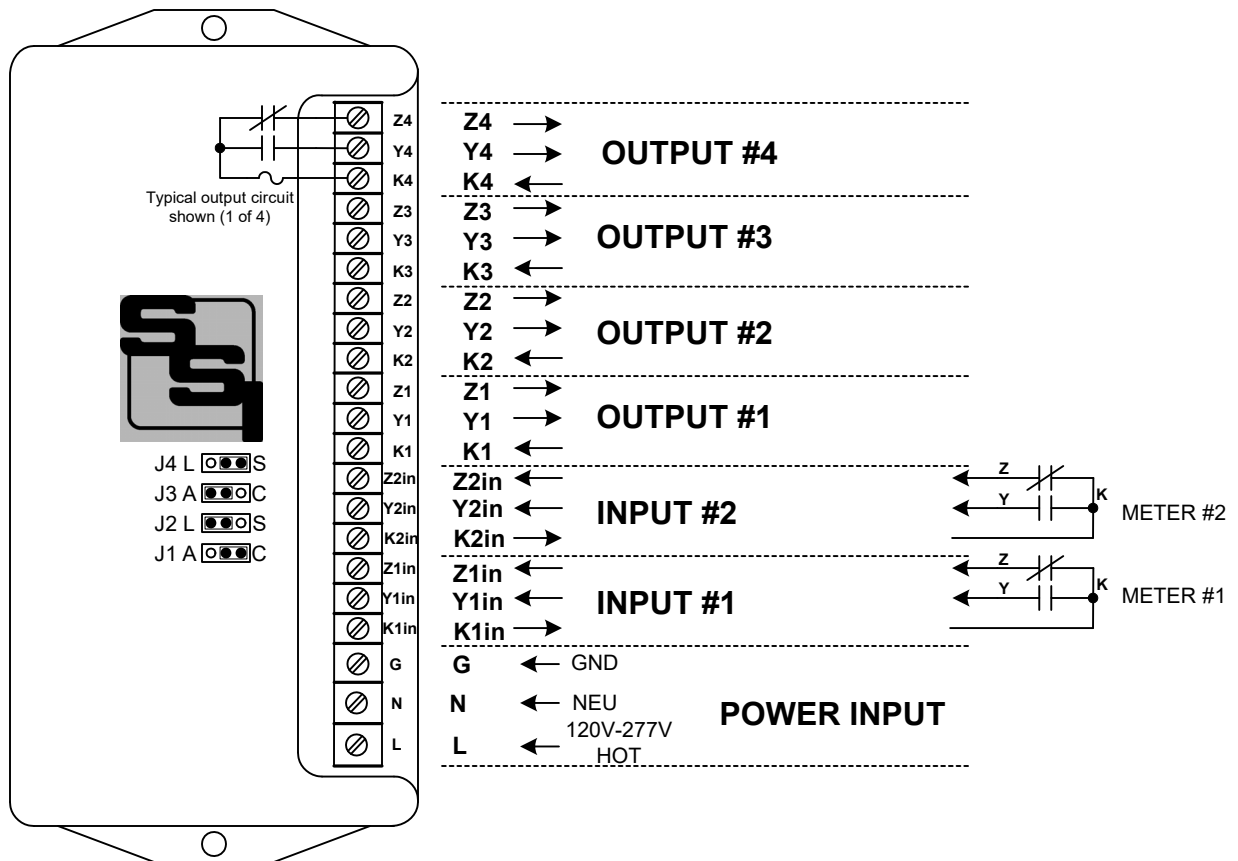


# SPR-24

C Series

## PULSE ISOLATION RELAY INSTRUCTION SHEET 2-In/4-Out



**MOUNTING POSITION** - The SPR-24 may be mounted in any position.

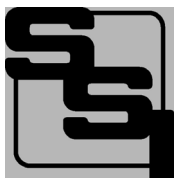
**POWER INPUT** - The SPR-24 is powered by an AC voltage of between 90 and 300 volts. Connect the AC line's "hot" wire to the **L** terminal. Connect the neutral wire to the **N** terminal. Connect **G** to Ground. If neutral is not available at the meter, wire both N and G to ground.

**INPUT CONNECTIONS** - Connect the K terminal of each meter which is supplying pulses to the SPR-24 to the SPR-24's **K1in** and **K2in** terminals. Connect each meter's Y and Z terminals to the respective meter's **Yin** and **Zin** input terminals of the SPR-24.

**INPUT TYPE SELECTION** - The SPR-24's inputs may be configured as either 2-Wire (Form A) or 3-Wire (Form C). Selector Jumper **J1** selects the configuration for INPUT #1. Selector Jumper **J3** sets the configuration for INPUT #2. Place the Jumper Plugs in the correct position for the input type desired.

**FUSES** - The fuses are type 3AG and may be up to 1/10th Amp in size. Four 1/10 Amp fuses (F1-F4) are supplied standard with the unit unless otherwise specified.

**OUTPUTS** - Four three-wire isolated outputs are provided on the SPR-24, with output terminals K1, Y1 & Z1; K2, Y2, & Z2; K3, Y3 & Z3; and K4, Y4 & Z4. Arc suppression for the contacts of the solid state relays are provided internally. **Outputs #1 and #2** are assigned to **Input #1**. **Outputs #3 and #4** are assigned to **Input #2**. The SPR-24's outputs may be configured for either Long or Short output pulses. Selector Jumper **J2** selects the long or short output configuration for Outputs #1 and #2. Selector Jumper **J4** sets the long or short output configuration for Outputs #3 and #4. (See Page 2) Place the Jumper Plug in the correct position for the output type desired.



## SOLID STATE INSTRUMENTS

by Radian Research, Inc

3852 Fortune Dr, Lafayette, IN 47905

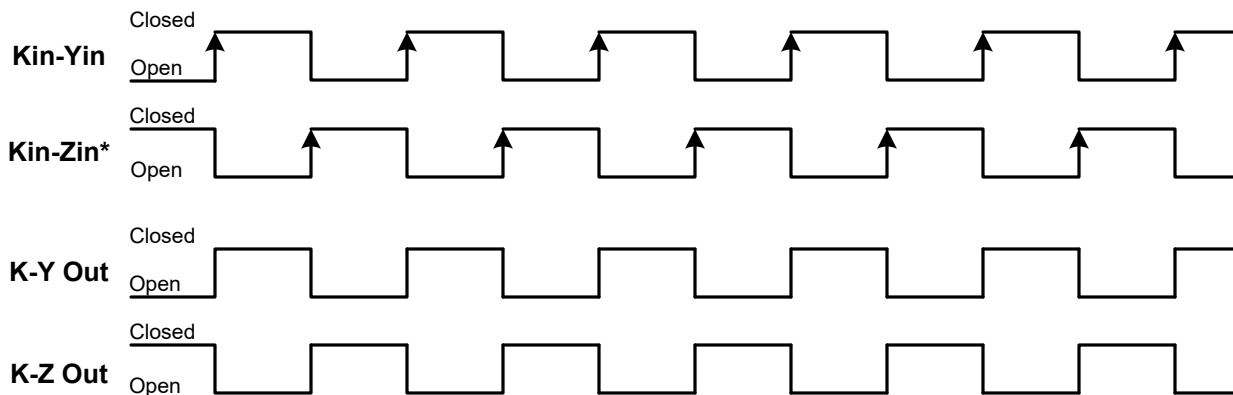
Phone: (765) 449-5576

Mail: [technicalsupport@radianresearch.com](mailto:technicalsupport@radianresearch.com)

# WORKING WITH THE SPR-24 RELAY

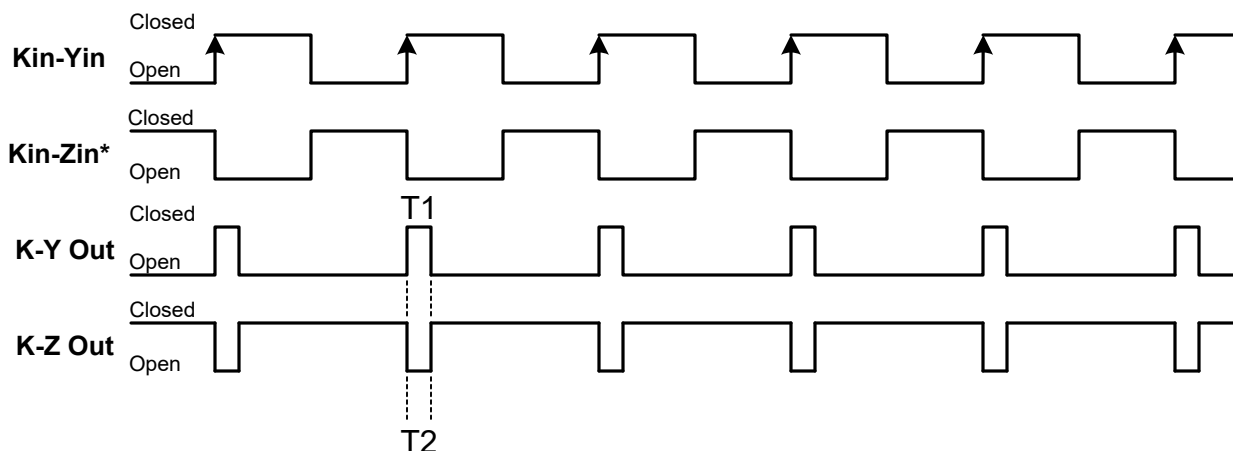
**OPERATING MODES:** The SPR-24 Repeating Pulse Relay allows the output to be configured for either the "Long" or "Short" pulse output mode. In the Long mode, the output(s) assigned to a particular input will simply follow that input. Output pulse widths are equal to input pulse widths. With the "long" output configuration selected, pulse speeds of up to 72,000 pulses per hour (20/sec) are possible. Figure 1 below shows the timing diagram for the "long" output mode.

**Figure 1: 2-Wire or 3-Wire LONG Output Operation**



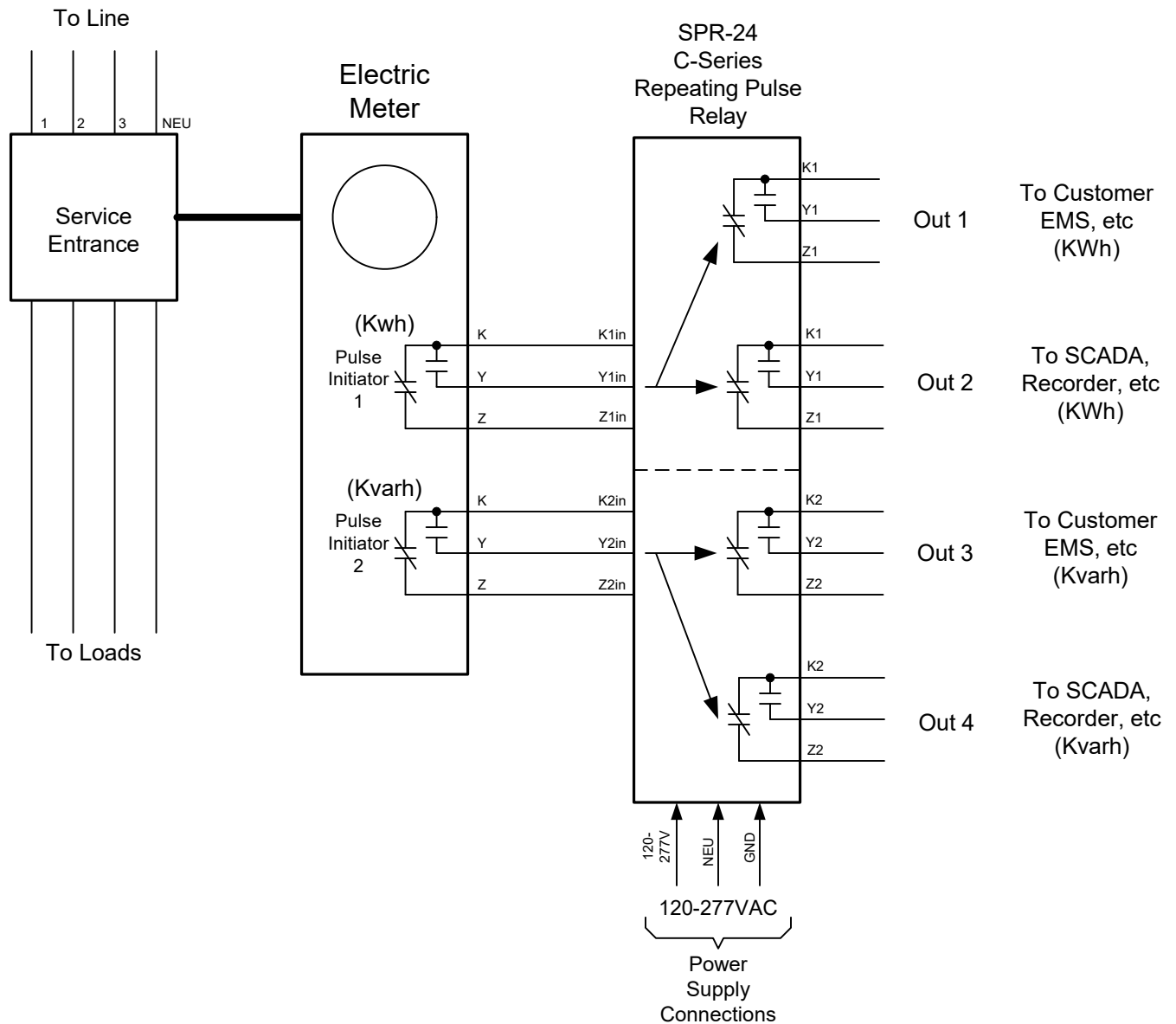
In the Short output mode, shown in Figure 2 below, an output pulse (K-Y closure) with a fixed width (T1) of 100mS occurs each time the input is triggered. Correspondingly, the K-Z output opens for 100mS (T2) each time the input is triggered. In the "short" mode, the output pulse rate is limited to 9 pulses per second, or about 32,400 pulses per hour.

**Figure 2: 2-Wire or 3-Wire SHORT Output Operation**



If the input pulse rate is greater than 9 pulses per second, it is recommended that the LONG pulse output mode be used. Contact the factory for technical support at (888)272-9336.

# SPR-24 Wiring Diagram



## SPR-24 Repeating Pulse Relay Wiring Diagram

DATE ORIGINAL  
01/01/2025

SCALE  
N/A

LATEST REVISION

JOB NO.

### REVISIONS

NO.	DATE	DESCRIPTION

CHECKED

DRAWN

WHB

## Solid State Instruments by Radian Research Inc

3852 Fortune Dr  
Lafayette, IN 47905  
(765) 449-5576

technicalsupport@radianresearch.com  
www.solidstateinstruments.com