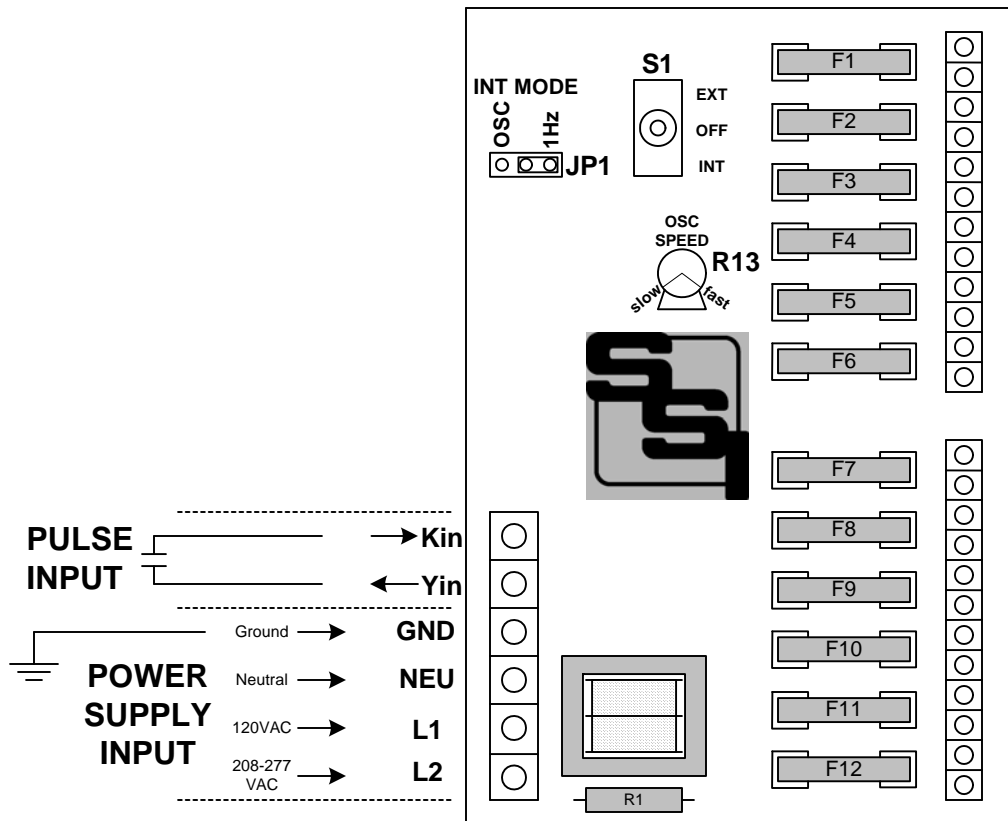


INSTRUCTION SHEET

SPR-112 Isolation Relay and Test Unit

SPR-112 Isolation Relay



MOUNTING POSITION - The SPR-112 may be mounted in any position.

POWER INPUT - The SPR-112 can be powered by 120VAC or 208 to 277VAC. Connect the Neutral lead to the **NEU** terminal. Connect the **L1** terminal to the 120VAC "Hot" lead for 120VAC operation. Connect the **L2** terminal to the 208, 240, or 277 "Hot" lead. **Do not use both L1 and L2.** If Neutral does not exist at the meter, connect both NEU and GND to Ground.

GROUND - The GND terminal on the left side of the board (Terminal #4) is the electrical system ground. Connect this terminal to the electrical system (earth) ground.

KY INPUT TO SPR-112 - The SPR-112 is equipped with a 2-wire (Form A) pulse input. The SPR-112 supplies a +13VDC wetting voltage from the Yin terminal to "wet" the meter's output DRY contacts. As the pulse output of the meter toggles, the Yin input is alternately switched to the Kin terminal, thus activating the SPR-112's isolated outputs. When the Yin input receives a pulse from the meter, the corresponding Red LED will light. Input pulses from the meter are "echoed" on all twelve outputs of the SPR-112 simultaneously. Set Switch S1 to the EXT position to enable the 2-Wire external pulse input.



SOLID STATE INSTRUMENTS

a division of Brayden Automation Corp.
 6230 Aviation Circle, Loveland Colorado 80538
 Phone: (970)461-9600 Fax: (970)461-9605
 E-mail: support@solidstateinstruments.com

RELAY OUTPUTS - The SPR-112 has twelve 2-wire isolated, dry-contact, solid state outputs for repeating the pulses of the input. Outputs are K1 & Y1 for channel #1; K2 & Y2 for channel #2, etc. The output relay contacts are "dry" (no voltage present). A wetting voltage must be supplied from the destination device to each output's "K" terminal. Transient suppression for the contacts is provided internally by metal oxide varistor (MOV) surge suppression devices. Outputs are rated at 250VAC/VDC @ .1 Amp. Maximum on-state power dissipation is 800mW.

FUSES - The fuses are type 3AG or AGC and may be up to 1/10th Amp in size. Twelve 1/10 Amp fuses (F1-F12) are supplied standard with the unit unless otherwise specified. Care should be taken to insure that the input burden of the destination device will not exceed the rating of the fuse or the 800mW maximum power.

ALTERNATE PULSE SOURCES - The SPR-112 is equipped with two alternate internal pulse sources, for testing where a stable or desired pulse rate is required. To use one of the two internal pulse sources, set Switch S1 to the INT position. Once switch S1 has been set to the INT position you must select either the 1 Hz oscillator or the variable pulse oscillator, by moving the Jumper JP1 to the correct position.

1 Hz Pulse - This 1 hertz pulse rate is derived from the AC line by means of a divide-by-60 divider. As such, this pulse rate is very stable and repeatable over long periods of time. Place Switch S1 in the "down" position (**INT**) and put JP1 in the **1Hz** position to connect the 1 Hertz source to the output relays. All relays will operate simultaneously with a 50/50 duty cycle, with 500mS closed and 500mS open.

Oscillator - The SPR-112 also contains a variable oscillator that produces a pulse rate from approximately 1 pulse per 10 seconds (.1 Hz) to about 10 pulses per second (10 Hz). This oscillator is used by putting Switch S1 in the "down" position (INT) and put JP1 in the **OSC** position to connect the variable oscillator with to all 12 outputs. The oscillator is provided as a means to test various devices at a range of pulse rates and not as a precision pulse generator. Turn trimmer potentiometer R13 to vary the pulse rate. Use an oscilloscope to set an exact pulse rate if desired.

When the internal mode is selected, the external pulse input is ignored.



SOLID STATE INSTRUMENTS

a division of Brayden Automation Corp.

6230 Aviation Circle, Loveland Colorado 80538

Phone: (970)461-9600 Fax: (970)461-9605

E-mail: support@solidstateinstruments.com