Error Code List

Error code	Anomaly item	Detection Condition	Motion during Anomaly Detection			Recovery Condition	
			Detail	Ext Alarm	Communication ※	Method	Detail
E 0 1	High pressure anomaly (7th Trip) or High Pressure Switch Activated	High pressure of 11.7 [MPa] or over “E31” occurred 7 times within 1 hour	All stop	Yes	Yes	Manual	Operate S1 (operation SW) or power reset
E 0 3	Discharge gas temperature anomaly (3rd Trip)	Discharge gas temperature 118°C or over "E10" occurred 3 times within 2 hours	Stop compressor	Yes	Yes	Manual	After the discharge gas temperature goes down (75°C or below), operate S1 (Op SW) or reset the power
E 0 4	Discharge gas temperature sensor anomaly	Discharge gas temperature sensor open, or shorted	Stop compressor	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E 0 5	Low pressure sensor anomaly	Low pressure sensor open	All stop	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E 0 6	High pressure sensor anomaly	High pressure sensor open	All stop	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E 0 7	Suction gas temperature sensor anomaly	Suction gas temperature sensor open, or shorted	Continue normal operation (Indication only)	No	No	Auto	Auto reset when sensor signals return to normal
E 1 0	Discharge gas temperature anomaly (1st to 2nd Trip)	Discharge gas temperature is 118°C or over (1st to 2nd detection)	Stop compressor	No	No	Auto	Auto restart when the discharge gas temperature goes down (75°C or below)
E 1 8	Inverter communication anomaly	Inverter communication signals cannot receive for 25 sec.	Stop compressor	Yes	Yes	Manual	When communication signals return to normal, operate S1 (Op SW) or reset the power
E 1 9	Controller communication anomaly	No communication with controller for 10 min.	Continue normal operation by case operation signal	No	No	Auto	Auto reset When communication signals return to normal
E 2 3	Ambient temperature sensor anomaly	Ambient temperature sensor open, or shorted	All stop	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E 2 7	Gas cooler fan motor anomaly (1st to 9th Trip)	Fan motor rotation anomaly	Stop fan motor	No	No	Auto	Auto restart after stopping for 60 sec.
E 2 8	Gas cooler fan motor anomaly (10th Trip)	Fan motor rotation anomaly (Detected after 10th Trip of E27)	Stop fan motor	Yes	Yes	Manual	Manual reset (operate S1 (operation SW) or reset the power)
E 3 1	High pressure anomaly (1st to 6th Trip)	High pressure is 11.7 [MPa] or over (High Pressure Trip)	All stop	No	No	Auto	Auto restart after stopping for 5 min.
E 3 2	Refrigerant flood back alarm	Suction gas superheat (difference between the "suction gas temperature" and "evaporating temperature converted from low pressure") became 1 K or below continuously for 2 min.	Continue normal operation (Indication only)	No	No	Auto	Auto reset when the suction gas superheat ≥ 5 [K]
E 5 7	Refrigeration unit outlet temperature sensor anomaly	Refrigeration unit outlet temperature sensor open, or shorted	All stop	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E 5 9	Gas cooler outlet temperature sensor anomaly	Gas cooler outlet temperature sensor open, or shorted	All stop	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power

Note:

※ When the controller is connected, anomaly content is sent via the communication cable.

Error Code List

Error code				Anomaly item	Detection Condition	Motion during Anomaly Detection			Recovery Condition	
						Detail	Ext Alarm	Communication ※	Method	Detail
E	6	0		Inverter anomaly (1st to 9th Trip)	Inverter hardware anomaly	Stop compressor	No	No	Auto	Auto restart after stopping for 60 sec.
E	6	2		Inverter excess current (1st to 9th Trip)	Overload caused instantaneous excess current exceeding the protection level	Stop compressor	No	No	Auto	Auto restart after stopping for 60 sec.
E	6	4		Inverter overload (1st to 9th Trip)	Refrigeration unit input current is 9 [Arms] or above	Stop compressor	No	No	Auto	Auto restart after stopping for 60 sec.
E	6	6		Inverter out of sync (1st to 9th Trip)	Detected out-of-sync motor	Stop compressor	No	No	Auto	Auto restart after stopping for 60 sec.
E	6	8		PFC abnormal (1st to 9th Trip)	PFC circuit Fault	Stop compressor	No	No	Auto	Auto restart after stopping for 60 sec.
E	7	0		Inverter anomaly (10th Trip)	"E60" occurred 10 times in 1 hour	Stop compressor	Yes	Yes	Manual	After an inverter recovery, operate S1 (Op SW) or reset the power
E	7	2		Inverter excess current (10th Trip)	"E62" occurred 10 times in 1 hour	Stop compressor	Yes	Yes	Manual	After removing the cause of the anomaly, operate S1 (Op SW) , or reset the power
E	7	4		Inverter overload (10th Trip)	"E64" occurred 10 times in 1 hour	Stop compressor	Yes	Yes	Manual	After removing the cause of the anomaly, operate S1 (Op SW) , or reset the power
E	7	6		Inverter out of sync (10th Trip)	"E66" occurred 10 times in 1 hour	Stop compressor	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E	7	8		PFC abnormal(10th Trip)	PFC circuit Fault	Stop compressor	Yes	Yes	Manual	After removing the cause of the anomaly, operate S1 (Op SW) , or reset the power
E	8	0		Split cycle outlet temperature sensor anomaly	Split cycle outlet temperature sensor open, or shorted	All stop	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E	8	1		Intermediate pressure sensor anomaly	Intermediate pressure sensor open	All stop	Yes	Yes	Manual	When sensor signals return to normal, operate S1 (Op SW) or reset the power
E	8	2		Refrigerant shortage alarm	Split cycle electronic expansion valve opening ≥180 [step] continues for 10 min.	Indication only (Normal operation continues)	No	No	Auto	Auto reset when split cycle electronic expansion valve (MOV3) opening ≤175 [step]

Note:

※ When the controller is connected, anomaly content is sent via the communication cable.

Troubleshooting for Each Error Code

Indication	E 0 1	Detected Content	High pressure anomaly (7th Trip) or High Pressure Switch Activated
Probable Cause	High pressure anomaly (E31) occurred 7 times within 1 hour.		
Check	Refer to E31.		
Corrective Action	Refer to E31.		

Indication	E 0 3	Detected Content	Discharge gas temperature anomaly (3rd Trip)
Probable Cause	Discharge gas temperature anomaly (E10) occurred 3 times within 2 hours.		
Check	Refer to E10.		
Corrective Action	Refer to E10.		

Indication	E 0 4	Detected Content	Discharge gas temperature sensor anomaly
Probable Cause	1. Discharge gas temperature sensor connector (2P6) disconnected or contact failure		
	2. Discharge gas temperature sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (2P6) on the CS1-PCB is disconnected or loose.		
	2. Check the resistance value of the discharge gas temperature sensor, and check if the sensor and wiring is open or shorted. **[Method of checking]** Refer to “Method of Checking Sensor Characteristics” in the section “Failure Diagnosis”.		
Corrective Action	1. Correctly attach the connector (2P6) to the CS1-PCB.		
	2. Replace the discharge gas temperature sensor.		
	3. Replace the control PCB (CS1-PCB).		

Troubleshooting for Each Error Code

Indication	E 0 5	Detected Content	Low pressure sensor anomaly
Probable Cause	1. Low pressure sensor connector (3P1), or pressure sensor side connector disconnected or contact failure		
	2. Low pressure sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (3P1) on the CS1-PCB or the pressure sensor side connector is disconnected or loose.		
	2. Check the output voltage of the low pressure sensor, and check if the sensor and wire is open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
Corrective Action	1. Correctly attach the connector (3P1) to the CS1-PCB or pressure sensor side connector.		
	2. Replace the low pressure sensor.		
	3. Replace the control PCB (CS1-PCB).		

Indication	E 0 6	Detected Content	High pressure sensor anomaly
Probable Cause	1. High pressure sensor connector (3P3), or pressure sensor side connector disconnected or contact failure		
	2. High pressure sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (3P3) on the CS1-PCB or the pressure sensor side connector is disconnected or loose.		
	2. Check the output voltage of the high pressure sensor, and check if the sensor and wire is open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
Corrective Action	1. Correctly attach the connector (3P3) to the CS1-PCB or pressure sensor side connector.		
	2. Replace the high pressure sensor.		
	3. Replace the control PCB (CS1-PCB).		

Troubleshooting for Each Error Code

Indication	E 0 7	Detected Content	Suction gas temperature sensor anomaly
Probable Cause	1. Suction gas temperature sensor connector (2P5) disconnected or contact failure		
	2. Suction gas temperature sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (2P5) on the CS1-PCB is disconnected or loose.		
	2. Check the resistance value of the suction gas temperature sensor, and check if the sensor and wiring are open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
Corrective Action	1. Correct the attachment of the connector (2P5) on the CS1-PCB.		
	2. Replace the suction gas temperature sensor.		
	3. Replace the control PCB (CS1-PCB).		

Indication	E 1 0	Detected Content	Discharge gas temperature anomaly (1st and 2nd Trip)
Probable Cause	1. Compressor discharge gas temperature went up to 118°C or over.		
	2. Discharge gas temperature sensor failure		
	3. Discharge connector on CS1-PCB connection anomaly.		
Check	1. Check the cause of discharge gas temperature exceeding 118°C. (1) Split cycle electronic expansion valve (MOV3) failed. **[Method of checking]** Refer to "Method of Checking Coil Resistance of Electronic Expansion Valve" in the section "Failure Diagnosis". (2) Compressor failure, etc.		
	2. Check the resistance value of the discharge gas temperature sensor, and check if the sensor and wiring are open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
	3. Check if the discharge connector of the CS1-PCB has a connection anomaly.		
Corrective Action	1. Replace the split cycle electronic expansion valve (MOV3) or the compressor. (1) Check the attachment condition of split cycle electronic expansion valve (MOV3) along with its coil. In case of anomaly, replace the expansion valve (MOV3). (2) Check for any abnormal sounds in the compressor, or winding resistance and insulation resistance. In case of anomaly, replace the compressor.		
	2. Replace the discharge gas temperature sensor.		
	3. Correct attachment of discharge connector.		

Troubleshooting for Each Error Code

Indication	E 1 8	Detected Content	Inverter communication anomaly
Probable Cause	1. Communication line anomaly (connector disconnected, terminal disconnected, or wire broken)		
	2. Hardware failure (CS1-PCB, inverter)		
	3. Malfunction by noise, etc.		
Check	1. Check if anomaly exists in the communication line. (1) Check if connector (2P11) of CS1-PCB is disconnected. (2) Check if connector (CN14) of inverter-PCB is disconnected. (3) Check if the communication line is broken.		
	2. Restart power and check if the same problem occurs.		
Corrective Action	1. Correct the communication line. (1) Correct the attachment of the connector (2P11) on the CS1-PCB. (2) Correct the attachment of the connector (CN14) on the inverter-PCB. (3) Replace the communication line.		
	2. Replace the control PCB (CS1-PCB) or the inverter-PCB.		

Indication	E 1 9	Detected Content	Controller communication anomaly
Probable Cause	1. Communication line anomaly		
	2. Wrong communication setting		
	3. CS1-PCB or controller failed		
Check	1. Check if anomaly exists in the communication line. (1) Check if connector (5P2, 5P3) of CS1-PCB is disconnected. (2) Check if the communication line is broken.		
	2. Check communication setting. (1) Check if the refrigeration unit number has been set correctly. Check if the number is duplicated. (2) Check if the controller has been set correctly.		
Corrective Action	1. Correct the communication line. (1) Correct the attachment of the connector (5P2, 5P3) on the CS1-PCB. (2) Replace the communication line.		
	2. Redo the communication setting. (1) Correctly set the refrigeration unit number. (Other than “0”) (2) Correctly set the controller. For more detail, refer to the operating instructions of controller.		
	3. Replace the CS1-PCB or the controller. (1) Replace the control PCB（CS1-PCB）. (2) Check the operating instructions of controller and if it is failed, replace the controller.		

Troubleshooting for Each Error Code

Indication	E 2 3	Detected Content	Ambient temperature sensor anomaly
Probable Cause	1. Ambient temperature sensor connector (2P1) disconnected or contact failure		
	2. Ambient temperature sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (2P1) on the CS1-PCB is disconnected or loose.		
	2. Check the resistance value of the ambient temperature sensor, and check if the sensor and wiring is open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
Corrective Action	1. Correct the attachment of the connector (2P1) on the CS1-PCB.		
	2. Replace the ambient temperature sensor.		
	3. Replace the control PCB (CS1-PCB).		

Indication	E 2 7	Detected Content	Gas cooler fan motor anomaly (1st to 9th Trip)
Probable Cause	1. Gas cooler fan motor is abnormal. (Locked, fan disengaged, failed)		
	2. Wiring anomaly		
	3. PCB failed		
Check	**This alarm automatically recovers.** **If the alarm does not recover automatically, check the following items 1 and 2.**		
	1. Check if the fan motor is abnormal. (1) Fan motor locked: Cannot turn by hand. (2) Fan disengaged: Fan has been disengaged or fractured. (3) Fan motor internal PCB failed		
	2. Check the wiring. (1) Check if the connector is correctly connected. (2) Check if the wiring is not damaged.		
Corrective Action	1. Replace the fan motor or fan. (1) Replace the fan motor. (2) Replace the fan.		
	2. Correct the wiring. (1) Correct the connection of the connector. (2) If the wiring is damaged, replace the fan motor.		
	3. Replace the control PCB（CS1-PCB）or the inverter-PCB (fan motor).		

Troubleshooting for Each Error Code

Indication	E 2 8	Detected Content	Gas cooler fan motor anomaly (10th Trip)
Probable Cause	Gas cooler fan motor anomaly (E27) occurred 10 times.		
Check	Refer to E27.		
Corrective Action	Refer to E27.		

Indication	E 3 1	Detected Content	High pressure anomaly (1st to 6th Trip)
Probable Cause	High pressure went up to 11.7 MPa.		
Check	1. Investigate the cause of high pressure going up to 11.7 MPa. (1) Split cycle electronic expansion valve (MOV3) or Adjusting refrigerant amount electronic expansion vale (MOV4) failed **[Method of checking]** Refer to "Method of Checking Coil Resistance of Electronic Expansion Valve" in the section "Failure Diagnosis". (2) Gas cooler fan motor anomaly (E27 or E28 generated) (3) Refrigerant overcharge, etc.		
	2. Check the output voltage of the high pressure sensor, and check if the sensor and wire is open. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
	3. Check if the high pressure sensor connector (3P3) on the CS1-PCB or the pressure sensor side connector is disconnected or loose.		
Corrective Action	1. Check the attachment condition of the electronic expansion valve (MOV3, MOV4) along with its coil. In case of anomaly, replace the expansion valve (MOV3, MOV4).		
	2. When the gas cooler fan motor anomaly (E27 or E28) is present, refer to the description of error code E27.		
	3. If anomaly is not confirmed in above-mentioned "1" or "2", it is refrigerant overcharge. (1) Release the refrigerant from the access port of the low pressure service valve. • Refer to "Service Pipe Connection/Disconnection Method". • Set the low pressure service valve to the Mid-position (the access port is open), and the high pressure service valve to the back seated position. (2) Open the valve very slowly. Use caution for oil leak out. **Note:** Release refrigerant slowly to avoid oil leak out. (3) As CO_2 refrigerant is heavier to air, use caution for gas stagnation. (4) After completing refrigerant charge, close the access port of the low pressure service valve. (Set the low pressure service valve to the back seated position.)		
	4. When the "check content 2 or 3" above is abnormal: Replace the high pressure sensor or the control PCB (CS1-PCB).		

Troubleshooting for Each Error Code

Indication	E 3 2	Detected Content	Refrigerant flood back alarm
Probable Cause	Suction gas superheat of 1 K or below continued for 2 minutes or longer.		
Check	Check the degree of suction gas superheat, and check if refrigerant flood back is occurring. [Suction gas superheat = Suction gas temperature - Evaporating temperature (Low pressure conversion value)]		
Corrective Action	Adjust the cooling unit (Evaporator) side for maintaining suction gas superheat of 10 K or over, and no frost remaining in the cooling unit (Evaporator).		

Indication	E 5 7	Detected Content	Refrigeration unit outlet temperature sensor anomaly
Probable Cause	1. Refrigeration unit outlet temperature sensor connector (2P4) disconnected or contact failure		
	2. Refrigerating unit outlet temperature sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (2P4) on the CS1-PCB is disconnected or loose.		
	2. Check the resistance value of the refrigeration unit outlet temperature sensor, and check if the sensor and wiring is open or shorted. **[Method of checking]** Refer to “Method of Checking Sensor Characteristics” in the section “Failure Diagnosis”.		
Corrective Action	1. Correct the attachment of the connector (2P4) on the CS1-PCB.		
	2. Replace the refrigeration unit outlet temperature sensor.		
	3. Replace the control PCB (the CS1-PCB).		

Troubleshooting for Each Error Code

Indication	E 5 9	Detected Content	Gas cooler outlet temperature sensor anomaly
Probable Cause	1. Gas cooler outlet temperature sensor connector (2P3) disconnected or contact failure		
	2. Gas cooler outlet temperature sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (2P3) on the CS1-PCB is disconnected or loose.		
	2. Check the resistance value of the gas cooler outlet temperature sensor, and check if the sensor and wiring is open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
Corrective Action	1. Correct the attachment of the connector (2P3) on the CS1-PCB.		
	2. Replace the gas cooler outlet temperature sensor.		
	3. Replace the control PCB (the CS1-PCB).		

Indication	E 6 0	Detected Content	Inverter anomaly (1st to 9th Trip)
Probable Cause	1. Inverter-PCB hardware anomaly or failed		
	2. Loss of phase (S phase)		
	3. Malfunction by noise, etc.		
Check	1. Restart power and check if the same problem occurs.		
	2. Check the power voltage. (Between R-S, S-T, T-R phase)		
Corrective Action	1. Replace the inverter-PCB.		
	2. Repair the power supply unit.		

Troubleshooting for Each Error Code

Indication	E 6 2	Detected Content	Inverter excess current (1st to 9th Trip)
Probable Cause	1. Overload caused instantaneous excess current exceeding the protection level.		
	2. Compressor anomaly (short-circuit, ground fault, locked, etc.)		
	3. Short-circuit or ground fault of the connecting line between the inverter and compressor		
	4. Input power anomaly (instantaneous power failure, instantaneous voltage drop, Loss of phase, etc.)		
	5. Inverter hardware failed		
	6. Malfunction by noise, etc.		
Check	1. Check the reason for overload operation. Check if gas cooler fan motor anomaly (E27, E28) exists.		
	2. Check if the compressor is abnormal. (1) Check the compressor motor winding resistance value. (2) Check the insulation resistance between compressor terminal block and ground. (3) Check if the current value is too high (9 [Arms] or above).		
	3. Check if any anomaly exists in the connecting line between the inverter and compressor. (1) Check if any problem exists such as loose terminal, wire breakage, etc. (2) Check if any damage exists in the wiring. (3) Check if any change of color exists in the 3-pole junction connector.		
	4. Check if any anomaly exists in the power supply. (1) Check if any problem exists in the power input wiring (loose terminal, wire breakage, etc.) (2) Check if any anomaly existed in the power supply (voltage drop, etc.).		
Corrective Action	1. Eliminate the cause of overload operation. When the gas cooler fan motor anomaly (E27 or E28) is present, refer to the description of error code E27.		
	2. Replace the compressor.		
	3. Correct the connecting wire between the inverter and compressor. (1) Correct the wire connection. (2) Replace the wiring. (3) Replace the inverter-PCB and wiring.		
	4. Eliminate anomaly in the power supply. (1) Correct the connection of the power input wiring. (2) Eliminate the cause of power supply anomaly (Repair the power supply unit, etc.).		
	5. Replace the inverter-PCB.		

Troubleshooting for Each Error Code

Indication	E 6 4	Detected Content	Inverter overload (1st to 9th Trip)
Probable Cause	1. Overload caused excess current exceeding the protection level.		
	2. Input power supply anomaly (Voltage drop)		
Check	1. Check the cause of overload operation. Check if gas cooler fan motor anomaly (E27, E28) exists.		
	2. Check if any anomaly exists in the power supply. (1) Check if any problem exists in the wiring connection of power input (loose terminal, wire breakage, etc.). (2) Check if any anomaly existed in the power supply (voltage drop, etc.).		
Corrective Action	1. Eliminate the cause of overload. When the gas cooler fan motor anomaly (E27 or E28) is present, refer to the description of error code E27.		
	2. Eliminate anomaly in the power supply. (1) Correct the connection of the power input wiring. (2) Eliminate the cause of power supply anomaly (Repair the power supply unit, etc.).		

Indication	E 6 6	Detected Content	Inverter out of sync (1st to 9th Trip)
Probable Cause	1. Overload caused out-of-sync		
	2. Compressor motor is abnormal (locked)		
	3. Inverter hardware failed		
Check	1. Check the cause of overload operation. Check if gas cooler fan motor anomaly (E27, E28) exists.		
	2. Check if the compressor motor is abnormal. Check if the current value is not too high (approx. 10 A in several seconds).		
Corrective Action	1. Eliminate the cause of overload. When the gas cooler fan motor anomaly (E27 or E28) is present, refer to the description of error code E27.		
	2. Eliminate anomaly in the power supply. (1) Correct the connection of the power input wiring. (2) Eliminate the cause of power supply anomaly (Repair the power supply unit, etc.).		
	3. Replace the compressor.		
	4. Replace the inverter-PCB.		

Troubleshooting for Each Error Code

Indication	E 6 8	Detected Content	PFC abnormal (1st to 9th Trip)
Probable Cause	1. Wiring anomaly.		
	2. Input power supply anomaly.		
	3. PCB failed.		
Check	1. Check the connection to the inverter PCB.		
	2. Check whether abnormality occurred in the power supply.		
Corrective Action	1. Correctly attach the connector to the inverter PCB.		
	2. Eliminate anomaly in the power supply. (1) Correct the connection of the power input wiring. (2) Eliminate the cause of power supply anomaly (Repair the power supply unit, etc.).		
	3. Replace the inverter PCB.		

Indication	E 7 0	Detected Content	Inverter anomaly (10th Trip)
Probable Cause	Inverter-PCB hardware anomaly (E60) occurred 10 times in 1 hour.		
Check	Refer to E60.		
Corrective Action	Refer to E60.		

Troubleshooting for Each Error Code

Indication	E 7 2	Detected Content	Inverter excess current (10th Trip)
Probable Cause	Inverter instantaneous excess current (E62) occurred 10 times in 1 hour.		
Check	Refer to E62.		
Corrective Action	Refer to E62.		

Indication	E 7 4	Detected Content	Inverter overload (10th Trip)
Probable Cause	Inverter overload (E64) occurred 10 times in 1 hour.		
Check	Refer to E64.		
Corrective Action	Refer to E64.		

Indication	E 7 6	Detected Content	Inverter out of sync (10th Trip)
Probable Cause	Inverter out-of-sync detection (E66) occurred 10 times in 1 hour.		
Check	Refer to E66.		
Corrective Action	Refer to E66.		

Indication	E 7 8	Detected Content	PFC abnormal (10th Trip)
Probable Cause	PFC abnormal detection (E68) occurred 10 times in 1 hour.		
Check	Refer to E68.		
Corrective Action	Refer to E68.		

Troubleshooting for Each Error Code

Indication	E 8 0	Detected Content	Split cycle outlet temperature sensor anomaly
Probable Cause	1. Split cycle outlet temperature sensor connector (2P2) disconnected or contact failure		
	2. Split cycle outlet temperature sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (2P2) on CS1-PCB is disconnected or loose.		
	2. Check the resistance value of the split cycle outlet temperature sensor, and check if the sensor and wiring is open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
Corrective Action	1. Correct the attachment of the connector (2P2) on the CS1-PCB.		
	2. Replace the split cycle outlet temperature sensor.		
	3. Replace the control PCB (the CS1-PCB).		

Indication	E 8 1	Detected Content	Intermediate pressure sensor anomaly
Probable Cause	1. Intermediate pressure sensor connector (3P2) or pressure sensor side connector disconnected or contact failure		
	2. Intermediate pressure sensor failure		
	3. Control PCB (CS1-PCB) failed		
Check	1. Check if the connector (3P2) on CS1-PCB, or pressure sensor side connector is disconnected or loose.		
	2. Check the output voltage of intermediate pressure sensor and check if the sensor and wire is open or shorted. **[Method of checking]** Refer to "Method of Checking Sensor Characteristics" in the section "Failure Diagnosis".		
Corrective Action	1. Correct the attachment of the connector (3P2) on the CS1-PCB or pressure sensor side connector.		
	2. Replace the intermediate pressure sensor.		
	3. Replace the control PCB (the CS1-PCB).		

Troubleshooting for Each Error Code

Indication	E 8 2	Detected Content	Refrigerant shortage alarm
Probable Cause	1. Refrigerant shortage was detected.		
Check	1. Check the cooling condition of a refrigerator, freezer, or showcase. 2. Check if any gas leak from connecting pipe, etc.		
Corrective Action	1. When refrigerant shortage is confirmed, charge additional refrigerant. (1) Perform cooling operation and charge additional refrigerant from the access port of the low pressure service valve. • Refer to “Service Pipe Connection/Disconnection Method”. • Set the low pressure service valve to the Mid-position (the access port is open), and the high pressure service valve to the back seated position. (2) Adjust valve opening during slow charging operation to avoid frosting beyond the service valve. (3) Guideline of charging rate of refrigerant is 20 g per 5 sec. Rapid charging forces liquid slugging by the compressor and may lead to a failure. (4) After completing refrigerant charge, close the access port of the low pressure service valve. (Set the low pressure service valve to the back seated position.) 2. When refrigerant gas leak is confirmed, refer to “Gas Leak Repair Procedure” , and repair the gas leak position.		