



ESP-LXD Controller Troubleshooting Guide



For product manuals, instructional videos and FAQs, please visit:

www.rainbird.com/esplxseries



For free professional support for programming and troubleshooting, please call: **1-866-544-1406**

Local Rain Bird Contact Information

Distributor Mgr:

Email:

Phone:

Area Specification Manager

Public Agency Manager:

Email:

Phone:

Contractor Account Mgr:

Email:

Phone:

Water Conservation Mgr:

Email:

Phone:

Contents

Local Rain Bird Contact Information.....	2
Useful Tools	4
Controller Features	6
Front Panel.....	6
Setup Wizards	7
Test All Stations/Check System.....	7
Cabinet Components	8
Basic Programming	9
Troubleshooting.....	10
Getting Started.....	10
Alarm: No Water Days, No Run Times,	11
Short Finding Mode.....	12
System Amperage Calculation	16
Duplicate Decoder Address	17
Manual Short Finding Mode	18
Flow Alarms.....	20
Decoder Test.....	22
Decoder Ping Test	25

Useful Tools

- **Milliamp Meter**

Recommended Model: Armada Pro 93

- **As-Built Drawing**

If you don't have it, make it using a cable locator

- **Wire Stripper**

For video showing proper wire splice instructions and other installation tips, please visit:

www.rainbird.com/landscape/products/controllers/ESP-LXD.htm

- **LXD Troubleshooting Tools**

Like the one you are holding in your hands

We recommend using:

- Rain Bird MAXI Cable as your 2-Wire communications cable.
- Rain Bird DBR/Y splice kits for ALL electrical wiring connections.



Wire Stripper



Milliamp Meter

! **NOTE:** If installing or repairing communications wiring for IQ Software, do not install the communications cables in the same conduit as the 2-Wire path wiring.



NOTE: Rain Bird HV, DV, and JTV Series residential valves are not compatible with ESP-LXD decoders.

Use only Rain Bird commercial series valves for ESP-LXD installations:

- **PGA Series**

www.rainbird.com/landscape/products/valves/PGA-series.htm

- **PEB Series**

www.rainbird.com/landscape/products/valves/PEB-PESBseries.htm

- **EFB-CP Series**

www.rainbird.com/landscape/products/valves/EFB-CP.htm

- **BPE Series**

www.rainbird.com/landscape/products/valves/BPES.htm

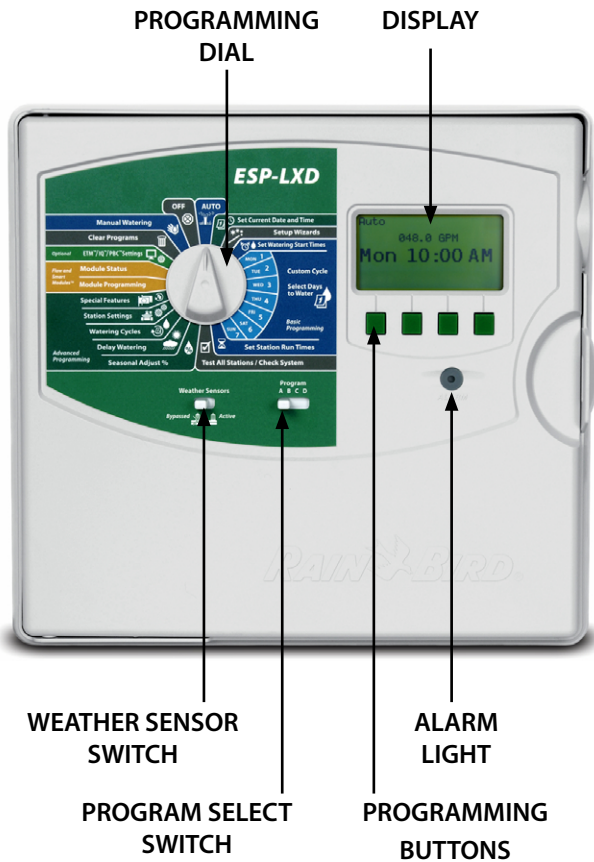
A list of ESP-LXD Controller Troubleshooting Videos can be found here:

[ESP-LXD Controller Troubleshooting](#)

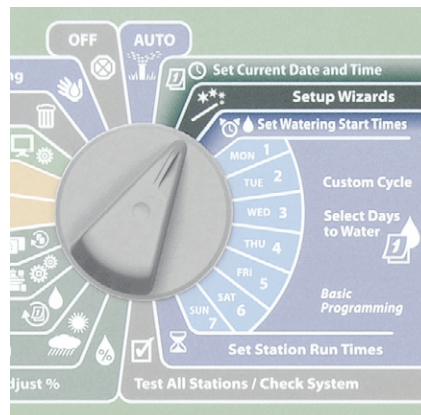
www.youtube.com/playlist?list=PLKH-77cPRcpnuhsym3t_NbUjAqLu1G-9He

Controller Features

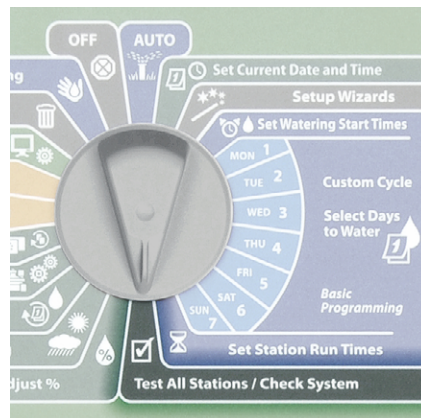
Front Panel



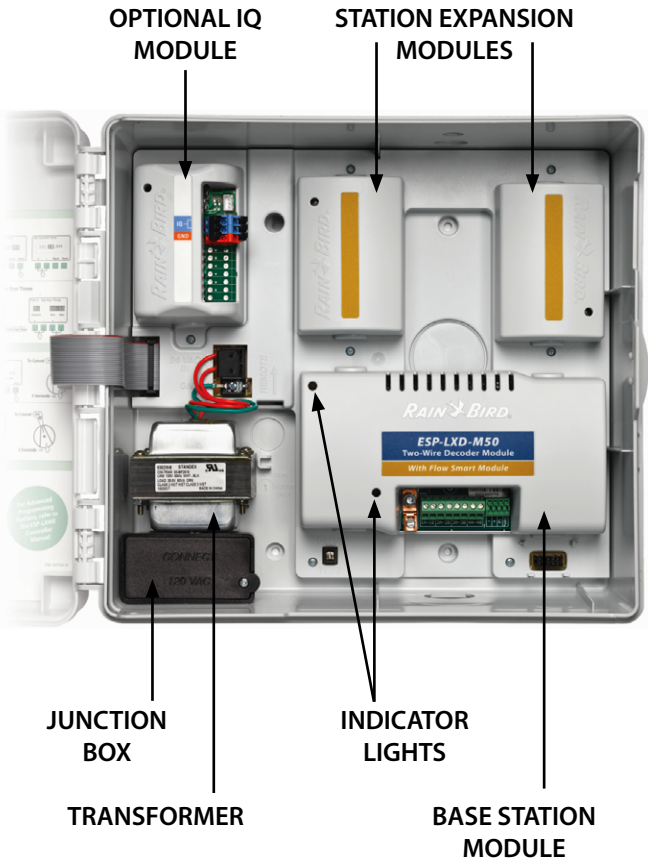
Setup Wizards



Test All Stations/Check System



Cabinet Components



Basic Programming

The ESP-LXD Controller offers Setup Wizards to help get you started and guide you through each step of the installation and hardware setup process.

It's most effective to use the Setup Wizards in the order in which they appear on the screen, as follows:

1. Valve Types
2. Master Valves
3. Weather Sensors (if present)
4. Station Setup
5. Flow Sensors (if present).

For more information see the **Installation, Programming & Operation Guide**

that came with the ESP-LXD Controller.

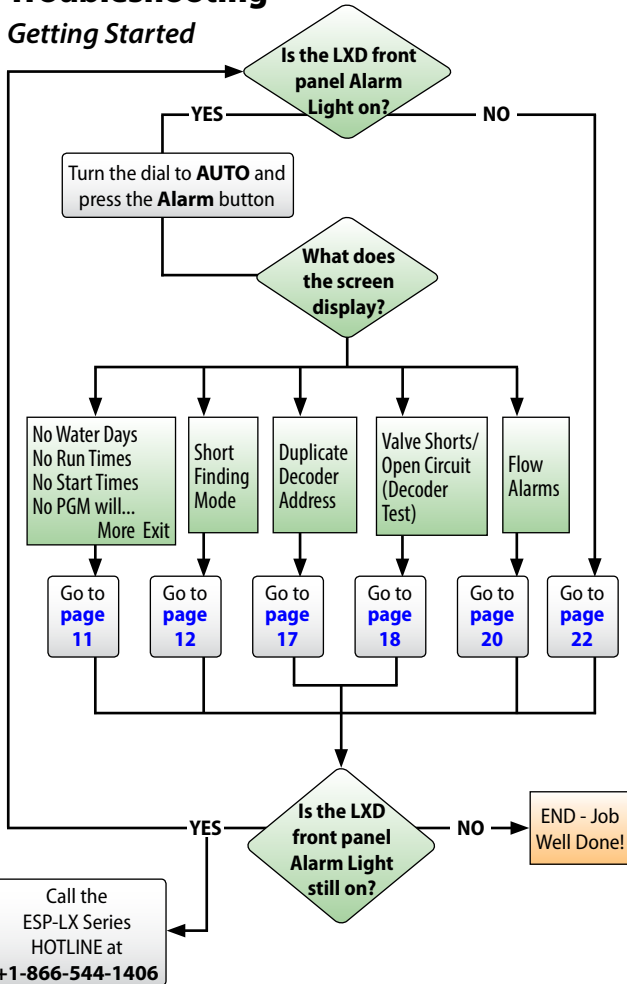


Or else download the Programming Guide at:

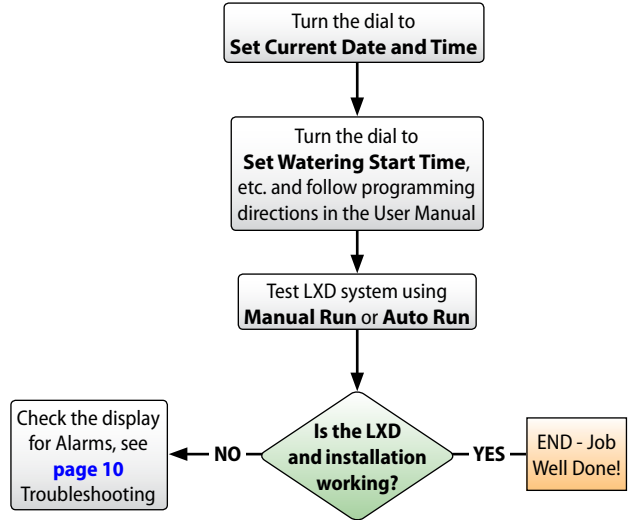
www.rainbird.com/esplxseries

Troubleshooting

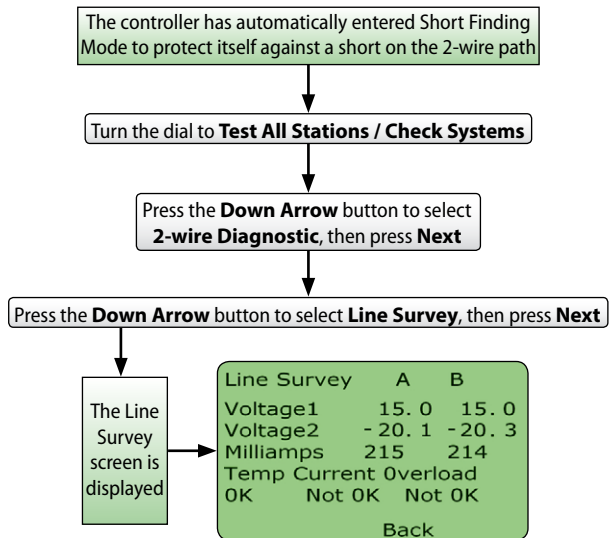
Getting Started



Alarm: No Water Days, No Run Times, ...



Short Finding Mode

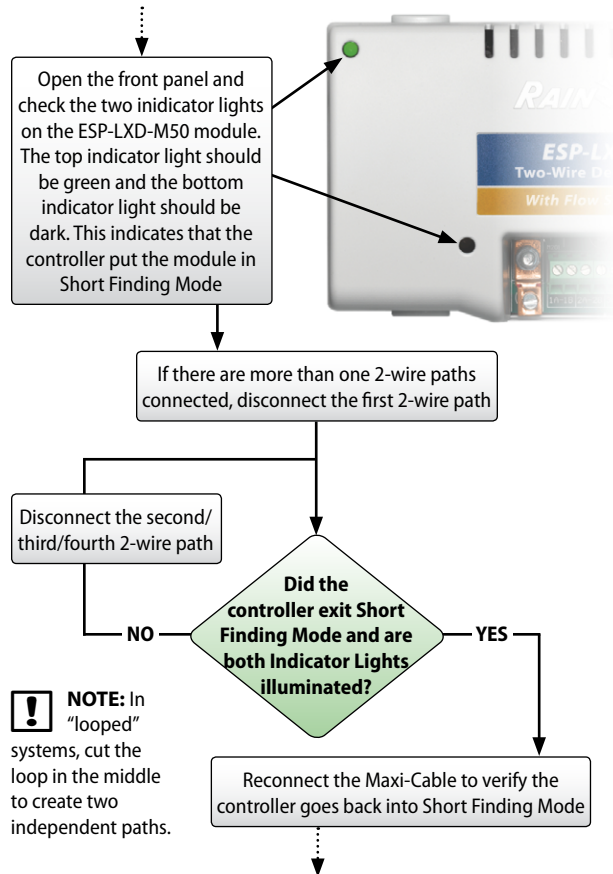


! **NOTE:** The Voltage1 reading for a normal healthy system is typically in the +14.0 to +16.0 range for both A and B. The Voltage 2 reading is typically in the -20.0 to -21.0 range for both A and B. The Voltage1 and Voltage2 readings should be approx. equal for A and B. Milliamperage (mA) varies with the number of decoders installed and should be approx. equal to the amperage calculations detailed on [page 16](#).

The display reads Temp OK, Current Not OK and Overload Not OK. This indicates a dead short in the 2-wire path. Temp could also show Not OK.

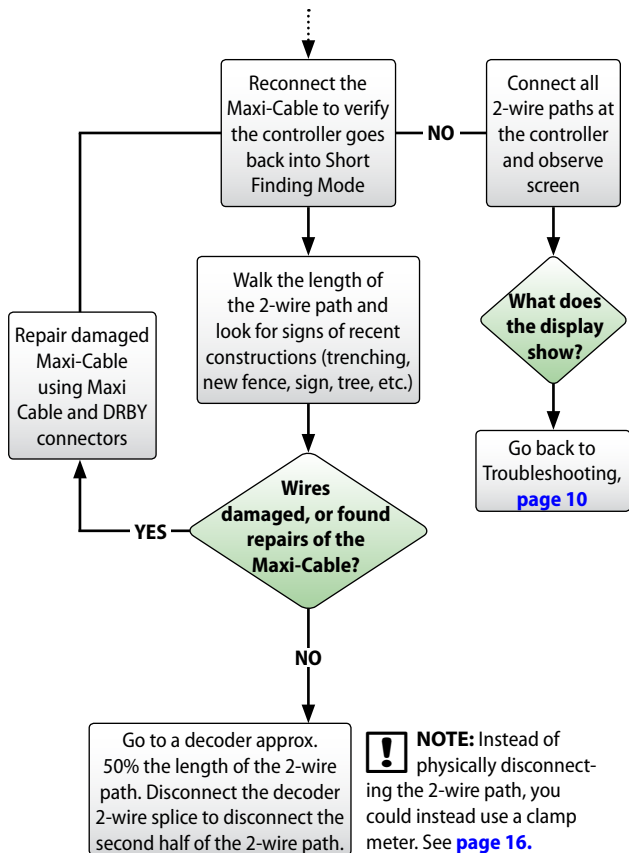
Next Page →

Short Finding Mode cont.



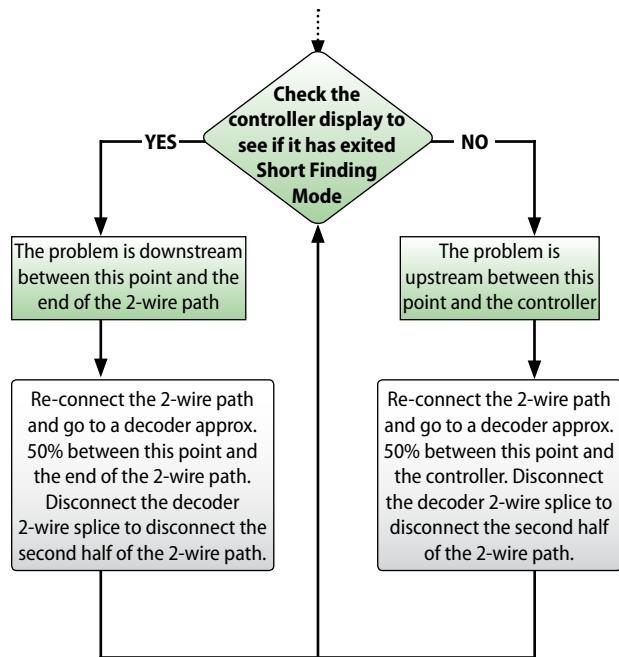
Next Page →

Short Finding Mode cont.



Next Page →

Short Finding Mode cont.



For video instructions on **Automatic Short Finding Mode**, please visit:
<https://youtu.be/khFodRFUOXs>

Next Page →

Short Finding Mode cont.

Alternatively, if you have a clamp meter you can also measure the amperage:

! **NOTE:** Before measuring the amperage, calculate the approximate current that the 2-wire path is consuming.

System Amperage Calculation

Quantity of single address station decoders	X	0.5 mA
+ Quantity of multiple address decoders	X	1.0 mA
+ Quantity of active decoders	X	17.5 mA
+ Quantity of other SD210 decoders	X	8.0 mA
<hr/>		
= Approximate total system amperage in mA		

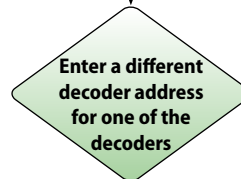
* Single address station decoders include the FD-101 and FD-102 decoders

** Multiple address station decoders include the FD-202, FD-401 and FD-601 decoders

For video instructions on **Locating a Short on the Two-Wire Path**, please visit:
<https://youtu.be/6qDx-0K0aC0>

Duplicate Decoder Address

The controller will Alarm if duplicate decoder addresses are entered for one or more weather sensors, flow sensors or station decoders.



Go to **page 11** and follow the Basic Programming Wizards: Station Setup to enter the correct decoder address

! **NOTE:** Only the first two duplicates will be shown, so you may need to repeat this process until all of the duplicate have addressed.

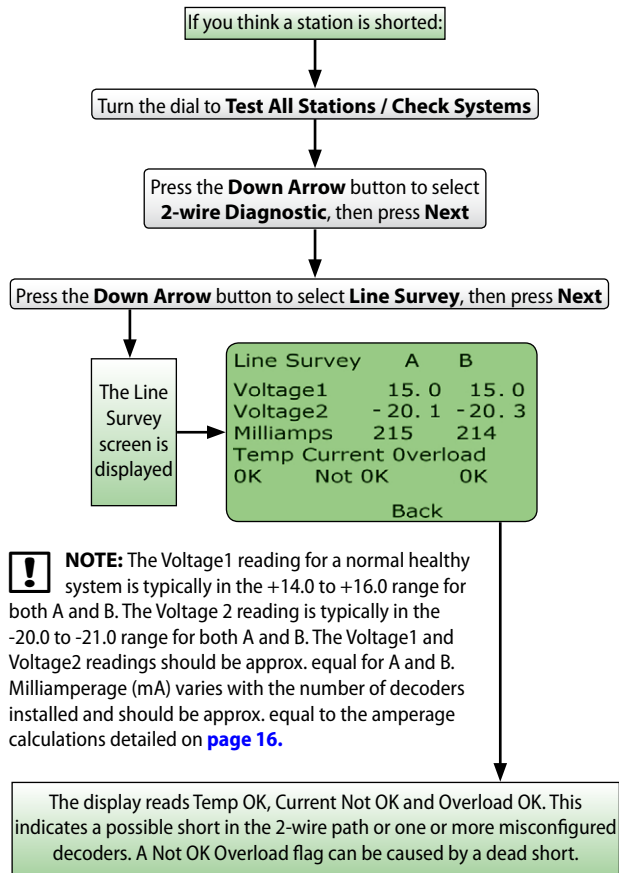
Test LXD system using **Manual Run** or **Auto Run**

Check the display for Alarms, see **page 10** Troubleshooting

Is the LXD and installation working?

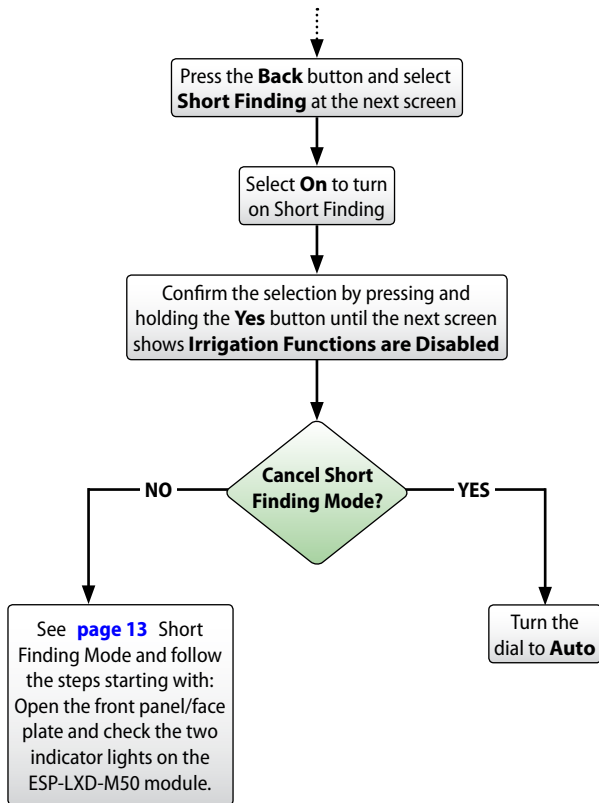
END - Job Well Done!

Manual Short Finding Mode



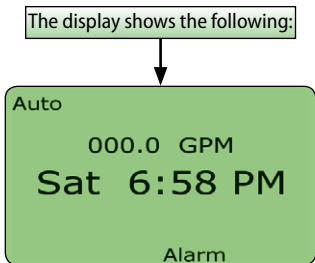
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Manual Short Finding Mode cont.

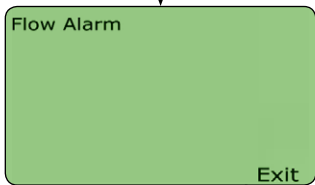


For video instructions on **Manually Putting ESP-LXD Into Short Finding Mode**, please visit: <https://youtu.be/BT8UgNhxSCU>

Flow Alarms

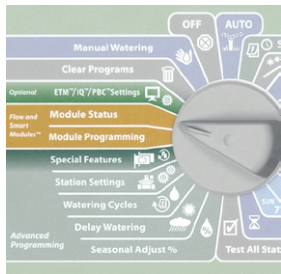


Press the **Alarm** button.



Press the **Exit** button.

Turn the dial to **Module Status**



Next Page →

Flow Alarms cont.

Select **Flow Smart Module** and press **Next**

Select **View Flow Alarms**

Select **Station Flow Alarms**

Check for Flow Alarms and fix the zone which causes the Flow Alarm

Go **Back** and select **Mainline Flow Alarm**

Check for Flow Alarm and fix mainline

After fixing all leaks and flow issues, go **Back** and select **Clear Flow Alarms**

Run all zones manually to check for Flow Alarms

Read screen and select **Yes** to clear Alarms

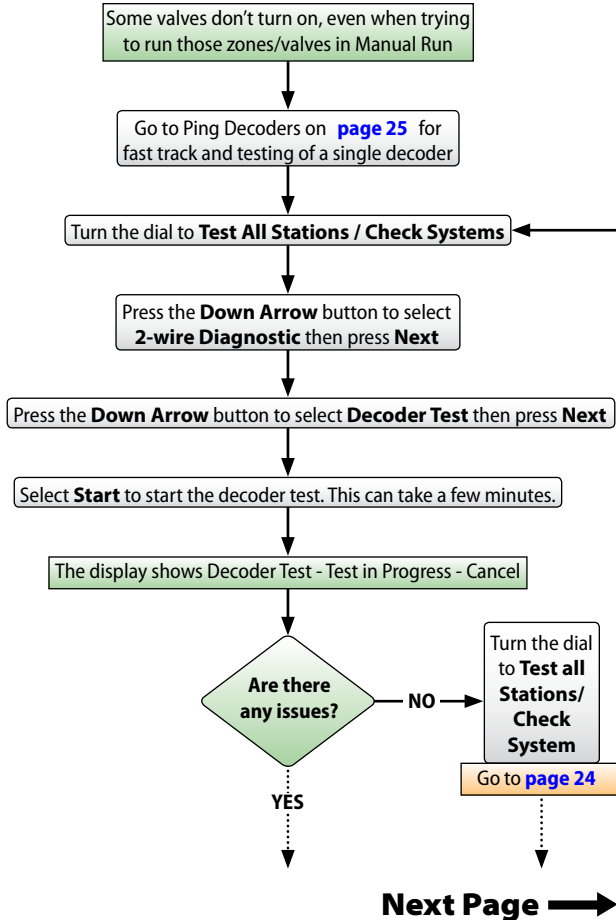
Alarm is cleared on the display

NO

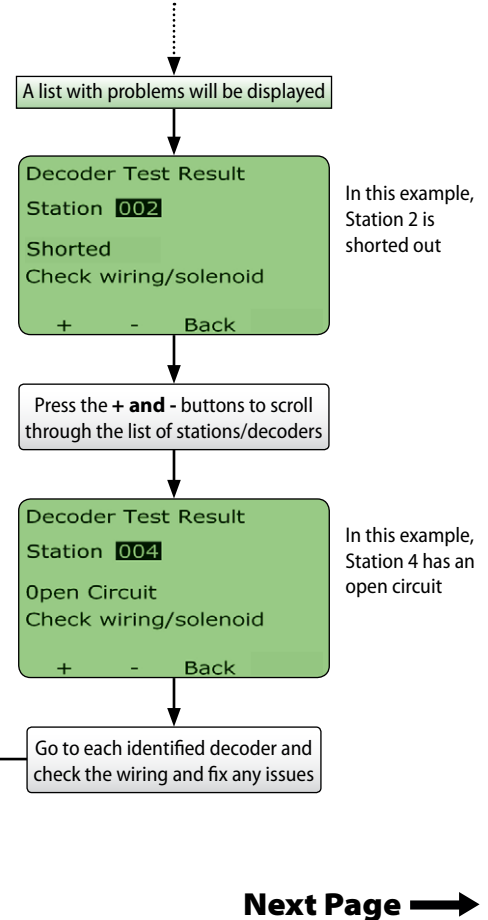
YES

END - Job Well Done!

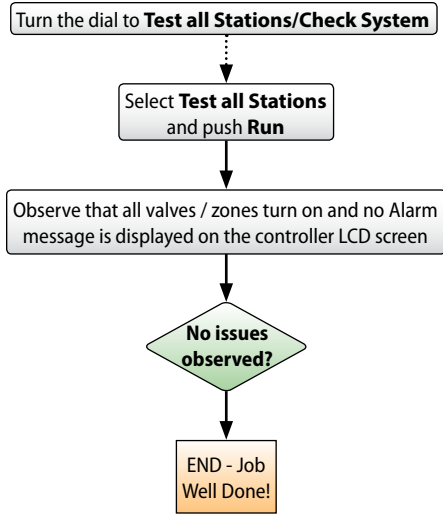
Decoder Test



Decoder Test cont.

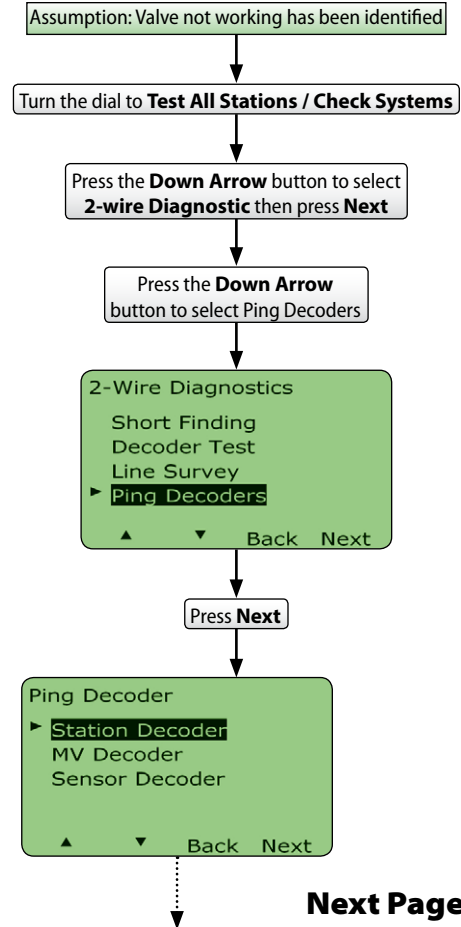


Decoder Test cont.

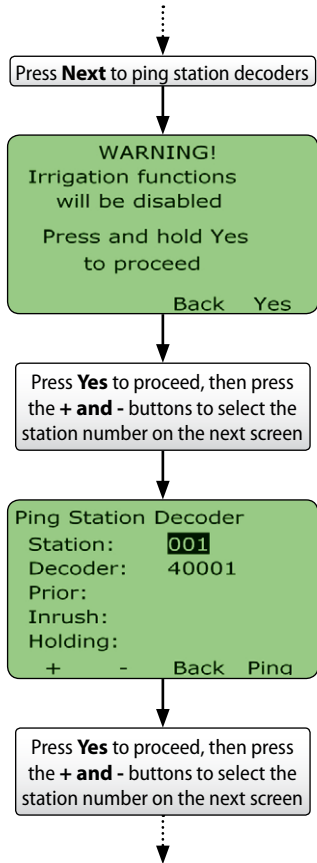


For video instructions on **Using Decoder Test & Ping Decoders to Troubleshoot Valves**, please visit: <https://youtu.be/wkZBaBo08W0>

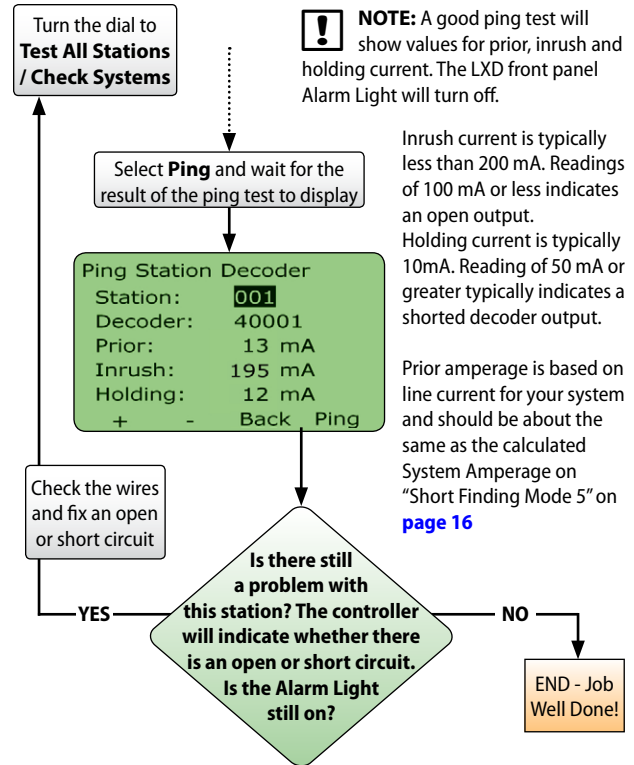
Decoder Ping Test



Decoder Ping Test cont.



Decoder Ping Test cont.



For video instructions on **Using Decoder Test & Ping Decoders to Troubleshoot Valves**, please visit:
<https://youtu.be/wkZBaBo08W0>



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Questions?

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or else visit our web site at
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