

Troubleshooting a Flashing Dashboard

A dashboard that shows all flashing lights usually means that there is no successful communication with the Kinetek controller. This may include power being cut to the Kinetek, for example, from a triggered E-stop, a SW/FW mismatch between the VIB, Kinetek and BCM, faulty VIB or wiring.



The first thing to do is check the Kinetek state. Locate the red LED on Kinetek and note its state of luminance. Is it off, on solid red, or blinking red?

Off: No power being provided to the Kinetek or faulty internal Kinetek circuitry.

On: Unit is powered on normally and recognizes no error state

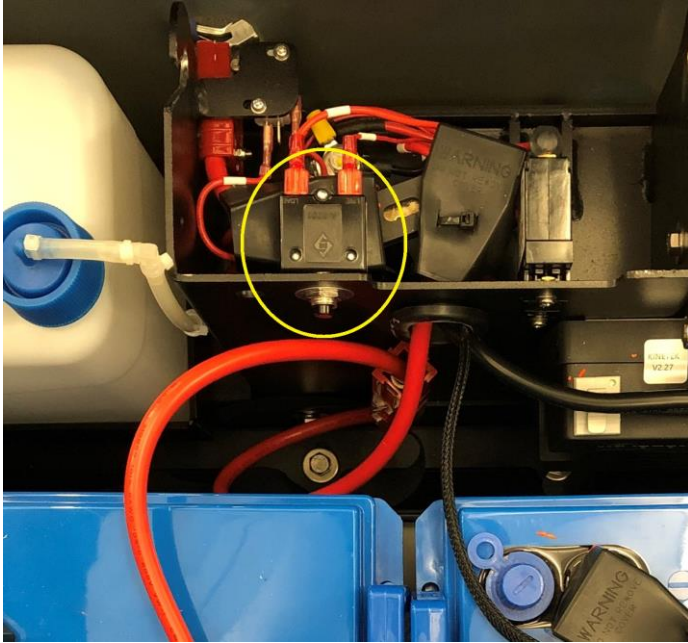
Blinking: The blinking LED pattern is a series of long and short blinks. The number of long and short blinks correspond to a hex code that may be referenced on the Kinetek error code table.



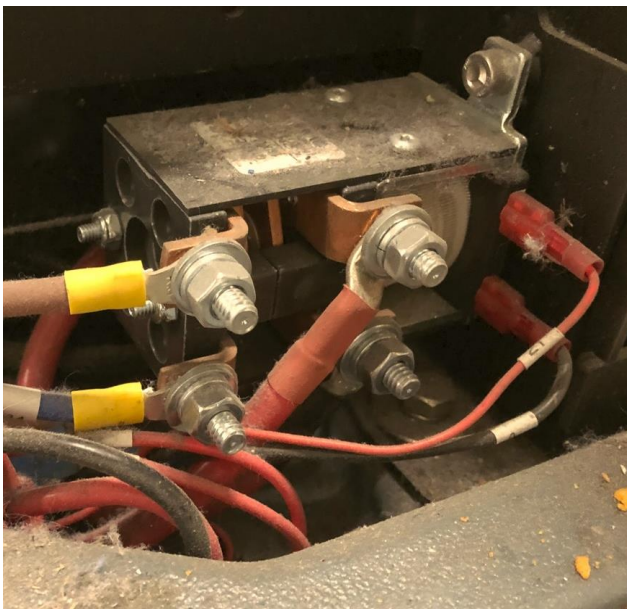
Off:

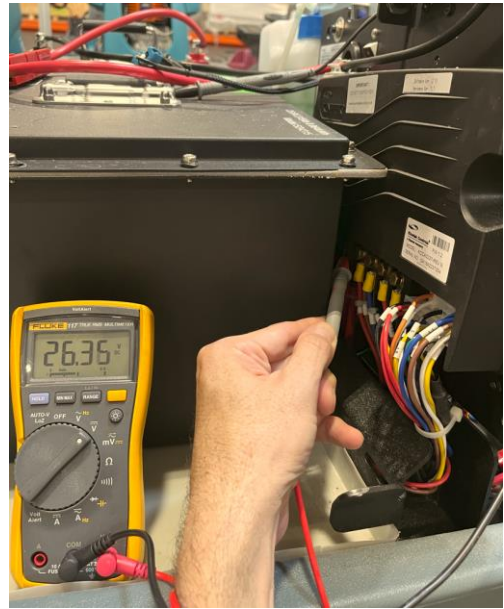
If the Kinetek is powered off, this may be because of the following:

- Check the 2A (in some cases 5A) circuit breaker under the seat. Is it tripped or broken? Be sure to measure continuity through the component to rule this out as a source of failure. Verify one side of the breaker reads 24V with respect to battery ground.



- Use a multimeter to verify the expected 24V provided to the Master Contactor via the E-stop circuit, then verify that 24V is being supplied to the Kinetek, with respect to ground.

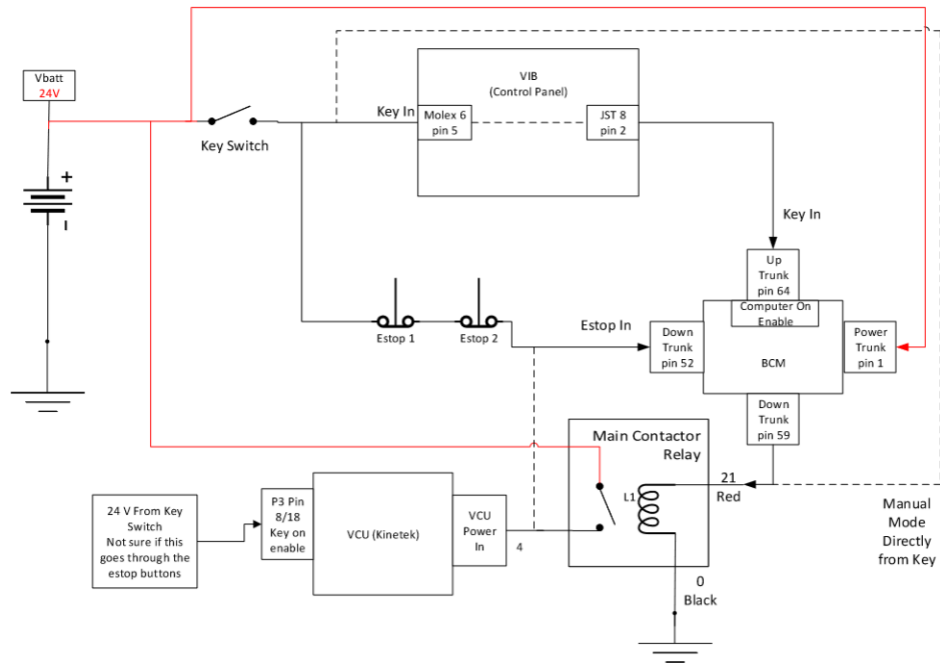




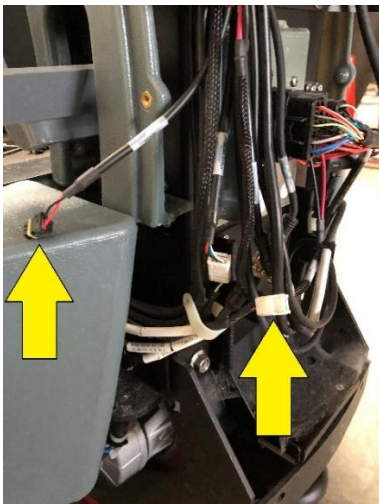
Individually inspect all wires in these connectors by gently tugging, to ensure they are properly seated. Give particular attention to the wires/ports outlined in red below.



- Check the E-stop circuit. A faulty E-stop circuit may or may not appear as a fault on the touch screen. It is recommended to investigate the E-stop circuit regardless of the absence of a touchscreen notification. Check for continuity and wire/pin/connector integrity.



- Verify continuity through the E-stop buttons themselves as well as the wires that run through the circuit.
- Since the E-stop circuit runs through the BCM, a faulty BCM may cause an E-stop disconnect. If the BCM is suspected to be the cause, it may be bypassed by disconnecting the connector shown here and shorting the pins on the white connector.

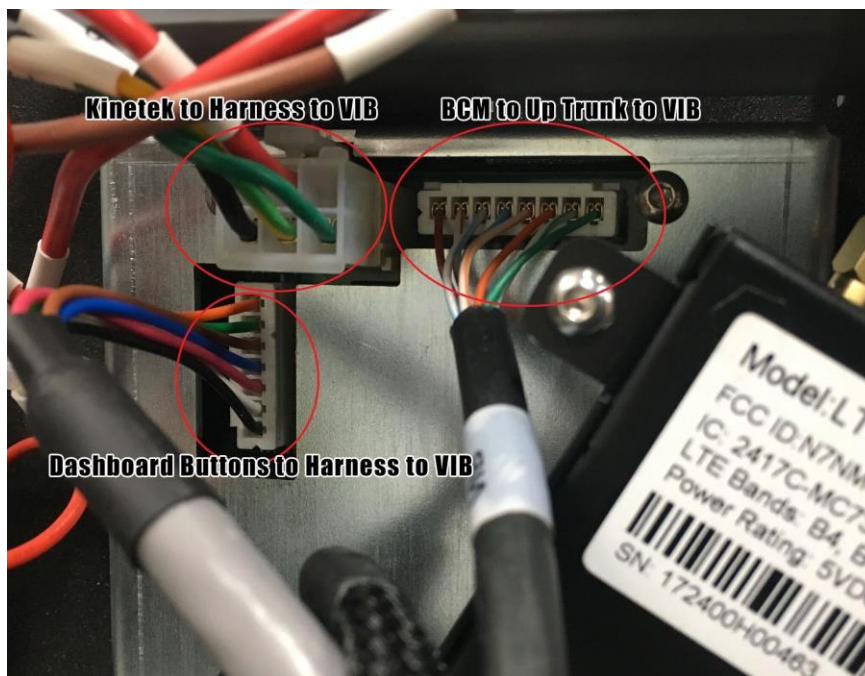


- The wires/pins at this connector should be closely investigated, as they have been seen to occasionally break or be pulled out.

On:

If the Kinetek is powered on, but the dashboard lights blink, this may be because of the following:

- The SW/FW must match on the BCM, VIB and Kinetek. If not, then communication between the components will not be possible. This check should be performed automatically by the BCM and if needed, a prompt should appear on the UI to update the SW/FW. If not, a Brain Corp engineer may remotely assist.
- The VIB may be faulty. Troubleshooting this is tricky as there is no HW indication that this unit is non-functional. Replacement is the usual resolution if deemed bad. Check the wiring on the underside of the control panel. Everything should be plugged in securely and no wires should be broken.



Blinking:

If the red LED is flashing, the Kinetek is reporting an error. The LED will blink a series of fast flashes and then slow flashes. Count the flashes, then reference the table below to translate to hex code. Then reference the following Kinetek Error Code Table below for the description.

(Example: 2 fast and 14 slow would be code 2E, a Vacuum Null Error.)

Flashes	Code
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A
11	B
12	C
13	D
14	E
15	F

KCCA0237 ERROR CODE TABLE

Error Code	Description
0x12	EEPROM ERROR
0x1A	BATTERY LOW(ALL FUNCTION OFF)
0x21	BATTERY LOW(TRACTION ONLY)
0x23	MCU OVER TEMPERATURE
0x26	PRECHARGE FAILURE(TRACTION)
0x29	TRACTION LEFT NULL ERROR
0x2D	BRUSH NULL ERROR
0x2E	VACUUM NULL ERROR
0x2F	SQUEE NULL ERROR
0x31	BRUSH ADJUSTMENT TIMEOUT
0x32	SOLENOID WELDED(TRACTION)
0x33	SOLENOID DIDN'T CLOSE(TRACTION)
0x37	THROTTLE FAULT
0X3A	BRAKE FAULT
0X3B	ALARM FAULT
0X3C	AUX1 FAULT
0X3D	AUX2 FAULT
0x3F	BRUSH DECK NULL ERROR
0x42	TRACTION STALLED MOTOR
0x44	TRACTOIN REVERSE SHORT CICUIT PROTECTION
0x4C	TRACTOIN FORWARD SHORT CICUIT PROTECTION
0x4D	BRUSH OVER CURRENT PROTECTION
0x4E	BRUSH SHORT CIRCUIT PROTECTION
0x59	TRACTION LEFT DRAIN FAULT
0x5B	TRACTION RIGHT DRAIN FAULT
0x5C	TRACTION REVERSE OVER CURRENT PROTECTION
0x5D	TRACTION FORWARD OVER CURRENT PROTECTION
0x61	BRUSH DRAIN FAULT
0x62	SUPPLY OUT OF RANGE
0X64	BRUSH DECK OVER CURRENT PROTECTION
0x65	VACUUM SHORT CIRCUIT PROTECTION
0X66	BRUSH DECK SHORT CIRCUIT PROTECTION
0X67	SQUEEGEE OVER CURRENT PROTECTION
0x68	VACUUM OVER CURRENT PROTECTION
0X69	SQUEEGEE SHORT CIRCUIT PROTECTION
0X6A	VALVE FAULT
0x6C	TRACTION RIGHT NULL ERROR
0x71	TRIAL TIMEOUT
0x72	SOLENOID WELDED(OTHERS)
0x73	SOLENOID DIDN'T CLOSE(OTHERS)
0x74	SQUEE STALLED MOTOR
0x75	BRUSH DECK STALLED MOTOR
0x76	PRECHARGE FAILURE(OTHERS)
0x77	BRUSH STALLED MOTOR
0x78	VACUUM STALLED MOTOR
0X83	MOSFET OVER TEMPERATURE
0xA2	HIGH BATTERY PROTECTION

