SmartLine Decoder Frequently Asked Questions

Q1: Can the SmartLine Controller work with two-wire decoder systems?
A1: Yes. For up to 48 decoder zones, the SL9648TW is used. For up to 96 decoder zones, the SL9696TW is used. The SL8648TW can have a maximum of 48 decoder addresses' assigned. The SL9696TW can have a maximum of 96 decoder addresses' assigned.

Q2: Can the SmartLine controller run conventionally wired valves and decoders at the same time?
A2: No. The SmartLine controller can run either conventionally wired valves using the SL1600 or SL4800 with SLM4 or SLM12 modules or decoders using the SL9600TW. These controllers cannot run both types of wiring at the same time using the same controller.

Q3: What type of wire is recommended for the 2-wire path?
A3: Two polyvinyl insulated color-coded conductors laid in parallel and encased in a single high density, sunlight resistant polyethylene jacket. The Weathermatic part number is: SLWIRE142 (14 gauge) or SLWIRE122 (12 gauge)

Q4: Can you use an existing 2-wire path to retrofit a SmartWire system?
A4: Yes as long as it meets the specifications as described in the Question 3 above.

Q5: On an existing non-Weathermatic 2-wire system, do all the existing decoders need to be replaced with Weathermatic decoders to operate with a Weathermatic decoder controller?
A5: Yes. Each manufacturer builds their own proprietary decoders for each of their own respective decoder controllers. Weathermatic offers decoders in 1-valve, 2-valve, or 4-valve configurations.

Q6: How many solenoids will the SL-DEC1 operate?
A6: The SL-DEC1 will operate two Weathermatic (or equal) solenoids simultaneously.

Q7: Do I have to use DC latching solenoids with Weathermatic decoder system?
A7: No. All Weathermatic Decoder controllers will operate standard AC solenoids.

Q8: How many stations will the SmartWire controller run at the same time?
A8: SL9600TW – 4 programs (Program A, B, C, D) simultaneously, 5 solenoids including MV

Q9: How are SmartWire decoders programmed?
A9: Each SmartWire decoder needs to be programmed PRIOR to installation by inserting the RED and Black wires into the SL9600TW Programming Ports while in the Program Mode. The user selects the decoder address by scrolling through each address and then pushing the Program Zone button.

Q10: Where are the SLGDT lightning arrestors installed along the 2-wire path?
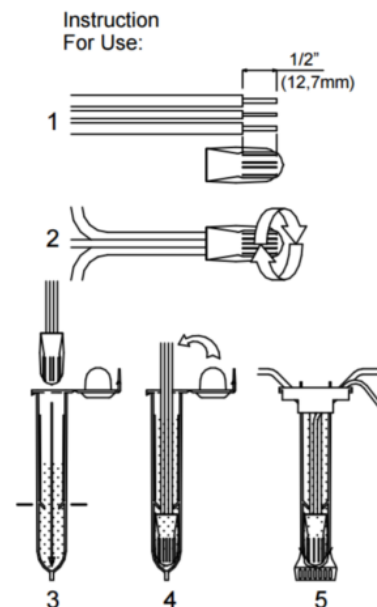A10: An SLGDT lightning arrestor must be placed within 10 feet of the controller, every 600 feet along the wire path and at the end of the 2-wire run that is the maximum distance from the SmartLine controller, or if looped, at the point of maximum distance from the SmartLine controller.

Q11: What type of wire splices does Weathermatic recommend for the two-wire path?
A11: Any splice along the two-wire path must be made using an unused water-proof splice. Since the two-wire DC signal is highly susceptible to moisture, ensure that each splice is connected as per Weathermatic's recommendation. Failure to observe these guidelines will likely result in system shorted splices.

Proper Two-Wire Splice
- Strip wires ½"
- Twist stripped wire clockwise with lineman's pliers
- Apply the electrical connector and twist in a clockwise direction.
- Insert the splice into the gel-filled insulator tube. Push past the locking fingers to hold the connector in place. Bottom it out.
- Position wire channels and snap insulator tube cover closed.

Weathermatic Two-wire Guidelines:
https://www.weathermatic.com/download/smartwire-general-notes-2/?wpdmdl=19729&ind=1555090452303

Q12: My SmartWire controller has an alert for a shorted zone. How do I troubleshoot this issue?
A12: Follow this process…

1. Disconnect the two-wire path and connect a spare decoder (programmed to the station with the issue) and a spare valve.
2. Manually start the station. If the valve operates normally, the issue is in the two-wire path.
3. Reconnect to two-wire path and follow these instructions:
   http://youtu.be/yX0UMY41V-s

Q13: What do the error codes mean on the SL9600TW Decoder Manager?
A13:

Fault Code	Description	Cause/Action
E1	No decoder found	Cause: wiring error, defective decoder, defective decoder manager. Action: check wiring, move decoder closer to the SL9600TW, replace.
E2	2-wire over current	Cause: shorted wiring, wire connected to dirt, improper connections, failed decoder (shorted), valve connected directly to 2-wire. Action: troubleshoot wiring problems by undoing the last thing you did when it worked before, and/or by breaking the 2-wire system in half to isolate the problem, then in half again as needed.
E3	Open circuit at solenoid	Cause: the decoder detects no solenoid current when activated: open solenoid, poor connections/wiring between decoder and solenoid, broken decoder. Action: check decoder to solenoid connections, ohm solenoid, replace solenoid, replace decoder.
E4	Short Circuit at solenoid	Cause: poor quality wiring between SL9600TW decoder manager and decoder (length, connections, high resistance, 2-wire connected to dirt), failing decoder, failing SL9600TW (gives errors on "all" decoders), multiple decoders with same address. Action: test 2-wire quality (end-to-end resistance, resistance to earth ground, isolate decoder in error (test close to decoder manager), check for duplicate addresses.
E5	Decoder Communication Error	Cause: poor quality wiring between SL9600TW and decoder (length, connections, high resistance, 2-wire connected to dirt), failing decoder, failing SL9600TW (gives errors on "all" decoders), multiple decoders with same address. Action: test 2-wire quality (end-to-end resistance, resistance to earth ground, isolate decoder in error (test close to decoder manager), check for duplicate addresses.
E6	High Temperature Shut Down	Cause: high temperature, excessive 2-wire duty cycle at temperature. Action: shade controller, replace SL9600TW.
E7	Decoder Programming Failure	Cause: multiple decoders at one time, decoder removed before program cycle completes, failed decoder, failing SL9600TW. Action: retry, replace decoder, replace SL9600TW.