PCT-120-00

Pulse Conversion Transmitter

Product Description

The PCT-120 is a transmitter that converts the signal from a pulse type water meter to a frequency output. Typically the output from a conventional water meter or combination water meter and master valve is a reed switch attached to the mechanical totalizer gear train. This dry contact closure is usually scaled to produce one contact per gallon (1 PPG). Most irrigation controller flow inputs are configured to accept a frequency output from a two wire irrigation flow sensor. The PCT-120 is a powered transmitter that converts the slow PPG pulse into a frequency.

Mounting Instructions

The PCT-120 circuitry is fully encapsulated in a watertight epoxy. The preferred location is indoors or inside a controller pedestal. The enclosure may be attached to any flat surface, vertical or horizontal, using the mounting tabs or double sided adhesive tape, where the LEDs are visible to assist in set-up or troubleshooting.

Electrical Requirements:

The PCT-120 requires 24 VAC power to operate and draws no more than 25 milliamps.

Wiring Instructions:

1. Connect two green pulse input leads to the water meter output using wire recommended by the meter manufacturer. This flow input is not usually polarity sensitive, but consult meter manufacturer's wiring instructions.
2. Connect the red flow output lead to the Flow plus (+) input of the irrigation controller.
3. Connect the black flow output lead to the Flow minus (-) input of the irrigation controller.
4. Connect the yellow power leads to the controllers 24 V. auxiliary power terminals.

Controller Set-up

1. K = 2.5 Offset = 0
2. PPG inputs = 24

LED Operation:

1. On Start-up blink three times to show processor is active
2. Green power LED stays on to show the unit is powered up.
3. Red flow LED stays lit to indicate flow is being processed.

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Rev PCT Prelim 0916

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CST Pulse Conversion Transmitter K Factor and Offsets for Smart Controllers

The CST Pulse Conversion Transmitter allows a Smart Controller with flow inputs the ability to monitor and record totalized flow from a pulse output flow meter.

The Pulse Conversion Transmitter cannot however may not be able to replace the role of a flow ***sensor*** in 'live flow rate monitoring' for the purposes of alarms such as Rain Bird Flowatch.

For best results, use a water meter with the lowest pulse weight possible. Ie 1 L/pulse or 10L/pulse

The following K factor calculations are determined specifically with the use of the CST Pulse Conversion Transmitter in between flow meter and Controller and will not work if direct wiring a flow meter to a controller.

K factor Calculation and Programming for RainBird LX Controllers

1 Establish the pulse output rate of the water meter in flow units/pulse. Meters in Australia are generally metric, ie 1L /pulse, 10L/pulse, 100L/pulse etc

2 If the pulse output is say 'xxx' litres/pulse (or in decimal points of kL), the smart controller flow rate setting must be set to record litres/minute.

3 To determine the correct K factor to be programmed into the controller in the flow sensor setup, the equation through the PCT is based on K = 2.5 x units per pulse for GPM.

Therefore, for a "Metric" flow meter that records in litres/pulse, we need to apply a conversion factor from GPM to LPM (divide by 3.785) as per the following

1 litre per pulse	K=0.661	Offset 0.0
10 litres per pulse	K= 6.61	Offset 0.0
100 litres per pulse	K =66.1	Offset 0.0
1000 litres per pulse	K= 661	Offset 0.0

Other Brand Controllers

It may also be necessary to apply a 3.785 conversion factor to the K Factor depending on the controller.