LYTX DEVICES
TROUBLESHOOTING GUIDE

Last Updated: 2019 September 17

This guide provides troubleshooting for issues identified on the Device Health report in Admin. This includes troubleshooting for SF-Series, ER-SV2, DC3P, and Hub devices.

Issue	Description	Troubleshooting Steps
Overdue for Check-In	The device hasn't performed routine check-in and is having trouble communicating with Lytx. This could prevent video browsing, event upload, and upload of GPS coordinates.	Follow steps for troubleshooting Overdue for Check-In below.
Power Disconnects	Power disconnects have been detected in the last 7 days (though power has reconnected and the device has checked in). This may cause recording gaps, potential missed collisions, and missing GPS points.	Check power and ground connections. Go to "Troubleshooting Wire Issues" on page 6.
Ignition Not Detected	Ignition was not detected in 7 days but events and/or GPS points were still received. Without ignition, the device may not go into hibernation, which would cause vehicle battery drain. In addition, in-cab illumination LEDs may not switch on, resulting in dim nighttime video. Further, GPS points such as trip starts and stops may be missing.	Check the ignition connection. Go to "Troubleshooting Wire Issues" on page 6.
Open RMA	The device has been identified as defective. It must be returned to Lytx and replaced.	Uninstall the device and return it to Lytx. To uninstall the device, refer to the device installation guide for your region, available here.

Troubleshooting: Overdue for Check-In

Strong Cellular Network Coverage Required

Before proceeding with troubleshooting, verify you're in an area with strong cellular network coverage.

Before You Begin

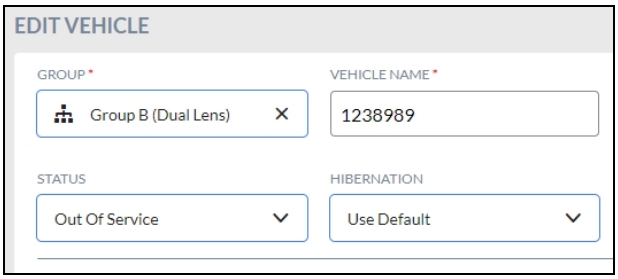
Before taking any troubleshooting steps, verify the vehicle is actively in service. At times, someone may take a vehicle out of service but forget to change its status. Check with your team to verify the vehicle is in use.

If it's not in use, change its status using the instructions below.

If the vehicle is in use, go to "Overdue for Check-In (SF-Series and ER-SV2 Devices)" below or "Overdue for Check-In (DC3/DC3P Devices)" on page 5, depending on the device.

Change Vehicle Status

1. Log into your Lytx Account. Go to Admin.
2. In the navigation menu, go to Vehicles. Search for and select the desired vehicle. Use the search filters as needed.
3. Edit the Status, as needed. Press Save.

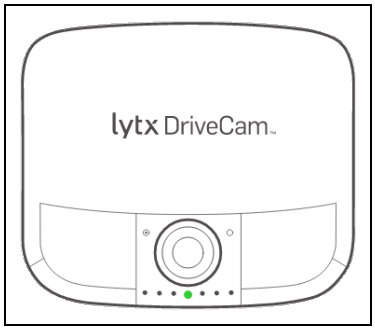


Overdue for Check-In (SF-Series and ER-SV2 Devices)

I. Turn On the Vehicle and Device

1. Go to the vehicle. Turn on the ignition (engine on).
2. Verify the device's center LED light turns green.

   (**Note:** If the device is coming out of Hibernation, wait at least 30 seconds for boot up. At this time, the LED lights turn green, sweeping back and forth.)



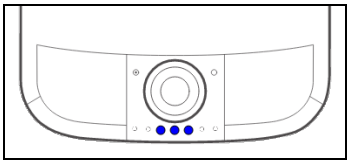
If the center LED light turns green, proceed to the next section to start Diagnostic Mode.

If the center LED light does NOT turn green, there may be an issue with the wire connections. To continue troubleshooting, go to "Troubleshooting Wire Issues" on page 6.

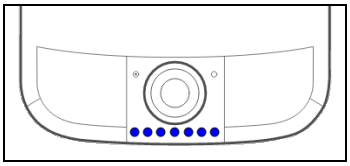
II. Start Diagnostic Mode

Before proceeding, ensure the vehicle ignition is turned on (engine on).

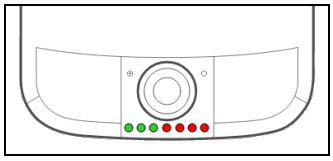
1. Press and hold either of the blue buttons on the event recorder until the 3 center LED status lights turn blue (hold for about 30 seconds). After they light up, let go of the button.



2. Immediately press and hold the blue button again for up to 45 more seconds. First, the center LED light turns green. Then all 7 LED lights turn blue. When they turn blue, let go of the button.



3. Verify the LED status light sequence:
    a. First, all lights turn off.
    b. After up to 60 seconds, the center LED light turns green.
    c. All LED lights turn red. Diagnostic Mode has been started.
    d. The first 3 LED lights turn green individually. These lights verify the proper function of various device components. (If vehicle network/ECM connections are installed, the first 4 LED lights turn green.)



Issues Seen in Diagnostic Mode?

If one of the LED lights indicated does NOT turn green during Diagnostic Mode, there may be an issue with one of the device components. To troubleshoot these issues, go to "Troubleshooting in Diagnostic Mode" on page 8.

4. Wait for the device to exit Diagnostic Mode (about 5 minutes). After exiting this mode, the center LED light turns green.

5. Trigger a forced check-in.
    a. Press and hold one of the blue buttons on the event recorder. The center LED light starts green, disappears, and then re-appears green. Let go when it re-appears.
    b. Check the light pattern. All LED status lights should light up one-by-one from left to right, each going from blinking to solid green.
    c. After upload completes, verify the center LED light turns green.

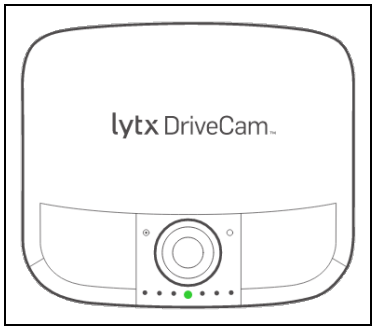
> **Wrong LED pattern?**
>
> If you observe a different LED pattern, contact Lytx Technical Support.

To see if the issue has been resolved, the device must be validated in the Lytx Account the following day.

If the vehicle remains Overdue for Check-In, contact Lytx Technical Support.

Identifying Wire Issues

After turning on the vehicle ignition (engine on), if the device's center LED light does NOT turn green, there may be an issue with the wire connections from the device to the vehicle. Take these steps to identify the connection in need of attention.



1. Press either blue button on the device to wake up the device.

    (**Note:** If the device is coming out of Hibernation, wait at least 30 seconds for boot up. At this time, the LED lights turn green, sweeping back and forth.)
2. Verify the device's center LED light turns green.
    a. **If the center LED light still does NOT turn green,** there may be an issue with the power connection. Try one of the solutions below for power connections.
3. **If the center LED light turns green,** there may be an issue with the ignition connection.

    If the center LED light still does NOT turn green, there may be an issue with the power connection.

    To troubleshoot these connections, go to "Troubleshooting Wire Issues" on page 6.
4. After fixing the wire connection issues, go to the section, "II. Start Diagnostic Mode" on page 2.

Overdue for Check-In (DC3/DC3P Devices)

DC3P Device Modes

The steps below cover DC3P devices in Normal mode only. If the device is in Alternate or Stealth mode, it will display different LED light patterns. Contact Lytx Technical Support for further assistance.

I. Turn On the Vehicle and Device

1. Go to the vehicle. Turn on the ignition (engine on).
2. Verify the device's LED pattern. The right LED light turns solid red OR solid green.

   (**Note:** If the device is coming out of Hibernation, wait at least 30 seconds for boot up. During boot up, the left LED light turns solid green before turning off.)

If the correct LED pattern displays, proceed to the next section to power cycle the device.

If the correct LED pattern does NOT display, there may be an issue with the wire connections. To continue troubleshooting, go to "Troubleshooting Wire Issues" on the next page.

II. Power Cycle the Device

Note: If you cannot remove the power cable, skip to Step 5, triggering a forced check-in.

1. Unscrew the Torx screw on the left side of the device.
2. Gently shift the device out of the left side of the bracket, just enough to remove the DC3P power cable. Remove the power cable.
3. Wait 30 seconds. Re-insert the power cable into the device. Re-attach the device to the bracket.
4. Verify the correct LED pattern. The left LED light turns green for 30 seconds before turning off. Then the right LED light turns red.
5. Trigger a forced check-in.
   a. Press and hold one of the blue buttons on the device. The right LED light starts green, disappears, and then re-appears green. Let go when it re-appears.
   b. Check the device's light pattern. The right LED light should flash red.
   c. After upload completes, verify the right LED light turns green.

Wrong LED pattern?

If you observe a different LED pattern, contact Lytx Technical Support.

To see if the issue has been resolved, the device must be validated in the Lytx Account the following day.

If the vehicle remains Overdue for Check-In, contact Lytx Technical Support.

Identifying Wire Issues

After turning on the vehicle ignition (engine on), if the device does NOT display the correct LED pattern, there may be an issue with the wire connections from the device to the vehicle. Take these steps to identify the connection in need of attention.

1. Press either blue button on the device to wake up the device.

   (**Note:** If the device is coming out of Hibernation, wait at least 30 seconds for boot up. During boot up, the left LED light turns solid green before turning off.)

2. Verify the device's LED pattern. The right LED light turns solid red OR solid green.
3. **If the correct LED pattern displays,** there may be an issue with the ignition connection.

   If the correct LED pattern does NOT display, there may be an issue with the power connection.

   To troubleshoot these connections, go to "Troubleshooting Wire Issues" below.

4. After fixing the wire connection issues, go to the section, "II. Power Cycle the Device" on the previous page.

Troubleshooting Wire Issues

THE DEVICE SHOULD BE INSTALLED AND MAINTAINED BY QUALIFIED TECHNICIANS. Only a properly qualified technician should install and maintain the Lytx device. Any electrical work should be performed only by a certified technician* with an expertise in installing and troubleshooting advanced vehicle on-board components including multiplexed circuits. Lytx, Inc. disclaims all responsibility for any damages arising from improper installation and maintenance of the Lytx device.

*For North America: ASE (minimum T6 & L2), MECP, or equivalent certification. For Europe: MECP, IMI, FITAS, or equivalent certification. In addition in Europe, the technician should be in compliance with FCS1362 (2016), where applicable.

Read below for troubleshooting steps for each wire connection.

Problem	Possible Causes and Solutions
Power connection	The vehicle battery may be disconnected. Reconnect the battery or check the battery cut-off switch.
	Ensure the constant power connection (red wire) on the power cable is connected to a constant power source.
	The constant power connection (red wire) on the power cable may be damaged. Check the entire length of the wire for damage/cuts. Fix any issues.
	The fuse may be missing or open. Check the fuse panel location for constant power. Ensure the proper value fuse is installed and not open.
	(For installations with a Vehicle Interface Cable) The connection between the Device Power Cable and the Vehicle Interface Cable may not be fully secured. Check the connection. Disconnect and reconnect the cables, ensuring the connection "snaps". Note: The Device Power Cable connector into the event recorder has a locking tab. To disconnect, push in the locking tab before pulling out. Failure to do so may cause damage to the device.
	(For Hubs) Check that all cable connections are fully secured from the event recorder to the Hub to the fuse panel.
Ground connection	There may be a loose or insufficient chassis ground. Inspect the ground connection (black wire) to ensure it's tight and it's in a location free of paint or rust.
	(For Hubs) Check that all cable connections are fully secured from the event recorder to the Hub to the fuse panel.
Ignition connection	If the engine is already turned on, turn the engine off and then back on. Wait about 10 seconds for the ignition to be detected.
	There may be an issue with the ignition connection (brown wire). Check the wire for damage. Gauge the wire with a voltmeter for 12V/24V with the ignition on. Check the vehicle fuse for that circuit.
	(For Hubs) Check that all cable connections are fully secured from the event recorder to the Hub to the fuse panel.

If additional assistance is needed, refer to the Lytx Installation Instructions for your device and region or contact Lytx Technical Support.

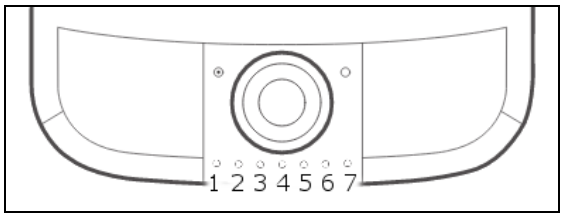
Appendix

Troubleshooting in Diagnostic Mode

Diagnostic Mode reveals issues with the SF-Series and ER-SV2 devices. Each of the LED status lights provides the status of a different component of the device as shown below.

Please note:

- All LED status lights will turn red to start. Each LED will turn green when/if the corresponding feature is confirmed as working properly.
- In Diagnostic Mode, the LED status lights will not turn any colors other than green or red. (Except for LED 2, which may also turn yellow.)
- The device will stay in Diagnostic Mode for 4 minutes. Pay attention to the LED status lights during this time.



Color	Status
Green 🟢	OK
Red 🔴	Error - requires troubleshooting
(For LED 2 only) Yellow 🟡	Error - requires troubleshooting

LED	Component	Troubleshooting Steps
1	Vehicle ignition	If the engine is already turned on, turn the engine off and then back on. Wait about 10 seconds for the ignition to be detected.
		There may be an issue with the ignition connection (brown wire). Check the wire for damage. Gauge the wire with a voltmeter for 12V/24V with the ignition on. Check the vehicle fuse for that circuit.
2	GPS	The device may be in an area with poor reception. Try re-locating to a different area and re-testing the signal.
3	Cellular signal	Wait for the device to exit Diagnostic Mode (up to 5 minutes). Perform a forced check-in: Hold one of the blue buttons for 10 seconds. Verify the LED light pattern. The lights will light up and blink green one-by-one from the left to right until all are lit, indicating the check-in was successful.
		The device may be in an area with poor reception. Try re-locating to a different area and re-testing the signal.

LED	Component	Troubleshooting Steps
4	Vehicle network data (ECM) (Only for installations including vehicle network connections)	Start the vehicle. Ensure the vehicle is running.
		J1939 Connections: The wires may be reversed over the CAN Coupler. Ensure that the Yellow wire is on the CAN_HI (Y) side of the Coupler and the Green wire is on the CAN_LO (G) side.
		J1939 Connections: Ensure that the CAN Coupler connector is fully engaged.
		J1939 Connections: The CAN Coupler may not have been placed on the J1939 backbone but on a stub. Try moving the Coupler to a different location.
5	Brakes	(Standard) If brakes are read from the vehicle network (ECM), follow troubleshooting steps for the ECM connection (above).
		For hard-wired brakes, verify that the Brake Signal is properly assigned in the Lytx Installation Tool.
		For hard-wired brakes, check the connection point and inspect the corresponding wiring for cuts or damage.
6	Left turn signal	Verify that the Left Turn Signal is properly assigned in the Lytx Installation Tool.
		Check the connection point and inspect the corresponding wiring for cuts or damage.
7	Right turn signal	Verify that the Right Turn Signal is properly assigned in the Lytx Installation Tool.
		Check the connection point and inspect the corresponding wiring for cuts or damage.

Contact Technical Support

For troubleshooting support, please contact the Lytx Technical Support Center at 866.910.0403 or email support@lytx.com.