CNC REPAIR & SALES

Troubleshooting Yaskawa CACR-SRxx YASKAWA SERVOPACK

LED Indication

LED	Description	Powered up Condition	Probable Cause	Corrective Action
1.	Overcurrent	* Goes ON when power is supplied to the control circuit (r & s)	Servopack failure.	*Replace SERVOPACK
		* Goes ON when power is supplied to the main Circuit and servo power is turned ON MCCB does not trip	Servopack failure	*Replace the SERVOPACK *Check Regen Resistor to ground
		*Goes ON when power is supplied to the main Circuit and servo power is turned ON. -. showed on display	Servopack failure	Replace the SERVOPACK
		*Goes ON when power is supplied to the main circuit and axis commanded to move	Servopack failure	*Replace the SERVOPACK, Megger motor & motor wiring. Motor wiring shorts cause servopack failure!
		*Goes ON When the motor accelerates or decelerates. New commissioning only	*Incomplete (1 PWB) VR5 adjustment	Calibrate VR5 only on new installs, this is not a field failure. Replace the SERVOPACK
2.	Circuit Breaker tripped (bottom left corner of drive)	*Goes ON When power is supplied to the main circuit	*Servopack failure *(DO NOT TURN ON AGAIN)	*Replace the SERVOPACK
		*Goes ON During Operation		*Replace the SERVOPACK
3.	Regenerative Trouble	*Goes ON when power is supplied to the control circuit	Servopack failure	Replace Servopack
		*Goes ON approximately 0.5 to 1 second after power is supplied to the main circuit	*Regenerative transistor disconnection *No regenerative resistor connection (SR60BB)	Servopack must have REGEN Resistor to run CHECK EXTERNAL REGEN RESISTOR, TYPICALLY 30-50 OHMS.
4.	Overvoltage	* Goes ON when the motor accelerates or decelerates	*Load inertia (GD) is too large *Defective regenerative circuit	*Check the Inertia of the machine with the value converted to the motor shaft. CHECK EXTERNAL REGEN RESISTOR, TYPICALLY 30-50 OHMS. *Replace the SERVOPACK
5.	Overspeed	*When the reference command is input, the motor runs fast (overspeeds) and **5** goes ON	*Motor correction error *Optical encoder connection error *The reference input voltage is too large	*Correct motor connection *Check pulses in phases A, B, C, U, V and W on 2CN, and correct wiring *Decrease the reference input voltage
6.	Voltage Drop	*Goes ON when power is supplied to the main circuit	Servopack failure AC source voltage too low. Running on phase converter	*Replace the SERVOPACK *Check R&T voltage, SHOULD BE 200VAC Try swapping source phases
7.	Overload	*Goes ON when power is supplied to the control circuit	Servopack failure	*Replace the SERVOPACK
		*Goes ON during operation -when power to the correct power to the control circuit is turned OFF and then ON again, the operation starts	*Operation with 105% to 130% or more of the rated load	*Check and correct the load (May be overload) *Comes off if an output phase stays H or L too long. Use torque limit to prevent this alarm.
R.	Heat Sink Overheat	*Goes ON during Operation -when power to the control circuit is turned OFF and then ON again. **7** and **R** goes ON again. When reset later, the operation starts	*Fan has stopped, Temperature around the SERVOPACK exceeds 55C	*Check ALL FANS. Running hot significantly reduces servopack expected lifetime.
		*The motor rotates, but the torque is unavailable. When the power to the control circuit is turned OFF and then ON again, the operation starts, but the torque is still unavailable.	*Motor circuit error connection such as U – V, V – W, W – U, or single phase connection	*Correct the connection

	LED	Lighting Condition	Probable Cause	Corrective Action
b.	A/D Error	*Goes ON when power is supplied to the control circuit	Defective servopack	*Replace the SERVOPACK
	CPU Error	*Goes ON during operation	Defective servopack	*Replace the SERVOPACK
F.	Open Phase	*Goes ON when power is supplied to the control circuit *Goes ON when power is supplied to the main circuit	Defective servopack *Poor connection to a 3 phase source. Running on too small phase converter.	*Replace the SERVOPACK *Check 3 phase source for 200VAC. Check and correct the connection. Look for loose & overheating terminals in 3 phase source.
C.	Overrun Prevention -Encoder error-	*Goes ON when power is supplied to the control circuit. *The motor starts momentarily, then C goes ON	Defective servopack Dip switch 1 set incorrectly Motor connection error *Optical encoder connection error	*Replace the SERVOPACK *Correct dip switch settings and cycle power. Correct motor wiring. *Check and correct pulses in phases A, B, C, U, V and W with 2CN

TROUBLE	CHECK ITEMS	WHAT TO DO
MCCB trips immediately after the Power ON And Servo ON	Replace servopack, Megger motor, examine motor wiring. Drive has failed, but motor or motor wiring may be root cause!	Replace servopack (common) Replace the motor wiring (common in vertical mills) Rebuild motor (rare case)
The reference is input, but the motor does not run	Drive is enabled only if display shows . **DOT ONLY** **DASH & dot** is standby!, motor not on. **MP** is 200VAC is OK **P** is control power OK **IN** is command exceeds 60mv. *Speed reference voltage	Check outputs of CNC to insure that drives really are enabled. *Check the AC Power Supply, 200VAC If IN is not lit, drive is not receiving any command. Check command signal at source.

TROUBLE	CAUSE	WHAT TO DO
Motor rotates even if the speed reference voltage is zero volts	Offset error in command signal	Adjust VR3 ZERO for no motor rotation with zero command input.
Motor vibrates or vibration frequency is too high, approx 200 to 300 Hz. When vibration frequency equals 60 hertz.	Speed loop gain is too high *Excessively long lead of SERVOPACK input circuit *Noise interference due to binding of signal line and power wires together	Turn VR5 **LOOP** CCW to decrease the speed loop gain. New commissioning installations only. New commissioning installations only. *Decrease length of command signal. *Separate command signal from power line wiring Only applies to new commissioning installations. Also, Make sure all grounding connections are correct.
Motor speed overshoot is too large at starting or stopping	Speed loop gain is too high	Turn **LOOP** CCW to decrease the speed loop gain.
Axis runs in only one direction	Overtravel limit switch stuck, preventing travel in “dangerous” direction	Replace stuck limit switch