TB024 (Rev1) - Servo Drive - Troubleshooting

Servo3IO Troubleshooting

Symptom	Possible Cause	Corrective Action
Drive on-line LED off	Logic Power not applied	Measure +5V and +12V at the connector, correct supply problems
	Motion control card hasn't booted up	Start software, wait for the main screen to load
	Fibers 4 and 5 connected incorrectly or faulty	Check connections one at a time, swap with a known good set of fibers
	"Servo Power Removed" due to fault	Restart system to reset runaway or other serious fault condition
	Incorrect .HEX file	Make sure CNC8.HEX is loading and there is no CNC9.HEX file
LEDs on, but motor doesn't run	Axis Fuse blown	Check fuses with a meter, replace as necessary
LEDs on, but motor doesn't run	Limits tripped	Push down the limit defeat switches
No analog output or non-linear output	Incorrect Parameter 31 setting	Set P31 to 1 or 2 depending on which COM port is being used
	No communication to analog section	Check DB9TXS, fiber and COM port
PLC Failure detected	Motion control card hasn't booted up	Start software, wait for the main screen to load
	Fibers 1, 2, or 3 connected incorrectly or faulty	Check connections one at a time, swap with a known good set of fibers
	Incorrect PIC on CPU7	Install CPU711 PIC

DC3IO Troubleshooting

Symptom	Possible Cause	Corrective Action
All status LEDs out	Logic power not applied	Measure +5V and +12V at the connector, correct wiring or supply problems
USV LED out	No motor voltage	Measure voltage at input terminals, check contactors, wiring, and fuses accordingly
	Insufficient motor voltage	Voltage should be over 30 VDC
DF LED out	Motion control card hasn't booted up	Start software, wait for the main screen to load
	Fibers 4 and 5 connected incorrectly or faulty	Check connections one at a time, swap with a known good set of fibers
	"Servo Power Removed" due to fault	Restart system to reset runaway or other serious fault condition
	Incorrect .HEX file	Make sure CNC8.HEX is loading and there is no CNC9.HEX file
PLC OK LED out	Motion control card hasn't booted up	Start software, wait for the main screen to load
	Fibers 1, 2, or 3 connected incorrectly or faulty	Check connections one at a time, swap with a known good set of fibers
	Incorrect PIC on CPU7	Install IO2PIC
LEDs on, but motor doesn't run	Axis Fuse blown	Check fuses with a meter, replace as necessary
	Limits tripped	Push down the limit defeat switches
No analog output or non-linear output	Incorrect Parameter 31 setting	Set P31 to -1
XVCC LED out	Overload has damaged PLC section	Return for Repair
+12, -12, or +5 LED out	Overload has damaged analog section	Return for Repair

Servo1 / Quad Drive Troubleshooting

Symptom	Possible Cause	Corrective Action
All Status LEDs out	Logic power not applied	Measure +5V and +12V at the connector, correct wiring or supply problems
UV LED out	No motor voltage	Measure voltage at input terminals, check contactors, wiring, and fuses accordingly
	Insufficient motor voltage	Voltage should be over 30 VDC
USV LED out & UV LED on	Switcher power supply bad	Return for repair
DF LED out	Motion control card hasn't booted up	Start software, wait for the main screen to load
	Fibers 4 and 5 connected incorrectly or faulty	Check connections one at a time, swap with a known good set of fibers
	"Servo Power Removed" due to fault	Restart system to reset runaway or other serious fault condition
	Incorrect .HEX file	Make sure CNC8.HEX is loading and there is no CNC9.HEX file
LEDs on, but motor doesn't run	Axis Fuse blown	Check fuses with a meter, replace as necessary
	Limits tripped	Unplug limit switch cable and defeat limits on drive to see if this is the problem
	Drive Fault Cable	Unplug drive fault cable and defeat drive fault signal to see if this is the problem

SD3 / SD1 Troubleshooting

Symptom	Possible Cause	Corrective Action
Logic Power LED off	Logic Power to drive not applied	Measure Logic power at drive (Logic Power, VM-). It should be at least 100 VDC
Drive Power LED off	No Motor Voltage	Measure voltage at input terminals (VM+, VM-), check contactors, wiring, and fuses accordingly.
LEDs on but motor doesn?t run	Axis Fuse blown	Check fuses with a meter, replace as necessary
	Incorrect .HEX file	Make sure CNC9.HEX is loading
	Limits tripped	Check Limits
	Bad drive	Return for repair
X, Y, Z, W axis Servo Drive Data Input or Output Error	Logic Power to drive not applied	Measure Logic power at drive (Logic Power, VM-). It should be at least 100 VDC
	No communication to / from SD1	Check Ribbon Cables to other drives
	Bad Drive	Return for repair

Document History

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