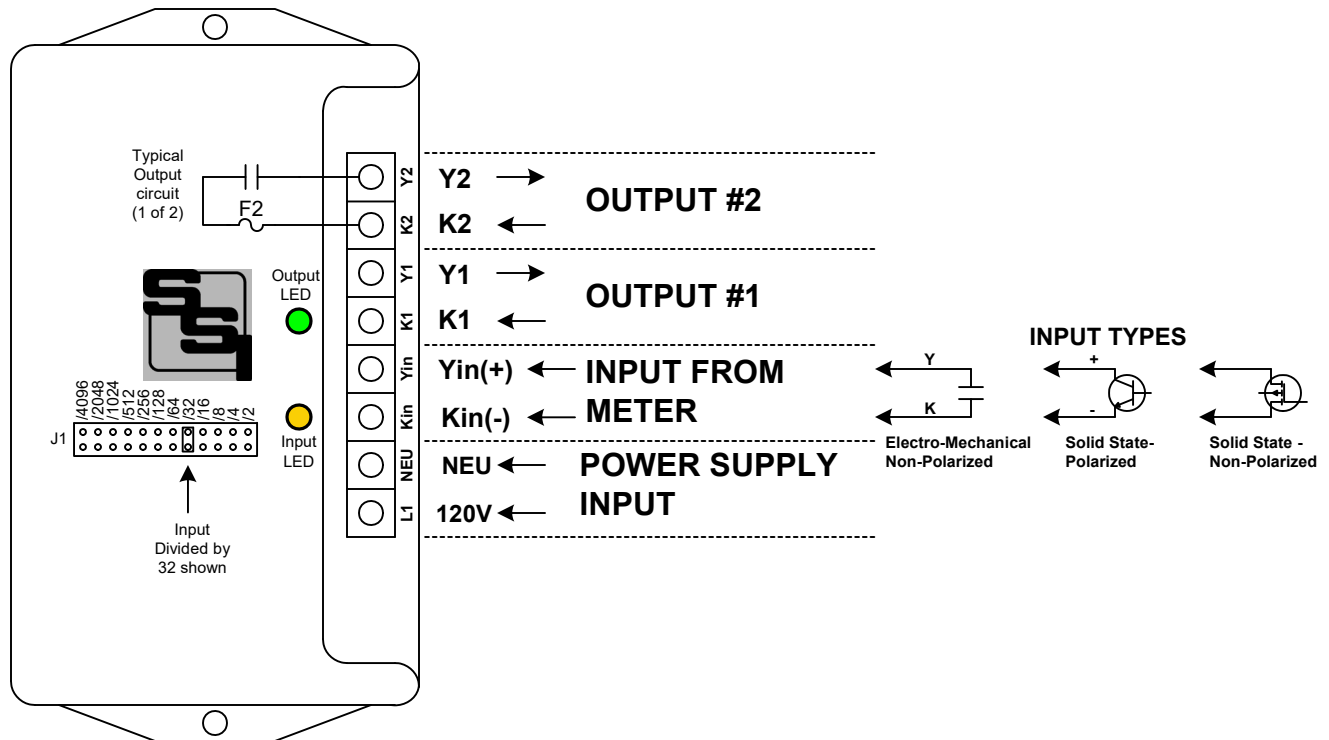


DPR-1

Standard Solid State

HIGH SPEED DIVIDING PULSE RELAY INSTRUCTION SHEET



MOUNTING POSITION - The DPR-1 can be mounted in any position.

POWER INPUT - The DPR-1 is powered by 120 VAC. Connect the hot lead (Black) to the **L1** terminal. Connect the neutral lead (White) to the **NEU** terminal.

METER CONNECTIONS - The DPR-1 has a 2-wire (Form A) input. The DPR-1's **Kin** and **Yin** input terminals should be connected to the meter's pulse output terminals. The DPR-1's "Kin" is common & provides the return from the meter's negative (-) terminal. The "Yin" input provides a "pulled-up" +13VDC to the meter's positive "+" terminal. If the gas or water meter's output is non-polarized, either lead can be connected to either input terminal.

PULSE INPUT - A Yellow LED will light when a pulse is received from the meter's pulse output. This may be difficult to see in some cases where the pulse input speed is high or the pulse width narrow.

OUTPUT - Two 2-wire (Form A) isolated outputs with transient voltage suppression are provided. Output Power dissipation is rated at 800mW maximum. Voltage is 120VAC/125VDC maximum. Current is 100mA (1/10th Amp) maximum. Insure that the Voltage X Current that you are using in your output circuit does not exceed .8 Watts (800mW). For example 24VDC x 10mA = .24W (240mW), well below the limit of 800 mW. A Green LED indicates with the output is closed.

FUSES - The fuses are 3AG or AGC type and may be up to 1/10th Amp in size.

DIVISION NUMBER - The divider number is set by selecting **ONE** of the 12 divider numbers and placing the jumper shunt across the two pins, as shown in the figure above. Make sure that the shunt is oriented vertically so that it connects the same position pin in the top and bottom row. Only **ONE** shunt jumper can be used. Damage will result if two or more outputs are shorted together.



SOLID STATE INSTRUMENTS

by Radian Research, Inc

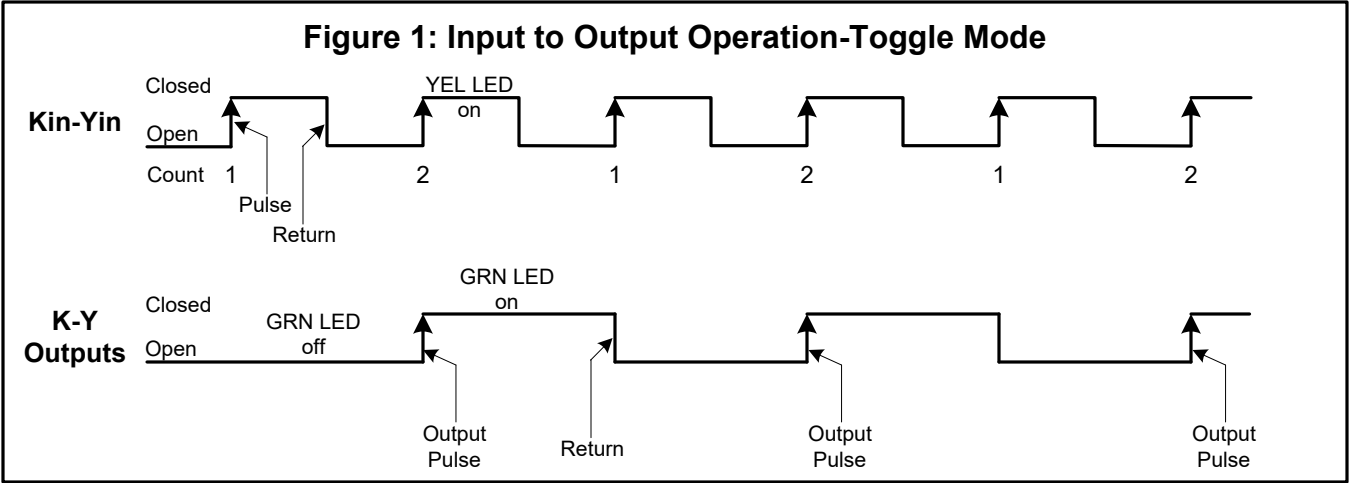
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DPR-1 OUTPUT OPERATION

The DPR-1's output works in the toggle mode, and will close (turn on) the outputs when the selected number of pulses is received. In toggle mode, the output opens (returns to the normal state) when 1/2 of the # of selected pulses are received. In Figure 1 below, a divider of 2 is selected. For each 2 inputs, each output closes, meaning there is continuity between the output's K and Y terminals. The return to the original state (input open) does not count as a pulse. When the number of input pulses received is equal to the count preset number, the output changes to the closed (on) state.



SETTING THE DPR-1's DIVIDER NUMBER

The DPR-1 uses a 12-bit ring counter to allow an input frequency to be divided by up to 4096. The maximum input frequency is 200 pulses per second (200Hz). Choose a divider number that allows your input frequency to be divided down to a number that is suitable for the receiving equipment. The **DIVIDER NUMBER** is set by placing a jumper shunt as shown in Figure 2 below. In the figure the jumper shunt is placed on the "Divide by 32" position. This means that 32 input pulses will need to be received to get one output pulse. Further, it also means that the value of an output pulse is 32 times the value of an input pulse.

