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1-1. SH026EAV1/SH035EAV1

1) Error detection and reoperation
   ◆ If an error occurs during operation, the LED flashes to indicate that there is a problem then all
     operations stop except LED.
   ◆ When resuming operation with remote controller and switch, it determines error mode after normal operation.

2) Indoor unit LED lamp display at error detected

<table>
<thead>
<tr>
<th>Error LED lamp Display</th>
<th>Cause</th>
<th>Actions to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>•</td>
<td>Breakaway from the room temperature sensor connector.</td>
<td>• Check the connection between the room temperature wire and the main PCB of the indoor unit.</td>
</tr>
<tr>
<td>•</td>
<td>Cut the room temperature sensor wire.</td>
<td>• Check the connection between the room temperature wire and the main PCB of the indoor unit if parts are open or shorted.</td>
</tr>
<tr>
<td>-</td>
<td>Disjoint of the in/out sensor connector of the indoor heat exchanger.</td>
<td>• Check the connection between the main PB of the indoor unit and heat exchanger sensor wire.</td>
</tr>
<tr>
<td>-</td>
<td>Cut the in/out sensor wire of the indoor heat exchanger.</td>
<td>• Check the pattern of the heat exchanger of the main PCB of the indoor unit and if parts are open or shorted.</td>
</tr>
<tr>
<td>-</td>
<td>Indoor fan motor is non-operative.</td>
<td>• Check if a motor connector has been dismounted (CN44, CN73).</td>
</tr>
<tr>
<td>-</td>
<td>Indoor fan motor is operating slowly.</td>
<td>• Check the fastening of the motor fan.</td>
</tr>
<tr>
<td>-</td>
<td>Indoor fan motor operates at an excessive speed.</td>
<td>• Check the PCB display window of the outdoor unit then refer to a breakdown diagnosis.</td>
</tr>
<tr>
<td>-</td>
<td>Disjointed or cut off of outdoor temperature sensor.</td>
<td>• Check the connection between indoor and outdoor units.</td>
</tr>
<tr>
<td>-</td>
<td>Disjointed or cut off of the outdoor sensor of heat exchanger (COND).</td>
<td>• Check the settings for indoor Main/ RMC address switch.</td>
</tr>
<tr>
<td>-</td>
<td>Dismounted/ cut off of the outdoor discharge sensor.</td>
<td>• Check the connection between indoor and outdoor units.</td>
</tr>
<tr>
<td>-</td>
<td>Communication error between indoor units and outdoor units for more than 2 minutes.</td>
<td>• Check the connection between indoor and outdoor units.</td>
</tr>
<tr>
<td>-</td>
<td>3 min. error of the outdoor unit tracking (multi-product specification).</td>
<td>• Check the settings for indoor Main/ RMC address switch.</td>
</tr>
<tr>
<td>-</td>
<td>Inconsistency between the number of installed units and communication units (multi-product specification).</td>
<td>• Check the connection between indoor and outdoor units.</td>
</tr>
<tr>
<td>-</td>
<td>The detection of secondary high temperature at COND (outdoor heat exchanger).</td>
<td>• Check the PCB display window of the outdoor unit then refer to breakdown diagnosis.</td>
</tr>
<tr>
<td>-</td>
<td>The detection of secondary high temperature at discharge.</td>
<td>• Check the PCB display window of the outdoor unit then refer to breakdown diagnosis.</td>
</tr>
<tr>
<td>-</td>
<td>Reverse detection error.</td>
<td>• Check the PCB display window of the outdoor unit then refer to breakdown diagnosis.</td>
</tr>
<tr>
<td>-</td>
<td>Deviation of float sensor connector</td>
<td>• Check the connection between main PCB and float sensor in the indoor unit.</td>
</tr>
<tr>
<td>-</td>
<td>Cut of float sensor wire.</td>
<td>• Check the connection between main PCB and float sensor in the indoor unit.</td>
</tr>
</tbody>
</table>

- On, •: Flickering, x: OFF

◆ If you turn off the air conditioner when the LED is flickering, the LED will also turned off.
## Error LED lamp Display

| Operation (Green) | Defrost (Red) | | | | **Cause** | **Actions to take** |
|------------------|---------------|---|---|---|---|
| ✗ | ✗ | ✗ | ✗ | ✗ | • Option setup error on peripherals | • Check the setting of DIP switch (SW05, SW06, SW07) |
| ✗ | ✗ | ✗ | ✗ | ✗ | • EEPROM part defect | • Check non-delivery/cool delivery/non-insertion of IC51 part Pin |
| ✗ | ✗ | ✗ | ✗ | ✗ | • EEPROM circuit defect | • Check non-delivery/cool delivery/non-insertion of IC51 peripheral circuit components. |
| ✗ | ✗ | ✗ | ✗ | ✗ | • EEPROM option none input/erroneous input. | • Re-input of option code for indoor unit |

- ♦ On
- ♦ Flickering
- ✗ OFF

◆ If you turn off the air conditioner when the LED is flickering, the LED will also turn off.
1-2. JH026EAV1/JH035EAV1

1) Error detection and reoperation
   - If an error occurs during operation, the LED flashes to indicate that there is a problem then all operations stop except LED.
   - When resuming operation with remote controller and switch, it determines error mode after normal operation.

2) Indoor unit LED lamp display at error detecting

<table>
<thead>
<tr>
<th>Abnormal conditions</th>
<th>LED lamp display</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power reset</td>
<td>x x x x o</td>
<td>-</td>
</tr>
<tr>
<td>Error of temperature sensor in the indoor unit (Open/Short)</td>
<td>x x o x x</td>
<td>-</td>
</tr>
<tr>
<td>Error of heat exchanger sensor in the indoor unit</td>
<td>x x o x o</td>
<td>-</td>
</tr>
<tr>
<td>Indoor fan motor is non-operative</td>
<td>x o x x x</td>
<td>Indoor motor fan error</td>
</tr>
<tr>
<td>Indoor fan motor is operating slowly</td>
<td>x o x x x</td>
<td>Indoor motor fan error</td>
</tr>
<tr>
<td>Error of the outdoor temperature sensor</td>
<td>x o x x x</td>
<td>-</td>
</tr>
<tr>
<td>Error of the condensor temperature sensor</td>
<td>x o x x x</td>
<td>-</td>
</tr>
<tr>
<td>Error of the discharge temperature sensor</td>
<td>x o x x x</td>
<td>-</td>
</tr>
<tr>
<td>1. Indoor and outdoor unit time out</td>
<td>x o o x x</td>
<td>1. Indoor unit error (Display is unrelated with operation)</td>
</tr>
<tr>
<td>2. Abnormal data reception more than 60 packet</td>
<td>x o o x x</td>
<td>2. Outdoor unit error (Display is unrelated with operation)</td>
</tr>
<tr>
<td>3. Indoor unit is not connected</td>
<td>x o o x x</td>
<td>-</td>
</tr>
<tr>
<td>4. Communication error between the outdoor unit</td>
<td>x o o x x</td>
<td>-</td>
</tr>
<tr>
<td>Main-Inverter Micom  (After 1 minute of Main-Inverter detection)</td>
<td>x o o x x</td>
<td>-</td>
</tr>
<tr>
<td>Communication error between indoor units</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>[Self diagnosis]Power voltage detection between indoor and outdoor unit communication cable</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>[Self diagnosis]Outdoor unit refrigerant leakage(Gas leak)</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>[Self diagnosis]Outdoor fan restriction error</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]Inverter compressor operation failure</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]DC peak error</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]DC Link voltage 150V or less, 410V or more</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]Compressor rotation error</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]Electric current error</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]DC Link sensor error</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]EEPROM READ/WRITE error</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter]Inverter zero crossing error</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>Setting the outdoor unit capacity option error</td>
<td>o o o x x</td>
<td>-</td>
</tr>
<tr>
<td>Error of setting option switches for optional accessories</td>
<td>o x o x x</td>
<td>-</td>
</tr>
<tr>
<td>EEPROM error</td>
<td>x o o x x</td>
<td>-</td>
</tr>
<tr>
<td>EEPROM option error</td>
<td>o o o o o</td>
<td>-</td>
</tr>
<tr>
<td>MPI no feedback Error</td>
<td>o o o o o</td>
<td>-</td>
</tr>
</tbody>
</table>
1-3. TH026EAV1/TH035EAV1/TH052EAV1/TH060EAV1/CH070EAV1/CH090EAV/CH105EAV/CH140EAV

1) Error detection and reoperation
◆ If an error occurs during operation, the LED flashes to indicate that there is a problem then all operations stop except LED.
◆ When resuming operation with remote controller and switch, it determines error mode after normal operation.

2) Indoor unit LED lamp display at error detected

<table>
<thead>
<tr>
<th>Abnormal conditions</th>
<th>LED lamp display</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Green</td>
<td>Red</td>
</tr>
<tr>
<td>Power reset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error of temperature sensor in the indoor unit (Open/Short)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error of heat exchanger sensor in the indoor unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error of the outdoor temperature sensor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error of the condenser temperature sensor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error of the discharge temperature sensor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor and outdoor unit time out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal data reception more than 60 packet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor unit is not connected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication error between the outdoor unit Main-Inverter Micom (After 1 minute of Main-Inverter detection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Self diagnosis ] Power voltage detection between indoor and outdoor unit communication cable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Self diagnosis] Outdoor unit refrigerant leakage (Gas leak)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Self diagnosis] Outdoor fan restriction error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] Inverter compressor operation failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] DC peak error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] DC Link voltage 150V or less, 410V or more</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] Compressor rotation error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] Electric current error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] DC Link sensor error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] EEPROM READ/WRITE error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Inverter] Inverter zero crossing error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting the outdoor unit capacity option error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detection of the float switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error of setting option switches for optional accessories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EEPROM error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EEPROM option error</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

● : On, ● : Flickering, ✗ : OFF
◆ If you turn off the air conditioner when the LED is flickering, the LED will also turned off.
## 1-4. FH052EAV1/FH070EAV1

1) Error detection and reoperation

- If error occurs during the operation, badness is indicated by LED flickering and all operation is stopped except LED.
- When reoperating by remote control and switch determine the error mode after normal operation.

2) Indoor unit LED lamp display at error detecting

<table>
<thead>
<tr>
<th>ERROR TYPE</th>
<th>LED LAMP DISPLAY</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power reset</td>
<td>× × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>Error of temperature sensor in the indoor unit (Open/Short)</td>
<td>× × × × × × ×</td>
<td>Displayed on appropriate indoor unit which is operating</td>
</tr>
<tr>
<td>Error of heat exchanger sensor in the indoor unit</td>
<td>× × × × × × ×</td>
<td>Displayed on appropriate indoor unit which is operating</td>
</tr>
<tr>
<td>Error of the outdoor temperature sensor</td>
<td>× × × × × × ×</td>
<td>Displayed on appropriate indoor unit which is operating</td>
</tr>
<tr>
<td>Error of the condenser temperature sensor</td>
<td>× × × × × × ×</td>
<td>Displayed on appropriate indoor unit which is operating</td>
</tr>
<tr>
<td>Error of the discharge temperature sensor</td>
<td>× × × × × × ×</td>
<td>Displayed on appropriate indoor unit which is operating</td>
</tr>
<tr>
<td>Indoor and outdoor unit time out</td>
<td>× × × × × × ×</td>
<td>Error of indoor unit : Displayed on the indoor unit regardless of operation</td>
</tr>
<tr>
<td>Abnormal data reception more than 60 packet</td>
<td>× × × × × × ×</td>
<td>Error of indoor unit : Displayed on the indoor unit regardless of operation</td>
</tr>
<tr>
<td>Communication error between the outdoor unit Main-Inverter Micom(After 1 minute of Main-Inverter detection)</td>
<td>× × × × × × ×</td>
<td>Error of indoor unit : Displayed on the indoor unit regardless of operation</td>
</tr>
<tr>
<td>[Self diagnosis] Power voltage detection between indoor and outdoor unit communication cable</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Self diagnosis] Outdoor unit refrigerant leakage (Gas leak)</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Self diagnosis] Outdoor unit refrigerant leakage (Gas leak)</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] Inverter compressor operation failure</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] DC peak error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] DC Link voltage 150V or less, 410V or more</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] Compressor rotation error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] Electric current error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] DC Link sensor error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] EEPROM READ/WRITE error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>[Inverter] Inverter zero crossing error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>Setting the outdoor unit capacity option error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>Error of setting option switches for optional accessories</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>EEPROM error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
<tr>
<td>EEPROM option error</td>
<td>× × × × × × ×</td>
<td>-</td>
</tr>
</tbody>
</table>

- : On, × : Flickering, - : OFF
- If you turn off the air conditioner when the LED is flickering, the LED will also turned off.
1-5. Outdoor Unit 7-segment Error Display

1) 7-segment

(1) Setting of PCB Display of the Outdoor unit

<table>
<thead>
<tr>
<th>Number of press times</th>
<th>Function</th>
<th>component</th>
<th>component</th>
<th>component</th>
<th>component</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Test operation at</td>
<td>Test operation at</td>
<td>Reset</td>
<td>View mode change</td>
<td></td>
</tr>
<tr>
<td></td>
<td>heating mode</td>
<td>cooling mode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>End</td>
<td>End</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) K4 View mode Display changes

<table>
<thead>
<tr>
<th>Push</th>
<th>Display Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Target Compressor Frequency</td>
</tr>
<tr>
<td>2</td>
<td>Order Compressor Frequency</td>
</tr>
<tr>
<td>3</td>
<td>Current Discharge Temperature</td>
</tr>
<tr>
<td>4</td>
<td>Target Discharge Temperature</td>
</tr>
<tr>
<td>5</td>
<td>EEV current step</td>
</tr>
<tr>
<td>6</td>
<td>Condenser Temperature</td>
</tr>
<tr>
<td>7</td>
<td>Outdoor Temperature</td>
</tr>
<tr>
<td>8</td>
<td>Indoor Eva-pipe Temperature</td>
</tr>
<tr>
<td>9</td>
<td>Indoor Temperature</td>
</tr>
<tr>
<td>10</td>
<td>Indoor Fan RPM</td>
</tr>
<tr>
<td>11</td>
<td>Outdoor Fan RPM</td>
</tr>
<tr>
<td>12</td>
<td>Current</td>
</tr>
<tr>
<td>13</td>
<td>Safety Control</td>
</tr>
<tr>
<td>14</td>
<td>Version(Main Micom)</td>
</tr>
<tr>
<td>15</td>
<td>Current Compressor Frequency</td>
</tr>
</tbody>
</table>
# Troubleshooting

## 1. Indoor/Outdoor Unit Error Display

### 1-5. Outdoor Unit 7-segment Error Display

#### 2) Outdoor unit

<table>
<thead>
<tr>
<th>Error mode</th>
<th>Content</th>
<th>Measure</th>
<th>Product operation status in case of error</th>
<th>Error type</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Indoor unit communication error</td>
<td>Check the communication line for indoor units, check the power supply of the communication phase (DC)</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>102</td>
<td>Communication time-out error between indoor/outdoor unit 6-packet over error</td>
<td>Check the communication line for indoor units, check the power supply of the communication phase (DC)</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>121</td>
<td>Indoor temperature sensor (open/short error)</td>
<td>Check the temp. sensor of the indoor unit room. Check the indoor PCB connector CN21 (white)</td>
<td>Operation-Off</td>
<td>Indoor sensor error</td>
</tr>
<tr>
<td>122</td>
<td>Indoor unit Eva In sensor (open/short)</td>
<td>Check the indoor unit drainage pipe sensor Check the indoor PCB connector CN21 (white)</td>
<td>Operation-Off</td>
<td>Indoor sensor error</td>
</tr>
<tr>
<td>128</td>
<td>Dismount of indoor unit Eva In sensor</td>
<td>Check the drainage pipe has been dismounted</td>
<td>Operation-Off</td>
<td>Indoor sensor error</td>
</tr>
<tr>
<td>153</td>
<td>Secondary detection of indoor floating switch</td>
<td>Check the indoor unit’s float sensor Check the indoor PCB connector CN51 (black)</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
<tr>
<td>201</td>
<td>Indoor unit not connected</td>
<td>Check the indoor unit connection Check the indoor unit option</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>203</td>
<td>Communication error between indoor/outdoor unit INV and Main Micom (1 min.)</td>
<td>Check the Main MICOM Check the inverter MICOM</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>221</td>
<td>Outdoor temperature sensor error</td>
<td>Check the connection status of the sensor Check the sensor location Check the resistance values of sensor</td>
<td>Operation-Off</td>
<td>Outdoor sensor error</td>
</tr>
<tr>
<td>237</td>
<td>Cond. temperature sensor error</td>
<td>Check the connection status of the sensor Check the sensor location Check the resistance values of sensor</td>
<td>Operation-Off</td>
<td>Outdoor sensor error</td>
</tr>
<tr>
<td>251</td>
<td>[Inverter] Emission temperature sensor error</td>
<td>Check the connection status of the sensor Check the sensor location Check the resistance values of sensor</td>
<td>Operation-Off</td>
<td>Outdoor sensor error</td>
</tr>
<tr>
<td>416</td>
<td>Excessive temperature emission</td>
<td>Not an error (discharge temp. control)</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>425</td>
<td>Power cable connection error</td>
<td>Check the status of power connection</td>
<td>Operation-Off</td>
<td>Outdoor sensor error</td>
</tr>
<tr>
<td>Error mode</td>
<td>Content</td>
<td>Measure</td>
<td>Product operation status in case of error</td>
<td>Error type</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>---------</td>
<td>------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>450</td>
<td>Non-connection error of indoor and outdoor Communication wire (connected to the power terminal)</td>
<td>Check the status of power connection Check the connection status of the communication line</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
<tr>
<td>458</td>
<td>Outdoor fan 1 error</td>
<td>Check the input power connection status Check the connection status between the motor and PCB in outdoor unit Check the fuse of indoor/outdoor units</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
<tr>
<td>461</td>
<td>[inverter] Compressor operation error</td>
<td>Check the connection status of the compressor Check the resistance between different phases in compressor</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>462</td>
<td>Discharge current error/ PFC over-current error</td>
<td>Check the input power Check refrigerant is filled Check outdoor fan operates normally</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>464</td>
<td>[inverter] IPM over current error</td>
<td>Check refrigerant is filled Check the connection status of compressor and if it operates normally Check for any obstacles around indoor/outdoor units</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>467</td>
<td>[inverter] Compressor rotation error</td>
<td>Check the connection status of the compressor Check the resistance between different phases in compressor</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>468</td>
<td>[inverter] Current sensor error</td>
<td>Check PCB operates normally</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>469</td>
<td>[inverter] DC link voltage sensor error</td>
<td>Check the connection of input power Check the status of RY21 and R2000 of Inverter PCB</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>471</td>
<td>[inverter] OTP error</td>
<td>Check PCB operates normally</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>475</td>
<td>Outdoor fan 2 error</td>
<td>Check the connection status of input power Check the connection status of motor and outdoor PCB Check the fuse of indoor/outdoor unit</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
<tr>
<td>554</td>
<td>Gas leakage error</td>
<td>Check refrigerant is filled Check the indoor EVA sensor</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
<tr>
<td>556</td>
<td>Inconsistent volume</td>
<td>Check the indoor unit's option code</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
</tbody>
</table>
## Troubleshooting

### 1. Indoor/Outdoor Unit Error Display

#### 1-6. Wired Remote Controller Error Display (COM2)

1) **Wired remote controller**

- If an error occurs, an error code is displayed on the wired remote controller.
- To see an error code, please press the test button.

<table>
<thead>
<tr>
<th>Error mode</th>
<th>Content</th>
<th>Measure</th>
<th>Product operation status in case of error</th>
<th>Error type</th>
</tr>
</thead>
<tbody>
<tr>
<td>I01</td>
<td>Indoor unit communication error</td>
<td>Check the communication line for indoor units, check the power supply of the communication phase (DC)</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>I02</td>
<td>Communication time-out error between indoor/outdoor unit</td>
<td>Check the communication line for indoor units, check the power supply of the communication phase (DC)</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>I21</td>
<td>Indoor temperature sensor (open/short error)</td>
<td>Check the temp. sensor of the indoor unit room. Check the indoor PCB connector CN21 (white)</td>
<td>Operation-Off</td>
<td>Indoor sensor error</td>
</tr>
<tr>
<td>I22</td>
<td>Indoor unit Eva In sensor (open/short)</td>
<td>Check the indoor unit drainage pipe sensor Check the indoor PCB connector CN21 (white)</td>
<td>Operation-Off</td>
<td>Indoor sensor error</td>
</tr>
<tr>
<td>I28</td>
<td>Dismount of indoor unit Eva in sensor</td>
<td>Check the drainage pipe has been dismantled</td>
<td>Operation-Off</td>
<td>Indoor sensor error</td>
</tr>
<tr>
<td>I53</td>
<td>Secondary detection of indoor floating switch</td>
<td>Check the indoor unit’s float sensor Check the indoor PCB connector CN51 (black)</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
<tr>
<td>201</td>
<td>Indoor unit not connected</td>
<td>Check the indoor unit connection Check the indoor unit option</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>203</td>
<td>Communication error between indoor/outdoor unit INV and Main Micom (1 min.)</td>
<td>Check the Main MICOM Check the inverter MICOM</td>
<td>Operation-Off</td>
<td>Communication error</td>
</tr>
<tr>
<td>221</td>
<td>Outdoor temperature sensor error</td>
<td>Check the connection status of the sensor Check the sensor location Check the resistance values of sensor</td>
<td>Operation-Off</td>
<td>Outdoor sensor error</td>
</tr>
<tr>
<td>230</td>
<td>Cond. temperature sensor error</td>
<td>Check the connection status of the sensor Check the sensor location Check the resistance values of sensor</td>
<td>Operation-Off</td>
<td>Outdoor sensor error</td>
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<td>251</td>
<td>[inverter] Emission temperature sensor error</td>
<td>Check the connection status of the sensor Check the sensor location Check the resistance values of sensor</td>
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<td>Outdoor sensor error</td>
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<td>416</td>
<td>Excessive temperature emission</td>
<td>Not an error (discharge temp. control)</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>425</td>
<td>Power cable connection error</td>
<td>Check the status of power connection</td>
<td>Operation-Off</td>
<td>Outdoor sensor error</td>
</tr>
<tr>
<td>Error mode</td>
<td>Content</td>
<td>Measure</td>
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<td>450</td>
<td>Non-connection error of indoor and outdoor Communication wire (connected to the power terminal)</td>
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<td>Outdoor fan 1 error</td>
<td>Check the input power connection status Check the connection status between the motor and PCB in outdoor unit Check the fuse of indoor/outdoor units</td>
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<tr>
<td>462</td>
<td>Discharge current error/ PFC over-current error</td>
<td>Check the input power Check refrigerant is filled Check outdoor fan operates normally</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
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<td>464</td>
<td>[inverter] IPM over current error</td>
<td>Check refrigerant is filled Check the connection status of the compressor and if it operates normally Check for any obstacles around indoor/ outdoor units</td>
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<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>468</td>
<td>[inverter] Current sensor error</td>
<td>Check PCB operates normally</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
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<td>[inverter] DC link voltage sensor error</td>
<td>Check the connection of input power Check the status of RY21 and R2000 of Inverter PCB</td>
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<td>Check PCB operates normally</td>
<td>Operation-Off</td>
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</tr>
<tr>
<td>475</td>
<td>Outdoor fan 2 error</td>
<td>Check the connection status of input power Check the connection status of motor and outdoor PCB Check the fuse of indoor/outdoor unit</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
<tr>
<td>554</td>
<td>Gas leakage error</td>
<td>Check refrigerant is filled Check the indoor EVA sensor</td>
<td>Operation-Off</td>
<td>Self-diagnosis error</td>
</tr>
</tbody>
</table>
### 1-6. Wired Remote Controller Error Display (COM2)

#### 1) Wired remote controller

- ◆ If an error occurs is displayed on the wired remote controller.
- ◆ To see an error code, please press the test button.

<table>
<thead>
<tr>
<th>Error mode</th>
<th>Content</th>
<th>Measure</th>
<th>Product operation status in case of error</th>
<th>Error type</th>
</tr>
</thead>
<tbody>
<tr>
<td>556</td>
<td>Inconsistent volume</td>
<td>Check the indoor unit’s option code</td>
<td>Operation-Off</td>
<td>Outdoor unit protection control error</td>
</tr>
<tr>
<td>601</td>
<td>Communication error between indoor unit and wired remote controller</td>
<td>Check the connection wire linking indoor unit and wired remote controller</td>
<td>Normal operation</td>
<td>Wired remote controller control error</td>
</tr>
<tr>
<td>602</td>
<td>Communication error between master and slave wired remote controller</td>
<td>Check the option switch that distinguishes master and slave (Available only for 1 master unit and 1 slave unit)</td>
<td>Normal operation</td>
<td>Wired remote controller control error</td>
</tr>
<tr>
<td>606</td>
<td>Cross installation error of COM1/COM2</td>
<td>Check the connection of outdoor unit and wired remote controller is linked to Com2 terminal of the indoor unit</td>
<td>Normal operation</td>
<td>Wired remote controller control error</td>
</tr>
<tr>
<td>EA</td>
<td>Wired remote controller COM2 setting option error</td>
<td>Check the Dip switch for Com1 and Com2 is set to Com2</td>
<td>Normal operation</td>
<td>Wired remote controller control error</td>
</tr>
</tbody>
</table>
2. Check List

1) The input voltage should be rating voltage ±10% range.
   The air conditioner may not operate properly if the voltage is out of this range.

2) Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 4 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the air conditioner may not operate properly.

3) When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the
   malfunction of the air conditioner.

<table>
<thead>
<tr>
<th>No.</th>
<th>OPERATION OF AIR CONDITIONER</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. [In case of heat pump model] In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.</td>
<td>In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.</td>
</tr>
<tr>
<td>2</td>
<td>Compressor stops operation intermittently in DRY(☐) mode.</td>
<td>Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.</td>
</tr>
<tr>
<td>3</td>
<td>[In case of heat pump model] Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.</td>
<td>When the unit is turned off while de-ice is activated, the compressor continues operation for up to 12 minutes (maximum) until the deice is completed.</td>
</tr>
<tr>
<td>4</td>
<td>[In case of heat pump model] The compressor and indoor fan stop intermittently in HEAT mode.</td>
<td>The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.</td>
</tr>
<tr>
<td>5</td>
<td>[In case of heat pump model] Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.</td>
<td>The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation</td>
</tr>
</tbody>
</table>
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/ UH052EAS/UH070EAS

1) Indoor temperature sensor (open/short)

<table>
<thead>
<tr>
<th>Indoor unit display</th>
<th>× (Operation)</th>
<th>× (Defrost)</th>
<th>(Reservation)</th>
<th>× (Fan)</th>
<th>× (Filter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cause of problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Is indoor temp. sensor connector disconnected?

Yes

Resume operation after connecting to the connector PCB

ex) Slim 1way cassette

No

Connect the PCB from the connector of the internal temp. sensor and then measure the resistance between the two terminals.

ex) Room temperature 26°C—resistance 09.26kΩ

At that time, does the resistance value deviate from the temp. table beside?

Yes

Indoor temp. sensor self-defect (replacement)

No

Resume operation after replacing PCB

Temperature sensor resistance values

<table>
<thead>
<tr>
<th>Current Temp. (°C)</th>
<th>Resistance (kΩ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>5.800</td>
</tr>
<tr>
<td>35</td>
<td>6.900</td>
</tr>
<tr>
<td>30</td>
<td>8.300</td>
</tr>
<tr>
<td>25</td>
<td>10.00</td>
</tr>
<tr>
<td>20</td>
<td>12.10</td>
</tr>
<tr>
<td>15</td>
<td>14.70</td>
</tr>
<tr>
<td>10</td>
<td>18.00</td>
</tr>
<tr>
<td>5</td>
<td>22.00</td>
</tr>
<tr>
<td>0</td>
<td>28.30</td>
</tr>
<tr>
<td>-5</td>
<td>33.90</td>
</tr>
<tr>
<td>-10</td>
<td>42.30</td>
</tr>
</tbody>
</table>
2) Indoor heat exchange temperature sensor (open/short)

<table>
<thead>
<tr>
<th>Indoor unit display</th>
<th>(Operation)</th>
<th>(Defrost)</th>
<th>(Reservation)</th>
<th>(Fan)</th>
<th>(Filter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>In case of disconnection or short-circuit of the heat exchanger of indoor temperature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cause of problem</td>
<td>Disconnection or short-circuit of the relevant sensors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Is indoor Heat Exchange temp. sensor connector disconnected?

- Yes: Resume operation after connecting to the connector PCB
- No: Disconnect the PCB from the connector of the internal temp. sensor and then measure the resistance between the two terminals.
  - ex) Room temperature 24°C—resistance 10.93kΩ

At that time, does the resistance value deviate from the temperature table beside?

- Yes: Indoor Heat Exchange temp. sensor self-defect (replacement)
- No: Resume operation after replacing PCB

Temperature sensor resistance values

<table>
<thead>
<tr>
<th>Current Temp. (°C)</th>
<th>Resistance (kΩ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>5.800</td>
</tr>
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<td>35</td>
<td>6.900</td>
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</tr>
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<td>25</td>
<td>10.00</td>
</tr>
<tr>
<td>20</td>
<td>12.10</td>
</tr>
<tr>
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<td>10</td>
<td>18.00</td>
</tr>
<tr>
<td>5</td>
<td>22.00</td>
</tr>
<tr>
<td>0</td>
<td>28.30</td>
</tr>
<tr>
<td>-5</td>
<td>33.90</td>
</tr>
<tr>
<td>-10</td>
<td>42.30</td>
</tr>
</tbody>
</table>
3) Indoor fan error

<table>
<thead>
<tr>
<th>Indoor unit display</th>
<th>× (Operation)</th>
<th>× (Defrost)</th>
<th>× (Reservation)</th>
<th>☐ (Fan)</th>
<th>× (Filter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>Indoor fan being non-operative/ stop after excessive high speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cause of problem</td>
<td>Check for motor connector disconnect/ check motor fan fastening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Is Motor connector disconnected from the PCB?

- Yes: Resume operation after connecting to the connector PCB
- No: Is there any clogging (binding) of foreign substances in the MotorFan?
  - Yes: Resume operation after removing the foreign substances.
  - No: Resume operation after replacing PCB

ex) Slim 1way cassette
4) Communication error after completion of tracking

<table>
<thead>
<tr>
<th>Indoor unit display</th>
<th>x (Operation)</th>
<th>x (Defrost)</th>
<th>● (Reservation)</th>
<th>● (Fan)</th>
<th>x (Filter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>If communication between indoor and outdoor units has been blocked for 2 minutes during operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cause of problem</td>
<td>Communication error between indoor and outdoor unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Is there any response from PCB of indoor unit at all? (LED 01 (green) no flash)

- Yes
  - Replace PCB of indoor unit after checking out the communication line
  - ex) Slim 1way cassette

- No
  - Replace PCB after checking the communication line of the outdoor unit PCB and connector
  - ex) Slim 1way cassette

After removing the communication line that links outdoor to indoor units, measure 2 lines of the outdoor unit with scope.

At this time, the voltage between lines is a square wave that is above DC±0.7V as shown in the picture below.

After reconnecting the communication line that links outdoor and indoor units, remove communication connector in the indoor PCB. If communication does not work during operation, replace PCB of the indoor unit.

![Graph showing square wave pattern between +0.7V and -0.7V](image)
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1 /UH052EAS/UH070EAS

5) Indoor float sensor error

<table>
<thead>
<tr>
<th>Indoor unit display</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Error occurs

When measuring the resistance value of both sides, after deducting the floating sensor connector linked to an indoor unit PCB, is the resistance value equals to $\infty$? (in an open status)

Yes

Is there plenty of water in the drainage board?

Yes

Carry out power reset for indoor unit then check if drain pump operates (vibrates during operation)

No

No

The same error reoccurs

Yes

Replace PCB of the indoor unit

Normal operation

No

Is the terminal voltage of Drain Pump PCB = about AC220V?

Yes

Replace drain pump

CAUTION

Float sensor error is released after indoor unit power has been reset.

No

Replace Indoor unit PCB

Is drain pump working?

Yes

ex) Slim 1way cassette

No

Is water level in the Drain Pan becoming lower?

Yes

Normal operation

No

is water level in the Drain Pan becoming lower?

Normal operation

Drain pump replacement

ex) Slim 1way cassette

Determined as a defective floating sensor. After replacement, indoor unit power reset

ex) Slim 1way cassette

Is there plenty of water in the drainage board?

Yes

Carry out reassembly of floating sensor connector and indoor unit power reset (indoor unit power reset needed)

ex) Slim 1way cassette

No

No

Replace drain pump
6) Communication error after completion of tracking

<table>
<thead>
<tr>
<th>Indoor unit display</th>
<th>(Operation)</th>
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<tr>
<td>Cause of problem</td>
<td>EEPROM circuit part defect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the circuit part of the EEPROM is okay (necessary component missing in EEPROM circuit part/ damage/ soldering defect):

Yes

Resume operation after repairing it according to P8-2 circuit diagram’s EEPROM part, P6-6-10 component list.

If problem occurs during re-operation, replace PCB.

No

Resume operation after replacing PCB

ex) Slim 1way cassette
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/
UH052EAS/UH070EAS

7) When outdoor units cannot be turned on

(1) Cause of the breakdown
   ◆ Is power voltage 220V?
   ◆ Is AC power properly connected?
   ◆ Are the LEDs of Main PCB and inverter PCB of the outdoor unit on?
   ◆ Is the power supply of the outdoor unit 220V?

(2) Inspection order

Switch off the main power (breaker or power outlet) then turn on again after 30 seconds.

Is the voltage of N-L of the outdoor unit’s PCB AC187V~AC253V?

Yes

Is the voltage of the both side of BD01, ~" and ~" of the outdoor unit’s Main PCB AC187V~AC253V?

Yes

Is the resistance value of R001 180Ω~220Ω?

Yes

Is the voltage of C101 chemical condenser of the outdoor units’ Main PCB DC265V~DC357V?

Yes

Is reactor 1 and 2 (reactor connection wire) properly connected to the reactor?

Yes

Replace outdoor unit PCB for Outdoor MICOM defect.

No

Is the voltage of the both side of BD01, ~" and ~" of the outdoor unit’s Main PCB AC187V~AC253V?

No

Replace outdoor unit PCB for Outdoor MICOM defect.

Is the resistance value of R001 180Ω~220Ω?

No

R001 Resistance replacement

Is the voltage of C101 chemical condenser of the outdoor units’ Main PCB DC265V~DC357V?

No

Bridge 10de replacement (DB300)

Is reactor 1 and 2 (reactor connection wire) properly connected to the reactor?

Yes

Connect the connection wire of the reactor

No

Is the voltage of N-L of the outdoor unit’s PCB AC187V~AC253V?

Exchange the compressor.

No

Is the voltage of the both side of BD01, ~" and ~" of the outdoor unit’s Main PCB AC187V~AC253V?

Is the resistance value of R001 180Ω~220Ω?

Yes

Is the voltage of C101 chemical condenser of the outdoor units’ Main PCB DC265V~DC357V?

Yes

Is reactor 1 and 2 (reactor connection wire) properly connected to the reactor?

Yes

Power ok?

Yes

Finish

No
8) IPM and over current error

(1) Inspection items
◆ Is refrigerant filled?
◆ Is the compressor operating without a problem?
◆ Is the compressor connected properly?
◆ Are there any obstacles around the indoor/outdoor units?

(2) Inspection order

Are outdoor units installed correctly? No → Reinstall after removing obstacles

Yes

Are indoor units installed correctly? No → Reinstall after removing obstacles

Yes

Is service valve completely opened? No → Open valves

ex) Slim 1way cassette

Yes

Is the compressor connection line properly connected to the compressor? No → Check the connection status of the compressor

ex) Slim 1way cassette

Yes

Are the values for R418 current sensing resistance within 19mΩ-21mΩ? No → Resistance replacement

ex) Slim 1way cassette

Yes

Is resistance value of the different compressor phases (U↔V, V↔W, W↔U) less than 2Ω? No → Compressor replacement

ex) Slim 1way cassette

Yes

Continue

(continued on the back)
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/
UH052EAS/UH070EAS

8) IPM and over current error

Continue

Is the resistance between the Compressor body and chassis Maga Ω?

Yes

Are the location of the temperature sensor and measurement value normal?

Yes

Is the connection cable between the compressor and PCB properly connected?

Yes

Replace PCB

No

Replace compressor

No

Turn off the power then reconnect the cable

No

Turn off the power then correct the sensor location or replace it

ex) Slim 1way cassette
9) Compressor starting error, compressor locking error, compressor revolving error

(1) Inspection Items
◆ Is the connection line between power and the compressor properly connected?
◆ Is the resistance between different compressor phases normal?

(2) Inspection order

- Restart after turning off the power
- Did error occur?
  - No → Terminate the service
  - Yes →
    - Is resistance value of the different compressor phases (U→V, V→W, W→U) less than 2Ω?
      - No → Replace the Compressor (ex) Slim 1 way cassette
      - Yes →
        - Is the resistance between the Compressor body and chassis Maga Ω?
          - No → Replace the Compressor
          - Yes →
            - Is the Compressor connection line properly connected to the Compressor?
              - No → Check the connection line (ex) Slim 1 way cassette
              - Yes → Replace the outdoor unit’s PCB
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/
UH052EAS/UH070EAS

10) DC Link and over/lower voltage error

(1) Inspection items
   ◆ Is compressor operating properly?
   ◆ Is there a connection between input power and power?

(2) Inspection order

Is EMI PCB and Inverter PCB connected properly?

Yes

Replace PCB

No

Turn off the power then reconnect
11) Outdoor temperature sensor error

(1) Inspection items
- Are the sensors connected properly?
- Are the sensors located properly?
- Do the resistance values of the sensors satisfy each temperature?

(2) Inspection order

```
Power off

Are connectors properly connected to the relevant colors?
  No: Reconnect the temperature sensor connector
  Yes: Are temperature sensors connected without separation?
    Yes: Power on
    No: Reconnect the temperature sensor connector

Are temperature sensors connected without separation?
  Yes: When measuring the resistance of both sides with a single temperature sensor, does it indicate 10KΩ at room temperature of 25°C?
    Yes: Temperature sensor resistance values
    Current Temp. (°C) | Resistance (kΩ)
    ------------------|-------------
    70                | 4
    60                | 5
    50                | 6
    40                | 7
    30                | 8
    20                | 12
    10                | 20
    0                 | 30
    -10               | 40
    ex) Room temperature 24°C~resistance 10.28kΩ

Power on

After assembling the temperature sensors on PCB check the voltage of both sides. Do they indicate DC1V~DC4V?
  Yes: Is there a short circuit or defective contact in the sensor wires?
    Yes: Replace PCB after turning off the power
    No: Replace temperature sensor after turning off the power
    No: Replace temperature sensor after turning off the power
  No: Replace PCB after turning off the power
```
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/
UH052EAS/UH070EAS

12) Emission temperature sensor error

(1) Inspection items
- Are the sensors connected properly?
- Are the sensors located properly?
- Do the resistance values of the sensors satisfy each temperature?

(2) Inspection order

![Flowchart](image)

- Are connectors properly connected to the relevant colors? No → Reconnect the temperature sensor connector
- Are temperature sensors connected without separation? No → Reconnect the temperature sensor connector
- When measuring the resistance of both sides with a single temperature sensor, does it indicate 200kΩ at room temperature of 25°C? No → Replace temperature sensor

<table>
<thead>
<tr>
<th>Current Temp. (°C)</th>
<th>Resistance (kΩ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>40</td>
</tr>
<tr>
<td>70</td>
<td>50</td>
</tr>
<tr>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>50</td>
<td>90</td>
</tr>
<tr>
<td>40</td>
<td>110</td>
</tr>
<tr>
<td>30</td>
<td>180</td>
</tr>
<tr>
<td>20</td>
<td>220</td>
</tr>
<tr>
<td>10</td>
<td>320</td>
</tr>
<tr>
<td>0</td>
<td>550</td>
</tr>
</tbody>
</table>

- Are connectors properly connected to the relevant colors? Yes → Power off
- Are temperature sensors connected without separation? Yes → Power off
- After assembling the temperature sensors on PCB check the voltage of both sides. Do they indicate DC1V~DC4V? No → Replace PCB after turning off the power
- Is there a short circuit or defective contact in the sensor wires? No → Replace temperature sensor after turning off the power
- Is there a short circuit or defective contact in the sensor wires? Yes → Replace PCB after turning off the power
13) Cond temperature sensor error

(1) Inspection items
◆ Are the sensors connected properly?
◆ Are the sensors located properly?
◆ Do the resistance values of the sensors satisfy each temperature?

(2) Inspection order

Power off

Are connectors properly connected to the relevant colors? No → Reconnect the temperature sensor connector

Yes

Are temperature sensors connected without separation? No → Reconnect the temperature sensor connector

Yes

When measuring the resistance of both sides with a single temperature sensor, does it indicate 10KΩ at room temperature of 25°C? No → Replace temperature sensor

Yes

Temperature sensor resistance values

<table>
<thead>
<tr>
<th>Current Temp, (°C)</th>
<th>Resistance (kΩ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>4</td>
</tr>
<tr>
<td>60</td>
<td>5</td>
</tr>
<tr>
<td>50</td>
<td>6</td>
</tr>
<tr>
<td>40</td>
<td>7</td>
</tr>
<tr>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>-10</td>
<td>40</td>
</tr>
</tbody>
</table>

ex) Room temperature 24.5°C~resistance 10.17kΩ

Power on

Yes

After assembling the temperature sensors on PCB check the voltage of both sides. Do they indicate DC1V~DC4V? No → Replace PCB after turning off the power

Yes

Is there a short circuit or defective contact in the sensor wires? No → Replace temperature sensor after turning off the power

Yes

Replace PCB after turning off the power
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/
UH052EAS/UH070EAS

14) Communication error between indoor/outdoor units (1min.)

(1) Inspection items
◆ Is the communication line between indoor and outdoor units connected properly?
◆ Is there a communication connection between power line and communication line?

(2) Inspection order

Restart after turning off the power

Is there a communication error?
  Yes
  Is there a communication connection between power line and communication line?
    Yes
    Is the outdoor terminal block F1–F2 less than DC5V?
      Yes
      When measuring F1–F2, the outdoor terminal block, if the voltage varies (communicates) below DC5V, the connection status of the connection line is normal.
      No
      Replace PCB of the outdoor unit after turning off.
    No
    Connection line checkup
      ex) Slim 1way cassette
  No
  Terminate service

Is resistance value of the different compressor phases (U→V, V→W, W→U) less than 2Ω?
15) Outdoor fan error

(1) Inspection items
◆ Is input power and power connected properly?
◆ Is motor connection line properly connected to the PCB of the outdoor unit?
◆ Is the fuse for indoor/outdoor unit connected?
◆ Are there any obstacles around Motor or Propeller?
◆ Is Motor Driver out of order?

(2) Inspection order

- Check fan is locked
  - Yes
  - No
    - Remove the Fan lock

- Is the connection between Fan and PCB proper?
  - Yes
  - No
    - Reconnect the connector

- Does the color of wire match?
  - Yes
  - No
    - Replace the Fan

- Is the voltage of the No.1 and No. 3 pin of the CN71 between 250V~350V?
  - Yes
    - ex) Slim 1way cassette
    - Is the voltage of the No.1 and No. 3 pin of the CN01 between 1V~5V?
      - Yes
        - ex) Slim 1way cassette
        - Is there any change in the voltage of the no.13 pin of the IC01 (MICOM)?
          - Yes
            - Replace the main PCB of the outdoor unit
          - No
            - Replace the main PCB of the outdoor unit

- Is the voltage of the No.1 and No. 3 pin of the CN01 between 1V~5V?
  - No
    - Check if the outdoor unit’s power supply is defective

(continued on the back)
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/
UH052EAS/UH070EAS

15) Outdoor fan error

- **Is there any change in the voltage of the no 3 pin and no.6 pin of the IC01 (MICOM)?**

  - No: 30 seconds after turning off the power, separate BLDC Fan connector CN71
  - Yes: ex) Slim 1way cassette

- **Is there any change in the voltage of the no.13 pin of the IC01 (MICOM)?**

  - No: Replace the main PCB of the outdoor unit
  - Yes: Replace PCB of the outdoor unit

- **Replace BLDC fan motor**
16) Discharge current error/ PFC over-current error

(1) Inspection items
- Is input power correct?
- Is refrigerant filled?
- Is the outdoor fan spinning correctly?
- Are there any obstacles around indoor/outdoor units?

(2) Inspection order

- Is the outdoor unit installed correctly?
  - Yes
  - No → Reinstall after removing obstacle

- Is indoor unit installed correctly?
  - Yes
  - No → Reinstall after removing obstacle

- Is the compressor operating normally?
  - Yes
  - No → Replace the compressor

- Is the service valve open completely?
  - Yes
  - No → Open valves
  - Yes → Replace PCB

ex) Slim 1way cassette
3-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/UH052EAS/UH070EAS

17) Gas leakage error

(1) Inspection items
- Is refrigerant filled?
- Is the indoor EVA sensor connected properly?

(2) Inspection order

- Restart after turning off the power
- Did error occur?
  - Yes
    - Is resistance value of the different compressor phases (U→V, V→W, W→U) less than 2Ω?
      - No
        - Replace the compressor
        - ex) Slim 1way cassette
      - Yes
        - Replace the outdoor unit’s PCB
- Terminate the service
- Is refrigerant filled?
  - No
    - Reconnect the sensor connector
    - ex) Slim 1way cassette
  - Yes
    - Replace the refrigerant
18) Other

(1) **Current sensor error**
Check PCB operates normally then replace the PCB.

(2) **Compressor V limit error**
Check the compressor operates normally then replace the compressor. If an error still occurs after the replacement of the compressor, replace the PCB.

(3) **OTP error**
Check PCB operates normally then replace the PCB.

(4) **DC link Voltage Sensor Error**
Check the connection between input power and the power is okay then replace the PCB.

(5) **AC zero Crossing signal out error**
Check the connection between input power and the power is okay then replace the PCB.

(6) **Inconsistent volume**
Check the option code of the indoor unit.
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

1) No power (completely dead) - initial diagnosis

(1) Checklist:
◆ Is Power source voltage normal?
◆ Is AC power linked correctly? (miss-wiring, wire detaching etc.)
◆ Is terminal voltage for indoor unit normal? (230Vac nominal)
◆ Is Wired remote controller installed correctly?

(2) Troubleshooting procedure

Turn off the breaker and turn it on after 30 seconds

Check outdoor unit terminal block voltage on each N-R,N-S,N-T (230Vac nominal)
- Normal
  - Abnormal
    - Check AC power source. Reconnect wires correctly
    - Check indoor unit terminal block voltage on L-N for indoor unit (230Vac nominal)
    - Normal
      - Abnormal
        - Check inner wiring of outdoor unit
        - Check cable and connection of wire between indoor and outdoor unit
    - Abnormal
      - Check indoor unit terminal block voltage on L-N (230Vac nominal)
    - Normal
      - Abnormal
        - Check cable and connection of wire between remote controller and indoor unit
      - Normal
        - Abnormal
          - Check DC power voltage of remote controller (V1,V2)
        - Normal
          - Press the On/Off button on the wired remote controller to operate the air conditioner
            - No display
              - Replace wired remote controller
            - No display
              - Check DIP SW in the wired remote controller
                - Wrong setting
                  - Set DIP SW correctly
                - Correct
                  - Is there any error display on the wired remote controller
                    - Yes
                      - Check each item according to error code list
                    - No
                      - Check the setting temperature
2) The outdoor unit power supply error

(1) Checklist:
   ◆ Are the input power voltage and power connection correct?
   ◆ Is there any Fuse Short of the indoor or outdoor unit?
   ◆ Is any LED lit on INVERTER PCB?
   ◆ Are Reactor wires of the outdoor unit connected correctly?

(2) Troubleshooting procedure

Check LEDs on INVERTER PCB after 1 minute from power on

<table>
<thead>
<tr>
<th>MAIN PCB</th>
<th>INVERTER PCB</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL OFF</td>
<td>ALL OFF</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Error 202 display (Table No.14)</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Error 425 display (Table No.22)</td>
<td>ALL OFF</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Error 203 display (Table No.3)</td>
<td>ALL OFF</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Error 466 display (Table No.7)</td>
<td>Error 466 display (Table No.7)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Error 469 display (Table No.19)</td>
<td>Error 469 display (Table No.19)</td>
</tr>
</tbody>
</table>

- Is voltage on N-T of terminal block over 300V?
  Yes → Check and correct the power cable wiring
  No → Are wire and socket connected correctly? Power line N and T wire (Terminal block - reactor - EMI PCB), CN01(EMI PCB), CN80(MAIN PCB)
  Yes → Check and correct the wire or socket connection
  No → Check Fuses listed below: FUSE(control box), FUSE(MAIN PCB)

- Is there any power wire detaching especially phase R and S?
  Yes → Check and correct the power cable wiring
  No → Check Fuses listed below: FUSE(EMI PCB)

- Is the FUSE on INVERTER PCB blown?
  Yes → Replace the FUSE
  No → Are wire and socket connected correctly? CN31(MAIN PCB), CN70(INVERTER PCB)
  Yes → Check and correct the wiring
  No → Replace INVERTER PCB

- Is R001 on INVERTER PCB open? (200ohm nominal)
  Yes → Replace INVERTER PCB
  No → Also check each BLDC FAN motor short or not, by resistance between pin #1 and #3

- Are wire and socket connected correctly? N2 TAB terminal(EMI PCB), CN22(INVERTER PCB)
  Yes → Check and correct the wiring
  No → Check the M/C
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

3) The outdoor unit fan error

(1) Checklist:
◆ Are the input power voltage and power connection correct?
◆ Is the motor wire connected to the outdoor PCB correctly?
◆ Is there no obstacle at the surrounding of motor and propeller?
◆ Does the driver in the motor case broken?

(2) Troubleshooting procedure

```
Yes
Take off each Fan motor housing after 1 minutes from turning off the power
Yes
Mount each Fan housing to PCB socket and turn on the power

Is the Pin voltage #1 - #3 of CN40 and 41 over 250V?
Yes
Is the Pin voltage #5 - #3 of CN40 and 41 within 1-6V during the operation?
Yes
Is the Fan in rotation during TEST operation in cooling mode
Yes
Is the Pin voltage #6 - #3 of CN40 and 41 changed high(4-5V) and low(0-1V) in case of making manual rotation slowly?
Yes
Is the Pin voltage #7 - #3 of CN40 and 41 low(0-1V) in normal rotation?

No
Check the connection of CN40 and CN41

No
Exchange the FAN motor because of driver inside of the motor case broken

No
Follow the check procedure of outdoor unit power supply error check

No
Exchange INVERTER PCB

No
Exchange INVERTER PCB

No
Exchange the FAN motor not in rotation

No
Exchange INVERTER PCB

No
Exchange the FAN motor

Yes
Exchange INVERTER PCB

Yes
Exchange INVERTER PCB

Yes
Exchange INVERTER PCB
```

Follow the check procedure of outdoor unit power supply error check
4) Total current trip error

(1) Checklist:
- Is the input power voltage proper?
- Is the refrigerant charged properly?
- Does the compressor rotate normally? (Reverse rotation, Locking etc.)
- Does the outdoor fan operate normally? (Fan propeller loss, Motor error etc.)
- Is the installation condition of outdoor unit good? (Piping, Space etc.)
- Is there no ventilation obstruction at the surrounding of outdoor unit? (Outdoor unit cover, Fan front obstruction etc.)
- Is there no ventilation obstruction at the surrounding of indoor unit? (Overload condition in heating mode)

(2) Troubleshooting procedure

- Is the installation of outdoor unit good? Yes → Reinstall and remove the obstruction
  No → Is the installation of indoor unit good? Yes → Reinstall and remove the obstruction
    No → Does the compressor rotate normally? Yes → Exchange the compressor
      No → Are the service valves full opened? Yes → Open valve screw to the end
        No → Is AC power voltage normal during the compressor in operation? Yes → Exchange INVERTER PCB
          No → Check AC power source
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

5) In Case of heating at the cooling mode or cooling at the heating mode

(1) Troubleshooting procedure

- Is the Thermo off? Yes → Change the setting temperature of remote control.
  No → Is the unit in the defrosting operation? Yes → Operate it with a heating mode as soon as the defrosting is finished.
  No → Is the compressor in 3 minutes off? Yes → After 3 minutes, cooling and heating start automatically.
  No → Is much frost in the indoor heat exchanger? Yes → Attach the sensor correctly.
  No → Is the outdoor air sensor and outdoor heat exchanger attached correctly? Yes → Over shortage of the refrigerant.
  No → Does the 4-WAY valve operate normally? No → Is the 4-WAY valve connected correctly? No → Connect the connector correctly.
  Yes → Check the resistance value of 4-WAY valve coil. NG → 4-WAY valve coil error.
  OK → Does the voltage of AC220V apply to the connector of 4-WAY valve coil during the operation? No → Exchange the outdoor PCB.
  Yes → Go to the next page.
Troubleshooting

Does the EEV operate normally?
  Yes
  No

  Is much frost in the heat exchanger?
    Yes
    Check the resistance value of EEV coil
      OK
      EEV main body error
      NG
      EEV coil error
    No
    Exchange the out PCB

  No
  Connect the connector

Does the outdoor fan operate at the operation of compressor?
  Yes
  No

  Is the outdoor fan connected correctly?
    Yes
    Check the resistance value of outdoor fan
      OK
      Dose the voltage of DC300V apply to the connector of outdoor fan during the operation of outdoor unit?
        No
        Outdoor PCB error
        Yes
        Check the motor wire
      NG
      Outdoor fan error
    No
    Connect the connector

From the previous page
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

6) Outdoor temperature sensor error

(1) Checklist:
- Is the sensor connector connected correctly?
- Is the sensor placed correctly?
- Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
- Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

```
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the sensor connector connected correctly in accordance with a color?</td>
<td>Reconnect the sensor connector</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Is the temperature sensor connected correctly without separation?</td>
<td>Change the position of sensor</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Does the both terminal of sensor satisfy the resistance value in accordance with temperature? (Refer to the R/T TABLE in SVC manual)</td>
<td>Exchange the sensor</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Is the resistance value of sensor connection pull_up 18K?</td>
<td>Exchange the PCB</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Exchange the PCB</td>
<td>Normal operation</td>
</tr>
<tr>
<td></td>
<td>Exit</td>
</tr>
</tbody>
</table>
```

Temperature-Resistance

- MAX(kΩ)
- CENTER(kΩ)
- MIN(kΩ)
7) Discharge temperature sensor error

(1) Checklist:
- Is the sensor connector connected correctly?
- Is the sensor placed correctly?
- Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
- Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

Is the sensor connector connected correctly in accordance with a color?
- Yes → Reconnect the sensor connector
- No → Yes

Is the temperature sensor connected correctly without separation?
- Yes → No
- No → Change the position of sensor

Does the both terminal of sensor satisfy the resistance value in accordance with temperature? (Refer to the R/T TABLE)
- Yes
- No → No

Is the resistance value of sensor connection pull_up 24K?
- Yes → No
- No → Exchange the PCB

Exchange the PCB → Normal operation → Exit

Temperature-Resistance

![Temperature-Resistance Chart]
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

8) Coil temperature sensor error

(1) Checklist:
- Is the sensor connector connected correctly?
- Is the sensor placed correctly?
- Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
- Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

- Is the sensor connector connected correctly in accordance with a color?
  - Yes: Reconnect the sensor connector
  - No: Is the temperature sensor connected correctly without separation?
    - Yes: Change the position of sensor
    - No: Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
      - Yes: Exchange the sensor
      - No: Is the resistance value of sensor connection pull_up 18.2K?
        - Yes: Exchange the PCB
        - No: Exchange the PCB

- Normal operation
- Exit

Temperature-Resistance

![Temperature-Resistance Graph]
9) Fan error

(1) Checklist:
◆ Isn’t the fan locked?
◆ Is the sensor placed correctly?
◆ Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
◆ Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

Isn’t the Fan locked?  Remove the Fan lock
Yes  No

Is the connector connected correctly?  Connect the connector
Yes  No

Is the color of Fan wire matched correctly?  Exchange the Fan
Yes  Yes

Exchange the PCB  Normal operation  Exit

No  Exchange the Fan

No  Connect the connector

No  Remove the Fan lock
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

10) Discharge temperature sensor error

(1) Checklist:
- Is the connection of R, S, T power wire normal?
- Are Relay RY21 and R200 on the INVERTER PCB mounted normally?
- Are Relay RY01 and RY01 on the INVERTER PCB mounted normally?

(2) Troubleshooting procedure

Are connection of the wire from INVERTER PBA to EMI PBA normal?  
No  
Check and correct the wire connection  
Yes  
Exchange INVERTER PCB
11) O.C.(Over Current) error

(1) Checklist:
- Is the refrigerant charged properly?
- Does the compressor rotate normally? (Reverse rotation, Locking etc.)
- Is connection of compressor wire normal?
- Is compressor motor normal? (Insulation, Coil resistance etc.)
- Does a temporary cycle overload condition happened?

(2) Troubleshooting procedure

```
Is the installation of outdoor unit good?  No  Reinstall and remove the obstruction
  Yes

Is the installation of indoor unit good?  No  Reinstall and remove the obstruction
  Yes

Are the service valves full opened?  No  Open valve screw to the end
  Yes

Does the compressor wire connected to the compressor normally?  No  Correct the compressor wire connection
  Yes

Is insulation resistance between each compressor terminal and body normal?  No  Exchange the compressor
  Yes

Does the compressor rotate normally?  No  Exchange the compressor
  Yes

Did AC power voltage interruption happen during the compressor in operation?  Yes  Check AC power source
  No  Exchange INVERTER PCB
```
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

12) Communication error

(1) Checklist:
- Is the communication cable between the indoor unit and outdoor unit connected correctly?
- Isn’t the power cable and communication cable wiring error?

(2) Troubleshooting procedure

[Diagram]

1. Restart after power off
2. Is the communication error occurred again? [No → Terminate the service, Yes → Next step]
3. Isn’t the power cable and communication cable wiring error? [No → Correct the wrong wiring, Yes → Next step]
4. Is the connection of communication cable normal? [No → Correct the connection of communication cable, Yes → Exchange the outdoor unit PCB]
13) Compressor lock error

(1) Checklist:
- Is the connection of cable for the compressor and power?
- Is the interphase resistance of compressor normal?

(2) Troubleshooting procedure

- Restart after power off
  - Yes
  - Is the lock error occurred again?
    - Yes
    - Is the interphase resistance value of compressor (u→v, v→w, w→u) normal?
      - Yes
      - Is the compressor body and interphase resistance insulated?
        - Yes
        - Correct the cable connection
        - No
        - Exchange the compressor
      - No
      - Exchange the compressor
    - No
    - Exchange the compressor
  - No
  - Terminate the service

- No
  - Correct the cable connection
  - Yes
  - Exchange the PCB.
3-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

14) DC Link over voltage/low voltage error

(1) Checklist:
   ◆ Is the power voltage normal? (Lightning, Power interruption etc.)
   ◆ Is AC Power cable connection normal? (Detaching the wire)

(2) Troubleshooting procedure

- **Is the AC Power cable connection to the outdoor unit terminal block good?**
  - Yes
  - No: Check and reconnecting the reactor wire at the TAB terminal

- **Is the connection of reactor terminal good?**
  - Yes
  - No: Check and reconnecting the reactor at the TAB terminal

- **Are the FUSEs on EMI PCB blown?**
  - Yes
  - No: Replace the blown FUSE

- **Push the center bar of M/C and measure the resistance of each contact**
  - Yes
  - No: Exchange M/C

- **Is each contact resistance normal? (less than 0.1ohm)**
  - Yes
  - No: Exchange INVERTER PCB

- **Does the error reappear frequently**
  - Yes
  - No: The cause of this error may be power source trouble as like power interruption. Check the power source.

16) The Others

(1) Capacity miss match
   ◆ Check again the indoor unit option code.
3-3. UH105GAV/UH140GAV

1) No power(completely dead)-initial diagnosis

(1) Checklist :
- Is Power source voltage normal?
- Is AC power linked correctly?( miss-wiring, wire detaching etc.)
- Is any LED on the MAIN PCB of Outdoor unit lit?
- Is terminal voltage for indoor unit normal?(230Vac nominal)
- Is Wired remote controller installed correctly?

(2) Troubleshooting procedure

Turn off the breaker and turn it on after 30 seconds

- Check outdoor unit terminal block voltage on each N-R-N-S-N-T (230Vac nominal)
  - Abnormal: Check AC power source. Reconnect wires correctly

- Check outdoor unit terminal block voltage on L-N for indoor unit (230Vac nominal)
  - Abnormal: Check Inner wiring of outdoor unit

- Check indoor unit terminal block voltage on L-N (230Vac nominal)
  - Abnormal: Check cable and connection of wire between indoor and outdoor unit

- Check indoor unit terminal block voltage on V1-V2 (12Vdc nominal)
  - Abnormal: Check Indoor control PCB, Transformer, and FUSE on PCB and replace one which is broken.

- Check DC power voltage of remote controller(V1,V2)
  - Abnormal: Check cable and connection of wire between remote controller and indoor unit

- Press the On/Off button on the wired remote controller to operate the air conditioner
  - No display: Replace wired remote controller

- Check DIP SW in the wired remote controller
  - Wrong setting: Set DIP SW correctly

- Is there any error display on the wired remote controller
  - Yes: Check each item according to error code list

- Check the setting temperature
3-3. UH105GAV/UH140GAV

2) The outdoor unit power supply error

(1) Checklist:
- Are the input power voltage and power connection correct?
- Is there any Fuse Short of the indoor or outdoor unit?
- Is any LED lit on both MAIN PCB and INVERTER PCB?
- Are Reactor wires of the outdoor unit connected correctly?

(2) Troubleshooting procedure

<table>
<thead>
<tr>
<th>MAIN PCB</th>
<th>INVERTER PCB</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL OFF</td>
<td>ALL OFF</td>
</tr>
</tbody>
</table>

Check LEDs on both MAIN PCB and INVERTER PCB after 1 minute from power on

- Is voltage on N-T of terminal block over 300V?
  - Yes: Check and correct the power cable wiring
  - No: Check and correct the wire or socket connection

- Are wire and socket connected correctly? Power line N and T wire (Terminal block - reactor - EMI PCB), CN9(EMI PCB), CN80(MAIN PCB)
  - Yes: Check Fuses listed blow FUSE3(EMI PCB), FUSE(MAIN PCB)
  - No: Check and correct the wiring between indoor and outdoor

- Is there any power wire detaching especially phase R and S?
  - Yes: Check and correct the power cable wiring
  - No: Check Fuses listed blow FUSE1(EMI PCB), FUSE2(EMI PCB)

<table>
<thead>
<tr>
<th>Error 202 display (Table No.14)</th>
<th>Normal</th>
</tr>
</thead>
</table>

- Error 202 display (Table No.14)
- Error 425 display (Table No.22)
- Error 203 display (Table No.3)
- Error 466 display (Table No.7)
- Error 469 display (Table No.19)

Check the M/C
- Are wire and socket connected correctly? CN05, 06, 07 TAB terminal(EMI PCB), CN20(INVERTER PCB)
  - Yes: Yes
  - Yes: Yes
  - No: Check and correct the wiring

Replace INVERTER PCB
- Is R100 on INVERTER PCB open? (200ohm moninal)
  - Yes: Replace INVERTER PCB
  - No: Also check each BLDC FAN motor short or not, by resistance between pin #1 and #3

Replace the FUSE
- Is the FUSE on INVERTER PCB blown?
  - Yes: Replace the FUSE
  - No: Check and correct the wiring

Check INVERTER PCB
- Is R100 on INVERTER PCB open? (200ohm moninal)
  - Yes: Replace INVERTER PCB
  - No: Also check each BLDC FAN motor short or not, by resistance between pin #1 and #3

Also check each BLDC FAN motor short or not, by resistance between pin #1 and #3

Check and correct the wiring
- Are wire and socket connected correctly? CN05, 06, 07 TAB terminal(EMI PCB), CN20(INVERTER PCB)
  - Yes: Check and correct the wiring
  - No: Check the M/C
3) The outdoor unit fan error

(1) Checklist:
- Are the input power voltage and power connection correct?
- Is the motor wire connected to the outdoor PCB correctly?
- Is there no obstacle at the surrounding of motor and propeller?
- Does the driver in the motor case broken?

(2) Troubleshooting procedure

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Check the connection of CN40 and CN41</td>
</tr>
<tr>
<td>Yes</td>
<td>Take off each Fan motor housing after 1 minutes from turning off the power</td>
</tr>
<tr>
<td>No</td>
<td>Exchange the FAN motor because of driver inside of the motor case broken</td>
</tr>
<tr>
<td>Yes</td>
<td>Mount each Fan housing to PCB socket and turn on the power</td>
</tr>
<tr>
<td>No</td>
<td>Follow the check procedure of outdoor unit power supply error check</td>
</tr>
<tr>
<td>Yes</td>
<td>Exchange INVERTER PCB</td>
</tr>
<tr>
<td>No</td>
<td>Exchange INVERTER PCB</td>
</tr>
<tr>
<td>Yes</td>
<td>Exchange the FAN motor not in rotation</td>
</tr>
<tr>
<td>No</td>
<td>Exchange INVERTER PCB</td>
</tr>
<tr>
<td>Yes</td>
<td>Exchange INVERTER PCB</td>
</tr>
<tr>
<td>No</td>
<td>Exchange the FAN motor</td>
</tr>
</tbody>
</table>

* TEST operation
- press K900 button on the MAIN PCB after power on.
- once : cooling mode
- twice in a second : heating mode
3-3. UH105GAV/UH140GAV

4) Total current trip error

(1) Checklist:
- Is the input power voltage proper?
- Is the refrigerant charged properly?
- Does the compressor rotate normally? (Reverse rotation, Locking etc.)
- Does the outdoor fan operate normally? (Fan propeller loss, Motor error etc.)
- Is the installation condition of outdoor unit good? (Piping, Space etc.)
- Is there no ventilation obstruction at the surrounding of outdoor unit? (Outdoor unit cover, Fan front obstruction etc.)
- Is there no ventilation obstruction at the surrounding of indoor unit? (Overload condition in heating mode)

(2) Troubleshooting procedure
5) In case of heating at the cooling mode or cooling at the heating mode

(1) Troubleshooting procedure

- **Is the Thermo off?**
  - Yes: Change the setting temperature of remote control.
  - No:
    - **Is the unit in the defrosting operation?**
      - Yes: Operate it with a heating mode as soon as the defrosting is finished.
      - No:
        - **Is the compressor in 3 minutes off?**
          - Yes: After 3 minutes, cooling and heating start automatically.
          - No:
            - **Is much frost in the indoor heat exchanger?**
              - Yes:
                - **Is the outdoor air sensor and outdoor heat exchanger attached correctly?**
                  - Yes: Attach the sensor correctly.
                  - No: Over shortage of the refrigerant.
                - No: Is the 4-WAY valve main body error.
              - No: Does the 4-WAY valve operate normally?
                - Yes: Check the resistance value of 4-WAY valve coil.
                  - NG: 4-WAY valve coil error.
                  - OK: Dose the voltage of AC220V apply to the connector of 4-WAY valve coil during the operation?
                    - No: Exchange the outdoor PCB.
                    - Yes: 4-WAY valve main body error.
                - No: Is the 4-WAY valve connected correctly?
                  - Yes: 4-WAY valve main body error.
                  - No: Go to the next page.
3-3. UH105GAV/UH140GAV

5) In case of heating at the cooling mode or cooling at the heating mode

(1) Troubleshooting procedure

From the previous page

Does the EEV operate normally?

No

Is much frost in the heat exchanger?

No

Connect the connector

Yes

Check the resistance value of EEV coil

NG

EEV coil error

OK

Is much frost in the heat exchanger?

No

Exchange the out PCB

Yes

EEV main body error

Does the outdoor fan operate at the operation of compressor?

Yes

The over shortage of refrigerant, Insufficient Capacity, Load estimation error

No

Is the outdoor fan connected correctly?

No

Connect the connector

Yes

Check the resistance value of outdoor fan

NG

Outdoor fan error

OK

Dose the voltage of DC300V apply to the connector of outdoor fan during the operation of outdoor unit?

Yes

Check the motor wire

No

Outdoor PCB error
6) Outdoor temperature sensor error

(1) Checklist:
- Is the sensor connector connected correctly?
- Is the sensor placed correctly?
- Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
- Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

![Troubleshooting diagram]

Temperature-Resistance

- MAX(kΩ)
- CENTER(kΩ)
- MIN(kΩ)

Temperature(°C)

Resistance(kΩ)
3-3. UH105GAV/UH140GAV

7) Discharge temperature sensor error

(1) Checklist:
   ◆ Is the sensor connector connected correctly?
   ◆ Is the sensor placed correctly?
   ◆ Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   ◆ Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

![Troubleshooting Diagram]

- Is the sensor connector connected correctly in accordance with a color?
  - Yes: Reconnect the sensor connector
  - No: Is the temperature sensor connected correctly without separation?
    - Yes: Change the position of sensor
    - No: Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
      (Refer to the R/T TABLE)
        - Yes: Exchange the sensor
        - No: Is the resistance value of sensor connection pull_up 24K?
          - Yes: Exchange the PCB
          - No: Exchange the PCB

- Is the resistance value of sensor connection pull_up 24K?
  - Yes: Normal operation
  - No: Exit
8) Coil temperature sensor error

(1) Checklist:
- Is the sensor connector connected correctly?
- Is the sensor placed correctly?
- Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
- Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

![Troubleshooting Diagram]

- Is the sensor connector connected correctly in accordance with a color?
  - Yes → Reconnect the sensor connector
  - No → Is the temperature sensor connected correctly without separation?
    - Yes → Does the both terminal of sensor satisfy the resistance value in accordance with temperature? (Refer to the R/T TABLE)
      - Yes → Is the resistance value of sensor connection pull_up 18.2k?
        - Yes → Exchange the PCB
        - No → Exchange the PCB → Normal operation
      - No → Exchange the sensor
    - No → Change the position of sensor
  - No → Is the sensor connector connected correctly in accordance with a color?
    - Yes → Reconnect the sensor connector
    - No → Exchange the PCB

*Temperature-Resistance Diagram*
3-3. UH105GAV/UH140GAV

9) Fan error

(1) Checklist:
◇ Isn’t the fan locked?
◇ Is the sensor placed correctly?
◇ Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
◇ Is the resistance value of sensor connection pull_up correct?

(2) Troubleshooting procedure

Isn’t the Fan locked?

Yes → Remove the Fan lock

No → Is the connector connected correctly?

Yes → Connect the connector

No → Exchange the Fan

Is the color of Fan wire matched correctly?

Yes → Exchange the PCB

No → Normal operation

Exit
10) Discharge temperature sensor error

(1) Checklist:
- Is the connection of R, S, T power wire normal?
- Are Relay RY21 and R200 on the INVERTER PCB mounted normally?

(2) Troubleshooting procedure

```
Are connection of the wire from INVERTER PBA to EMI PBA normal?

No → Check and correct the wire connection

Yes → Exchange INVERTER PCB
```
3-3. UH105GAV/UH140GAV

11) O.C. (Over Current) error

(1) Checklist:
- Is the refrigerant charged properly?
- Does the compressor rotate normally? (Reverse rotation, Locking etc.)
- Is connection of compressor wire normal?
- Is compressor motor normal? (Insulation, Coil resistance etc.)
- Does a temporary cycle overload condition happened?

(2) Troubleshooting procedure

1. Is the installation of outdoor unit good?
   - No: Reinstall and remove the obstruction
   - Yes: Next step

2. Is the installation of indoor unit good?
   - No: Reinstall and remove the obstruction
   - Yes: Next step

3. Are the service valves full opened?
   - No: Open valve screw to the end
   - Yes: Next step

4. Does the compressor wire connected to the compressor normally?
   - No: Correct the compressor wire connection
   - Yes: Next step

5. Is insulation resistance between each compressor terminal and body normal?
   - No: Exchange the compressor
   - Yes: Next step

6. Does the compressor rotate normally?
   - No: Exchange the compressor
   - Yes: Next step

7. Did AC power voltage interruption happen during the compressor in operation?
   - No: Exchange INVERTER PCB
   - Yes: Check AC power source
12) Communication error

(1) Checklist:
◆ Is the connection of cable for the compressor and power?
◆ Is the interphase resistance of compressor normal?

(2) Troubleshooting procedure

Restart after power off

Is the communication error occurred again?

No → Terminate the service

Yes → Isn't the power cable and communication cable wiring error?

No → Correct the wrong wiring

Yes → Is the connection of communication cable normal?

No → Correct the connection of communication cable

Yes → Exchange the outdoor unit PCB
3-3. UH105GAV/UH140GAV

13) Communication error

(1) Checklist:
- Is the communication cable between the indoor unit and outdoor unit connected correctly?
- Isn’t the power cable and communication cable wiring error?

(2) Troubleshooting procedure

1. Restart after power off
   - Yes
   - Is the restart error occurred again?
     - Yes
     - Is the interphase resistance value of compressor (u→v, v→w, w→u) normal?
       - Yes
       - Exchange the compressor
       - No
       - Correct the cable connection
     - No
     - Exchange the compressor
   - No
   - Terminate the service

- Yes
- Exchange the PCB.
14) Compressor lock error

(1) Checklist:
◆ Is the connection of cable for the compressor and power?
◆ Is the interphase resistance of compressor normal?

(2) Troubleshooting procedure

1. Restart after power off
   - Yes
   - No

2. Is the lock error occurred again?
   - Yes
   - No

3. Is the interphase resistance value of compressor (u→v, v→w, w→u) normal?
   - Yes
   - No

4. Is the compressor body and interphase resistance insulated?
   - Yes
   - No

5. Is the connection cable for the compressor and power terminal normal?
   - Yes
   - No

   - Exchange the PCB.
3-3. UH105GAV/UH140GAV

15) DC Link over voltage/ low voltage error

(1) Checklist:
- Is the power voltage normal? (Lightning, Power interruption etc.)
- Is AC Power cable connection normal? (Detaching the wire)

(2) Troubleshooting procedure

16) The Others

(1) Capacity miss match
- Check again the indoor unit option code.
4. PCB Inspection

4-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/UH052EAS/UH070EAS

1) Pre-inspection notices

(1) Check if you pulled out the AC power plug when you eliminate the PCB or front panel.
(2) Don't hold the PCB side not impose excessive force on it to eliminate the PCB.
(3) Don't pull the lead wire but hold the whole housing to connect or disconnect a connector to the PCB.
(4) In case of outdoor PCB disassembly, check first the complete discharge of condenser(C101) after 30 seconds power off.

2) Inspection procedure

(1) Check connector connection and peeling of PCB or bronze coating pattern when you think the PCB is broken.
(2) The PCB is composed of the 3 parts.
- Indoor Main PCB Part : MICOM and surrounding circuit, relay, room fan motor driving circuit and control circuit, sensor driving circuit, power circuit of DC12V and DC5V, and buzzer driving circuit.
- 7 segment PCB part : 7 segment, switch
- Outdoor Main PCB part : MICOM and surrounding circuit, IPM and PFC circuit and control circuit.
- EMI PCB Part : Line filter and Noise Capacitor, Varistor

3) Detailed inspection procedure

<table>
<thead>
<tr>
<th>No.</th>
<th>PROCEDURE</th>
<th>INSPECTION METHOD</th>
<th>CAUSE</th>
</tr>
</thead>
</table>
| 1   | Plug out and pull the PCB out of the electronic box. Check the PCB fuse. | 1) Is the fuse disconnected? | • Over current  
• Indoor Fan Motor Short  
• AC Part Pattern Short of the MAIN PCB |
| 2   | Supply power. If the operating lamp twinkles at this time, the above 1)~3) have no relation. | Checking the power voltage.  
1) Is the DB71 input voltage AC200V~AC240V?  
2) Is the voltage between both terminals of the C104 on the 2nd side of the transformer DC12V ±0.5V?  
3) Is the voltage between both terminals of OUT and GND of IC02(KA7805) DC5V ±0.5V? | • Power Cord is fault, Fuse open. Wrong Power Cable Wiring, AC Part is faulty  
• Switching Trans or Power Circuit is faulty  
• Power Circuit is faulty, Load Short |
| 3   | Press the ON/OFF button.  
1. FAN Speed [High ]  
2. Continuous Operation | 1) Is the voltage over AC180V being imposed on terminal #3 and #5 of the fan motor connector(CN73)?  
2) The fan motor of the indoor unit doesn't run.  
3) The power voltage between terminal #3 and #5 of the connector(CN73) is 0V. | • Fan Motor of the indoor is faulty  
• Fan Motor Connector(CN73) is faulty  
• ASS'Y Main PCB is faulty  
• Connection is faulty |
## Troubleshooting

### 4. PCB Inspection

#### 4-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/ UH052EAS/UH070EAS

4) Outdoor detailed inspection procedure

<table>
<thead>
<tr>
<th>No.</th>
<th>PROCEDURE</th>
<th>INSPECTION METHOD</th>
<th>CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wait 30 seconds over after disconnecting the power cable Check the outdoor PCB.</td>
<td>1) Is C101 discharged?  2) Is the resistance of both terminals of C101 opened?  3) Is the fuse of EMI PCB normal?  4) Is the reactor wire connected?</td>
<td>• Over Current  • Inner short of PCB  • BLDC FAN Motor Error</td>
</tr>
<tr>
<td>2</td>
<td>Check the outdoor unit PCB.</td>
<td>1) Is R001 200ohm?  2) Does RY503 operate normally? (IC55 &amp; 8: 0V, 4: 5V)  3) Is the fuse normal?</td>
<td>• Outdoor PCB Error  • Relay(RY503) Error  • IC55 Error</td>
</tr>
<tr>
<td>3</td>
<td>Check the LED lighting after power supply.</td>
<td>1) Normal: Red: Light On, Green: Flickering, Yellow : Light Off?  2) Is the voltage of C101 250V over?  3) Is the input of IC19 8V, and the output 5V?  4) Recheck after disassembling BLDC FAN Wire.</td>
<td>• Inner short of outdoor PCB  • Wrong assembly of outdoor PCB  • BLDC FAN Error</td>
</tr>
<tr>
<td>4</td>
<td>Check the condition of indoor &amp; outdoor connection cable.</td>
<td>1) Is the green LED light on once per second?  2) Is the indoor &amp; outdoor connection cable connected in order?  3) Is the grounding wire connected to the both of indoor &amp; outdoor unit?</td>
<td>• Wrong connection of Indoor/Outdoor wiring  • Wrong assembly of outdoor communication circuit</td>
</tr>
<tr>
<td>5</td>
<td>Check the Comp Wire.</td>
<td>1) Is it connected red,blue,and yellow in order in counter clockwise.  2) Are the valve and its installation condition good?  3) Is the installation condition of outdoor unit?</td>
<td>• Wrong assembly  • Installation condition is bad.</td>
</tr>
<tr>
<td>6</td>
<td>Check the BLDC Fan.</td>
<td>1) Is CN01 1, 3 over 250V?  2) Is CN01 3, 5 within 1V~5V?  3) Is the voltage of CN01 6 changed?  4) Is the resistance of BLDC Motor 1, 3 opened after power off?</td>
<td>• Outdoor PCB Error  • BLDC Motor Error</td>
</tr>
</tbody>
</table>
4-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

1) Pre-inspection notices

(1) Turn off the breaker, AC power source, before disassembling the unit because of electrical hazard.
(2) Confirm the complete discharge of capacitor C102, C702, C703, C704, C705, C706, C707 on the INVERTER PCB when you touch the PCB. Especially discharging speed of C702-C707 is very slow because of little load in stand-by condition. To confirm the voltage of C702-C707, measure the DC link voltage at the IGBT module pins near C701 at which applying voltage(450-510V/dc) is marked. To confirm discharging of C102, measure the voltage of non mounted C103 solder hole or check if all LEDs are off.
(3) Don’t touch the metal body of electrolytic capacitor for avoiding electrical shock before confirming discharge.
(4) To discharging the capacitor use power resistor of about 1 Kohm, 10W.
   Soldering tool(non electronic temperature control type) can be used as a discharging resistor.
(5) Don’t pull the lead wire but hold the whole housing to disconnect or connect a housing from or to the PCB.

2) Inspection procedure

(1) Check the connection of each housing to the connector first and the peeling of PCB copper pattern.
(2) The PCB is composed of the 3 part in the indoor unit.
   - INDOOR Main PCB part : Indoor unit control, MICOM and surrounding circuit, relay, fan motor driving circuit, sensor reading circuit, buzzer driving circuit and DC power supplying circuit.
   - 7 segment PCB part : 7 segment, switch
   - INDOOR EMI PCB part : Line filter, Noise Capacitor and Varistor
(3) The PCB is composed of the 3 part in the outdoor unit.
   - MAIN PCB part : Refrigeration cycle controller with MICOM
   - INVERTER PCB part : Compressor driving inverter and BLDC fan controller

3) Indoor detailed inspection procedure

<table>
<thead>
<tr>
<th>No.</th>
<th>PROCEDURE</th>
<th>INSPECTION METHOD</th>
<th>CAUSE</th>
</tr>
</thead>
</table>
| 1   | Open the electronic component box and check the PCB fuse | Turn off the power 1) Is the Fuse F701 on the PCB blown? 2) Is the Fuse F702 on the MAIN PCB blown? | • Over current  
• Indoor fan motor short  
• PCB AC Part pattern short |
| 2   | Check the DIP and rotary switch on the PCB     | 1) Is the setting of each switch proper?                | • Wrong setting of switch      |
| 3   | Check the DC voltage                          | 1) Is the voltage of CN32 pin #1-#2 12V?               | • SMPS on MAIN PBA trouble  
• Load short               |
| 4   | FAN operation checking Press the ON/OFF button. 1. FAN Speed[HIGH] 2. FAN mode | 1) Is the FAN motor running? 2) Is the connection of CN73 normal? | • Controller trouble inside of the fan motor  
• Connector trouble of CN73 |
### 4. PCB Inspection

#### 4-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

**4) Outdoor detailed inspection procedure**

<table>
<thead>
<tr>
<th>No.</th>
<th>PROCEDURE</th>
<th>INSPECTION METHOD</th>
<th>CAUSE</th>
</tr>
</thead>
</table>
| 1   | Turn OFF the power and check wire and socket connection on each part | Wait for 1 minute after turn off  
1) Is connection of housing to socket normal?  
2) Is connection of each wire to terminal block normal?  
3) Is the reactor wire connection normal?  
4) Is there no miss-wiring of each cable? | • installation mistake  
• miss assembling |
| 2   | FUSE check | Is the fuses on each PCB normal?  
1 fuse on control box  
1 fuse on MAIN PCB | • wire short  
• overload  
• BLDC FAN short error |
| 3   | Turn on the power and check voltage of terminal block | Is N-R,N-S,N-T around 230Vac?  
Is R-S,S-T,T-R around 400Vac?  
Is L-N(to indoor unit) around 230Vac?  
Is F1-F2 within 5Vdc? | • miss wiring of power cable  
• wire detaching |
| 4   | Check LED display on INVERTER PCB | 1) Is RED LED ON?  
2) Is GREEN LED Blinking once a second?  
3) Is LEDs displaying error code pattern? | • INVERTER PCB power trouble  
• NO communication between MAIN and INVERTER PCB  
• error detection |
| 5   | Check DC voltage of SMPS output | MAIN PCB  
1) Is voltage of CN51 pin#1-#2 12-14.5V?  
2) Is voltage of C108 5V?  
INVERTER PCB  
3) Is voltage of IC19 G&O 5V?  
4) Is voltage of R107 12V?  
5) Is voltage of C119 15V? | • SMPS circuit trouble |
| 6   | Check INVERTER PCB | 1) Is resistance of R001 200ohm?  
To check this, touch one probe to CN22pin#1(N) and the other to BD01 upper side pin of ‘~’ marking pins  
2) Is DC Link voltage 450-510V?  
Check IGBT module pins marking voltage Q803 C&G | • resister  
• wire connection between EMI PCB and INVERTER PCB |
| 7   | Check BLDC fan | 1) See 12-2-3 The Outdoor unit Fan error (Fault Diagnosis) | |
4-3. UH105GAV/UH140GAV

1) Pre-inspection notices

(1) Turn off the breaker, AC power source, before disassembling the unit because of electrical hazard.
(2) Confirm the complete discharge of capacitor C102, C702, C703, C704, C705, C706, C707 on the INVERTER PCB when you touch the PCB. Especially discharging speed of C702-C707 is very slow because of little load in stand-by condition. To confirm the voltage of C702-C707, measure the DC link voltage at the IGBT module pins near C701 at which applying voltage (450-510Vdc) is marked. To confirm discharging of C102, measure the voltage of non mounted C103 solder hole or check if all LEDs are off.
(3) Don’t touch the metal body of electrolytic capacitor for avoiding electrical shock before confirming discharge.
(4) To discharging the capacitor use power resistor of about 1 Kohm, 10W.
   Soldering tool (non electronic temperature control type) can be used as a discharging resistor.
(5) Don’t pull the lead wire but hold the whole housing to disconnect or connect a housing from or to the PCB.

2) Inspection procedure

(1) Check the connection of each housing to the connector first and the peeling of PCB copper pattern.
(2) The PCB is composed of the 3 part in the indoor unit.
   - INDOOR Main PCB part : Indoor unit control, MICOM and surrounding circuit, relay, fan motor driving circuit, sensor reading circuit, buzzer driving circuit and DC power supplying circuit.
   - Display PCB part : LED lamps, Switch, Remote controller module.
   - INDOOR EMI PCB part : Line filter, Noise Capacitor and Varistor
(3) The PCB is composed of the 3 part in the outdoor unit.
   - MAIN PCB part : Refrigeration cycle controller with MICOM
   - INVERTER PCB part : Compressor driving inverter and BLDC fan controller

3) Indoor detailed inspection procedure

<table>
<thead>
<tr>
<th>No.</th>
<th>PROCEDURE</th>
<th>INSPECTION METHOD</th>
<th>CAUSE</th>
</tr>
</thead>
</table>
| 1   | Open the electronic component box and check the PCB fuse | Turn off the power  
1) Is the Fuse F701 on the EMI PCB blown?  
2) Is the Fuse F702 on the MAIN PCB blown? | • Over current  
• Indoor fan motor short  
• PCB AC Part pattern short |
| 2   | Check the LEDs for DC power and communication condition | Turn on the power  
1) Is RED LED blinking?  
   his led means micom is running normally.  
2) Is GREEN LED blinking?  
   This means communication between Indoor and Outdoor unit is on  
3) Is YELLOW LED blinking?  
   This means communication between Indoor and wired remote controller is on. It may take one minute to start communication | • Communication circuit trouble  
• Communication wire connection trouble  
• wrong connection for power supply wire of remote controller |
| 3   | Check the DIP and rotary switch on the PCB         | 1) Is the setting of each switch proper? | • Wrong setting of switch |
| 4   | Check the DC voltage                             | 1) Is the voltage of CN32 pin #1-#2 12V?  
2) Is the voltage of C10 pin #9-#10 5V? | • SMPS on MAIN PBA trouble  
• Load short |
| 5   | FAN operation checking                            | 1) Is the FAN motor running?  
2) Is the connection of CN73 normal? | • Controller trouble inside of the fan motor  
• Connector trouble of CN73 |
### 4. PCB Inspection

#### 4-3. UH105GAV/UH140GAV

**4) Outdoor detailed inspection procedure**

<table>
<thead>
<tr>
<th>No.</th>
<th>PROCEDURE</th>
<th>INSPECTION METHOD</th>
<th>CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Turn OFF the power and check wire and socket connection on each part</td>
<td>Wait for 1 minute after turn off 1) Is connection of housing to socket normal? 2) Is connection of each wire to terminal block normal? 3) Is the reactor wire connection normal? 4) Is there no miss-wiring of each cable?</td>
<td>• installation mistake • miss assembling</td>
</tr>
<tr>
<td>2</td>
<td>FUSE check</td>
<td>Is the fuses on each PCB normal? 3 fuses on EMI PCB 1 fuse on MAIN PCB 1 fuse on INVERTER PCB</td>
<td>• wire short • overload • BLDC FAN short error</td>
</tr>
<tr>
<td>3</td>
<td>Turn on the power and check voltage of terminal block</td>
<td>Is N-R,N-S,N-T around 230Vac? Is R-S,S-T,T-R around 400Vac? Is L-N(to indoor unit) around 230Vac? Is F1-F2 within 5Vdc?</td>
<td>• miss wiring of power cable • wire detaching</td>
</tr>
<tr>
<td>4</td>
<td>Check LED display on AIN PCB</td>
<td>1) Is RED LED ON? 2) Is GREEN LED Blinking once a second? 3) Is LEDs displaying error code pattern?</td>
<td>• MAIN PCB power trouble • bad communication between indoor and outdoor unit • error detection</td>
</tr>
<tr>
<td>5</td>
<td>Check LED display on INVERTER PCB</td>
<td>1) Is RED LED ON? 2) Is GREEN LED Blinking once a second? 3) Is LEDs displaying error code pattern?</td>
<td>• INVERTER PCB power trouble • NO communication between MAIN and INVERTER PCB • error detection</td>
</tr>
<tr>
<td>6</td>
<td>Check DC voltage of SMPS output</td>
<td><strong>MAIN PCB</strong> 1) Is voltage of CN51 pin#1-#2 12-14.5V? 2) Is voltage of C108 5V? <strong>INVERTER PCB</strong> 3) Is voltage of CN51 pin#1-#2 5V? 4) Is voltage of C124 12V? 5) Is voltage of each ZD100,ZD101,ZD102,ZD103 17-18V?</td>
<td>• SMPS circuit trouble</td>
</tr>
<tr>
<td>7</td>
<td>Check INVERTER PCB</td>
<td>1) Is resistance of R100 200ohm? To check this, touch one probe to CN10 pin#1(N) and the other to D101 upper side pin of ~ mark- 2) Is DC Link voltage 450-510V? Check IGBT module pins marking voltage near C701</td>
<td>• resister • wire connection between EMI PCB and INVERTER PCB</td>
</tr>
<tr>
<td>8</td>
<td>Check BLDC fan</td>
<td>1) See 12-2-3 The Outdoor unit Fan error (Fault Diagnosis)</td>
<td></td>
</tr>
</tbody>
</table>

---

**Notes:**

- Troubleshooting
- **Chapter 08**
- **Troubleshooting**
- **4. PCB Inspection**
- **4-3. UH105GAV/UH140GAV**
- **4) Outdoor detailed inspection procedure**
- **No. PROCEDURE INSPECTION METHOD CAUSE**
- **1** Turn OFF the power and check wire and socket connection on each part Wait for 1 minute after turn off 1) Is connection of housing to socket normal? 2) Is connection of each wire to terminal block normal? 3) Is the reactor wire connection normal? 4) Is there no miss-wiring of each cable? • installation mistake • miss assembling
- **2** FUSE check Is the fuses on each PCB normal? 3 fuses on EMI PCB 1 fuse on MAIN PCB 1 fuse on INVERTER PCB • wire short • overload • BLDC FAN short error
- **3** Turn on the power and check voltage of terminal block Is N-R,N-S,N-T around 230Vac? Is R-S,S-T,T-R around 400Vac? Is L-N(to indoor unit) around 230Vac? Is F1-F2 within 5Vdc? • miss wiring of power cable • wire detaching
- **4** Check LED display on AIN PCB 1) Is RED LED ON? 2) Is GREEN LED Blinking once a second? 3) Is LEDs displaying error code pattern? • MAIN PCB power trouble • bad communication between indoor and outdoor unit • error detection
- **5** Check LED display on INVERTER PCB 1) Is RED LED ON? 2) Is GREEN LED Blinking once a second? 3) Is LEDs displaying error code pattern? • INVERTER PCB power trouble • NO communication between MAIN and INVERTER PCB • error detection
- **6** Check DC voltage of SMPS output **MAIN PCB** 1) Is voltage of CN51 pin#1-#2 12-14.5V? 2) Is voltage of C108 5V? **INVERTER PCB** 3) Is voltage of CN51 pin#1-#2 5V? 4) Is voltage of C124 12V? 5) Is voltage of each ZD100,ZD101,ZD102,ZD103 17-18V? • SMPS circuit trouble
- **7** Check INVERTER PCB 1) Is resistance of R100 200ohm? To check this, touch one probe to CN10 pin#1(N) and the other to D101 upper side pin of ~ marking pins 2) Is DC Link voltage 450-510V? Check IGBT module pins marking voltage near C701 • resister • wire connection between EMI PCB and INVERTER PCB
- **8** Check BLDC fan 1) See 12-2-3 The Outdoor unit Fan error (Fault Diagnosis) |
5. Main Inspection

5-1. UH026EAV1/UH035EAV1/UH052EAV1/UH060EAV1/UH070EAV1/
     UH052EAS/UH070EAS

<table>
<thead>
<tr>
<th>PART</th>
<th>BREAKDOWN INSPECTION METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Temperature Sensor</td>
<td>Measure resistance with a tester</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature 37kΩ<del>8.3kΩ(-7℃</del>+30℃)</td>
</tr>
<tr>
<td>Abnormal</td>
<td>∞, 0Ω... Open or Short</td>
</tr>
<tr>
<td>Room Fan Motor</td>
<td>Measure the resistance between terminals of the connector(CN73) with a tester.</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature(10℃~30℃)</td>
</tr>
<tr>
<td></td>
<td>Compare terminal</td>
</tr>
<tr>
<td></td>
<td>Yellow, Blue</td>
</tr>
<tr>
<td></td>
<td>Yellow, Red</td>
</tr>
<tr>
<td>Abnormal</td>
<td>∞, 0Ω... Open or Short</td>
</tr>
<tr>
<td>Stepping Motor</td>
<td>Measure the resistance between the red wire and each terminal wire with a tester.</td>
</tr>
<tr>
<td>Normal</td>
<td>About 300Ω at the normal temperature(20℃~30℃)</td>
</tr>
<tr>
<td>Abnormal</td>
<td>∞, 0Ω... Open or Short</td>
</tr>
</tbody>
</table>
### 5. Main Inspection

#### 5-2. UH090EAV/UH105EAV/UH140EAV/UH105EAS

<table>
<thead>
<tr>
<th>PART</th>
<th>BREAKDOWN INSPECTION METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indoor Unit Temperature Sensor</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature 37kΩ<del>8.3kΩ(-7˚C</del>+30˚C)</td>
</tr>
<tr>
<td>Abnormal</td>
<td>∞, 0Ω··· Open or Short</td>
</tr>
<tr>
<td><strong>Indoor Unit BLDC FAN Motor</strong></td>
<td>Measure terminal resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature(10˚C~30˚C)</td>
</tr>
<tr>
<td><strong>Outdoor Unit</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Outdoor Temperature Sensor</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td><strong>&amp; Cond Temperature Sensor</strong></td>
<td>At the normal temperature 37kΩ<del>8.3kΩ(-7˚C</del>+30˚C) see 12-2-6 and 12-2-8</td>
</tr>
<tr>
<td>Abnormal</td>
<td>∞, 0Ω··· Open or Short</td>
</tr>
<tr>
<td><strong>Outdoor Unit</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td><strong>Discharge Temperature Sensor</strong></td>
<td>At the normal temperature 37kΩ<del>8.3kΩ(-7˚C</del>+30˚C) see 12-2-6 and 12-2-8</td>
</tr>
<tr>
<td>Abnormal</td>
<td>∞, 0Ω··· Open or Short</td>
</tr>
<tr>
<td><strong>Outdoor Unit</strong></td>
<td>Measure terminal resistance with a multimeter</td>
</tr>
<tr>
<td><strong>BLDC FAN MOTOR</strong></td>
<td>At the normal temperature(10˚C~30˚C)</td>
</tr>
<tr>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td><strong>Outdoor Unit 4way Valve Solenoid</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature 37kΩ<del>8.3kΩ(-7˚C</del>+30˚C) see 12-2-6 and 12-2-8</td>
</tr>
<tr>
<td>Abnormal</td>
<td>∞, 0Ω··· Open or Short</td>
</tr>
</tbody>
</table>

### Circuit Breakdown Inspection Method

- **Wire**
  - RED - BLACK
  - WHITE - BLACK
  - YELLOW - BLACK
  - BLUE - BLACK
  - ORANGE - BLACK

- **Pin Number**
  - 1-3
  - 4-3
  - 5-3
  - 6-3
  - 7-3

<table>
<thead>
<tr>
<th>Wire</th>
<th>Pin Number</th>
<th>Resistance</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED - BLACK</td>
<td>1-3</td>
<td>over 1MΩ</td>
<td>+300V motor power</td>
</tr>
<tr>
<td>WHITE - BLACK</td>
<td>4-3</td>
<td>1K~2KΩ</td>
<td>+15V control power</td>
</tr>
<tr>
<td>YELLOW - BLACK</td>
<td>5-3</td>
<td>200KΩ~300KΩ</td>
<td>control</td>
</tr>
<tr>
<td>BLUE - BLACK</td>
<td>6-3</td>
<td>10KΩ~50KΩ</td>
<td>pulse</td>
</tr>
<tr>
<td>ORANGE - BLACK</td>
<td>7-3</td>
<td>10KΩ~50KΩ</td>
<td>reverse</td>
</tr>
</tbody>
</table>
## Part 5-3. UH105GAV/UH140GAV

<table>
<thead>
<tr>
<th>PART</th>
<th>BREAKDOWN INSPECTION METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indoor Unit Temperature Sensor</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature $37\text{k}\Omega$<del>$8.3\text{k}\Omega(-7^\circ\text{C}</del>+3^\circ\text{C})$</td>
</tr>
<tr>
<td>Abnormal</td>
<td>$\infty$· · ·· Open or Short</td>
</tr>
<tr>
<td><strong>Indoor Unit BLDC FAN Motor</strong></td>
<td>Measure terminal resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature $(10^\circ\text{C}~30^\circ\text{C})$</td>
</tr>
<tr>
<td>Wire</td>
<td>pin number</td>
</tr>
<tr>
<td>RED - BLACK</td>
<td>1-3</td>
</tr>
<tr>
<td>WHITE - BLACK</td>
<td>4-3</td>
</tr>
<tr>
<td>YELLOW - BLACK</td>
<td>5-3</td>
</tr>
<tr>
<td>BLUE - BLACK</td>
<td>6-3</td>
</tr>
<tr>
<td>Abnormal</td>
<td>$\infty$· · ·· Open or Short</td>
</tr>
<tr>
<td><strong>Outdoor Unit Outdoor Temperature Sensor &amp; Cond Temperature Sensor</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature $37\text{k}\Omega$<del>$8.3\text{k}\Omega(-7^\circ\text{C}</del>+3^\circ\text{C})$ see 12-2-6 and 12-2-8</td>
</tr>
<tr>
<td>Abnormal</td>
<td>$\infty$· · ·· Open or Short</td>
</tr>
<tr>
<td><strong>Outdoor Unit Discharge Temperature Sensor</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature $37\text{k}\Omega$<del>$8.3\text{k}\Omega(-7^\circ\text{C}</del>+3^\circ\text{C})$ see 12-2-6 and 12-2-8</td>
</tr>
<tr>
<td>Abnormal</td>
<td>$\infty$· · ·· Open or Short</td>
</tr>
<tr>
<td><strong>Outdoor Unit BLDC FAN MOTOR</strong></td>
<td>Measure terminal resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature $(10^\circ\text{C}~30^\circ\text{C})$</td>
</tr>
<tr>
<td>Wire</td>
<td>pin number</td>
</tr>
<tr>
<td>RED - BLACK</td>
<td>1-3</td>
</tr>
<tr>
<td>WHITE - BLACK</td>
<td>4-3</td>
</tr>
<tr>
<td>YELLOW - BLACK</td>
<td>5-3</td>
</tr>
<tr>
<td>BLUE - BLACK</td>
<td>6-3</td>
</tr>
<tr>
<td>ORANGE - BLACK</td>
<td>7-3</td>
</tr>
<tr>
<td>Abnormal</td>
<td>$\infty$· · ·· Open or Short</td>
</tr>
<tr>
<td><strong>Outdoor Unit 4way Valve Solenoid</strong></td>
<td>Measure sensor resistance with a multimeter</td>
</tr>
<tr>
<td>Normal</td>
<td>At the normal temperature $37\text{k}\Omega$<del>$8.3\text{k}\Omega(-7^\circ\text{C}</del>+3^\circ\text{C})$ see 12-2-6 and 12-2-8</td>
</tr>
<tr>
<td>Abnormal</td>
<td>$\infty$· · ·· Open or Short</td>
</tr>
</tbody>
</table>
Q  The cooling is weak.  
A  When it is hot outside, its cooling capacity decreases due to the increase of the ambient temperature. When the dust filter gets blocked or warm outside air gets in, the cooling capacity will decrease. So, make sure to clean the dust filter frequently, prevent heat loss by closing the doors and insulate the cooling area by using curtains, blinds, shades or window tinting.

Q  The cooling is good generally. But, it gets weak when it is considerably hot.  
A  It occurs when the outdoor unit is exposed to direct sun light and heat-up air is not ventilated well. So, set up a sunblind over the outdoor unit and keep stuff away from the unit to increase the ventilation. When the cooling capacity decreases during a heat wave, clean the heat exchanger of the outdoor unit or spray some cold water to the heat exchanger to increase the cooling capability.

Q  The cooling is weak. Does it need refrigerant charging?  
A  It is not correct charging refrigerant regularly. Except that you have moved in several times or the connection pipes are broken, the refrigerant does not run low. So, when refrigerant is additionally charged, it could be costly and cause a product’s failure. When the refrigerant leaks, all of it will escape in a short time resulting in cooling failure and no water coming out of the drain hose. So, if water comes out from the drain hose, it indicates the normal operation of the product and it does not need refrigerant charging.

Q  It fails to do cooling.  
A  When the air conditioner is set to Ventilation or the desired temperature is set higher than the current temperature, it fails to do cooling. In this case, select Cooling or set the desired temperature lower.

Q  It floods the floor.  
A  Place the drain hose properly. When it is not placed properly, the drain water would flow back flooding the floor. So, straighten out the drain hose for the water to be drained well.

Q  Water drips at the drain connection(service valve) of the outdoor unit.  
A  When a glass bottle is taken out of the refrigerator, moisture gets condensed on its surface due to the temperature differences. The same principle applies to the air conditioner. When cold refrigerant goes through the copper tube, moisture gets condensed on the surface of the tube and the connection areas. To prevent the water condensation, the pipes are insulated. But, the connection areas of the outdoor unit are not insulated for the purpose of maintenance or repair, and water gets condensed due to the temperature differences and drips down. Generally, it evaporates right away. But, when it drips much during muggy days, put a water pan on the floor.

Q  It leaks even though a drain pump is used.  
A  It occurs when the drain pump is plugged out or it is out of order. Check the power of the drain pump and the position of the drain hose, and when the pump is faulty, contact the drain pump manufacturer. Samsung Electronics do not manufacture drain pumps. So, we are not able to correct the drain pump problems.

Q  Whenever the air conditioner is turned on, it irritates my eyes and gives me a headache.  
A  There are no components in the air conditioner irritating the eyes and sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, it occurs at a interior renovated place, a pharmacy, a gasoline handling place, a tire shop, a second-hand book shop or an electronic component handling place; when its chemical or musty smells are sucked in and sent out, it can be misled that the air conditioner generates them. So, find and root out the problem or refresh the room frequently.
Whenever the air conditioner is turned on, it stinks.

There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.

Whenever the air conditioner is turned on, it smells sour.

When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out the problem or refresh the room frequently.

Whenever the air conditioner is turned on, it smells musty.

It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of Ventilation to prevent must. When the product is kept without drying up the inside with Ventilation, mold would grow inside resulting in must. So, open the windows and switch on the Ventilation function to get rid of the saturated smell inside.

Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.

It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.

It sends out bad smells.

When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.

It won’t start.

There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.

It goes off during operation.

When the hot air does not escape properly, it goes off during operation. It occurs when it does not ventilate properly because the outdoor unit is covered, the back of the outdoor unit is blocked by a cardboard or a plywood panel, and the front of the outdoor unit is blocked by the closed window or other obstacles. Clear the above obstacles from the outdoor unit.

It generally works properly. But, when it’s considerably hot, it goes off during operation.

It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes off frequently during a heat wave, it would prevent the turn-off and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.

The remote controller won’t operate.

When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may not work under intensive light from a 3-wave length lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Smells</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>Whenever the air conditioner is turned on, it stinks.</td>
</tr>
<tr>
<td>A</td>
<td>There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.</td>
</tr>
<tr>
<td>Q</td>
<td>Whenever the air conditioner is turned on, it smells sour.</td>
</tr>
<tr>
<td>A</td>
<td>When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out the problem or refresh the room frequently.</td>
</tr>
<tr>
<td>Q</td>
<td>Whenever the air conditioner is turned on, it smells musty.</td>
</tr>
<tr>
<td>A</td>
<td>It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of Ventilation to prevent must. When the product is kept without drying up the inside with Ventilation, mold would grow inside resulting in must. So, open the windows and switch on the Ventilation function to get rid of the saturated smell inside.</td>
</tr>
<tr>
<td>Q</td>
<td>Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.</td>
</tr>
<tr>
<td>A</td>
<td>It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.</td>
</tr>
<tr>
<td>Q</td>
<td>It sends out bad smells.</td>
</tr>
<tr>
<td>A</td>
<td>When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.</td>
</tr>
<tr>
<td>Operation</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>It won’t start.</td>
</tr>
<tr>
<td>A</td>
<td>There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.</td>
</tr>
<tr>
<td>Q</td>
<td>It goes off during operation.</td>
</tr>
<tr>
<td>A</td>
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<tr>
<td>Q</td>
<td>It generally works properly. But, when it’s considerably hot, it goes off during operation.</td>
</tr>
<tr>
<td>A</td>
<td>It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes off frequently during a heat wave, it would prevent the turn-off and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.</td>
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6. Q & A

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
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<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>Who installs the air conditioner? (Relocation/Re-installation)</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>When relocating or re-installing the air conditioner, make sure to contact Samsung Electronics Service Center or Authorized Service Agent and have them to do the job (if not, it could cause personal injury or product damage.) The cost for the relocation/re-installation of the air conditioner is subject to the customer's expense. There is a cost table. But, our service engineer needs to visit to total up the cost correctly. When you move in, make sure to contact Samsung Electronics Service Center or Authorized Service Agent in advance to streamline the process.</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>Is it possible to install the outdoor unit outside?</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>It is possible to install it at a designated place in the apartment or on the rooftop nearby. But, it's illegal hanging an angle iron case with the outdoor unit in it outside the apartment. Also, it is illegal obstructing passers-by with the outdoor unit installed outside.</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>What can be done to install the outdoor unit facing the road because it is a commercial building?</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>The following is an excerpt from Building Code going into effect from JUNE 1st 2005. “The exhaust pipe of a cooling or ventilation facility installed in a building adjacent to the streets of commercial or residential areas shall be installed higher than 2m to prevent the exhaust air from blowing directly to passers-by and the current facilities shall be corrected by MAY 31st 2005.” So, please install it higher than 2m or not to blow the hot exhausting air directly to passers-by.</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>What about installing a windscreen during installation not to blow hot air directly to passers-by?</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>When the hot air from the front of the outdoor unit is blocked, the product's performance will be affected and it will fail to operate properly. So, keep it at least 300mm away from its surrounding walls and give it good ventilation.</td>
<td></td>
</tr>
</tbody>
</table>