



Use ISO4 - to share a flow sensor with 2 or more Rainbird LXD controllers

Creative Sensor Technology's ISO4 transmitter may be used to share a single CST flow sensor between two or more irrigation controllers, fertigation systems or pump stations. The Iso4 not only isolates the flow output but also the master valve signal without relays. In addition, the ISO4 has the ability to recognize active controllers and only send flow to them preventing an inactive controller from reacting to an "unscheduled flow" event and sending a false alarm.

The LXD controller uses a two wire output that requires a decoder for each valve output and each flow input so the wiring is unique to this product and different from that outlined in the ISO4 installation guide.

PREFERRED LOCATION

The preferred location for the ISO4 is at the controller location, protected from the weather and close to the 24VAC power supply.

A total of four conductors are required from the flow sensor/master valve location to The ISO4. The flow sensor cable should be a shielded twisted pair. The master valve can be a pair of conventional single conductor direct burial wires or a second twisted pair in the flow sensor cable.

1. Connect the Power, Flow Sensor, and master valve to the ISO4 using the ISO4 Installation Guide.
 - A. Power the ISO4 from the LXD auxiliary power terminals—observe polarity
 - B. Connect the flow sensor field wiring to the FLOW SENSOR IN terminals of the ISO4
 - C. Connect the master valve field wiring to the MASTER VALVE OUT terminals of the ISO4
2. To connect the flow sensor to the controller, use a Rainbird SD-210 (green) flow decoder connected to the two wire path as outlined in RB installation guide.
 - A. Connect the Red wire from the decoder to any FLOW OUT Plus (+)terminal
 - B. Connect the Black wire from the decoder to the same letter FLOW OUT Minus (-) terminal
3. To connect the controller to the master valve, use a Rainbird FD-101 (gray) valve decoder connected to the two wire path as outlined in the RB installation guide.
 - A. **The valve decoder produces DC voltage to operate the valve solenoid, So, first, identify the positive lead using a voltmeter.** Set the meter on the DC voltage scale, attach the red and black leads to the two white leads from the valve decoder. If the display shows positive voltage, the red lead is connected to the positive (+) wire, **mark It with a pen.** If the display shows negative voltage, the red lead is connected to the negative (-) wire.
 - B. **Now, connect the positive (+) white wire of the decoder to a CONTROL IN "C" terminal.** Make sure you are using the same letter group as the FLOW connections in step 2 above.
 - C. Then connect the negative (-) white wire from the decoder to the CONTROL IN "MV" terminal in the same letter group .



IMPORTANT

SECONDARY LOCATION

On some sites, it may not be possible to install new cable for the flow sensor and master valve. Alternately, the ISO4 may be located at the POC and the two wire path and decoders used to connect the flow sensor/master valve to the controller. In this location, 24 VAC power must be provided, and the ISO4 protected with a suitable enclosure protecting it from weather or ground water.

1. Connect the Power, Flow Sensor, and master valve to the ISO4 using the ISO4 Installation Guide.
 - A. Power the ISO4 from a 24 VAC power supply. Observe polarity.
 - B. Connect the flow sensor field wiring to the FLOW SENSOR IN terminals of the ISO4. Red lead to the Positive (+) terminal and black lead to the negative (-) terminal.
 - C. Connect the master valve field wiring to the MASTER VALVE OUT terminals of the ISO4. There is no polarity to the wires.
2. To connect the flow sensor to the controller, use a Rainbird SD-210 (green) flow decoder connected to the two wire path as outlined in RB installation guide.
 - A. Connect the Red wire from the decoder to any FLOW OUT Plus (+)terminal
 - B. Connect the Black wire from the decoder to the same letter FLOW OUT Minus (-) terminal
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 - A. **The valve decoder produces DC voltage to operate the valve solenoid, So, first, identify the positive lead using a voltmeter.** Set the meter on the DC voltage scale, attach the red and black leads to the two white leads from the valve decoder. If the display shows positive voltage, the red lead is connected to the positive (+) wire, **mark it with a pen.** If the display shows negative voltage, the red lead is connected to the negative (-) wire.
 - B. Now, **connect the positive (+) white wire of the decoder to a CONTROL IN "C" terminal.** Make sure you are using the same letter group as the FLOW connections in step 2 above.
 - C. Then connect the negative (-) white wire from the decoder to the CONTROL IN "MV" terminal in the same letter group .



LED OPERATION

When the Control input to the ISO4 is supplied by a valve decoder, the LED indicators act differently than when they are activated by AC voltage.

1. When first powered ON, all LEDs on the ISO4 blink three times
2. Then only the Power LED remains ON
3. Then when the controller starts a schedule; MASTER VALVE OUT LED illuminates, then when flow starts the FLOW SENSOR IN LED illuminates.
4. The FLOW OUTPUT LED for the Active Controller (s) illuminate
5. No CONTROL INPUT LEDs illuminate

