

## Chapter 10 Troubleshooting

When the inverter is tripped check what the cause is and rectify as required.

Take counter measures by referring to this manual in case of any malfunctions on inverter. Should it still be unsolved, contact the manufacturer. Never attempt any repairs without due authorization.

Table 10-1 Inverter's Common Cases of Malfunctions

Fault	Description	Causes	Possible Solution
AErr	Line Disconnected	<ul style="list-style-type: none"> <li>* Analog signal line disconnected</li> <li>* Signal source is broken</li> </ul>	<ul style="list-style-type: none"> <li>* Change the signal line</li> <li>* Change the signal source</li> </ul>
CE	Communication Timeout	<ul style="list-style-type: none"> <li>* Communication fault</li> </ul>	<ul style="list-style-type: none"> <li>* PC/PLC does not send command at fixed time</li> <li>* Check whether the communication line is connected reliably</li> </ul>
EP/EP2/EP3	Inverter under-load	<ul style="list-style-type: none"> <li>* Water pump dries up.</li> <li>* Belt is broken.</li> <li>* Equipment is broken.</li> </ul>	<ul style="list-style-type: none"> <li>* Supply water for pump</li> <li>* Change the belt.</li> <li>* Repair the equipment.</li> </ul>
Err1	Password is Wrong	<ul style="list-style-type: none"> <li>* When password function is valid, password is set wrong</li> </ul>	<ul style="list-style-type: none"> <li>* Set password correctly</li> </ul>
Err2	Parameters Tuning Wrong	<ul style="list-style-type: none"> <li>* incorrect motor parameters entered</li> </ul>	<ul style="list-style-type: none"> <li>* Connect motor correctly</li> </ul>
Err3	Current Malfunction Before Running	<ul style="list-style-type: none"> <li>* Current alarm signal exists before running</li> </ul>	<ul style="list-style-type: none"> <li>* Check if control board is properly connected to power board</li> <li>* Contact Parker</li> </ul>
Err4	Current Zero Excursion Malfunction	<ul style="list-style-type: none"> <li>* Flat cable is loosened</li> <li>* Current detector is broken</li> </ul>	<ul style="list-style-type: none"> <li>* Check the flat cable</li> <li>* Contact Parker</li> </ul>
Err5	PID Parameters are set Wrong	<ul style="list-style-type: none"> <li>* PID parameters are set wrong.</li> </ul>	<ul style="list-style-type: none"> <li>* Set the parameters correctly</li> </ul>
FL	Flycatching Fault	Flycatching failure	<ul style="list-style-type: none"> <li>* Track again</li> <li>* Contact manufacturer</li> </ul>
GP	Ground fault	<ul style="list-style-type: none"> <li>* Motor cable is broken and short-circuit to earth</li> <li>* The insulation of motor is broken and short circuit to earth</li> <li>* Inverter has fault</li> </ul>	<ul style="list-style-type: none"> <li>* Change motor cable</li> <li>* Repair or replace motor</li> <li>* SEE ALSO: OC, OC2 and ERR4</li> </ul>
L.U.	Under-Voltage Protection	<ul style="list-style-type: none"> <li>* Input voltage on the low side</li> </ul>	<ul style="list-style-type: none"> <li>* check if supply voltage is normal</li> <li>* check if parameter setting is correct</li> </ul>
nP	Pressure control	<ul style="list-style-type: none"> <li>* Pressure is too high when negative feedback.</li> <li>* Pressure is too low when positive feedback.</li> <li>* Inverter enters into the dormancy status.</li> </ul>	<ul style="list-style-type: none"> <li>* Decrease the min frequency of PID.</li> <li>* Reset inverter to normal status.</li> </ul>
OC	Overcurrent	<ul style="list-style-type: none"> <li>* too short acceleration time</li> <li>* short circuit at output side</li> <li>* locked rotor with motor</li> <li>* parameter tuning is not correct</li> </ul>	<ul style="list-style-type: none"> <li>* prolong acceleration time</li> <li>* is motor cable broken</li> <li>* check if motor overloads</li> <li>* reduce V/Hz compensation value</li> <li>* measure parameter correctly</li> </ul>
OC1	Overcurrent 1		
O.E.	DC Over-Voltage	<ul style="list-style-type: none"> <li>* supply voltage too high</li> <li>* load inertia too big</li> </ul>	<ul style="list-style-type: none"> <li>* check if rated voltage is input</li> <li>* add braking resistance(optional)</li> </ul>

## 10-2 Troubleshooting

Fault	Description	Causes	Possible Solution
		<ul style="list-style-type: none"> <li>* deceleration time too short</li> <li>* motor inertia rise again</li> <li>* parameter of speed loop PID is set abnormally</li> </ul>	<ul style="list-style-type: none"> <li>* increase deceleration time</li> <li>* set the parameter of rotary speed loop PID correctly</li> </ul>
O.H.	Heatsink Overheat	<ul style="list-style-type: none"> <li>* Environment temperature too high</li> <li>* Poor ventilation</li> <li>* Fan damaged</li> <li>* Carrier wave frequency or compensation curve is too high</li> </ul>	<ul style="list-style-type: none"> <li>* Improve ventilation</li> <li>* Clean air inlet and outlet and radiator</li> <li>* Install as required</li> <li>* Change fan</li> <li>* Decrease carrier wave frequency or compensation curve</li> </ul>
O.L1	Inverter Overload	<ul style="list-style-type: none"> <li>* load too heavy</li> </ul>	<ul style="list-style-type: none"> <li>* reduce load; *check drive ratio</li> <li>* increase inverter's capacity</li> </ul>
O.L2	Motor Overload	<ul style="list-style-type: none"> <li>* load too heavy</li> </ul>	<ul style="list-style-type: none"> <li>* reduce load; *check drive ratio</li> <li>* increase motor's capacity</li> </ul>
PCE	PMSM tuning fault	<ul style="list-style-type: none"> <li>* Load is too heavy</li> <li>* Motor parameters measurement is wrong</li> </ul>	<ul style="list-style-type: none"> <li>* Decrease the load</li> <li>* Measure motor parameters correctly</li> </ul>
P.F1.	Input Phase Loss	<ul style="list-style-type: none"> <li>* phase loss with input power</li> </ul>	<ul style="list-style-type: none"> <li>* check if power input is normal</li> <li>* check if parameter setting is correct</li> </ul>
PF0	Output Phase Loss	<ul style="list-style-type: none"> <li>* Motor is broken</li> <li>* Motor wire is loose.</li> <li>* Inverter is broken</li> </ul>	<ul style="list-style-type: none"> <li>* check if wire of motor is loose</li> <li>* check if motor is broken</li> </ul>

- No P.F1 protection for single-phase and three-phase under 4kW.

Flashing LEDs	Possible Solution
FWD LED Blinking	Inverter is waiting direction command

Table 10-2 Motor Malfunction and Counter Measures

Malfunction	Items to Be Checked	Counter Measures
Motor not Running	<ul style="list-style-type: none"> <li>Wiring correct?</li> <li>Setting correct?</li> <li>Too big with load?</li> <li>Motor is damaged?</li> <li>Malfunction protection occurs?</li> </ul>	<ul style="list-style-type: none"> <li>Get connected with power</li> <li>Check wiring</li> <li>Checking malfunction</li> <li>Reduce load</li> <li>Check against Table 10-1</li> </ul>
Wrong Direction of Motor Running	<ul style="list-style-type: none"> <li>U, V, W wiring correct?</li> <li>Parameters setting correct?</li> </ul>	<ul style="list-style-type: none"> <li>Correct wiring</li> <li>Set the parameters correctly</li> </ul>
Motor Turning but Speed Change not Possible	<ul style="list-style-type: none"> <li>Wiring correct for lines with given frequency?</li> <li>Correct setting of running mode?</li> <li>Motor overloaded?</li> </ul>	<ul style="list-style-type: none"> <li>Correct wiring</li> <li>Correct setting</li> <li>Reduce load</li> </ul>
Motor Speed Too High or Too Low	<ul style="list-style-type: none"> <li>Motor's rated value correct?</li> <li>Drive ratio correct?</li> <li>Inverter parameters are set in-corrected?</li> <li>Check if inverter output voltage is abnormal?</li> </ul>	<ul style="list-style-type: none"> <li>Check motor nameplate data</li> <li>Check the setting of drive ratio</li> <li>Check parameters setting</li> <li>Check V/Hz</li> <li>Characteristic value</li> </ul>
Motor Running Unstable	<ul style="list-style-type: none"> <li>Too big load?</li> <li>Too big with load change?</li> <li>Phase loss?</li> <li>Motor malfunction.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce load; reduce load change, increase capacity</li> <li>Correct wiring</li> </ul>
Power Trip	<ul style="list-style-type: none"> <li>Wiring current is too high?</li> </ul>	<ul style="list-style-type: none"> <li>Check input wiring</li> <li>Selecting matching air switch</li> <li>Reduce load</li> <li>Check inverter malfunction</li> </ul>