of the PowerSSR Tail and ZeroCross Tail into one power cord device.
- PowerSSR function provides fast solid-state triac switching suitable for ac dimmers and motor speed control.
- Control loads up to 450 watts, non-inductive, with a 3vdc (3ma) to 12vdc (30ma) steady or pulsed control signal.
- Integrated zero-crossing detector has open collector output adaptable to microcontroller logic level.
- Simple 3-wire low-voltage connections: PSSR in, Common, ZeroCross out.
- No exposed 120vac voltages and no dangerous 120vac wiring required. 5,000 Vrms isolation between ac lines and low-voltage side connections.
- Local LED indicator shows status of control signal.
- Plugs into standard NEMA 5-15R/P120vac 3/2-prong household outlets, power strips, and extension cords.
- Eliminates the exposure of hazardous voltages in classrooms, in laboratories, and on industrial and DIY development workbenches.
- Indoor use only.

Hookup Instructions:

1. The **P**(ower)**SSR** input (Terminal 1) requires a control signal between 3vdc (3ma) to 12vdc (30ma) to reliably energize the ac circuit. The control signal can be a steady dc voltage or a pulsed dc voltage synchronized to the ac mains for dimmer and motor speed control applications. In the 3-5 volt range, most microcontrollers will

operate the PSSR directly from an I/O pin without the need for an external driver circuit.

2. The **ZeroCross output** (Terminal 3) is an open-collector output and requires a “pull-up” resistor to a voltage source to produce a positive-going sync pulse about the zero-crossing of the mains voltage. One side of the resistor (typically 10K ohms or higher) should be connected to Terminal 3 and the other end connected to the power supply bus (Vcc) or other voltage source to match the input logic voltage requirements of the microcontroller. Terminal 3 is then connected directly to an input pin on the microcontroller or through an additional driver circuit.



3. The **Common** terminal (Terminal 2) is connected to the microcontroller ground.
4. To make connections to the PSSR/ZC Tail use a small screwdriver to access the screws from the top of the enclosure. If necessary, turn the screws CCW to open the terminal contacts. Strip ¼-inch of insulation from the signal wires and insert into the terminal block contacts through the holes on the side of the case. Tighten the screws and verify the contacts firmly grip the inserted wires. Any size wire #16 AWG or smaller may be used. (Standard CAT3/5 #26 AWG twisted pair wire works well.)
5. Energize the control signal and verify the LED indicator lights up.
6. Plug the PSSR/ZC Tail into an ac outlet and plug the load into the receptacle cord. The ac circuit is now energized whenever a sufficient control signal is applied.

7. The ZeroCross output is active whenever the PSSR/ZC Tail is plugged into the ac power source.

NOTE: The PSSR/ZC Tail will feel warm to the touch when driving loads near its maximum capacity of 450 watts.

Please check the PSSR/ZC Tail product page on our web site for additional application information.