



Rain Bird Golf Decoder Troubleshooting Guide



Install Confidence.® Install Rain Bird®
Golf Irrigation Products.



Golf course irrigation systems operate in a dynamic and challenging environment. There are many things that can affect the performance of the system. This Troubleshooting Guide is designed to assist you in finding solutions for performance challenges that may randomly affect Rain Bird® golf rotors.

For additional information about the troubleshooting procedures included in this guide—or for answers to any of your questions at any time—contact your local Rain Bird Golf Distributor.





General Information

Calculate expected "At Rest" current draw on each wire path and each LDI or SDI interface.

- FD-101 = 0.5 mA
- FD-102 = 0.5 mA
- FD-202 = 1.0 mA
- FD-401 = 1.0 mA
- FD-601 = 1.0 mA

Prior to troubleshooting when using a clamp meter, make sure you know the static current draw of the wire path or sections of wire path you will be troubleshooting. **(1) To calculate the static current draw at an individual wire path section**, add the number of decoders that are downstream from the test point, and multiply it by the current draw of each decoder to determine the total calculated current draw of the wire section after the test point. **(2) To calculate the static current draw of an entire wire path**, add the number of decoders on the entire wire path, and multiply it by the current draw of each decoder to determine the total calculated current draw of the wire path. **(3) To calculate the static current draw of an entire interface**, add up all calculated wire path current draws that are connected to the interface.

NOTE: If the wire path has been looped, you must break the loop in order to properly troubleshoot current draw using a clamp meter.

Example:

BLUE WIRE

- 100 FD-101 x 0.5 mA = 50 mA
- 25 FD-202 x 1.0 mA = 25 mA
- 10 FD-401 and FD-601 = 10 mA
- **Total Blue Wire current = 85 mA**

RED WIRE

- 80 FD-102 x 0.5 mA = 40 mA
- 20 FD-202 x 1.0 mA = 20 mA
- 15 FD-401 and FD-601 = 15 mA
- **Total Red Wire current = 75 mA**

Total Current for LDI or SDI = 85 + 75 = 160 mA



Decoders

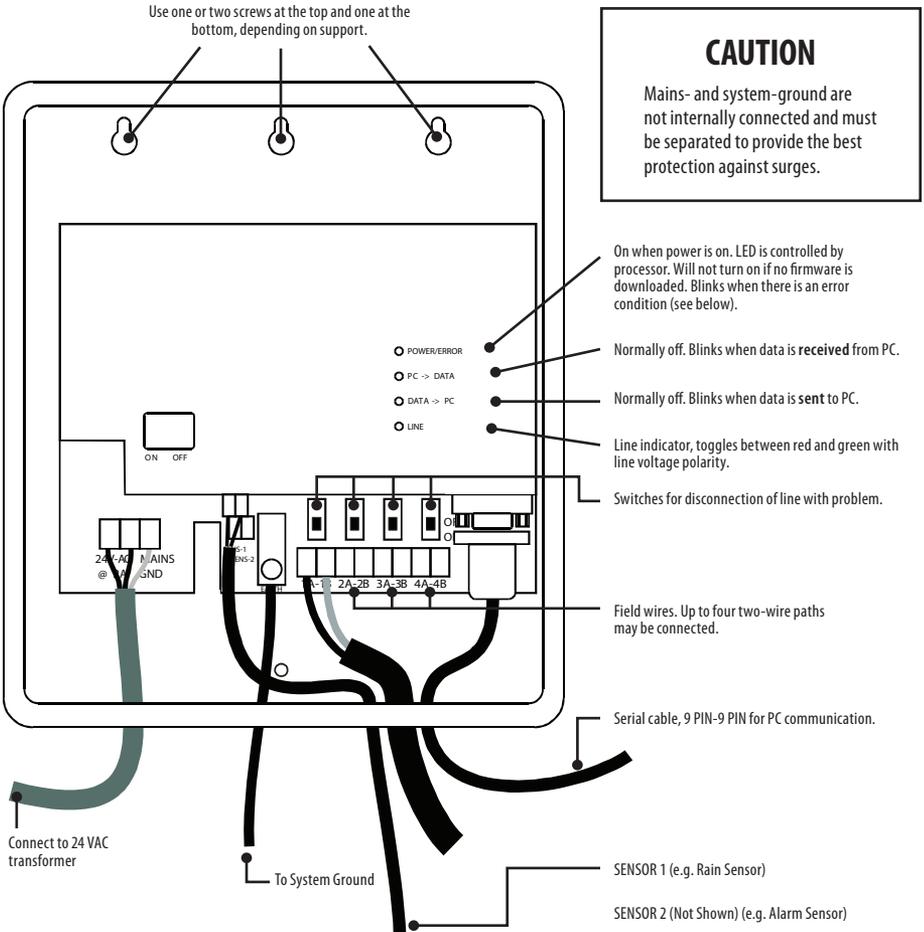
Tool List

- DPU-210
- Spare Decoders
- Clamp Meter (*current specifications are available by calling 1-866-GSP-XPRT*)
- Digital Multi-Meter
- Direct Bury Wire Splice Kits
- MAXI™ Wire Strippers
- Wire Strippers
- Wire Connectors
- Line Surge Protector
- Linesman Pliers
- Extra MAXI Wire
- Updated “As-Built” drawing
“As Built” should show wire path colors, decoder locations, expected current draw per wire path and expected current draw per LD/SDI.





INTERFACE (LDI) DETAILS



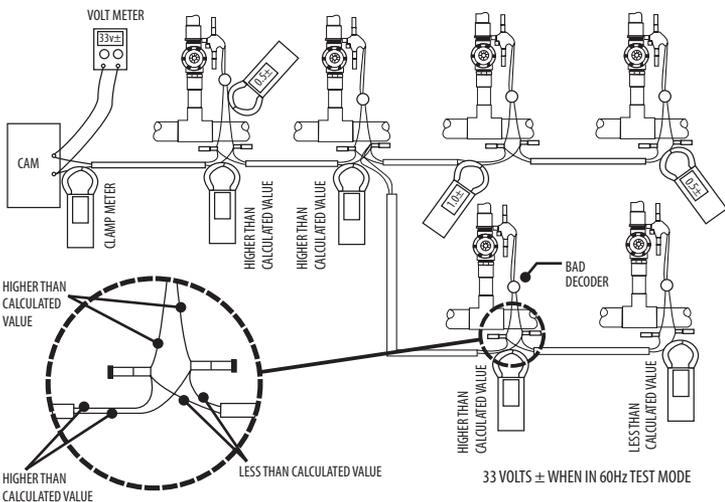
During power up, the LED's will blink in sequence ending with POWER LED on for 5 seconds.

If the POWER LED blinks, it means that an **error** is detected by the unit. The reason for the error is indicated by the other LED's:

- If **DATA→PC** is **ON** = line voltage has been switched off because connection to the PC is lost.
- If **LINE** is **ON** = line voltage is below 25 V (short).

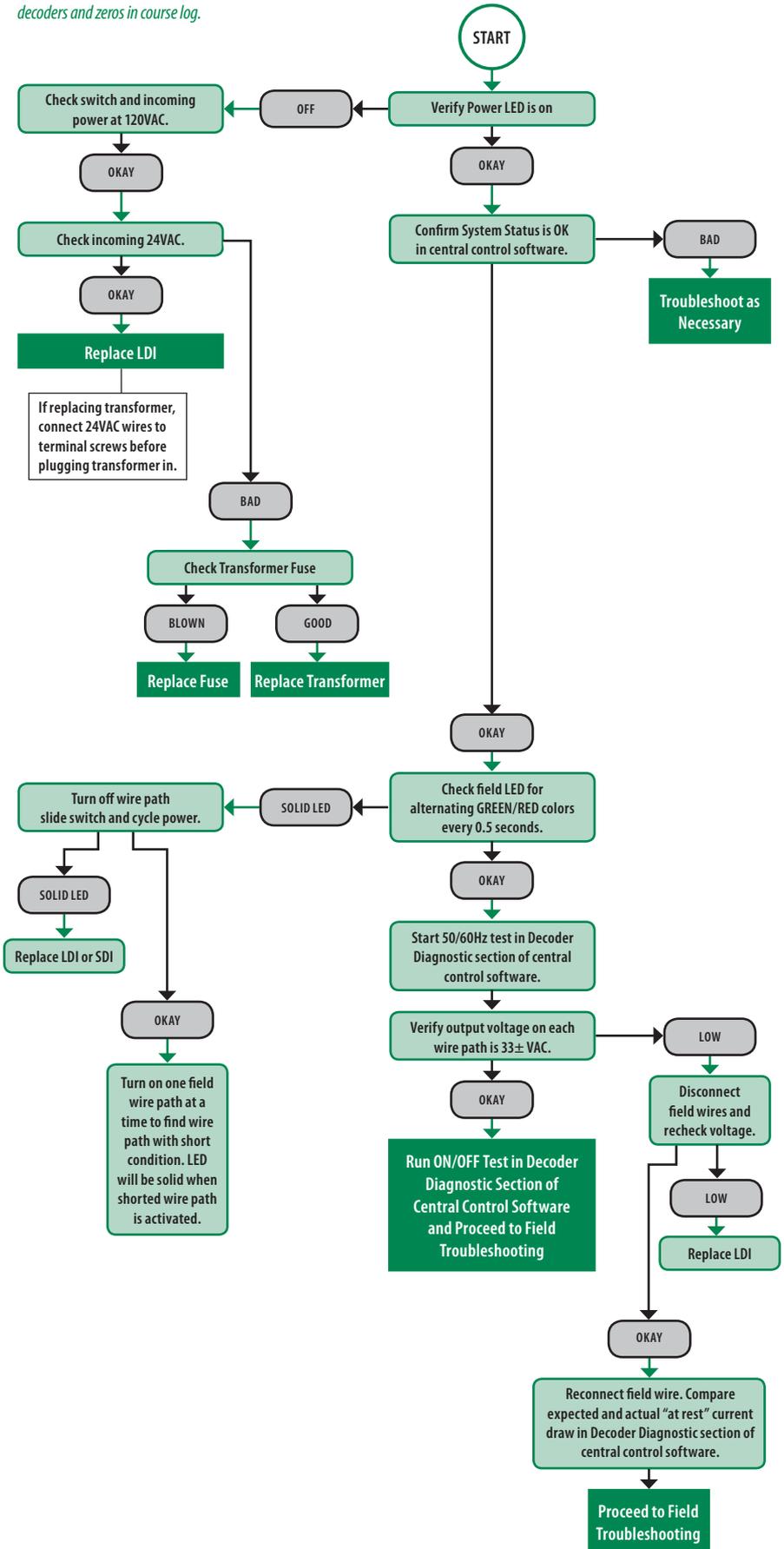
LOCATING A BAD DECODER USING A CLAMP METER

- In the Decoder Diagnostics screen select 60Hz test mode to allow the clamp meter to measure current. When done with troubleshooting remember to cancel the 60Hz test mode to resume irrigation.



“No Control Over Field Decoders”

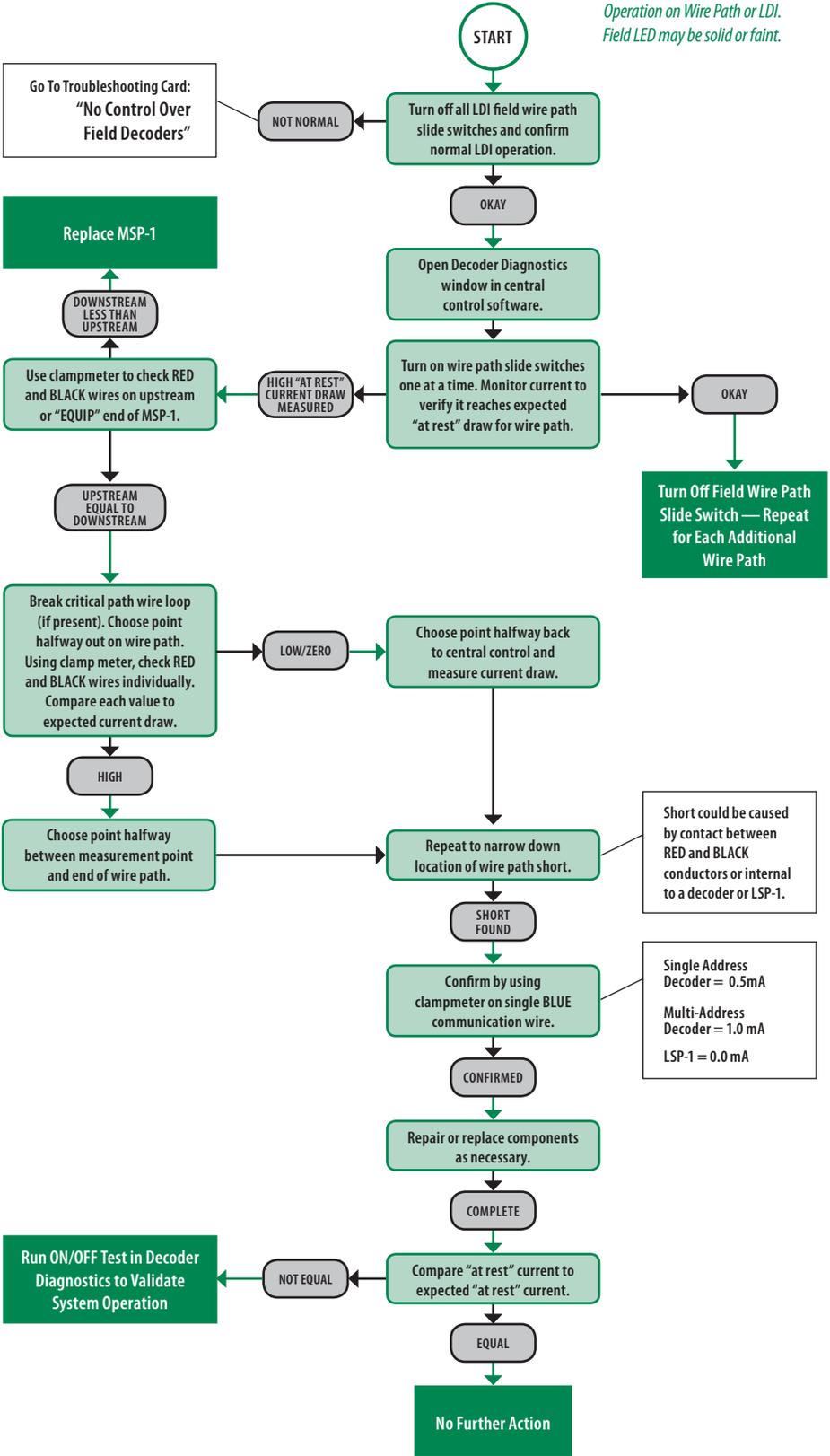
Symptoms: No control over field decoders and zeros in course log.





“Shorted Wire Path”

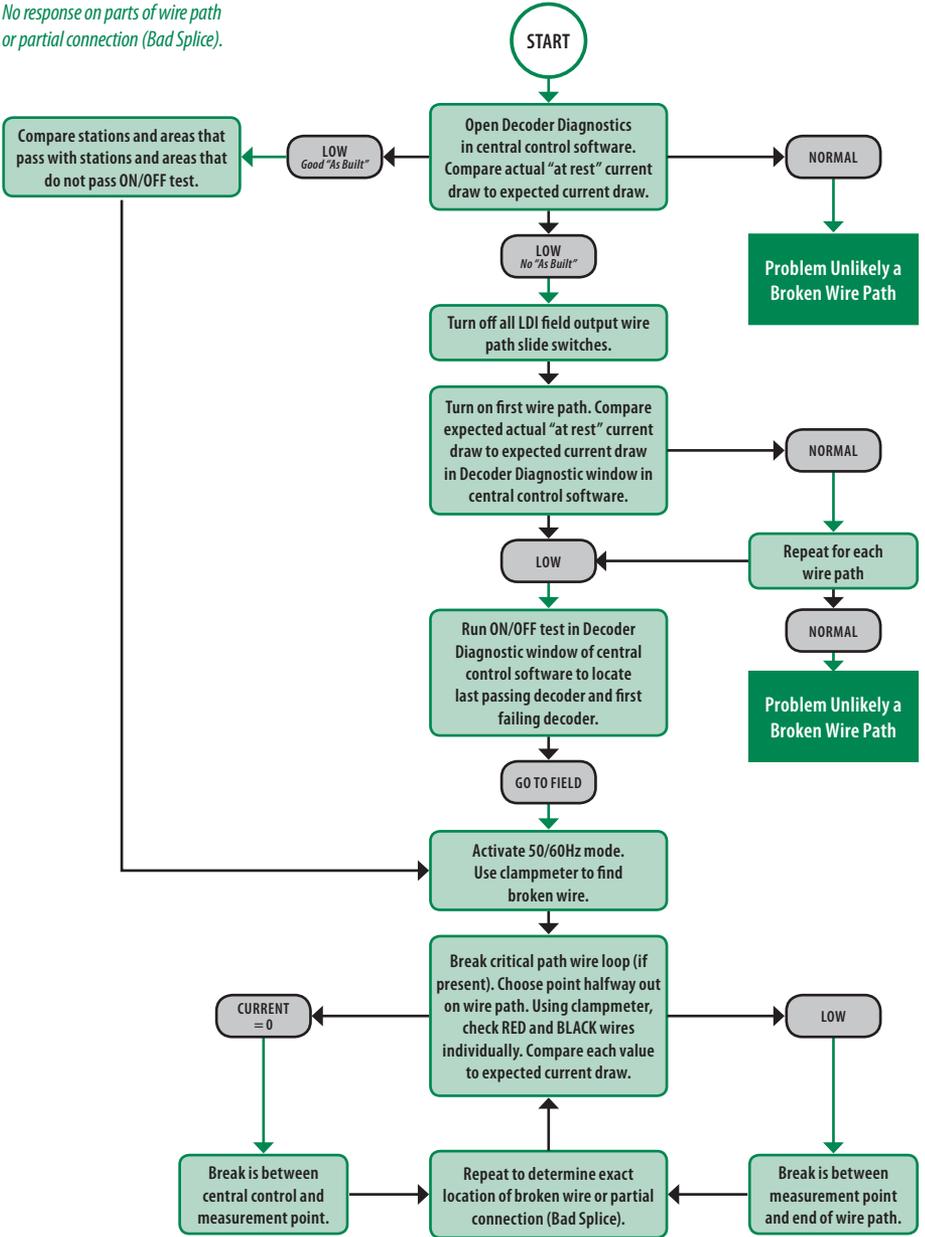
*Symptoms: No Decoder
Operation on Wire Path or LDI.
Field LED may be solid or faint.*





“Suspected Broken Wire Path”

*Symptoms: Zeros in course log.
No response on parts of wire path
or partial connection (Bad Splice).*

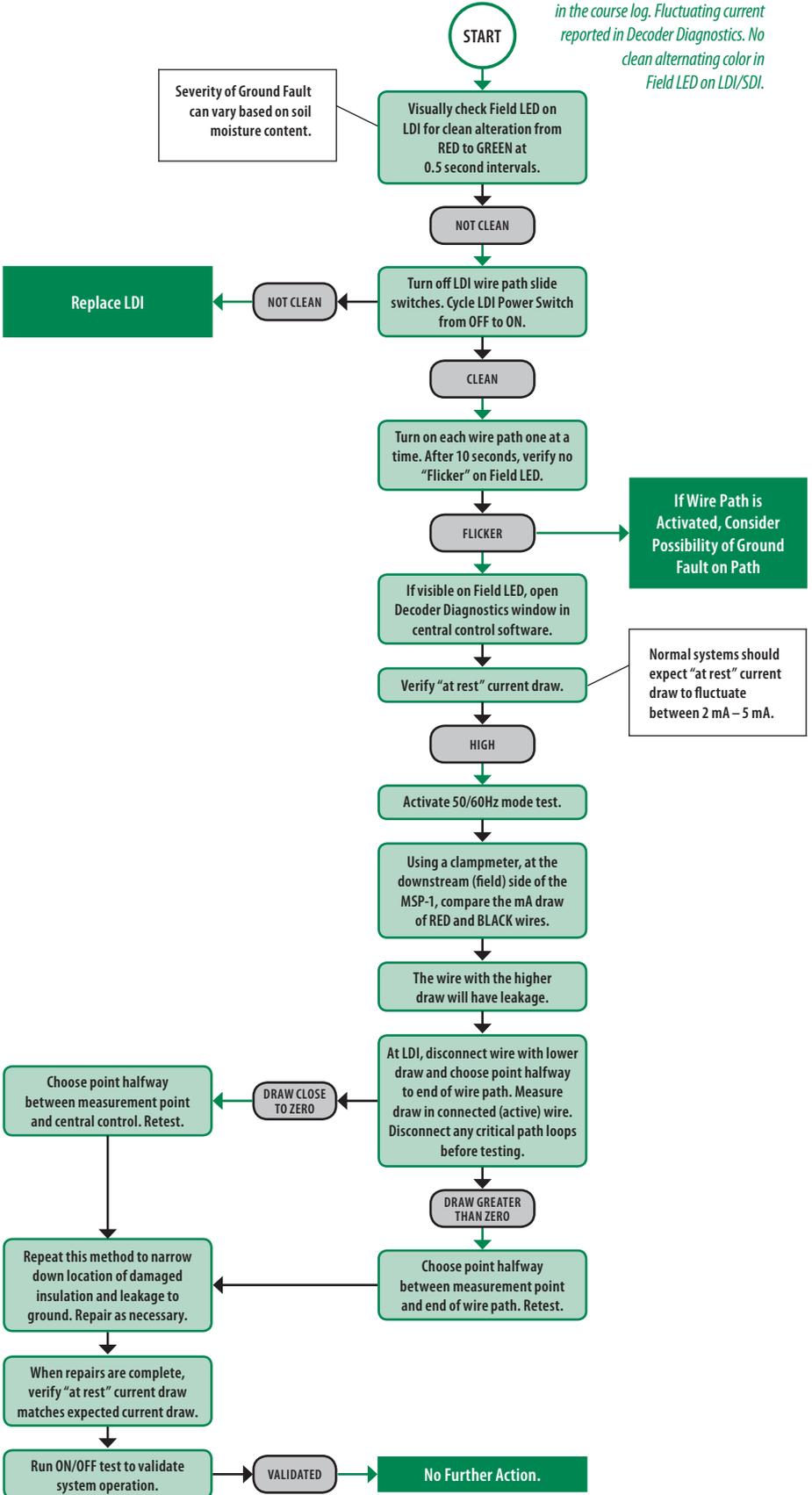




Recommended Rain Bird
Troubleshooting Procedure for

“Suspected Ground Fault” (Leakage to Ground)

Symptoms: Lower run times or zeros in the course log. Fluctuating current reported in Decoder Diagnostics. No clean alternating color in Field LED on LDI/SDI.



Discover the TRUE Benefits™ of a Rain Bird System



Timeless Compatibility

Rain Bird golf irrigation products make it easy and affordable to maintain a state-of-the-art irrigation system that updates as your course does.



Real-Time Response

Get automatic optimization between your Central Control and the field with continuous two-way communication.



Unmatched Quality

In engineering, design and testing, Rain Bird rigorously tests every product to stand up to the world's harshest conditions.



Easy To Use

From software interfaces to rotor designs, Rain Bird products help you and your crew find a quicker, hassle-free path to top playability.



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