



Aircore EC

Troubleshooting Guide

These instructions do not cover all variations in equipment nor provide information for every possible condition in installation, operation, or maintenance. For additional information, contact Infinitum Support.

Motor troubleshooting and service must be performed by qualified personnel with proper tools and equipment. LOTO operation should be followed per company guidelines.

Issue	Observations	Probable Cause	Mitigation
Motor unresponsive/ fails to start	No LED status lights	No 460-480 voltage	<ul style="list-style-type: none"> Check incoming voltage. If no incoming voltage contact site electrician. Retry motor once voltage has been confirmed. If voltage is confirmed go to next troubleshooting step.
	Nearby motors also inoperable	No 460-480 voltage	<ul style="list-style-type: none"> Check incoming voltage. If no incoming voltage contact site electrician. Retry motor once voltage has been confirmed. If voltage is confirmed go to next troubleshooting step.
Motor fails to start with confirmed VAC	No LED status lights on motor	Internal failure	<ul style="list-style-type: none"> Perform LOTO. Remove VFD access cover on Gen2 or entire drive cover on Gen3 VFD. Confirm connections for all internal wiring connections, particularly the main 460 VAC line-in wiring and the cable from the Inverter board to CIO board. Using a multimeter, determine continuity of the three fuses. If any are open, record which one, RMA motor. Close cover and try power again if no open fuses. If no LEDs are lighted, RMA motor
	Solid green LED, normal yellow heartbeat LED, no red LED: serial Modbus connection incomplete, grounded, or reverse polarity	Lack of external communication to the motor	<ul style="list-style-type: none"> Correct the polarity. Correct the ground/shield/drain by termination at the main RTU device with a contiguous, isolated run from end of line to end of line. Remove any wrongful ground locations. Verify each connection point or break for proper termination of the conductors along the daisy chain. Verify the correct wire for the application is being used.
	Solid green LED, normal yellow heartbeat LED, no red LED: analog control unresponsive or incorrect motor speed	Incorrect signal voltage or incorrect I/O terminal connection	<ul style="list-style-type: none"> The +24v terminal on the I/O board is OUTPUT in DC voltage only. The digital input 1(DIN1) needs to receive 24v DC for the motor to start at minimum speed which can be set under Parameter Settings>Terminal Settings>AI1 Min Setting (%). The analog input(A_IN) by default will accept 0-10v for 0-100% speed.
	Red LED Fault LED illuminated	Internal electrical issue	<ul style="list-style-type: none"> Use MCS to determine fault, and Serial # for motor. Photograph motor label and reach out to Infinitum Support for assistance.
No connection to Motor Control Software via TCP (ethernet)	LEDs (green on, yellow flashing), No red LED	Incorrect motor operating mode	<ul style="list-style-type: none"> Change MCS operating mode on upper left corner of home screen.
	LEDs (green on, yellow flashing). No red LED	Incorrect IP address	<ul style="list-style-type: none"> Confirm static IP address: 172 17 20 153 / 255 255 0 0

Issue	Observations	Probable Cause	Mitigation
MCS connects to motor, but motor won't start	Fault observed in upper right corner of MCS	Internal motor fault	<ul style="list-style-type: none"> • Create a save state to record the data. • Confirm the motor parameters are set to what is needed for the spec of the fans. • Record the state of the motor and the order of the faults as they are listed. • Refer to Fault Page on the Infinitem Support page for information. • Clear Faults with the MCS and see if the motor will restart at the Minimum RPM. • If the motor starts, then observe its operation for 15 mins listening and looking for any defects. • If the observation is ok turn the motor to mid the full RPM for 10 mins each. • If the motor runs for both with no issues, then remove the laptop and return motor to service.
MCS connects to motor, but motor has Modbus or Serial communication issues	MCS connects to motor. No operation via Modbus or Serial	Cable, or Board issue	<ul style="list-style-type: none"> • LOTO the motor at the mainline disconnect and follow your company procedure to ensure no power. • Check L1, L2, L3 on the motor after LOTO to confirm no power. • Are wires stripped properly and inserted into the terminal – Remove wires and re-seat to confirm. • Review boards and wiring inside of motor access panel to determine if anything looks burnt, unplugged, or out of place. • Contact Infinitem Support with any concerns. Pictures will help. • MAKE SURE MOTOR HAS POWER REMOVED AND LOTO – Then physically spin motor to see if it spins freely. • If there is resistance record it with a video and send to Infinitem Support. • If motor spins freely then remove the CIO 24V DC Comm wires and use a meter to check them. • Check all wires in the array of fans that are for the Modbus/Coms. • Confirm shields are terminated where needed, solid connections are made, and wires are not pinched/nicked anywhere. • It may be necessary to remove all connections and reseat them back in the terminals/connectors. • It is very important to have good connections on the Modbus/Comm side. • Make sure all motors in the array have the end of line jumper or end of line resistor installed per specs and only at the end of line. • Confirm all motors that are not end of line motors have the comm dipswitch in the off position. • Remove field wires for the Modbus comms making sure the ends do not touch and are safely covered with tape or connectors. • Install wires from USB to RS485 adapter in the comm ports. • See if the motor will run using only the MCS and attached wires. • If YES then there is a field wire issue. • If NO then contact Infinitem Support for a new CIO board.
MCS connects to motor but not delivering 100% power	Motor is running, LEDs are normal (green ON, yellow flashing)	Power wiring, or Board issue	<ul style="list-style-type: none"> • Perform LOTO. • Remove VFD access cover on Gen2 or entire drive cover on Gen3 VFD. • Confirm connections for power connections, measure the main 460 VAC line-in wiring for all three phases. • The motor will run even if one phase is lost.