



ISO6 ISF-306-00 Isolator

Installation Guide



Operation:

The ISO6 signal control device allows up to six irrigation controllers or other control devices to share one flow sensor by electrically isolating its flow outputs. The ISO6 is compatible with all CST flow sensors and most flow sensors producing a square wave output proportional to flow rate. It is not compatible with Hunter HFS devices. In addition, six control inputs are provided allowing the device to selectively block flow outputs to non-active channels during operating cycles.

Example: Many irrigation controllers can read and react to unscheduled flow events. The control inputs allow the operating controller to switch off the flow signal to the inactive controllers preventing false alarms.

Control Logic: If no 24 VAC control signal is applied to any of the six control inputs then all six flow output channels are active. If 24 VAC is applied to Control Input pair 1 then flow output 1 is active and outputs are blocked to flow outputs 2-6. If 24 VAC is applied to Control Input pair 2 then flow output 2 is active but flow is blocked to outputs 1,3-6. The same logic condition repeats for the remaining four inputs. If more than one controller is active at the same time and 24 VAC is applied to more than one control input pair, then the flow output is active to the corresponding flow output and blocked to the remaining inactive controllers. If all six control inputs receive 24 VAC, then all six flow outputs are active.

Use the 24 VAC Normally Closed (NC) Master Valve output from each controller as the control input signal. If Normally Open (NO) Master Valves are used, then use the Pump Start circuit as the control signal source.

Note: This device does not operate the master valve. Additional relay logic may be required to operate one master valve from several controllers.

Control inputs are also electrically isolated from each other, the flow input and outputs and the power supply.



Dimensions:

NEMA 6P Enclosure: 2.5" W X 4.75" L X 2.375" H

Board only: 2.125" W X 4.50" L X 1.50" H

Electrical Specifications:

Power Supply Voltage 12- 24 VAC or VDC

Signal Input: Up to 24 V square or sign wave pulse

Signal Output: same as input

Mounting Instructions:

The ISO6 is mounted in an enclosure rated NEMA 6P and is supplied with watertight, compression type gland. While the enclosure is suitable for outdoor or below grade mounting, the preferred location is indoors or inside a controller pedestal. The enclosure may be attached to any flat surface, vertical or horizontal, using mechanical hardware or double sided adhesive tape. Consideration should be given to re-programming or servicing the device.

Wire Connections:

All connections are made to the appropriate terminal strips. If necessary, reduce field wiring to #20 AWG or less outside of ISO6 enclosure and feed smaller diameter wires through watertight sealing gland.

Flow Sensor

2. Connect field wire from flow sensor to "Flow Sensor Input" terminals on right side of board. Observe electrical polarity.
3. The large terminal strip across the bottom of the circuit board contains the isolated terminal pairs labeled 1 through 6 to connect to the irrigation controller flow sensor inputs. Connect sensor pair 1 to the first controller, sensor pair 2 to the second controller and so on, observing polarity. Each controller will receive an isolated flow input from the sensor.

Control Inputs

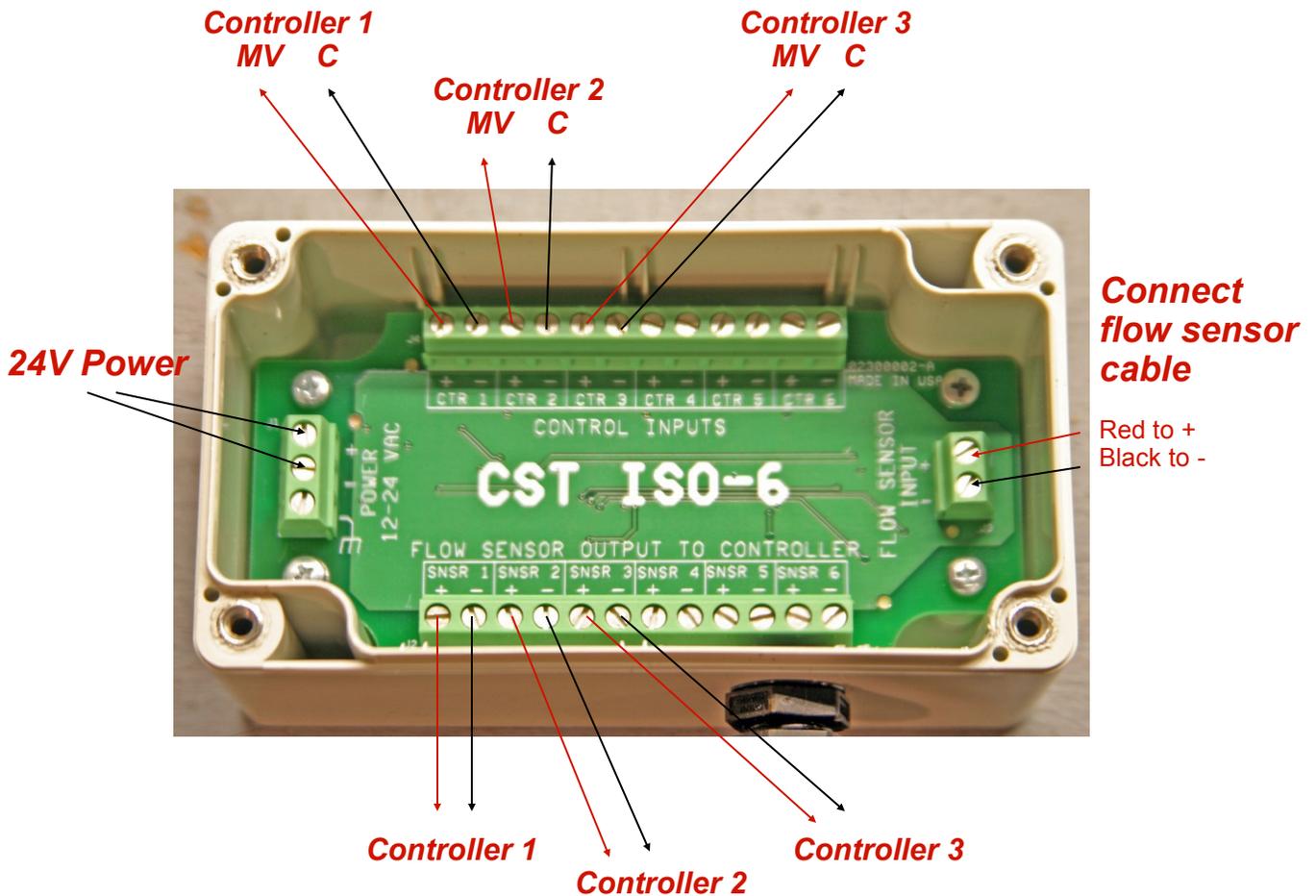
To use the control feature to selectively connect flow signals when a controller is active:

4. Use a 24 VAC source on the controller that is "on" only when a program is running such as a NC master valve or pump start circuit.
5. Connect the controller MV or PS output terminal to the Control Input + and the MV or PS common terminal to the Control Input -.
6. Repeat these connections for each controller isolated by the ISO6.

Power Connection

1. Connect 12-24 VAC or VDC power to power supply terminals on left side of board.
2. ISO6 will now isolate and direct flow sensor signals to the active controllers.

Connect a 24 VAC control input MV (NC) or Pump Start Circuit to the Control Inputs + and connect the Common for the MV or PS to the Control -



Connect each pair of Flow outputs to the Input terminals of the Controller

NOTE: Connecting these outputs to 24 VAC will result in permanent damage

Repeat Flow Sensor Outputs and Control Inputs for all remaining controllers sharing flow sensor.



LED Operation

The LEDs are located adjacent to each terminal strip and indicate proper operation of the ISO6 device.

When powered up for the first time, the LED near the power terminals displays a steady red light. The other three LEDs blink green three times to indicate the processor is operating.

When flow signals are received, the LED adjacent to the flow sensor terminals blinks green with the frequency of the impeller.

When a control voltage is sensed on the control terminals, the LED adjacent to both the control input and the flow output terminals display steady green.

Warranty

Creative Sensor Technology, Inc. (The "Seller") of 125 Paradise Lane, Rochester, MA 02770 warrants to the Original Purchaser (The "Purchaser") of its products supplied hereunder to be free from significant defects in material and workmanship under normal use and service for a period of 18 months from the date of shipment by the Seller or 12 months from the date of installation by the Purchaser, whichever period shall be shorter ("the Warranty Period"), unless otherwise agreed in writing or provided for in a written product-specific warranty.

This warranty does not apply to products that are the subject of negligence, accident, or damage by circumstances beyond Seller's control, or any improper operation, maintenance, storage, installation or use. This warranty also does not apply to accessory items that were not manufactured by Seller, all of which are sold "as is" and without warranty by Seller. This warranty does not cover limited life components such as bearings, shafts or impellers where wear rate is a function of application and environment.

If the Purchaser wishes to make a claim hereunder, he shall send written notice to Seller of any defect within the warranty period. A failure to provide such notice constitutes a waiver of the remedies specified herein. If Seller receives timely notification and if the products are proved to Seller's satisfaction to have a warranted defect, Seller will, at its own discretion, expense and within a reasonable period of time, either (1) repair, correct or cure the warranted defect(s), or (2) replace the defective product, or (3) give the Purchaser a refund of the price it paid for the product, prorated where appropriate to adjust for the value of any product accepted and retained by the Purchaser.

These remedies shall be the Purchaser's exclusive remedies (and the sole and exclusive liability of the Seller) for any defects or deficiencies relating to or arising out of product sold by the Seller. The foregoing limited warranty is exclusive and is in lieu of all other warranties, expressed, implied or arising by law, custom or conduct, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, which are expressly disclaimed.