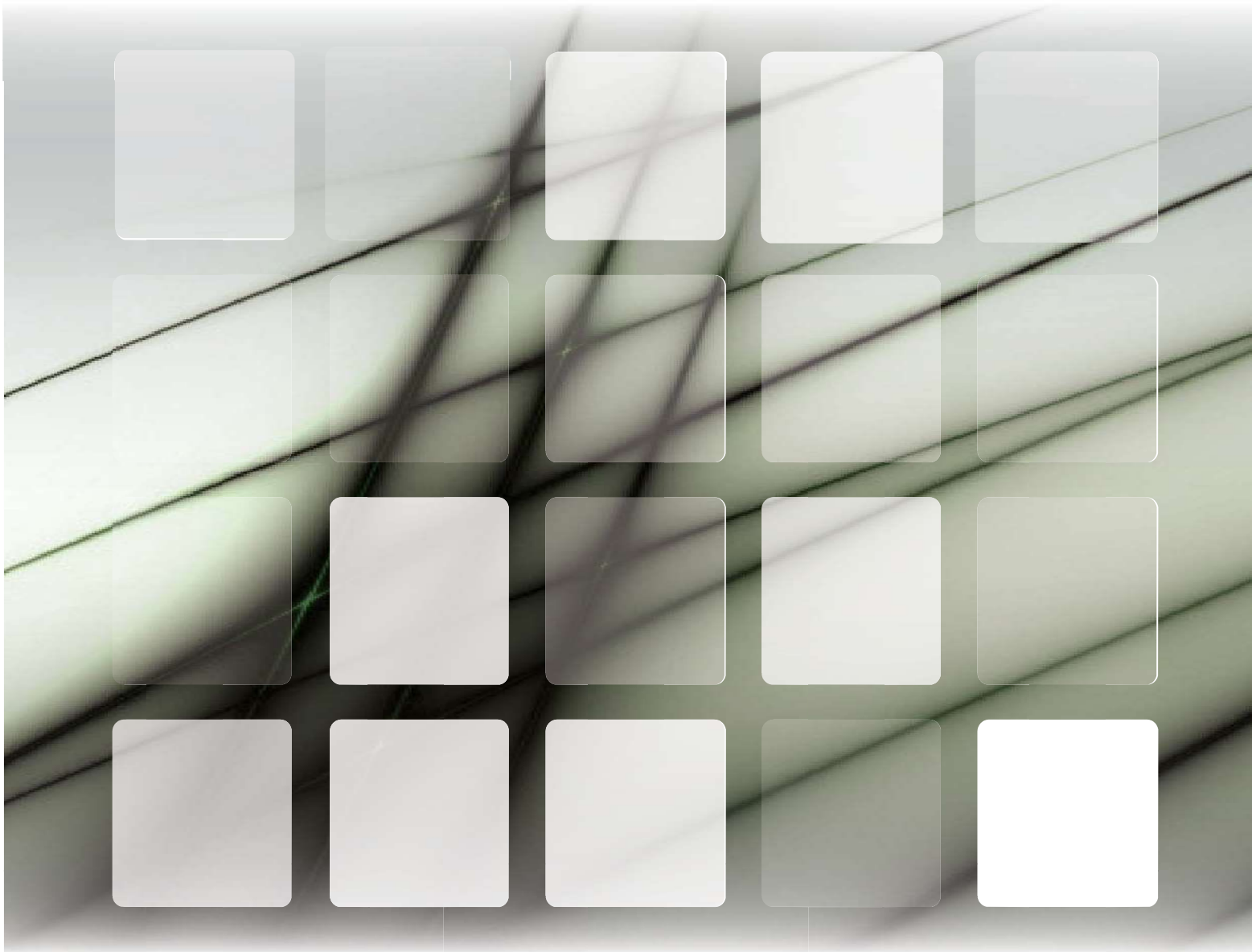


IEFC-D Series Floor Ceiling Service Manual



Trouble shooting

Fault information and codes

Ceiling and Floor:

1. Error code table(Indoor unit display)

IEFC018(24)J3A-DWG053(71)

Error code	Error definition	Error display
E0	IDU EPROM fault	Immediate display, spot check
E1	ODU communication fault	Immediate display, spot check
E3	IDU fan stall fault	Immediate display, spot check
E5	ODU temperature sensor or EPROM fault	Immediate display, spot check
E50	ODU temperature sensor fault	Immediate display, spot check
E51	ODU EPROM fault	Immediate display, spot check
E52	Outdoor coil T3 temperature sensor fault	Immediate display, spot check
E53	Outdoor ambient T4 temperature sensor fault	Immediate display, spot check
E54	Outdoor discharge temperature sensor fault	Immediate display, spot check
E55	Outdoor air return temperature sensor fault	Immediate display, spot check
E6	IDU temperature sensor fault	Immediate display, spot check
E60	IDU room temperature T1 sensor fault	Immediate display, spot check
E61	IDU pipe temperature T2 sensor fault	Immediate display, spot check
E7	ODU DC fan stall fault	Immediate display, spot check
E71	Outdoor fan over-current (external driving)	Immediate display, spot check
E72	Outdoor fan stall (external driving)	Immediate display, spot check
E73	Outdoor fan phase loss (external driving)	Immediate display, spot check
E74	Outdoor fan zero speed (external driving)	Immediate display, spot check
EE	Water level alarm error	Immediate display, spot check
P0	ODU IPM protection	Immediate display, spot check
P1	Voltage protection	Immediate display, spot check
P10	Low voltage protection	Immediate display, spot check
P11	High voltage protection	Immediate display, spot check
P12	Outdoor DC-side voltage protection	Immediate display, spot check
P2	Temperature protection for compressor top	Immediate display, spot check
P4	ODU compressor feedback protection	Immediate display, spot check
P40	Main control chip and driver chip communication fault	Immediate display, spot check
P41	Compressor current sampling circuit fault	Immediate display, spot check

P42	Compressor start-up fault	Immediate display, spot check
P43	Compressor phase loss protection	Immediate display, spot check
P44	Compressor zero speed protection	Immediate display, spot check
P45	Outdoor 341 main chip drive synchronization fault	Immediate display, spot check
P46	Compressor stall protection	Immediate display, spot check
P47	Compressor lock protection	Immediate display, spot check
P48	Compressor out-synchronous protection	Immediate display, spot check
P49	Compressor over-current protection	Immediate display, spot check
P6	Compressor high discharge temperature protection	Immediate display, spot check
P8	Outdoor electric control current protection	Immediate display, spot check
P81	ODU current protection	Immediate display, spot check
P82	Input AC current sampling circuit fault	Immediate display, spot check
PA	High temperature protection of condenser	Immediate display, spot check
PF	PFC switch power-off	Immediate display, spot check
P9	Evaporator high and low temperature protection	Code will not be displayed, but can be queried
P90	Evaporator high temperature protection	Code will not be displayed, but can be queried
P91	Evaporator low temperature protection	Code will not be displayed, but can be queried
L0	Evaporator high and low temperature frequency limit	Code will not be displayed, but can be queried
L1	Condenser high temperature frequency limit	Code will not be displayed, but can be queried
L2	Compressor discharge high temperature frequency limit	Code will not be displayed, but can be queried
L3	Current frequency limit	Code will not be displayed, but can be queried
L4	Voltage frequency limit	Code will not be displayed, but can be queried
L6	PFC fault frequency limit	Code will not be displayed, but can be queried

IEFC036(48,60)J3A-DWG105(140,160)

Error code	Error or protection definition	Error display
HF	IDU mismatching error	Immediate display, spot check
H4	L (L0/L1) error occurs three times in one hour, reporting H4, and this error is not recoverable. After H4 error, spot check may be performed on the latest three L errors (not limited to L0, L1). For example: report L0-L4-L8-L9-L0-L1 within one hour, and report H4 error. The errors for spot check are L9, L0, and L1.	Immediate display, spot check
E7	IDU EEPROM error	Immediate display, spot check
E9	ODU EEPROM error	Immediate display, spot check
E.9.	Wrong compressor model in parameter memory EPROM	Immediate display (display E9), spot check available
H0	Communication error between main control board and IR341	Immediate display, spot check
E1	Communication error between IDU and ODU	Immediate display, spot check
E2	T1 sensor error	Immediate display, spot check
E3	T2 sensor error	Immediate display, spot check
E4	T2B sensor error	Immediate display, spot check
E43	T3 sensor error	Immediate display, spot check
E44	T4 sensor error	Immediate display, spot check
E45	T5 sensor error	Immediate display, spot check
E5	Voltage protection error	After continuing 10 minutes Indoor unit

		displays, spot check available
E6	ODU DC fan error	After continuing 10 minutes Indoor unit displays, spot check available
EE	Water level alarm error	Immediate display, spot check
EH	TL sensor error	Immediate display, spot check
Eb	E6 error occurs six times in one hour, requiring power failure recovery	Immediate display, spot check
EF	PFC feedback resistance failure	After continuing 10 minutes Indoor unit displays, spot check available
PL	Heat sink TF high temperature protection	After continuing 10 minutes Indoor unit displays, spot check available
P1	High pressure protection	After continuing 10 minutes Indoor unit displays, spot check available
P2	Low pressure protection	After continuing 10 minutes Indoor unit displays, spot check available
P3	Input current protection	After continuing 10 minutes Indoor unit displays, spot check available
P4	Discharge temperature protection	After continuing 10 minutes Indoor unit displays, spot check available
P5	Outdoor condenser T3 high temperature protection	After continuing 10 minutes Indoor unit displays, spot check available
PE	Evaporator T2 high temperature protection	After continuing 10 minutes Indoor unit displays, spot check available
L0	Module protection is triggered	After continuing 10 minutes Indoor unit displays, spot check available
L1	DC bus low voltage protection	After continuing 10 minutes Indoor unit displays, spot check available
L2	DC bus high voltage protection	After continuing 10 minutes Indoor unit displays, spot check available
L4	MCE error	After continuing 10 minutes Indoor unit displays, spot check available
L5	Zero speed protection	After continuing 10 minutes Indoor unit displays, spot check available
L7	Phase loss	After continuing 10 minutes Indoor unit displays, spot check available
L8	Protection when the previous and next speed change is > 15Hz	After continuing 10 minutes Indoor unit displays, spot check available
L9	Protection for a difference of > 15Hz between the set speed and operating speed	After continuing 10 minutes Indoor unit displays, spot check available
F1	Detected DC bus voltage (PN voltage) < 200VDC for 5S after power-on	After continuing 10 minutes Indoor unit displays, spot check available
P8	Typhoon protection	After continuing 10 minutes Indoor unit displays, spot check available
EP	Ambient temperature less than or equal to 10°C in cooling mode	After continuing 10 minutes Indoor unit displays, spot check available

2. Spot check query function (Press the button on the display board to spot check the system parameters)

IEFC018(24)J3A-DWG053(71)

Sequence number	Spot check parameter contents	Remarks
01	Indoor unit T1 temperature	Actual value, temperature accurate to 0.5 °C
02	Indoor unit T2 temperature	Actual value, temperature accurate to 0.5 °C
03	Outdoor unit T3 temperature	Actual value, temperature accurate to 0.5 °C
04	Outdoor unit T4 temperature	Actual value, temperature accurate to 0.5 °C
05	Outdoor unit TP temperature	Actual value, it can display three digits such as 101 °C
06	Outdoor unit IPM temperature	Actual value, temperature accurate to 0.5 °C
07	Current compressor target frequency	Actual value
08	Current compressor operating frequency	Actual value
09	Current operating wind speed of internal fan	Actual value×10
10	Current operating wind speed of external fan	Actual value×10
11	Opening of electronic expansion valve of outdoor unit	No electronic expansion valve, it shows "0"
12	Voltage	Actual value
13	current	Actual value
14	Indoor unit program version number	
15	Indoor unit EEPROM parameter program version number	
16	Machine model	
17	the last fault code	No fault display "--"
18	the last but one fault code	No fault display "--"
19	the last but two fault code	No fault display "--"
20	nd	End

Fault and troubleshooting

Fault	Cause	Solution
Starting failure	Power failure	Wait for the power supply to be restored.
	Power switch is off	Turn on the power
	The fuse of the power switch is blown.	Replace the burnt fuse.
	The time set for the timed power-on has not arrived.	Replace the batteries.
	The batteries of the remote controller are exhausted.	Wait or cancel the setting.
There is air blowing, but the cooling/heating effect is poor.	The temperature setting is inappropriate.	Set the temperature properly. Increase or decrease the temperature. Read Operating Methods for details.
	The air inlet or outlet of the IDU or ODU is blocked	Remove the obstacles.
	Doors and windows are open.	Close the doors and windows.
There is air blowing, but the unit cannot supply cold or hot air.	The air inlet or outlet of the IDU or ODU is blocked.	Remove the obstacles and perform the operation again.
	Compressor 3-minute protection	Wait.
	The temperature setting is inappropriate.	Set the temperature properly.

Check button

- Check button: Spot check and display the status of IDUs.

1 The spot check of 018 / 024

Spot check No.	Displayed contents
01	IDU ambient temperature T1 with minimum display of -9°C
02	IDU coil temperature T2 with minimum display of -9°C
03	ODU coil temperature T3 with minimum display of -9°C
04	ODU ambient temperature T4 with minimum display of -9°C
05	ODU exhaust temperature TP
06	ODU IPM module temperature
07	Target frequency of compressor
08	Operating frequency of compressor
09	Operating fan speed of indoor fan
10	Operating fan speed of outdoor fan
11	Opening of ODU electronic expansion valve
12	Actual operating voltage
13	Actual operating current
14	IDU program version No.
15	IDU EPROM parameter program version No.
16	Model
17	The last error code
18	The second last error code
19	The third last error code
20	nd

2 The spot check of 036 / 048 / 060

Spot check No.	Displayed contents
01	Running mode(0:Standby 1:Fan only 2:Cooling 3:Heating 4:Force cooling 6:Dehumidify)
02	Fan Speed(0:Standby 2:Low Fan Speed 3:Middle Fan Speed 4:High Fan Speed)
03	IDU capacity HP
04	IDU total capacity requirement
05	Corrected capacity requirement of ODU
06	IDU setting temperature Ts
07	IDU ambient temperature T1
08	IDU coil temperature T2/T2B
09	ODU coil temperature T3
10	ODU ambient temperature T4
11	ODU exhaust temperature T5
12	ODU IPM module temperature TF
13	Refrigerant cooled temperature TL
14	Opening of ODU electronic expansion valve
15	Actual operating current
16	Operating current of compressor
17	Actual operating voltage
18	DC voltage
19	Model
20	Network address of IDU
21	ODU address in CCM controller
22	IDU program version No.
23	ODU program version No.
24	The last error code
25	--
26	IDU SN code detected

- Digital display: In Cooling and Heating modes, the digital display shows the set temperature. In Fan mode, it displays the indoor temperature. When an error occurs, it displays the error code (see the IDU manual for the error definitions).
- Running indicator: it is on when the power is turned on, off when the power is turned off, and flashes slowly while in standby mode.
- Timer indicator: When the timing function is on, the indicator is on.
- Defrosting indicator: When defrosting or anti-cold wind protection is enabled, the indicator is on.
- Auxiliary heating indicator: When the auxiliary heating function is on, the indicator is on; when the auxiliary heating function is off, the indicator is off.

10. TEST OPERATION

1 The test operation must be carried out after the entire installation has been completed.

2 Please confirm the following points before the test operation:

- The indoor unit and outdoor unit are installed properly.
- Tubing and wiring are correctly completed.
- The refrigerant pipe system is leakage-checked.
- The drainage is unimpeded.
- The heating insulation works well.
- The ground wiring is connected correctly.
- The length of the tubing and the added stow capacity of the refrigerant have been recorded.
- The power voltage fits the rated voltage of the air conditioner.
- There is no obstacle at the outlet and inlet of the outdoor and indoor units.
- The gas-side and liquid-side stop valves are both opened.
- The air conditioner is pre-heated by turning on the power.

3 According to the user's requirement, install the remote controller frame where the remote controller's signal can reach the indoor unit smoothly.

4 Test operation

- Set the air conditioner under the mode of "COOLING" with the remote controller, and check the following points. If there is any malfunction, please resolve it according to the chapter "Troubleshooting" in the "Owner's Manual".

- 1) The indoor unit
 - a. Whether the switch on the remote controller works well.
 - b. Whether the buttons on the remote controller works well.
 - c. Whether the air flow louver moves normally.
 - d. Whether the room temperature is adjusted well.
 - e. Whether the indicator lights normally.
 - f. Whether the temporary buttons works well.
 - g. Whether the drainage is normal.
 - h. Whether there is vibration or abnormal noise during operation.
 - i. Whether the air conditioner heats well in the case of the HEATING/COOLING type.
- 2) The outdoor unit
 - a. Whether there is vibration or abnormal noise during operation.
 - b. Whether the generated wind, noise, or condensed of by the air conditioner have influenced your neighborhood.
 - c. Whether any of the refrigerant is leaked.



CAUTION

A protection feature prevents the air conditioner from being activated for approximately 3 minutes when it is restarted immediately after shut off.

10.1 Fault Information and Codes

If one of the following circumstances takes place, shut down the air conditioner immediately, cut off the power, and contact Clivet's local customer service center.

■ The error code of 018 / 024

Error code	Error or protection definition
E0	IDU EPROM fault
E1	ODU communication fault
E3	IDU fan stall fault
E5	ODU temperature sensor or EPROM fault
E50	ODU temperature sensor fault
E51	ODU EPROM fault
E52	Outdoor coil T3 temperature sensor fault
E53	Outdoor ambient T4 temperature sensor fault
E54	Outdoor discharge temperature sensor fault
E55	Outdoor air return temperature sensor fault
E6	IDU temperature sensor fault
E60	IDU room temperature T1 sensor fault
E61	IDU pipe temperature T2 sensor fault
E7	ODU DC fan stall fault
E71	Outdoor fan over-current (external driving)
E72	Outdoor fan stall (external driving)
E73	Outdoor fan phase loss (external driving)
E74	Outdoor fan zero speed (external driving)
EE	Water level alarm error
P0	ODU IPM protection
P1	Voltage protection
P10	Low voltage protection
P11	High voltage protection
P12	Outdoor DC-side voltage protection
P2	Temperature protection for compressor top
P4	ODU compressor feedback protection
P40	Main control chip and driver chip communication fault
P41	Compressor current sampling circuit fault
P42	Compressor start-up fault
P43	Compressor phase loss protection
P44	Compressor zero speed protection
P45	Outdoor 341 main chip drive synchronization fault
P46	Compressor stall protection
P47	Compressor lock protection
P48	Compressor out-synchronous protection
P49	Compressor over-current protection
P6	Compressor high discharge temperature protection
P8	Outdoor electric control current protection
P80	IDU current protection
P81	ODU current protection
P82	Input AC current sampling circuit fault
PA	High temperature protection of condenser
PF	PFC switch power-off
P9	Evaporator high and low temperature protection
P90	Evaporator high temperature protection
P91	Evaporator low temperature protection
L0	Evaporator high and low temperature frequency limit
L1	Condenser high temperature frequency limit
L2	Compressor high discharge temperature frequency limit
L3	Current frequency limit
L5	Voltage frequency limit
L6	PFC fault frequency limit

■ The error code of 036 / 048 / 060

Error code	Error or protection definition
HF	IDU mismatching error
H4	L (L0/L1) error occurs three times in one hour, reporting H4, and this error is not recoverable. After H4 error, spot check may be performed on the latest three L errors (not limited to L0, L1). For example: report L0-L4-L8-L9-L0-L1 within one hour, and report H4 error. The errors for spot check are L9, L0, and L1.
E7	IDU EEPROM error
E9	ODU EEPROM error
E.9.	Wrong compressor model in EPROM
H0	Communication error between main control board and IR341
E1	Communication error between IDU and ODU
E2	T1 sensor error
E3	T2 sensor error
E4	T2B sensor error
E43	T3 sensor error
E44	T4 sensor error
E45	T5 sensor error
E5	Voltage protection error
E6	ODU DC fan error
EE	Water level alarm error
EH	TL sensor error
Eb	E6 error occurs six times in one hour, requiring power failure recovery
EF	PFC feedback resistance failure
PL	Heat sink TF high temperature protection
P1	High pressure protection
P2	Low pressure protection
P3	Input current protection
P4	Discharge temperature protection
P5	Outdoor condenser T3 high temperature protection
PE	Evaporator T2 high temperature protection
L0	Module protection is triggered
L1	DC bus low voltage protection
L2	DC bus high voltage protection
L4	MCE error
L5	Zero speed protection
L7	Phase loss
L8	Protection when the previous and next speed change is > 15Hz
L9	Protection for a difference of > 15Hz between the set speed and operating speed
F1	Detected DC bus voltage (PN voltage) < 200 VDC for 5S after power-on
P8	Typhoon protection
EP	Ambient temperature less than or equal to 10°C in cooling mode

10. Trial Run

1. Conduct the test run only after all installation tasks have been completed.

2. Check the following items during the test run.

- Indoor and outdoor units are properly installed.
- Piping length, and the amount of refrigerant charged have been recorded.
- Piping and wiring are correct.
- The voltage of the power supply is the same as the rated voltage of the air conditioner.
- No leakage from the refrigerant piping system.
- There is no obstacle at the air inlet and outlet of the IDUs and ODU.

■ Water discharge is smooth.

■ Open the check valves on the gas and liquid sides.

■ Heat insulation is complete.

■ Connect to the power supply to let the air conditioner warm up first.

■ Grounding cables have been properly connected.

3. Install the remote controller mounting rack according to the user's requirements.

The location of the mounting rack must be such that the remote control signal can be successfully transmitted to the indoor unit.

4. Test Run

Use wired/remote controller to control and operate the air conditioner in the cooling mode. Check the following items according to the manual. If there is any fault, troubleshoot by referring to the section "Fault and Troubleshooting" in the manual.



OMEGA
ENVIRONMENTAL
TECHNOLOGIES LLC.

17702 Mitchell North, #101
Irvine, CA. 92614 .USA
Tel: 714 795 2830
Fax: 714 966 1646
info@omegavrf.com
www.omegavrf.com

OTECTM
AIR CONDITIONING

Showroom & Technology Center
11380 Interchange Circle North
Miramar, FL 33025 .USA
Tel: 305 901 1270
Fax: 954 212 8280
info@otecvrf.com
www.otecvrf.com

IECSJ3A-SM1D0622