Fast Troubleshooting

The usual suspects, in the order worth checking.

Symptom	Likely causes	Check first
Temp reads extremely low or high (e.g. −40 or 300+ °F)	Open or shorted sensor; wrong thermistor type configured; wiring on the wrong input	Measure resistance at the controller with the sensor disconnected and compare to the sensor's chart
Temp reads a few degrees off everywhere	Wrong sensor curve; lead resistance on a long run (matters for 1k RTDs, rarely for 10k thermistors); sensor in a bad location	Confirm the sensor type setting; compare at the sensor with a reference
AO commands but the device doesn't move	No actuator power; wrong signal type (0–10 V vs 2–10 V vs 4–20 mA); wiring reversed	Measure the output signal at the actuator, then the actuator supply
Valve or damper moves backward	Normally open device configured as normally closed; actuator direction switch	Check the device spec, actuator direction setting, and output reverse-acting option
BO commands but equipment won't start	HOA in Hand or Off; VFD not in Auto; safety circuit open; wired to the wrong relay contact	Check HOA and drive mode, then the safety chain, then NO vs NC contact
Status says running when it's off (or the reverse)	Current switch setpoint wrong; belt broken; status wired to the wrong input	Look at the equipment, then adjust or replace the current switch
Analog value scaled wrong	Range or units configured wrong; 0–10 V vs 2–10 V mismatch; wrong transmitter range	Compare the transmitter nameplate range to the BAS scaling
MS/TP devices drop offline or are intermittent	Duplicate MAC; missing or extra termination; baud mismatch; star wiring; shields grounded at both ends; Max Master too low	Check MAC addresses and termination first, then baud and wiring layout
Device won't discover on BACnet/IP	Wrong subnet or VLAN; duplicate device instance; BBMD or firewall blocking UDP 47808	Confirm IP settings and device instance, then the network path
Network point value is stale	COV not subscribed; poll rate too slow; device offline; wrong object mapped	Compare to the equipment display and check the poll or COV setting
Controller resets or loses program	Undersized or shared transformer; voltage sag on equipment start; failed backup battery	Measure supply voltage during equipment starts

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