

6.2 Fault Codes and Troubleshooting

Display	Fault Name	Possible Causes	Solutions
Err02	Overcurrent during acceleration	Ground fault or short circuit exists in the output circuit.	Check whether short-circuit occurs on the motor, the motor cable or contactor.
		Acceleration time is too short.	Increase acceleration time.
		Customized torque boost or V/F curve is not appropriate.	Adjust the customized torque boost or V/F curve.
		The voltage is too low.	Adjust the voltage to normal range.
		The spinning motor is started.	Enable the catching a spinning motor function or start the motor after it stops.
		A load is added suddenly during acceleration.	Cancel the suddenly added load.
		The AC drive power class is small.	Replace a drive of larger power class.
		The braking resistor resistance is small. The braking resistor is short circuited.	Replace a new braking resistor.
Err03	Overcurrent during deceleration	Ground fault or short circuit exists in the output circuit.	Check whether short-circuit occurs on motor, motor cable or contactor.
		Acceleration time is too short.	Increase acceleration time.
		The voltage is too low.	Adjust the voltage to normal range.
		A load is added suddenly during deceleration.	Cancel the suddenly added load.
		Braking unit and braking resistor are not installed.	Install braking unit and braking resistor.
		The braking resistor resistance is small. The braking resistor is short circuited.	Replace a new braking resistor.
Err04	Overcurrent at constant speed	Ground fault or short circuit exists in the output circuit.	Check whether short-circuit occurs on the motor, motor cable or contactor.
		The voltage is too low.	Adjust the voltage to normal range.
		A load is added suddenly during running.	Cancel the suddenly added load.
		The AC drive power class is small.	Replace a drive of larger power class.
		The braking resistor resistance is small. The braking resistor is short circuited.	Replace a new braking resistor.
Err05	Overvoltage during acceleration	Input voltage is too high.	Adjust input voltage to normal range.
		An external force drives motor during acceleration.	Cancel the external force.
		Braking unit and braking resistor are not installed.	Install braking unit and braking resistor.
		Acceleration time is too short.	Increase acceleration time.
Err06	Overvoltage during deceleration	Input voltage is too high.	Adjust input voltage to normal range.
		An external force drives motor during deceleration.	Cancel the external force or install braking resistor.
		Deceleration time is too short.	Increase deceleration time.
		Braking unit and braking resistor are not installed.	Install braking unit and braking resistor.
Err07	Overvoltage at constant speed	Input voltage is too high.	Adjust input voltage to normal range.
		An external force drives motor during running.	Cancel the external force or install a braking resistor
Err08	Control power fault	Input voltage is not within the permissible range.	Adjust the input voltage in the permissible range.

Display	Fault Name	Possible Causes	Solutions
Err09	Undervoltage	Instantaneous power failure occurs	Reset the fault.
		The AC drive's input voltage is not within the permissible range.	Adjust the voltage to normal range.
		The bus voltage is abnormal.	Replace the AC drive.
		The rectifier bridge, the pre-charge resistor, the drive board or the control board are abnormal.	Replace the AC drive.
Err10	Drive overload	Load is too heavy or locked-rotor occurs on motor.	Reduce load or check motor and mechanical conditions.
		The AC drive power class is small.	Replace a drive of larger power class.
Err11	Motor overload	F9-01 (Motor overload protection gain) is set improperly.	Set F9-01 correctly.
		Load is too heavy or locked-rotor occurs on motor.	Reduce load or check motor and mechanical conditions.
		The AC drive power class is small.	Replace a drive of larger power class.
Err12	Input phase loss	Three phase input is abnormal.	Eliminate faults in external circuitry.
		Drive board is abnormal.	
		Lightning protection board is abnormal.	Contact the agent or Inovance.
		Control board is abnormal.	
Err13	Output phase loss	Motor winding is damaged.	Check resistance between motor cables. Replace motor if winding is damaged.
		The cable connecting the AC drive and the motor is abnormal.	Check for wiring errors and ensure the output cable is connected properly.
		The AC drive's three-phase outputs are unbalanced when the motor is running.	Check whether the motor three-phase winding is normal.
		The drive board or the IGBT is abnormal.	Replace the AC drive.
Err14	IGBT overheat	The ambient temperature is too high.	Lower the ambient temperature.
		The ventilation is clogged.	Clean the ventilation.
		The fan is damaged.	Replace the cooling fan.
		Thermally sensitive resistor of IGBT is damaged.	Replace the AC drive.
		The AC drive IGBT is damaged.	Replace the AC drive.
Err15	External equipment fault	External fault signal is input via DI.	Confirm that the mechanical condition allows restart (F8-18) and reset the operation.
		External fault signal is input via virtual I/O.	Confirm that the virtual I/O parameters in group A1 are set correctly and reset the operation.
Err16	Communication fault	Host computer is in abnormal state.	Check the cable of host computer.
		Communication cable is abnormal.	Check the communication cables.
		Communication parameters in group Fd are set improperly.	Set communication parameters in group Fd properly.
		After all the preceding checkings are done but the fault still exists, restore the default settings.	
Err18	Current detection fault	The drive board is abnormal.	Replace the AC drive.
Err21	EEPROM read-write fault	EEPROM chip is damaged	Replace the AC drive.
Err23	Short circuit to ground	Motor is short circuited to the ground.	Replace cable or motor.
		Top tube of the AC drive is damaged. Ask professional to check.	Replace the AC drive.

Display	Fault Name	Possible Causes	Solutions
Err26	Accumulative running time reached	Accumulative running time reaches the setting value.	Clear the record through parameter initialization.
Err27	User-defined fault 1	User-defined fault 1 is input via DI.	Reset the operation.
		User-defined fault 1 is input via virtual I/O.	
Err28	User-defined fault 2	User-defined fault 2 is input via DI.	Reset the operation.
		User-defined fault 2 is input via virtual I/O.	
Err29	Accumulative power-on time reached	Accumulative power-on time reaches the setting value.	Clear the record through parameter initialization.
Err30	Off load fault	The output current of AC drive is smaller than F9-64 (load loss detection level).	Check whether load is disconnected or the setting of F9-64 and F9-65 (load lost detection time) satisfies actual running condition.
Err31	PID feedback lost during running	PID feedback is smaller than the setting value of FA-26 (detection level of PID feedback loss).	Check PID feedback or set FA-26 properly.
Err40	Quick current limit	Load is too heavy or locked-rotor occurs on motor.	Reduce load or check motor and mechanical conditions.
		The AC drive power class is small.	Replace a drive of larger power class.
Err55	Slave faulty in speed synchronous	When speed synchronous is enabled, the master receives CAN communication data but does not detect the slave. Then Err55 is reported.	1. Check the slave CAN communication cable connection. 2. Check whether CAN communication of the slave is normal.

6.3 Symptoms and Diagnostics

Fault Name	Possible Causes	Solutions
There is no display at power-on.	The mains voltage is not input or too low.	Check the power supply.
	The AC Drive is damaged.	Replace the AC drive.
HC is displayed at power-on.	Cable between drive board and control board is in poor contact.	Re-connect the 4-pin cable and 28-pin cable.
	Control board is damaged	Replace the AC drive.
	The motor or motor cable is short circuited to ground.	Check whether short-circuit occurs on motor, motor cable or contactor.
	The mains voltage is too low.	Check the power supply.
Err14 (IGBT overheat) is detected frequently.	The setting of carrier frequency is too high.	Reduce carrier frequency (F0-15).
	The cooling fan is damaged, or ventilation is clogged.	Replace the fan or clean the ventilation.
	Components inside the AC drive are damaged (thermistor or others).	Replace the AC drive.
The motor does not rotate after the AC drive runs.	It is motor or motor cable problem.	Check that wiring between AC drive and motor is normal.
	Related AC drive and motor parameters are set improperly.	Restore the factory parameters and re-set the motor parameters properly.
	The drive board is faulty.	Replace the AC drive.
The DI terminals are disabled.	Related parameters are set incorrectly.	Check and set parameters in group F4 again.
	External signals are incorrect.	Re-connect external signal cables.
	The control board is damaged.	Replace the AC drive.

6 Troubleshooting

Fault Name	Possible Causes	Solutions
The AC drive detects overcurrent and overvoltage frequently.	Motor parameters are set improperly.	Set motor parameters or perform motor auto-tuning again.
	Acceleration/deceleration time is improper.	Set proper acceleration/deceleration time.
	Load fluctuates.	Contact the agent or Inovance.