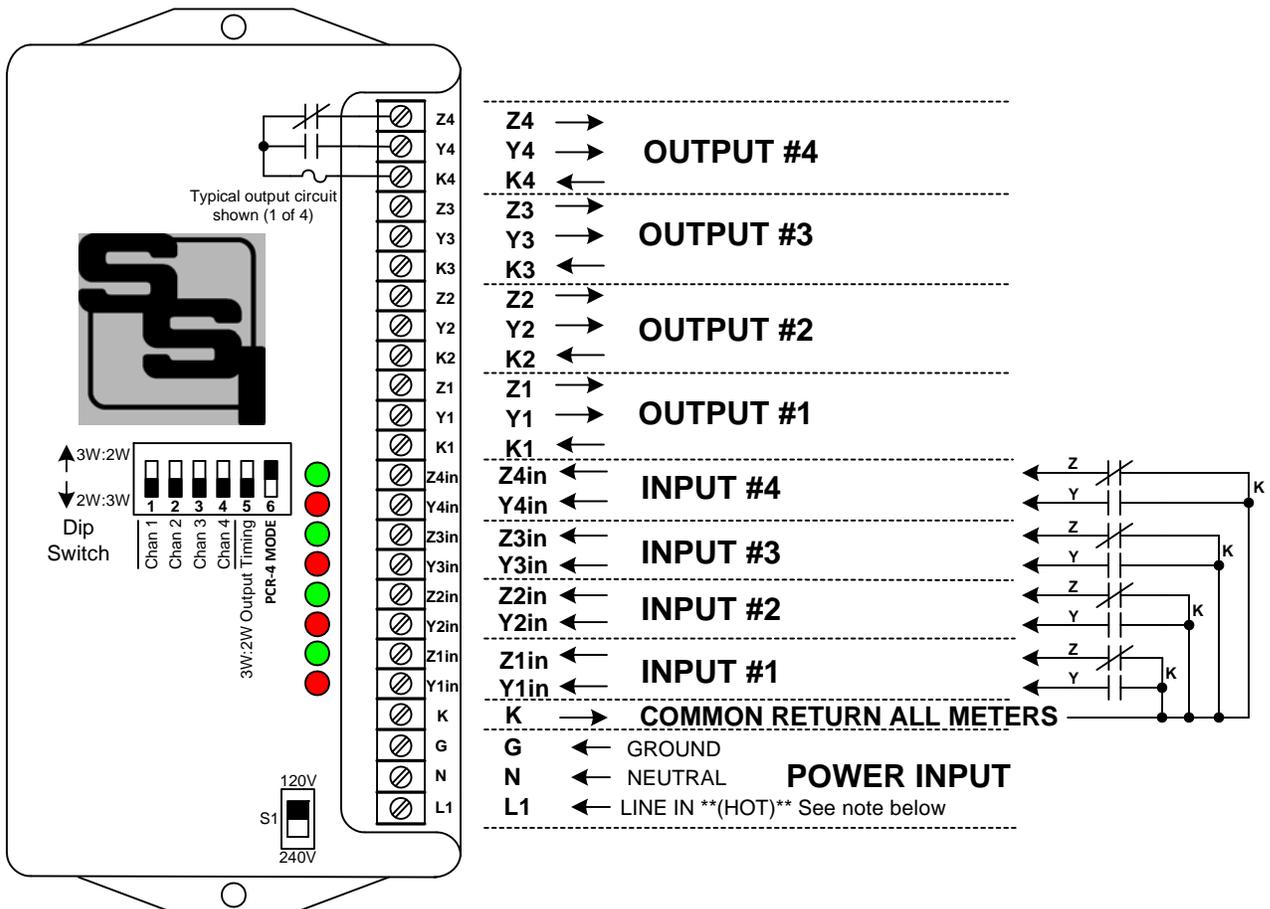


# INSTRUCTION SHEET

## PCR-4 PULSE ISOLATION RELAY



**MOUNTING POSITION** - The PCR-4 may be mounted in any position since it uses solid state relays.

**POWER INPUT** - The PCR-4 is powered by an AC voltage of between 90 and 300 volts. Connect the power supply's "HOT" lead to terminal **L1**. Connect the AC line's "neutral" wire to the **N** terminal. Connect electrical system ground to the **G** terminal. For use with 120VAC, put switch **S1** in the **UP** position. For use on 208 thru 277VAC, put switch **S1** in the **DOWN** position. If Neutral does not exist at the meter, connect both NEU and GND to Ground.

**PULSE INPUTS** - Connect the K terminal of each meter supplying pulses to the PCR-4's **Kin** terminal. Form C Input: Connect the **Yin** and **Zin** input terminals to the Y and Z terminals of the respective meters. Form A Input: Connect the **Yin** input terminal to the Y terminal of the respective meter.

**CONVERSION TYPE SELECTION** - The PCR-4's four channels may be individually configured as either 2-Wire to 3-Wire Conversion mode (Form A to Form C) or 3-Wire to 2-Wire Conversion mode. Dip Switch 1 selects the configuration for CHANNEL #1. Dip Switch 2 sets the configuration for CHANNEL #2, Etc. Place the Dip Switch in the "UP" position for a 3-Wire:2-Wire mode or in the "DOWN" position for 2-Wire:3-Wire mode.

**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 PCR-4, with output terminals K1, Y1 & Z1; K2, Y2, & Z2; K3, Y3 & Z3; and K4, Y4 & Z4. Outputs are rated at 250VAC/VDC @ .1 Amp. Arc suppression for the contacts of the solid state relays are provided internally. Each relay output follows its respective input number.



## SOLID STATE INSTRUMENTS

a division of Brayden Automation Corp.

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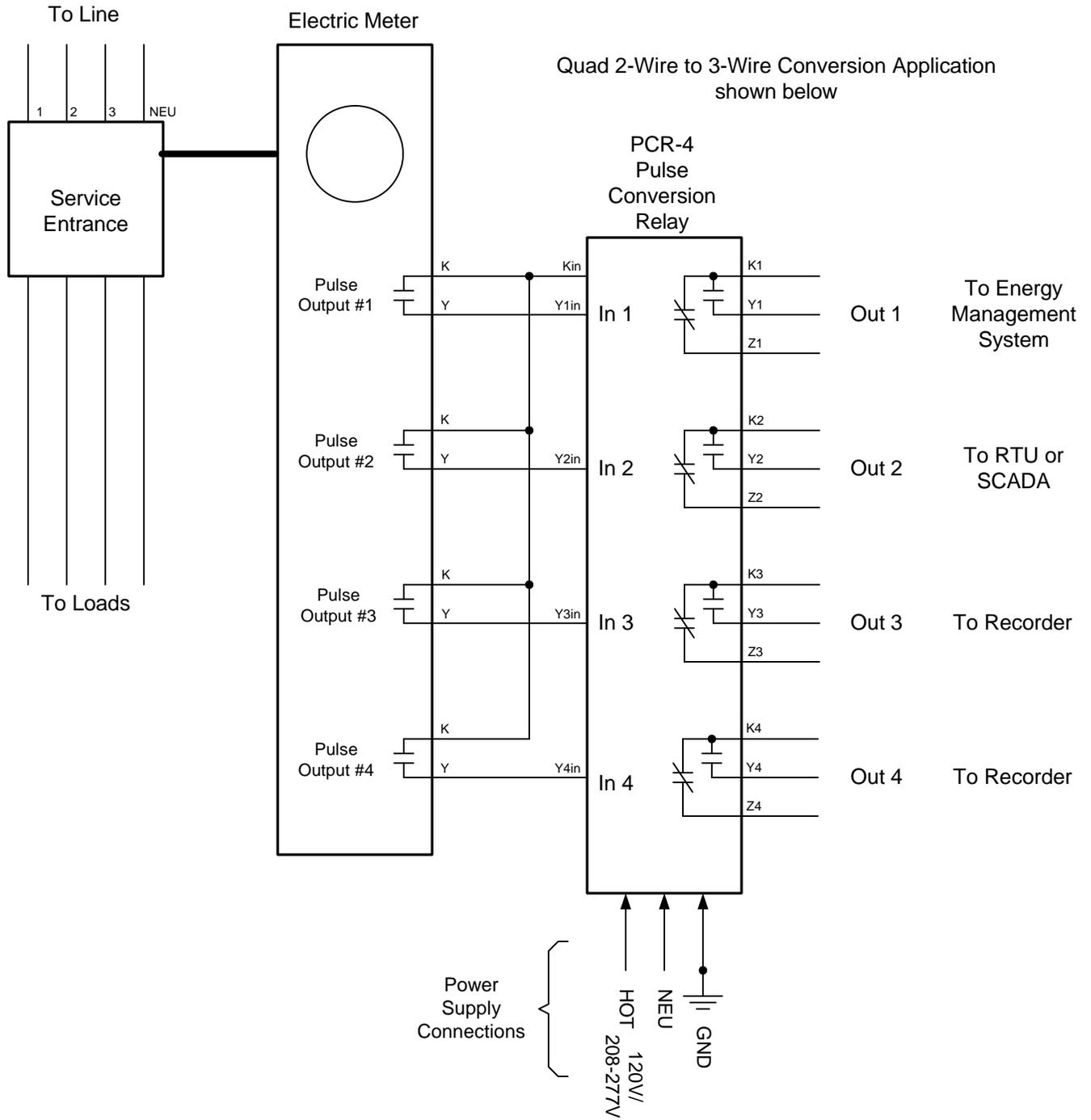
Phone: (970)461-9600 Fax: (970)461-9605

E-mail: support@solidstateinstruments.com

**OUTPUT TIMING in FORM A MODE** - When the PCR-4 is in 3-Wire to 2-Wire Conversion mode (Form C to Form A) Dip Switch 5 sets the pulse output duration of the output pulse Place the Dip Switch #5 in the "UP" position for a 100mS output pulse or in the "DOWN" position for a 50mS output pulse.

**PCR-4 MODE Select** - Place the Dip Switch #6 in the "UP" position for the PCR Pulse Conversion Mode. Setting Dip Switch #6 in the "DOWN" position puts the PCR-4 in the standard "pass-thru" or non-conversion mode. See the SPR-44B Installation Sheet for more information.

# PCR-4 Wiring Diagram



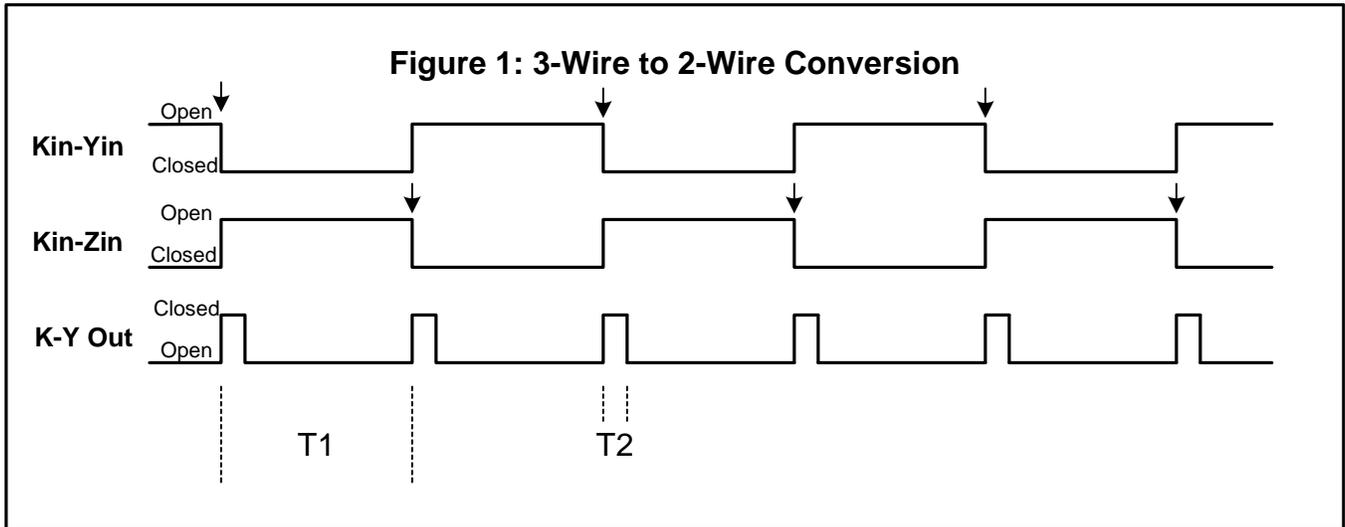
PCR-4WiringDiagram.vsd

<b>PCR-4 Repeating Pulse Relay Wiring Diagram</b>		REVISIONS	
		NO.	DATE
DATE ORIGINAL <b>08/22/2018</b>		SCALE <b>N/A</b>	
LATEST REVISION		JOB NO.	
CHECKED		DRAWN <b>WHB</b>	

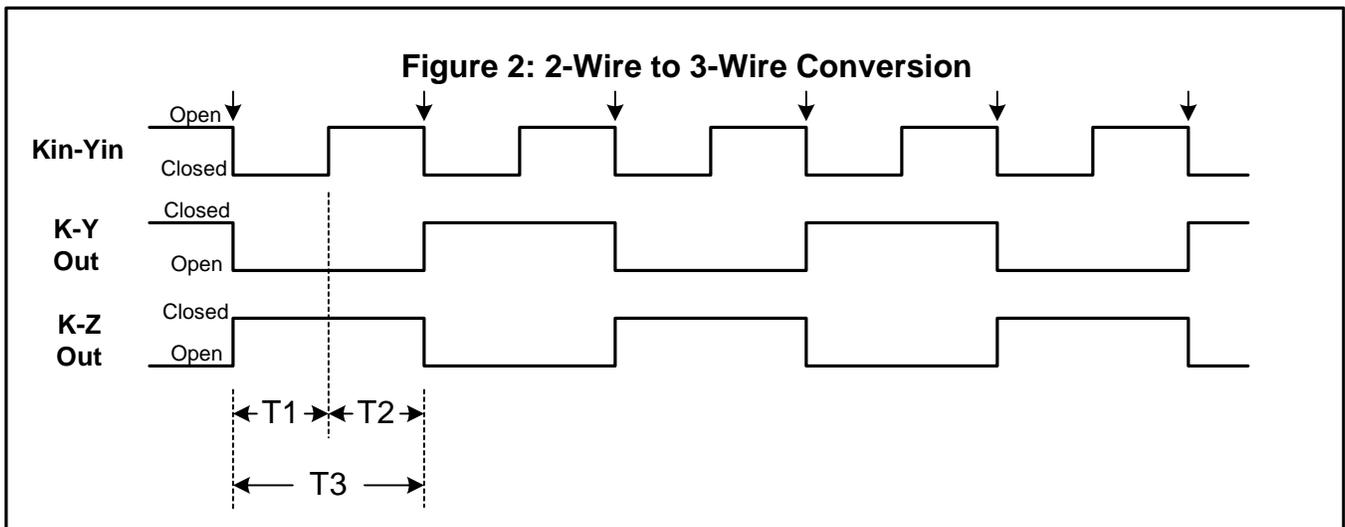
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# WORKING WITH THE PCR-4 RELAY

**OPERATING MODES:** The PCR-4 Universal Pulse Conversion Relay does 3-Wire to 2-Wire OR 2-Wire to 3-Wire pulse conversion. Below are timing diagrams which illustrate the PCR-4's function in each mode.



In the 3-Wire to 2-Wire conversion mode (shown above), each closure between Kin and Yin, and alternately between Kin and Zin causes the PCR-4 to generate an output pulse (closure of the K to Y output terminals) of 50 or 100mS depending on the position of Dip Switch #5. An input of less than 20mS is ignored since it is most likely to be noise. An input of 20mS or longer is classified as a valid input. The input pulse duration (T1) must be greater than approximately 110mS since it must be longer than the output pulse width (T2) which is fixed at 100mS. This results in a maximum input pulse rate of 9 pulses per second.



In the 2-Wire to 3-Wire conversion mode, each closure between Kin and Yin (as shown above by the arrows) causes the PCR-4 to generate an output pulse - a closure of the K to Y (and alternately K to Z) output contact terminals. The open state (T2) of the Kin and Yin terminals (absence of connection) results in no action. An active input state (T1) must be 20mS or longer to be classified as a valid input. Otherwise the pulse is ignored. Each output pulse's duration (T3) is equal to T1 + T2. Maximum input pulse rate in this mode is 20 pulses per second.