# PCL-2 PULSE-TO-CURRENT LOOP CONVERTER

PCL-2

FUNCTIONAL SUMMARY

| | IN | OUT |
|---|---|---|
| # | 1 | 1 |
| TYPE | 2 Wire | 2 Wire |
| FORM | A | 4-20mA |

## DESCRIPTION

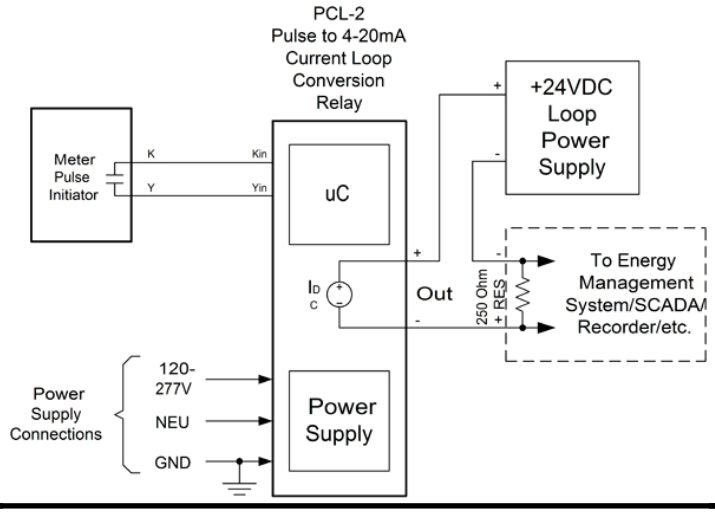
The PCL-2 Pulse-to-Current Loop Converter is a device designed to convert a 2-Wire KY pulse to an analog 4-20mA signal, readable by another device with a 4-20mA input. The 4-20mA current output of the PCL-2 can be configured to represent the current Instantaneous or Average rate of usage in electric, water or gas metering applications. The KY pulse output from a meter or isolation relay is fed directly into the PCL-2's KY input. The PCL-2's input provides a +13VDC wetting voltage for the meter's dry contacts. Upon receiving each pulse from the meter, the PCL-2's microcontroller calculates the instantaneous rate of usage based on the pulse rate and value, and updates the output to a current level between 4mA and 20mA. For example, suppose you have the full-scale output of the PCL-2 configured for 500kW. If a current demand of 250kW is calculated, the output would be adjusted to 12mA, the 50% midpoint between 4 and 20mA.

If the Average rate of use output mode is selected, the output for a selected demand interval --from 1 to 60 minutes – is calculated continuously and the 4-20mA output represents the current interval's rolling average rate of usage. The average is updated every 15 seconds.

Programming of the PCL-2 is quick and easy using the SSI Universal programmer software through the PCL-2's USB port or any terminal program.

The PCL-2 uses a 12-bit Digital-to-Analog converter so resolution is 1/4096th of full scale. A bright red LED lamp indicates the input's status at all times. An additional Green LED indicates when the output is written to. Additional provisions are made to easily read the output's current level with a precision digital multimeter.

Typical applications include interfaces between utility metering devices and customer-owned energy management control systems, SCADA systems, recorders or programmable logic controllers. A +24VDC loop power supply is all that is necessary to implement the 4-20mA current loop. The PCL-2 has built-in transient and reverse polarity protection on the 4-20mA current loop output that eliminates the need for external protection.




**SOLID STATE INSTRUMENTS a division of BRAYDEN AUTOMATION CORP.**
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SPECIALTY DEVICES

# PCL-2 PULSE-TO-CURRENT LOOP CONVERTER

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## SPECIFICATIONS

### ELECTRICAL

| | |
|---|---|
| Power Input: | 120VAC; 208-277VAC. Burden: 10 MA. at 120 VAC |
| Input: | One KY Form A (2-wire) input with +13VDC wetting voltage compatible with dry-contact, open-collector transistor or open-drain FET transistor outputs. |
| Output: | One 4 – 20 mA current loop output. +5VDC maximum voltage output. |
| Operational Modes: | General Purpose, Electric (kw), Water (gallons), Gas (CCF) |
| Output Impedance: | 600 ohms maximum, 250 ohms typical |
| Loop to Control Isolation Voltage: | 5000Vrms |
| Output Update Time: | Variable based on pulse width, up to 50 milliseconds max. |
| Maximum Input Pulse Rate: | 20 pulses per second |
| Pulse value: | 1 to 99999, in 1 unit increments. |
| Full scale selection: | 1-99999 |
| Demand Averaging interval selection: | 1-60 minutes |

### MECHANICAL

| | |
|---|---|
| Mounting: | Any position |
| Size: | 3.50 inches wide, 7.20 inches high, 1.50 inches deep |
| Weight: | 17 Ounces |

### TEMPERATURE

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

### AVAILABLE OPTIONS

| | |
|---|---|
| Input Voltages: | 12VDC |

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