



## PULSE LINKS

# PRL-1000 WIRELESS PULSE LINK

## DESCRIPTION

Solid State Instruments introduces the PRL-1000 Wireless Pulse Link, our second-generation wireless pulse link system. The PRL-1000 not only provides all the features of the original PRL-900, but adds additional functionality for those difficult multi-meter pulse acquisition problems. The PRL-1000 is designed for short-hop pulse connection applications where multiple meters' pulses are brought back to a central location without trenching. No more worrying about getting pulses across a parking lot, roads, railroad tracks, vacant lots or other obstacles. Solid State Instruments, the leader in pulse isolation relay products brings you a money and time saving solution to this common problem. Each system contains a central control unit called a "Hub" and from one to eight remote units called "Nodes". Each Node transmits one meter's pulses back to the Hub. In addition, each system uses one of eight frequencies, making it possible to operate multiple systems in the same radio airspace without interference. In high radio use areas a "quiet" frequency can more easily be found, improving the reliability of the system.



Connect your meter's KYZ pulse output to the Node's pulse input, set the Node's address and system frequency and you're all done. The PRL-1000 Wireless Pulse Link system consists of a PRH-1000 Hub and one or more PRN-1000 Nodes. The system operates in the 900MHz band, and is FCC certified, thus allowing unlicensed operation by the user. The PRL-1000 will transmit pulses up to 600 feet in a line-of-sight (LOS) configuration. Distances vary with the terrain, obstacles and greater elevation above the ground.

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### PRH-1000 PULSE RADIO HUB

The PRH-1000 contains 8 Form A output channels and acts as the system controller, coordinating the operation of the Nodes. The PRH-1000 Hub consists of a PRH-1 Hub Base Unit where all connections are made and a PRH-1000 Hub Transceiver Radio/Antenna unit which contains the radio transceiver and antenna. The PRH-1000 is intended to be mounted outdoors, in direct line-of-sight with the PRN-1000 Transceiver/Antenna Node unit and should not be obstructed by trees, buildings or other objects. Each time a pulse is received by the PRH-1000, the Hub's transceiver validates this pulse and outputs it's respective output channel. An encoded FSK communication scheme is used to ensure the accurate number of pulses are sent and received. The PRH-1000 consumes extremely low power and can be operated using 120V or 277V AC line power or a +12VDC voltage source like SSI's SPS-1 solar power supply. The pulse rate is up to 2pps.

### PRN-1000 PULSE RADIO NODE UNIT

The PRN-1000 Pulse Radio Node Unit is made up of two parts: The PRN-1 Pulse Radio Node Base unit and the PRN-1000 Node Transceiver Radio/Antenna unit which contains the radio and the antenna. The PRN-1000 Node has a built-in low voltage transformer isolated power supply generating a +13VDC sense (wetting) voltage. The sense voltage is connected to pulse sending devices, typically an electric meter's KYZ pulse initiator. Each time a pulse is received by the Node, it validates the pulse width and waits for its time slot to transmit the pulse to the Hub. Propagation delay is very short so the pulse output at the Hub closely resembles the pulse widths received from the meter.

Both the Hub and Node units are capable of operating on supply voltages of 120, 208-277VAC, as well as +125VDC, +12VDC, and +15 to +48VDC by employing the special SSI power supply options.

#### FUNCTIONAL SUMMARY

IN	OUT
8	8
2 Wire	2 Wire
A	A

#

TYPE  
FORM

# PRL-1000



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## SPECIFICATIONS

### ELECTRICAL

Power Input:	120, 208-277 VAC Burden: <10 mA at 120 VAC
Input Wetting Voltage to Meter:	+13VDC wetting voltage generated by the PRN-1 Node Base unit.
Output:	Eight sets of dry Form A contacts (K & Y) for energy pulses. The contacts are solid state "no bounce" relays rated at 350 VDC or 250 VAC 1/10th Amp, 800mW max. Factory fused at 1/10 amp. (3AG)
Output Contact On-State Resistance:	18 ohms typical, 25 ohms maximum
Operate and Release Time:	1 to 3 milliseconds typical for solid state relay; Total propagation time up to 100mS.
Input/Output Isolation Voltage:	2500V

### MECHANICAL

Mounting:	Any position for base units; Must be line of sight for transceiver/antenna units
Size:	3.27" wide, 5.65" high, 1.50" deep
Weight:	2 pounds each

### TEMPERATURE

Temperature Range:	-38° C to +70° C, -36.4° F to +158° F
Humidity:	0 to 98% non-condensing

### AVAILABLE OPTIONS

Input Voltages:	Contact Factory
Enclosures:	10" x 8" x 4" NEMA 4X Fiberglass Enclosure for Base Units

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