TECHNICAL & SERVICE MANUAL

Series SEZ  Ceiling Concealed

Model name
Indoor unit
SEZ-KD09NA(4)
SEZ-KD12NA(4)
SEZ-KD15NA(4)
SEZ-KD18NA(4)

INDOOR UNIT

WIRED REMOTE CONTROLLER
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PART NAMES AND FUNCTIONS

Indoor Unit
SEZ-KD09NA(4)
SEZ-KD12NA(4)
SEZ-KD15NA(4)
SEZ-KD18NA(4)

Air outlet duct flange

Air outlet

Air inlet

Wired remote controller
Once the controls are set, the same operation mode can be repeated by simply pressing the ON/OFF button.

- Operation buttons

- Set Temperature buttons
- Down
- Up

- Timer Menu button
  (Monitor/Set button)

- Mode button
  (Return button)

- Set Time buttons
- Back
- Ahead

- Timer On/Off button
  (Set Day button)

- Opening the door

- Start/Stop button

- Fan Speed button

- Filter button
  (<return sign> button)

- Test Run button

- Service button
  (Clear button)

- Airflow Up/Down button

- Louver button
  (<Operation button>)

- Ventilation button
  (<Operation button>)

- To preceding operation number

- To next operation number
Display

For purposes of this explanation, all parts of the display are shown as lit. During actual operation, only the relevant items will be lit.

**Identifies the current operation**
- Shows the operating mode, etc.
- Multilanguage display is supported.

**“Centrally Controlled” indicator**
- Indicates that operation of the remote controller has been prohibited by a master controller.

**“Timer Is Off” indicator**
- Indicates that the timer is off.

**Temperature Setting**
- Shows the target temperature.

**Day-of-Week**
- Shows the current day of the week.

**Time/Timer Display**
- Shows the current time (The 12 hour clock or The 24 hour clock), unless the simple or Auto Off timer is set. If the simple or Auto Off timer is set, shows the time remaining.

**“Clean The Filter” indicator**
- Comes on when it is time to clean the filter.

**Filter Function**
- Only1Hr.
- Weekly
- Simple
- Auto Off

**Room Temperature display**
- Shows the room temperature.

**Louver display**
- Indicates the action of the swing louver. Does not appear if the louver is stationary.

**Fan Speed indicator**
- Shows the selected fan speed.

**Ventilation indicator**
- Appears when the unit is running in Ventilation mode.

**“One Hour Only” indicator**
- Displayed if the airflow is set to Low and downward during COOL or DRY mode. (Operation varies according to model.)
- The indicator goes off after one hour, at which time the airflow direction also changes.

**Up/Down Air Direction indicator**
- The indicator shows the direction of the outcoming airflow.

**“Power On indicator”**
- Indicates that the power is on.

Caution

- Only the Power on indicator lights when the unit is stopped and power supplied to the unit.
- If you press a button for a feature that is not installed in the indoor unit, the remote controller will display the “Not Available” message.
- If you are using the remote controller to operate multiple indoor units, this message will appear only if the feature is not present at the parent unit.
- When power is turned ON for the first time, it is normal that “PLEASE WAIT” is displayed on the room temperature indication (For max. 2 minutes). Please wait until this “PLEASE WAIT” indication disappears then start the operation.
## SPECIFICATIONS

### Model Name

<table>
<thead>
<tr>
<th>Capacity</th>
<th>SEZ-KD09NA(4)</th>
<th>SEZ-KD12NA(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BTU/h</strong></td>
<td>8100</td>
<td>10900</td>
</tr>
<tr>
<td><strong>Power source</strong></td>
<td>208/230V (60Hz)</td>
<td>208/230V (60Hz)</td>
</tr>
<tr>
<td><strong>Power input</strong></td>
<td>kW</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>A</td>
<td>0.31</td>
</tr>
<tr>
<td><strong>Temperature set range</strong></td>
<td>°F (°C)</td>
<td>67 to 86 (19 to 30)</td>
</tr>
</tbody>
</table>

### Airflow direction

<table>
<thead>
<tr>
<th>Fan Type</th>
<th>Quantity</th>
<th>Sinocoo fan x 2</th>
<th>Sinocoo fan x 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>External static press</td>
<td>in.WG(Pa)</td>
<td>0.02-0.06-0.14-0.20 (5-15-35-50)</td>
<td>0.02-0.06-0.14-0.20 (5-15-35-50)</td>
</tr>
<tr>
<td>Motor type</td>
<td>kW</td>
<td>0.096</td>
<td>0.096</td>
</tr>
<tr>
<td>Driving mechanism</td>
<td>kW</td>
<td>Direct-driven</td>
<td>Direct-driven</td>
</tr>
<tr>
<td>Airflow rate (Low-Mid-High)</td>
<td>m³/min</td>
<td>5.5-7.0/9.0-11.3</td>
<td>7.0-9.0/11.3</td>
</tr>
<tr>
<td>Airflow rate (Low-Mid-High)</td>
<td>CFM</td>
<td>184-247-317</td>
<td>247-317-388</td>
</tr>
<tr>
<td>Airflow rate (Low-Mid-High)</td>
<td>L/S</td>
<td>91-116-152</td>
<td>116-150-183</td>
</tr>
</tbody>
</table>

### External finish

| Galvanized | Galvanized |
| External dimension | mm | 200 x 790 x 700 | 200 x 990 x 700 |
| H x W x D | in. | 7-7/8 x 31-1/8 x 27-9/16 | 7-7/8 x 39 x 27-9/16 |
| Net weight | kg | 18 | 21 |

### Wiring

<table>
<thead>
<tr>
<th>Min size of wire</th>
<th>in.(mm)</th>
<th>1/8 (1.6)</th>
<th>1/8 (1.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amperage of wire breaker</td>
<td>A</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

### Refrigerant piping diameter

<table>
<thead>
<tr>
<th>Liquid R410A</th>
<th>in.(mm)</th>
<th>ø1/4 (ø6.35)</th>
<th>ø1/4 (ø6.35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas R410A</td>
<td>in.(mm)</td>
<td>ø3/8 (ø9.52)</td>
<td>ø3/8 (ø9.52)</td>
</tr>
<tr>
<td>Drain piping diameter</td>
<td>in.(mm)</td>
<td>O.D. 1-1/4 (32)</td>
<td>O.D. 1-1/4 (32)</td>
</tr>
</tbody>
</table>

### Sound level

| (measured in anechoic room) | dB(A) | 23-26-30 | 23-28-33 |

### Insulation material

| Polystyrene foam, Polyethylene foam, Urethane foam | Polystyrene foam, Polyethylene foam, Urethane foam |

### Air filter

| PP Honeycomb fabric (washable) | PP Honeycomb fabric (washable) |

### Refrigerant control device

<table>
<thead>
<tr>
<th>ERZV10D471</th>
<th>ERZV10D471</th>
</tr>
</thead>
</table>

### Protection devices

| Fuse (250V 6.3A) | Fuse (250V 6.3A) |

### Heat exchanger

| Cross fin (Aluminum fin and copper tube) | Cross fin (Aluminum fin and copper tube) |

### Varistor

| ERZV10D471 | ERZV10D471 |

### Terminal block

| To outdoor unit : 3P | To wired remote controller : 2P |

### Power outlet

| A | 10 |

### Standard attachment

| Document | Installation Manual, Instruction Book |

### Accessory

| Drain hose (flexible joint), <Wired Remote Controller> | Drain hose (flexible joint), <Wired Remote Controller> |

### Remark

1. Cooling/Heating capacity indicates the maximum value at operation under the following condition.
2. Power consumption. Run current at 0.06[in.WG] (15Pa) (external static pressure)
3. Cooling capacity value at 1:1system
   - Heating capacity value at 1:1system
4. < > SEZ-KD-NA only
### Cooling/Heating capacity indicates the maximum value at operation under the following condition.

- **Cooling**
  - Outdoor: 95°F.D.B. (35°C.D.B.)

- **Heating**

2. Power consumption. Run current at 0.06[in.WG] (15Pa) (external static pressure)

3. Cooling capacity value at 1:1 system
   - Cooling capacity value at 1:1 system

4. < > SEZ-KD-NA only
SOUND CRITERION CURVES

SEZ-KD09NA(4)  
External static pressure: 0.02\([\text{in. WG}](5\text{Pa})\)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

SEZ-KD09NA(4)  
External static pressure: 0.06\([\text{in. WG}](15\text{Pa})\)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

SEZ-KD09NA(4)  
External static pressure: 0.14\([\text{in. WG}](35\text{Pa})\)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

SEZ-KD09NA(4)  
External static pressure: 0.20\([\text{in. WG}](50\text{Pa})\)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: The sound level is measured in an anechoic room where echoes are few, when compressor stops. The sound may be bigger than displayed level under actual installation condition by surrounding echoes. The sound level can be higher by about 2 dB than the displayed level during cooling and heating operation.
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**SEZ-KD18NA(4)**

External static pressure: 0.02[in.WG](5Pa)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>37</td>
<td>----</td>
</tr>
<tr>
<td>Middle</td>
<td>33</td>
<td>----</td>
</tr>
<tr>
<td>Low</td>
<td>29</td>
<td>----</td>
</tr>
</tbody>
</table>

**SEZ-KD18NA(4)**

External static pressure: 0.06[in.WG](15Pa)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>38</td>
<td>----</td>
</tr>
<tr>
<td>Middle</td>
<td>34</td>
<td>----</td>
</tr>
<tr>
<td>Low</td>
<td>30</td>
<td>----</td>
</tr>
</tbody>
</table>

**SEZ-KD18NA(4)**

External static pressure: 0.14[in.WG](35Pa)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>39</td>
<td>----</td>
</tr>
<tr>
<td>Middle</td>
<td>35</td>
<td>----</td>
</tr>
<tr>
<td>Low</td>
<td>31</td>
<td>----</td>
</tr>
</tbody>
</table>

**SEZ-KD18NA(4)**

External static pressure: 0.20[in.WG](50Pa)

<table>
<thead>
<tr>
<th>NOTCH</th>
<th>SPL(dB)</th>
<th>LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>39</td>
<td>----</td>
</tr>
<tr>
<td>Middle</td>
<td>36</td>
<td>----</td>
</tr>
<tr>
<td>Low</td>
<td>32</td>
<td>----</td>
</tr>
</tbody>
</table>

---

**NOTE:** The sound level is measured in an anechoic room where echoes are few, when compressor stops. The sound may be bigger than displayed level under actual installation condition by surrounding echoes. The sound level can be higher by about 2 dB than the displayed level during cooling and heating operation.
INDOOR FAN PERFORMANCE AND CORRECTED AIR FLOW

SEZ-KD09NA(4)
(External static pressure 0.02[in.WG](6Pa)) 208/230V 60Hz

SEZ-KD09NA(4)
(External static pressure 0.06[in.WG](15Pa)) 208/230V 60Hz

SEZ-KD09NA(4)
(External static pressure 0.14[in.WG](35Pa)) 208/230V 60Hz

SEZ-KD09NA(4)
(External static pressure 0.20[in.WG](50Pa)) 208/230V 60Hz
OUTLINES AND DIMENSIONS

Unit: mm (in.)

SEZ-KD09NA(4)
SEZ-KD12NA(4)
SEZ-KD15NA(4)
SEZ-KD18NA(4)

Drain pipe (OD: ø32 (1-1/4))
Emergency draining

Control box

Air filter

Refrigerant piping

Drain pipe (OD: ø32 (1-1/4))

Knockout hole ø27 (1-3/32)
Indoor/outdoor connecting line

Knockout hole ø27 (1-3/32)
Remote controller transmission line

Required space for service and maintenance

Note 1. Use M10 screw for the suspension bolt (field supply).
Note 2. Keep the service space for the maintenance at the bottom.
Note 3. This chart indicates for SEZ-KD15NA(4) model, which has 3 fans. SEZ-KD09,12NA(4) models have 2 fans. SEZ-KD18NA(4) models have 4 fans.
Note 4. In case an inlet duct is used, remove the air filter (supply with the unit), then install the filter (field supply) at suction side.

Note

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>Ø Gas pipe</th>
<th>Ø Liquid pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEZ-KD09NA(4)</td>
<td>700</td>
<td>702</td>
<td>798</td>
<td>660</td>
<td>660</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>550</td>
<td>550</td>
<td>550</td>
<td>550</td>
<td>ø9.52 (3/8)</td>
<td>ø6.35 (1/4)</td>
<td></td>
</tr>
<tr>
<td>SEZ-KD12NA(4)</td>
<td>900</td>
<td>902</td>
<td>998</td>
<td>860</td>
<td>860</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>750</td>
<td>750</td>
<td>750</td>
<td>750</td>
<td>ø9.52 (3/8)</td>
<td>ø6.35 (1/4)</td>
<td></td>
</tr>
<tr>
<td>SEZ-KD15NA(4)</td>
<td>1100</td>
<td>1152</td>
<td>1198</td>
<td>1060</td>
<td>1060</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>950</td>
<td>950</td>
<td>950</td>
<td>950</td>
<td>ø12.7 (1/2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEZ-KD18NA(4)</td>
<td>1300</td>
<td>1352</td>
<td>1400</td>
<td>1260</td>
<td>1260</td>
<td>1200</td>
<td>1200</td>
<td>1200</td>
<td>1150</td>
<td>1150</td>
<td>1150</td>
<td>1150</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

mm (in.)
SEZ-KD09NA
SEZ-KD12NA
SEZ-KD15NA
SEZ-KD18NA

I. B. CONTROL BOX

Drain pump
(CN24, Yellow)

LED1
(CN22, Red)

SW2
(SW1, ON/OFF)

CN41
SWE
(ON, OFF)

CN90
CONNECTOR (WIRELESS)

CN3C
CNMF

SW2
SW1

CN44
CN4F

CN51
ZNR01,02
VARISTOR

FUSE
ACS250V 6.3A

ZNR01
FUSE AC250V 6.3A

ZNR02
VARISTOR

SW2
SW1

CN51
CONNECTOR (REMOTE SWITCH)

CN41
CONNECTOR (CENTRALLY CONTROL)

CN2L
CONNECTOR (LOSSNAY)

CN90
CONNECTOR (REMOTE SWITCH)

CN41
CONNECTOR (HA TERMINAL-A)

CN2L
CONNECTOR (REMOTE CONNECTING LINE)

CN90
CONNECTOR (HA TERMINAL-A)

CN2L
CONNECTOR (CENTRALLY CONTROL)

CN90
CONNECTOR (REMOTE CONNECTING LINE)

LED1
POWER SUPPLY (I.B.)

Note 1. Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring for servicing.
2. Indoor and outdoor connecting wires are made with polarities, make wiring matching terminal numbers (S1, S2, S3).
3. Symbols used in wiring diagram above are: ☐ Connector, ☐ Terminal.
4. Use copper supply wire.
**INSIDE SECTION OF CONTROL BOX**

- **SW1** (switch for model selection)
- **SW6** (switch for capacity code)
- **CN20** (connector (central control))
- **CN24** (connector (centrally control))
- **CN31** (connector (central control))
- **CN105** (connector (centrally control))
- **CN4F** (connector (radio frequency interface))
- **CN90** (connector (radio frequency interface))
- **CN41** (connector (radio frequency interface))
- **TB15** (terminal block)
- **TB4** (terminal block)
- **TB6** (terminal block)
- **LED1** (LED run indicator)
- **LED2** (LED run indicator)
- **LED3** (LED run indicator)
- **FUSE** (AC 250V 6.3A)
- **SWITCH (HEATING ON/OFF)**
- **SWITCH (COOLING ON/OFF)**
- **DIODE (RECTIFY CIRCUIT)**
- **SWITCH (FOR EMERGENCY OPERATION)**

**PARTS LOCATION**

- **CONTROL BOX**
- **REMOTE CONTROLLER BOARD**

**SYMBOL EXPLANATION**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>NAME</th>
<th>SYMBOL</th>
<th>NAME</th>
<th>SYMBOL</th>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.B.</td>
<td>INDOOR CONTROLLER BOARD</td>
<td>I.B.</td>
<td>INDOOR CONTROLLER BOARD</td>
<td>OPTIONAL PARTS</td>
<td></td>
</tr>
<tr>
<td>FUSE</td>
<td>FUSE AC 250V 6.3A</td>
<td>SW1</td>
<td>SWITCH (FOR MODEL SELECTION)</td>
<td>W.B.</td>
<td>IR WIRELESS REMOTE CONTROLLER BOARD</td>
</tr>
<tr>
<td>X1</td>
<td>AUX RELAY</td>
<td>SW2</td>
<td>SWITCH (FOR CAPACITY CODE)</td>
<td>RU</td>
<td>RECEIVING UNIT</td>
</tr>
<tr>
<td>CN2L</td>
<td>CONNECTOR (LOSS NAY)</td>
<td>SW6</td>
<td>SWITCH (FOR EMERGENCY OPERATION)</td>
<td>BZ1</td>
<td>BUZZER</td>
</tr>
<tr>
<td>CN24</td>
<td>CONNECTOR (BACK-UP HEATING)</td>
<td>SWE</td>
<td>CONNECTOR (EMERGENCY OPERATION)</td>
<td>LED1</td>
<td>LED (RUN INDICATOR)</td>
</tr>
<tr>
<td>CN30</td>
<td>CONNECTOR (LLC)</td>
<td>TH1</td>
<td>INTAKE AIR TEMP. THERMISTOR</td>
<td>SW1</td>
<td>SWITCH (HEATING ON/OFF)</td>
</tr>
<tr>
<td>CN32</td>
<td>CONNECTOR (REMOTE SWITCH)</td>
<td>TH2</td>
<td>PIPE TEMP. THERMISTOR/LIQUID</td>
<td>SW2</td>
<td>SWITCH (COOLING ON/OFF)</td>
</tr>
<tr>
<td>CN41</td>
<td>CONNECTOR (A4 TERMINAL-A)</td>
<td>TH5</td>
<td>COND./EVA. TEMP. THERMISTOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN61</td>
<td>CONNECTOR (CENTRALLY CONTROL)</td>
<td>FS</td>
<td>FLOAT SWITCH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN90</td>
<td>CONNECTOR (WIRELESS)</td>
<td>TB4</td>
<td>TERMINAL BLOCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CN105</td>
<td>CONNECTOR (RADIO FREQUENCY INTERFACE)</td>
<td>TERMINAL BLOCK (INDOOR/OUTDOOR CONNECTING LINE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED1</td>
<td>POWER SUPPLY (I.B.)</td>
<td>TB15</td>
<td>TERMINAL BLOCK (REMOTE CONTROLLER TRANSMISSION LINE)</td>
<td></td>
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</tr>
<tr>
<td>LED2</td>
<td>POWER SUPPLY (I.B.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED3</td>
<td>TRANSMISSION (INDOOR-OUTDOOR)</td>
<td>RFI</td>
<td>RADIO FREQUENCY INTERFACE (FOR RF THERMOSTAT)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
1. The outdoor side electric wiring may be changed be sure to check the outdoor unit electric wiring for servicing.
2. Indoor and outdoor connecting wires are made with polarities make wiring matching terminal numbers (S1, S2, S3).
3. Symbols used in wiring diagram above are as follows.
   - : CONNECTOR
   - : TERMINAL
   - : (HEAVY DOTTED LINE): FIELD WIRING
   - : (THIN DOTTED LINE): OPTIONAL PARTS
4. Use copper supply wire.
REFRIGERANT SYSTEM DIAGRAM

SEZ-KD09NA(4)
SEZ-KD12NA(4)
SEZ-KD15NA(4)
SEZ-KD18NA(4)
6-1. Control specifications and Function setting

Table 1 shows how the field-installed heater is controlled. Select the desired pattern in the table below, and set the function on the indoor units as shown in Table 1.

Table 1 [Function table]
Select unit numbers 01 to 03 or all units (AL[wired remote controller] / 07[wireless remote controller])

<table>
<thead>
<tr>
<th>Mode control</th>
<th>Setting</th>
<th>Mode no.</th>
<th>Setting</th>
<th>Initial setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heater control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heaters OFF</td>
<td>Inlet air temp. ≥ set temp.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heaters ON</td>
<td>Inlet air temp. &lt; set temp. -4.5˚F(2.5˚C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· The fan will stop and the heater will turn off when [DEFROST] or [ERROR] is displayed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Heater input</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inlet air temp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heater output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set temp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set temp. -1.8˚F(1˚C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set temp. -4.5˚F(2.5˚C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heater OFF</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inlet air temp. ≥ set temp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heaters ON</td>
<td>Inlet air temp. &lt; set temp. -1.8˚F(2.5˚C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· The fan will drive and the heater will turn on when [DEFROST] or [ERROR] is displayed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Heater input</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inlet air temp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heater output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set temp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set temp. -1.8˚F(2.5˚C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| *Refer to the Installation Manual for function settings.*

6-2. Fan control
By setting the Mode No. 23 in the Function Table in section 6-1 and using CN4Y on the optional parts PAC-YU25HT, the following patterns of fan control will become possible when [DEFROST] or [ERROR] is displayed.

Fan control patterns when [DEFROST] or [ERROR] is displayed

<table>
<thead>
<tr>
<th>Use of CN4Y (PAC-YU25HT)</th>
<th>Heater is installed in the duct.</th>
<th>No heater is installed in the duct.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater is off.</td>
<td>Fan ON*1</td>
<td>Fan ON*1</td>
</tr>
<tr>
<td>Heater is on.</td>
<td>Fan ON*1</td>
<td>Fan ON*1</td>
</tr>
</tbody>
</table>

* If a heater is installed in the duct, do not use CN4Y. By doing so, the fan will turn off when the heater is on, which may result in fire.

*1 Fan speed setting

<table>
<thead>
<tr>
<th>Mode control</th>
<th>Setting</th>
<th>Mode no.</th>
<th>Setting</th>
<th>Initial setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fan control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heating Thermo-OFF</td>
<td>[DEFROST] or [ERROR]</td>
<td>25</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Very low</td>
<td>Very low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>Remote controller setting</td>
<td>25</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Remote controller setting</td>
<td>Remote controller setting</td>
<td>25</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*Refer to the Installation Manual for function settings.
6-3. PAC-YU25HT (Optional Parts) installation

The following section describes installation of the External Heater Adapter that connects to SEZ-KD-NA series indoor unit. This product is the special wiring parts to drive an electric heater with the air conditioner.

(1) Parts list
- Check that the following parts are included in the package.
  1) External output cable (with a yellow connector) .................. 2 in total
     Two types of cables with different connectors are included.
  2) Panel heater connector ................................................... 3 in total
     White: 1
     Green: 2 (2 types)

(2) Connection to the indoor unit
- Use the cables that fit the connectors on the indoor unit control board.
  1) External output cable (with a yellow connector)
     This cable is used to connect a relay circuit for an interlocked operation with either an electric or a panel heater.
     Connect the cable to CN24 on the indoor unit control board.
  2) Panel heater connector (with a white connector)
     This connector is used to perform an interlocked operation with a panel heater. Depending on the indoor unit control board specification, connect the cable to CN4Y as appropriate

(3) Locally procured wiring
- A basic connection method is shown below.
For relay X, use the specifications given below.
Rated voltage: 12VDC
Power consumption: 0.9W or less
* Use the diode that is recommended by the relay manufacturer at both ends of the relay coil.
• The length of the electrical wiring for the PAC-YU25HT is 2 meters (6-1/2 ft.)
• To extend this length, use sheathed 2-core cable.
Control cable type: CVV, CVS, CPEV or equivalent.
Cable size: 0.5 mm² ~ 1.25 mm² (16 to 22 AWG)
Don't extend the cable more than 10 meters (32ft)

(4) Wiring restrictions
• Keep the length of the cable connecting to the circuit board of the indoor unit shorter than 10 meters (32ft).
• Longer than 10 meters (32ft) could cause improper operation.
• Use a transit relay when extending wiring such as remote wiring.
7-1. CAUTIONS ON TROUBLESHOOTING

(1) Before troubleshooting, check the followings:
   ① Check the power supply voltage.
   ② Check the indoor/outdoor connecting wire for mis-wiring.

(2) Take care the followings during servicing.
   ① Before servicing the air conditioner, be sure to turn off the remote controller first to stop the main unit, and then turn off the breaker.
   ② When removing the indoor controller board, hold the edge of the board with care NOT to apply stress on the components.
   ③ When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

7-2. SELF-CHECK FUNCTION

Wired remote controller

(1) Turn on the power.
(2) Press the [CHECK] button twice.
(3) Set refrigerant address with [TEMP] button if system control is used.
(4) Press the [ON/OFF] button to stop the self-check.

• For description of each check code, refer to the following table.

<table>
<thead>
<tr>
<th>Check code</th>
<th>Symptom</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Intake sensor error</td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>Pipe (TH2) sensor error</td>
<td></td>
</tr>
<tr>
<td>P9</td>
<td>Pipe (TH5) sensor error</td>
<td></td>
</tr>
<tr>
<td>E6, E7</td>
<td>Indoor/outdoor unit communication error</td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>Drain sensor error</td>
<td></td>
</tr>
<tr>
<td>P5</td>
<td>Drain pump error</td>
<td></td>
</tr>
<tr>
<td>P6</td>
<td>Freezing/Overheating protection operation</td>
<td></td>
</tr>
<tr>
<td>EE</td>
<td>Communication error between indoor and outdoor units</td>
<td></td>
</tr>
<tr>
<td>P8</td>
<td>Pipe temperature error</td>
<td></td>
</tr>
<tr>
<td>E0, E3–E5</td>
<td>Remote controller transmission error</td>
<td></td>
</tr>
<tr>
<td>E1, E2</td>
<td>Remote controller control board error</td>
<td></td>
</tr>
<tr>
<td>Fb</td>
<td>Indoor unit control system error (memory error, etc.)</td>
<td></td>
</tr>
<tr>
<td>E9</td>
<td>Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)</td>
<td></td>
</tr>
<tr>
<td>UP</td>
<td>Compressor overcurrent interruption</td>
<td></td>
</tr>
<tr>
<td>U3, U4</td>
<td>Open/short of outdoor unit thermistors</td>
<td></td>
</tr>
<tr>
<td>UF</td>
<td>Compressor overcurrent interruption (When compressor locked)</td>
<td></td>
</tr>
<tr>
<td>U2</td>
<td>Abnormal high discharging temperature/49C worked/insufficient refrigerant</td>
<td></td>
</tr>
<tr>
<td>U1, Ud</td>
<td>Abnormal high pressure (63H worked)/Overheating protection operation</td>
<td></td>
</tr>
<tr>
<td>U5</td>
<td>Abnormal temperature of heat sink</td>
<td></td>
</tr>
<tr>
<td>U8</td>
<td>Outdoor unit fan safeguard stop</td>
<td></td>
</tr>
<tr>
<td>U6</td>
<td>Compressor overcurrent interruption/Abnormal of power module</td>
<td></td>
</tr>
<tr>
<td>U7</td>
<td>Abnormality of super heat due to low discharge temperature</td>
<td></td>
</tr>
<tr>
<td>U8, Uh</td>
<td>Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit /Current sensor error</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>Other errors (Refer to the technical manual for the outdoor unit.)</td>
<td></td>
</tr>
</tbody>
</table>

• On wired remote controller.
   ① Check code displayed in the LCD.

For details, check the LED display of the outdoor controller board. As for outdoor unit, refer to service manual OC322.
• If the unit cannot be operated properly after the test run has been performed, refer to the following table to remove the cause.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Wired remote controller</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLEASE WAIT</td>
<td>For about 2 minutes after power-on</td>
<td>After LED 1, 2 are lighted. LED 2 is turned off, then only LED 1 is lighted. (Correct operation)</td>
</tr>
<tr>
<td>PLEASE WAIT → Error code</td>
<td>After about 2 minutes has expired after power-on</td>
<td>Only LED 1 is lighted. → LED 1, 2 blink.</td>
</tr>
<tr>
<td>Display messages do not appear even when operation switch is turned ON (operation lamp does not light up).</td>
<td>Only LED 1 is lighted. → LED 1 blinks twice, LED 2 blinks once.</td>
<td></td>
</tr>
</tbody>
</table>

On the wireless remote controller with condition above, following phenomena take place.

• No signals from the remote controller are accepted.
• Operation lamp is blinking.
• The buzzer makes a short piping sound.

**Note:**

**Operation is not possible for about 30 seconds after cancellation of function selection. (Correct operation)**

For description of each LED (LED1, 2, 3) provided on the indoor controller, refer to the following table.

| LED1 (power for microcomputer) | Indicates whether control power is supplied. Make sure that this LED is always lit. |
| LED2 (power for remote controller) | Indicates whether power is supplied to the remote controller. This LED lights only in the case of the indoor unit which is connected to the outdoor unit refrigerant address “0”. |
| LED3 (communication between indoor and outdoor units) | Indicates state of communication between the indoor and outdoor units. Make sure that this LED is always blinking. |
• Refer to the installation manual that comes with each remote controller for details.
• RF thermostat is not established.

If the unit cannot be operated properly after the test run has been performed, refer to the following table to remove the cause.

On the IR wireless remote controller with conditions above, following phenomena takes place.

• No signals from the remote controller are accepted.
• RPE lamp is blinking.
• The buzzer makes a short ping sound.

**Note:**
Operation is not possible for about 30 seconds after cancellation of function selection. (Correct operation)

### Table: Symptoms and Causes

#### Output pattern A: Errors detected by indoor unit

<table>
<thead>
<tr>
<th>IR wireless remote controller</th>
<th>Wired remote controller</th>
<th>Symptom</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beeper sounds/OPERATION INDICATOR lamp flashes (Number of times)</td>
<td>Check code</td>
<td>Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>P1</td>
<td>Intake sensor error</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>P2, P9</td>
<td>Pipe (Liquid or 2-phase pipe) sensor error</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>E6, E7</td>
<td>Indoor/outdoor unit communication error</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>P4</td>
<td>Drain sensor error</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>P5</td>
<td>Drain pump error</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>P6</td>
<td>Freezing/Overheating safeguard operation</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>EE</td>
<td>Communication error between indoor and outdoor units</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>P8</td>
<td>Pipe temperature error</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>E4</td>
<td>Remote controller signal receiving error</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Fb</td>
<td>Indoor unit control system error (memory error, etc.)</td>
<td></td>
</tr>
<tr>
<td>No sound</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

#### Output pattern B: Errors detected by unit other than indoor unit (outdoor unit, etc.)

<table>
<thead>
<tr>
<th>IR wireless remote controller</th>
<th>Wired remote controller</th>
<th>Symptom</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beeper sounds/OPERATION INDICATOR lamp flashes (Number of times)</td>
<td>Check code</td>
<td>Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>E9</td>
<td>Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>UP</td>
<td>Compressor overcurrent interruption</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>U3, U4</td>
<td>Open/short of outdoor unit thermistors</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>UF</td>
<td>Compressor overcurrent interruption (When compressor locked)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>U2</td>
<td>Abnormal high discharging temperature/49°C worked/insufficient refrigerant</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>U1, Ud</td>
<td>Abnormal high pressure (63H worked)/Overheating safeguard operation</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>U5</td>
<td>Abnormal temperature of heat sink</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>U8</td>
<td>Outdoor unit fan protection stop</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>U6</td>
<td>Compressor overcurrent interruption/Abnormal of power module</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>U7</td>
<td>Abnormality of superheat due to low discharge temperature</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>U9, UH</td>
<td>Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit/Current sensor error</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Others</td>
<td>Other errors (Refer to the technical manual for the outdoor unit.)</td>
<td></td>
</tr>
</tbody>
</table>

For details, check the LED display of the outdoor controller board.

*1 If the beeper does not sound again after the initial two beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.
*2 If the beeper sounds three times continuously “beep, beep, beep (0.4 + 0.4 + 0.4 sec.)” after the initial two beeps to confirm the self-check start signal was received, the specified refrigerant address is incorrect.

• On IR wireless remote controller
  The continuous buzzer sounds from receiving section of indoor unit.
  Blink of operation lamp
• On wired remote controller
  Check code displayed on the LCD.

• If the unit cannot be operated properly after the test run has been performed, refer to the following table to remove the cause.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Wired remote controller</th>
<th>LED 1, 2 (PCB in outdoor unit)</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLEASE WAIT</td>
<td>For about 2 minutes following power-on</td>
<td>After LED 1, 2 are lighted, LED 2 is turned off, then only LED 1 is lighted. (Correct operation)</td>
<td>• For about 2 minutes after power-on, operation of the remote controller is not possible due to system start-up. (Correct operation)</td>
</tr>
<tr>
<td>PLEASE WAIT → Error code</td>
<td>After about 2 minutes has expired following power-on</td>
<td>Only LED 1 is lighted. → LED 1, 2 blink.</td>
<td>• Connector for the outdoor unit’s protection device is not connected. • Reverse or open phase wiring for the outdoor unit’s power terminal block (L1, L2, L3)</td>
</tr>
</tbody>
</table>

Display messages do not appear even when operation switch is turned ON (operation lamp does not light up).

On the IR wireless remote controller with conditions above, following phenomena takes place.

• No signals from the remote controller are accepted.
• OPE lamp is blinking.
• The buzzer makes a short ping sound.

**Note:**
Operation is not possible for about 30 seconds after cancellation of function selection. (Correct operation)
Indicates whether control power is supplied. Make sure that this LED is always lit.

Indicates whether power is supplied to the remote controller. This LED lights only in the case of the indoor unit which is connected to the outdoor unit refrigerant address “0”.

Indicates state of communication between the indoor and outdoor units. Make sure that this LED is always blinking.

<table>
<thead>
<tr>
<th>LED 1 (power for microcomputer)</th>
<th>Indicates whether control power is supplied. Make sure that this LED is always lit.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED 2 (power for remote controller)</td>
<td>Indicates whether power is supplied to the remote controller. This LED lights only in the case of the indoor unit which is connected to the outdoor unit refrigerant address “0”.</td>
</tr>
<tr>
<td>LED 3 (communication between indoor and outdoor units)</td>
<td>Indicates state of communication between the indoor and outdoor units. Make sure that this LED is always blinking.</td>
</tr>
</tbody>
</table>

AUTO RESTART FUNCTION

Indoor controller board
This model is equipped with the AUTO RESTART FUNCTION.
When the indoor unit is controlled with the remote controller, the operation mode, set temperature, and the fan speed are memorized by the indoor controller board. The auto restart function sets to work the moment the power has restored after power failure, then, the unit will restart automatically.
Set the AUTO RESTART FUNCTION using the wireless remote controller. (Mode no.1).
### 7-3. SELF-DIAGNOSIS ACTION TABLE

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Abnormal point and detection method</th>
<th>Cause</th>
<th>Countermeasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Room temperature thermistor (TH1)</td>
<td>① The unit is in three-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after three minutes. (The unit returns to normal operation, if it has normally reset.) ② Constantly detected during cooling, drying and heating operation. Short: 90°C[194°F] or more, Open: -40°C[-40°F] or less.</td>
<td>① Defective thermistor characteristics ② Contact failure of connector (CN20) on the indoor controller board (Insert failure) ③ Breaking of wire or contact failure of thermistor wiring ④ Defective indoor controller board</td>
</tr>
<tr>
<td>P2</td>
<td>Pipe temperature thermistor/Liquid (TH2)</td>
<td>① The unit is in three-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after three minutes. (The unit returns to normal operation, if it has normally reset.) ② Constantly detected during cooling, drying, and heating (except defrosting) operation. Short: 90°C[194°F] or more. Open: -40°C[-40°F] or less.</td>
<td>① Defective thermistor characteristics ② Contact failure of connector (CN44) on the indoor controller board (Insert failure) ③ Breaking of wire or contact failure of thermistor wiring ④ Defective refrigerant circuit may have defective.</td>
</tr>
<tr>
<td>P4 (5701)</td>
<td>Contact failure of drain float switch (CN4F)</td>
<td>① Extract when the connector of drain float switch is disconnected. (③ and ④ of connector CN4F is not short-circuited.) ② Constantly detected during operation.</td>
<td>① Contact failure of connector (Insert failure) ② Defective indoor controller board</td>
</tr>
<tr>
<td>P5</td>
<td>Drain overflow protection operation</td>
<td>① Suspensive abnormality, if drain float switch is detected to be underwater for 1 minute and 30 seconds continuously with drain pump on. Turn off compressor and indoor fan. ② Drain pump is abnormal if the condition above is detected during suspensive abnormality. ③ Constantly detected during drain pump operation.</td>
<td>① Malfunction of drain pump ② Defective drain Clogged drain pump Clogged drain pipe ③ Defective drain float switch Clogged drain pipe Catch of drain float switch or malfunction of moving parts cause drain float switch to be detected under water (Switch On) ④ Defective indoor-controller board</td>
</tr>
<tr>
<td>Error Code</td>
<td>Abnormal point and detection method</td>
<td>Cause</td>
<td>Countermeasure</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>P6</td>
<td>Freezing/overheating protection is working</td>
<td>① Freezing protection (Cooling mode) The unit is in six-minute resume prevention mode if pipe &lt;liquid or condenser/evaporator&gt; temperature stays under -15°C [5°F] for three minutes after the compressor started. Abnormal if it stays under -15°C [5°F] for three minutes again within 16 minutes after six-minute resume prevention mode.</td>
<td>(Cooling or drying mode) ① Clogged filter (reduced airflow) ② Short cycle of air path ③ Low-load (low temperature) operation beyond the tolerance range ④ Defective indoor fan motor ⑤ Fan motor is defective. ⑥ Indoor controller board is defective.</td>
</tr>
<tr>
<td>P8</td>
<td>Pipe temperature</td>
<td>① Slight temperature difference between indoor room temperature and pipe &lt;liquid or condenser / evaporator&gt; temperature thermistor ② Shortage of refrigerant ③ Disconnected holder of pipe ④ Defective refrigerant circuit (clogs)</td>
<td>① Check pipe &lt;liquid or condenser / evaporator&gt; temperature with room temperature display on remote controller and outdoor controller circuit board. Pipe &lt;liquid or condenser / evaporator&gt; temperature display is indicated by setting SW2 of outdoor controller circuit board as follows. Conduct temperature check with outdoor controller circuit board after connecting ‘A-Control Service Tool(PAC-SK52ST)’. ② Check reverse connection of extension pipe or reverse wiring of indoor/outdoor unit connecting wire.</td>
</tr>
<tr>
<td></td>
<td>&lt;Cooling mode&gt; Detected as abnormal when the pipe temperature is not in the cooling range 3 minutes after compressor start and 6 minutes after the liquid or condenser/evaporator pipe is out of cooling range. Note 1) It takes at least 9 minutes to detect. Note 2) Abnormality P8 is not detected in drying mode. Cooling range: -3 deg°C (5.4 deg°F) ≥ (TH-TH1) TH: Lower temperature between: liquid pipe temperature (TH2) and condenser/evaporator temperature (TH5) TH1: Intake temperature</td>
<td>① Check pipe &lt;liquid or condenser / evaporator&gt; temperature with room temperature display on remote controller and outdoor controller circuit board. Pipe &lt;liquid or condenser / evaporator&gt; temperature display is indicated by setting SW2 of outdoor controller circuit board as follows. Conduct temperature check with outdoor controller circuit board after connecting ‘A-Control Service Tool(PAC-SK52ST)’. ② Check reverse connection of extension pipe or reverse wiring of indoor/outdoor unit connecting wire.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;Heating mode&gt; When 10 seconds have passed after the compressor starts operation and the hot adjustment mode has finished, the unit is detected as abnormal when condenser/evaporator pipe temperature is not in heating range within 20 minutes. Note 3) It takes at least 27 minutes to detect abnormality. Note 4) It excludes the period of defrosting (Detection restarts when defrosting mode is over) Heating range: 3 deg°C (5.4 deg°F) ≤ (TH5-TH1)</td>
<td>① Check pipe &lt;liquid or condenser / evaporator&gt; temperature with room temperature display on remote controller and outdoor controller circuit board. Pipe &lt;liquid or condenser / evaporator&gt; temperature display is indicated by setting SW2 of outdoor controller circuit board as follows. Conduct temperature check with outdoor controller circuit board after connecting ‘A-Control Service Tool(PAC-SK52ST)’. ② Check reverse connection of extension pipe or reverse wiring of indoor/outdoor unit connecting wire.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Abnormal point and detection method</td>
<td>Cause</td>
<td>Countermeasure</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>P9</td>
<td>Abnormality of pipe temperature thermistor/Condenser-Evaporator (THS)</td>
<td>① Defective thermistor characteristics</td>
<td>① Check resistance value of thermistor. For characteristics, refer to (P1) above.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>② Contact failure of connector (CN44) on the indoor controller board (Insert failure)</td>
<td>② Check contact failure of connector (CN44) on the indoor controller board. Refer to 7-5.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>③ Breaking of wire or contact failure of thermistor wiring</td>
<td>③ Turn the power on and check restart after inserting connector again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>④ Temperature of thermistor is 90°C [194°F] or more or -40°C [-40°F] or less caused by defective refrigerant circuit.</td>
<td>④ Operate in test run mode and check pipe &lt;condenser / evaporator&gt; temperature. If pipe &lt;condenser / evaporator&gt; temperature is extremely low (in cooling mode) or high (in heating mode), refrigerant circuit may have defect.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>⑤ Defective indoor controller board</td>
<td>⑤ When no problems are found in ①-④ above, replace the indoor unit control board.</td>
</tr>
<tr>
<td>E0 or E4</td>
<td>Remote controller transmission error(E0)/signal receiving error(E4)</td>
<td>① Abnormal if main or sub remote controller can not receive normally any transmission from indoor unit or refrigerant address &quot;0&quot; for three minutes. (Error code : E0)</td>
<td>① Check disconnection or looseness of indoor unit or transmission wire of remote controller.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>② Abnormal if sub remote controller could not receive for any signal for two minutes. (Error code: E0)</td>
<td>② Set one of the remote controllers &quot;main&quot; if there is no problem with the action above.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>① Abnormal if indoor controller board can not receive normally any data from remote controller board or from other indoor controller board for three minutes. (Error code: E4)</td>
<td>③ Check wiring of remote controller. • Total wiring length: max.500m (Do not use cable X 3 or more) • The number of connecting indoor units: max.16units • The number of connecting remote controller: max.2units</td>
</tr>
<tr>
<td></td>
<td></td>
<td>② Indoor controller board cannot receive any signal from remote controller for two minutes. (Error code: E4)</td>
<td>④ Diagnose remote controllers. a) When &quot;RC OK&quot; is displayed, replace remote controller. If abnormality generates again, replace indoor controller board.</td>
</tr>
<tr>
<td>E3 or E5</td>
<td>Remote controller transmission error(E3)/signal receiving error(E5)</td>
<td>① Two remote controller are set as &quot;main.&quot; (In case of 2 remote controllers)</td>
<td>① Set a remote controller to main, and the other to sub.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>② Remote controller is connected with two indoor units or more.</td>
<td>② Remote controller is connected with only one indoor unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>③ Repetition of refrigerant address</td>
<td>③ The address changes to a separate setting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>④ Defective transmitting receiving circuit of remote controller</td>
<td>④-⑤ Diagnose remote controller. a) When &quot;RC OK&quot; is displayed, remote controllers have no problem. Turn the power off and on again to check. When abnormality again, replace indoor controller board.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>⑤ Defective transmitting receiving circuit of indoor controller board</td>
<td>b) When &quot;RC NG&quot; is displayed, replace remote controller.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>⑥ Noise has entered into transmission wire of remote controller.</td>
<td>c) When &quot;RC E3&quot; or &quot;ERC 00-66&quot; is displayed, noise may be causing abnormality.</td>
</tr>
</tbody>
</table>

For characteristics, refer to (P1) above.
### Error Code | Abnormal point and detection method | Cause | Countermeasure
--- | --- | --- | ---
E6 | Indoor/outdoor unit communication error (Signal receiving error)  
① Abnormal if indoor controller board cannot receive any signal normally for six minutes after turning the power on.  
② Abnormal if indoor controller board cannot receive any signal normally for three minutes.  
③ Consider the unit as abnormal under the following condition: When two or more indoor units are connected to an outdoor unit, indoor controller board cannot receive a signal for three minutes from outdoor controller circuit board, a signal which allows outdoor controller circuit board to transmit signals. | ① Contact failure, short circuit or, mis-wiring (converse wiring) of indoor/outdoor unit connecting wire  
② Defective transmitting receiving circuit of indoor controller board  
③ Defective transmitting receiving circuit of outdoor controller board  
④ Noise has entered into indoor/outdoor unit connecting wire. | ① Check LED display on the outdoor control circuit board. (Connect A-control service tool, PAC-SK52ST.)  
Refer to Outdoor manual.  
② Check disconnection or looseness of indoor/outdoor unit connecting wire of indoor unit or outdoor unit.  
Check all the units in case of twin triple indoor unit system.  
③-④ Turn the power off, and on again to check.  
If abnormality generates again, replace indoor controller board or outdoor controller circuit board.  
* Other indoor controller board may have defect in case of twin triple indoor unit system.

E7 | Indoor/outdoor unit communication error (Transmitting error)  
Abnormal if "1" receiving is detected 30 times continuously though indoor controller board has transmitted "0". | ① Defective transmitting receiving circuit of indoor controller board  
② Noise has entered into power supply.  
③ Noise has entered into outdoor control wire. | ①-③ Turn the power off, and on again to check.  
If abnormality generates again, replace indoor controller board.

Fb | Indoor controller board | ① Defective indoor controller board | ① Replace indoor controller board.

E1 or E2 | Remote controller control board  
① Abnormal if data cannot be read normally from the nonvolatile memory of the remote controller control board.  
(Error code: E1)  
② Abnormal if the clock function of remote controller cannot be operated normally.  
(Error code: E2) | ① Defective remote controller | ① Replace remote controller.

PA (2500) | Water leakage  
This detection is performed during the operation (stop, heating, fan, or error stop mode etc.) other than cooling and dry.  
① When a) and b) are found, water leakage occurs.  
  a) Pipe <liquid> temperature - inlet temperature < -10℃ [14°F] for 30 minutes  
  b) When drain float switch is detected to be soaked in the water for 15 minutes or more.  
* When drain float switch is detected to be NOT soaked in the water, each counting of a) and b) is cleared.  
*When this error is detected, the error ... will not be reset until the main power is reset. | ① Mis-piping of extension pipes  
(When connected with multiple units)  
② Mis-wiring of indoor/outdoor unit connecting wire  
(When connected with multiple units)  
③ Detection failure of the indoor unit inlet/pipe <liquid> thermometer  
④ Drain pump failure  
⑤ Drainage failure  
  - Clogged drain pump  
  - Clogged drain pipe  
⑥ Drain float switch failure  
  - Drain float switch is detected to be soaked in the water (ON status) due to the operation failure of the moving parts.  
  - Contact failure of drain float switch connector (Loose connector) | ① Check the extension pipes for mis-piping.  
② Check the Indoor/outdoor unit connecting wire for mis-wiring.  
③ Check room temperature display on remote controller and indoor pipe <liquid> temperature. (Refer to the countermeasure on P2.)  
④ Check if drain-up machine works.  
⑤ Check drain function.  
⑥ Check drain float switch. (Refer to the countermeasure on P4 and P5.)
### 7-4. TROUBLESHOOTING BY INFERIOR PHENOMENA

Note: Refer to the manual of outdoor unit for the detail of remote controller.

<table>
<thead>
<tr>
<th>Phenomena</th>
<th>Cause</th>
<th>Countermeasure</th>
</tr>
</thead>
</table>
| (1) LED2 on indoor controller board is off. | - When LED1 on indoor controller board is also off.  
  ① Power supply of rated voltage is not supplied to outdoor unit.  
  ② Defective outdoor controller circuit board  
  ③ Power supply of 208–230V is not supplied to indoor unit.  
  ④ Defective indoor controller board | ① Check the voltage of outdoor power supply terminal block (L, N) or (L3, N).  
  - When AC 208–230V is not detected.  
  Check the power wiring to outdoor unit and the breaker.  
  - When AC 208–230V is detected.  
  —Check ② (below).  
  ② Check the voltage between outdoor terminal block S1 and S2.  
  - When AC 208–230V is not detected.  
  Check the fuse on outdoor controller circuit board.  
  Check the wiring connection.  
  - When AC 208–230V is detected.  
  —Check ③ (below).  
  ③ Check the voltage between indoor terminal block S1 and S2.  
  - When AC 208–230V is not detected.  
  Check indoor/outdoor unit connecting wire for mis-wiring.  
  - When AC 208–230V is detected.  
  —Check ④ (below).  
  ④ Check the fuse on indoor controller board.  
  Check the wiring connection.  
  If no problem are found, indoor controller board is defective. |
| (2) LED2 on indoor controller board is blinking. | - When LED1 on indoor controller board is also blinking.  
  Connection failure of indoor/outdoor unit connecting wire  
  - When LED1 is lit. | Check indoor/outdoor unit connecting wire for connection failure.  
  ① Check the connection of remote controller wires in case of twin triple indoor unit system. When 2 or more indoor units are wired together.  
  ② Refrigerant address for outdoor unit is wrong or not set.  
  Under grouping control system, there are some units whose refrigerant address is 0.  
  ③ Short-cut of remote controller wires  
  ④ Defective remote controller | ① Check the connection of remote controller wires in case of twin triple indoor unit system. When 2 or more indoor units are wired together.  
  ② Refrigerant address for outdoor unit is wrong or not set.  
  Under grouping control system, there are some units whose refrigerant address is 0.  
  ③ Remove remote controller wires and check LED2 on indoor controller board.  
  - When LED2 is blinking, check the short-cut of remote controller wires.  
  - When LED2 is lit, connect remote controller wires again and:  
  if LED2 is blinking, remote controller is defective; if LED2 is lit, connection failure of remote controller terminal block etc. has returned to normal. |
7-5. TEST POINT DIAGRAM
7-5-1. Indoor controller board
SEZ-KD09NA
SEZ-KD12NA
SEZ-KD15NA
SEZ-KD18NA

CN01 Power supply voltage (208 - 230VAC)
SWE Emergency operation
SW1 Model selection
SW2 Capacity setting
CN32 Remote start/stop adapter
CN24 Heater control (12VDC)
CN22 For MA remote controller cable connection
   (10 - 13 VDC (Between 1 and 3.)
CN51 Centralized control
CN41 JAMA standard HA terminal A
CN44 Thermistor
   (liquid/condenser/evaporator temperature)
CN4F Float thermistor
CN20 Thermistor (Inlet temperature)
CN3C Indoor-outdoor transmission
   (0 - 24VDC)
CNMF Fan motor output
   1 - 4: 294 - 340 VDC
   5 - 4: 15 VDC
   6 - 4: 0 - 6.5 VDC
   7 - 4: Stop 0 or 15 VDC
   Run 7.5 VDC
   (0 - 15 pulse)
CNP Drain-up mechanism output (200VAC)
CN2L LOSSNAY
CN4Y For Fan control
CN90 Wireless remote controller

(*)

$V_{FG}$ Voltage on the (-) side of PC672 and C955
   (Same with the voltage between 7 (+) and 4 (-) of CNMF)

$V_{CC}$ Voltage between the C955 pins 15 VDC
   (Same with the voltage between 5 (+) and 4 (-) of CNMF)

$V_{sp}$ Voltage between the C626 pins
   0VDC (with the fan stopped)
   1 - 6.5VDC (with the fan in operation)
   (Same with the voltage between 6 (+) and 4 (-) of CNMF)
SEZ-KD09NA4
SEZ-KD12NA4
SEZ-KD15NA4
SEZ-KD18NA4

CN01 Power supply voltage (208 - 230VAC)
SWE Emergency operation
SW1 Model selection
SW2 Capacity setting
CN105 Radio frequency interface
CN32 Remote start/stop adapter
CN24 Heater control (12VDC)
CN22 For MA remote controller cable connection
       (10 - 13 VDC (Between 1 and 3.))
CN51 Centralized control
CN41 JAMA standard HA terminal A
CN44 Thermistor
       (liquid/condenser/evaporator temperature)
CN4F Float thermistor
CN20 Thermistor (Inlet temperature)
CN3C Indoor-outdoor transmission
       (0 - 24VDC)
CNMF Fan motor output
       1 - 4: 294 - 340 VDC
       5 - 4: 15 VDC
       6 - 4: 0 - 6.5 VDC
       7 - 4: Stop 0 or 15 VDC
       Run 7.5 VDC
       (0 - 15 pulse)
CNP Drain-up mechanism output (200VAC)
CN2L LOSSNAY
CN4Y For Fan control
CN90 Wireless remote controller

(*1)

\[ V_{FG} \] Voltage on the (-) side of PC672 and C955
(Same with the voltage between 7 (+) and 4 (-) of CNMF)

\[ V_{CC} \] Voltage between the C955 pins 15 VDC
(Same with the voltage between 5 (+) and 4 (-) of CNMF)

\[ V_{SP} \] Voltage between the C626 pins
0VDC (with the fan stopped)
1 - 6.5VDC (with the fan in operation)
(Same with the voltage between 6 (+) and 4 (-) of CNMF)
## 7-6. TROUBLE CRITERION OF MAIN PARTS

**SEZ-KD09NA(4)**  
**SEZ-KD12NA(4)**  
**SEZ-KD15NA(4)**  
**SEZ-KD18NA(4)**

<table>
<thead>
<tr>
<th>Part name</th>
<th>Check method and criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temperature thermistor (TH1)</td>
<td>Measure the resistance with a tester. (Part temperature 10°C(50°F) ~ 30°C(86°F))</td>
</tr>
<tr>
<td>Pipe temperature thermistor/liquid (TH2)</td>
<td></td>
</tr>
<tr>
<td>Condenser/evaporator temperature thermistor (TH5)</td>
<td></td>
</tr>
<tr>
<td>Wiring diagram</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Normal</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>8kΩ~20kΩ</td>
<td>Opened or short-circuited</td>
</tr>
</tbody>
</table>
7-7. DC FAN MOTOR (FAN MOTOR/INDOOR CONTROLLER BOARD)

Check method of DC fan motor (fan motor/indoor controller circuit board)

1) Notes
   · High voltage is applied to the connector (CNMF) for the fan motor. Give attention to the service.
   · Do not pull out the connector (CNMF) for the motor with the power supply on.
     (It causes trouble of the indoor controller circuit board and fan motor.)

2) Self check
   Symptom: The indoor fan cannot turn around.

   Check the fuse (FUSE) on indoor controller board.

   Did the fuse blow? → Yes → Check the drain pump (DP)
   ↓ No
   Is the resistance between terminals normal?
   ↓ No
   Replace drain pump (DP).
   ↓ Yes

   Wiring contact check
   Contact of fan motor connector (CNMF)

   Is there no contact failure? → No → Wiring recovery
   ↓ Yes

   Power supply check (Remove the connector (CNMF))
   Measure the voltage in the indoor controller circuit board.
   TEST POINT ①: Vcc (between 1 (+) and 4 (-) of the fan connector): Vcc DC294~340V
   TEST POINT ②: Vcc (between 5 (+) and 4 (-) of the fan connector): Vcc DC15V

   Is the voltage normal? → Yes → Replace the fan motor.
   ↓ No
   Replace indoor controller board.
   ↓ OK
   Check the operation. → END
   ↓ NG
   Replace indoor controller board.

   ↓ OK
   Replace the fan motor.
1. Control box
   1. Removing the control box cover
      (1) Remove the two fixing screws on the cover (A) to remove it.

2. Thermistor (Intake air)
   1. Remove the control box cover according to the procedure in section [1].
      (1) Pull out the thermistor holder (B) and thermistor (C) on the control box.

Exercise caution when removing heavy parts.
3. Drainpan

1. Removing the filter and the bottom plate
   (1) Push up the tab on the filter, and pull out the filter in the direction of the arrow 1.
   (2) Remove the fixing screws on the bottom plate (D), (E) to remove it.

2. Removing the drainpan
   (1) Pull out the drain pan in the direction of the arrow 1.

Note
• Drain the water out of the drain pan before removing it.
• To avoid dew condensation, use insulated screws in the places marked with circles in Fig. 6.
4. Thermistor (Condenser / evaporator)  
(Liquid pipe)

1. Remove the drain pan according to the procedure in section [3].
2. Removing the Heat exchanger cover
(1) Remove the four fixing screws on the heat exchanger cover (F) to remove it.

3. Removing the thermistor
(1) Remove the thermistor (G) from the thermistor holder (H) on the copper tube.

Thermistor size
Liquid pipe: ø3/8inch (ø8mm)
Condenser / evaporator: ø1/4inch (ø6mm)

Exercise caution when removing heavy parts.
5. Fan and fan motor

1. Removing the filter and the bottom plate
   (1) Push down the tab on the filter, and pull out the filter in the direction of the arrow 1.
   (2) Remove the fixing screws on the bottom plate (J) to remove it.

2. Removing the fan casing (bottom half)
   (1) Squeeze the tabs on the fan casing to remove it in the direction of arrow 2.

3. Removing the motor cable
   (1) Remove the motor cable through the rubber bush.

4. Removing the fan motor and the Sirocco fan
   (1) Remove the two motor fixing screws to remove the motor and the Sirocco fan in the direction of arrow 3.

   (2) Remove the four fan case fixing screws to take the top half of the fan casing off.
6. Bearing [KD15-18NA(4) model only]
   1. Removing the bearing
      (1) Remove the two fixing screws on the bearing cover (K) to remove it.

   (2) Remove the two bearing retainer screws to remove the bearing.

7. Heat exchanger
   1. Remove the drain pan according to the procedure in section [3].
   2. Remove the heat exchanger cover according to the procedure in section [4] 2.
   3. Removing the cover
      (1) Remove the two fixing screws on the cover (L) to remove it.

   4. Removing the Heat exchanger
      (1) Remove the fixing screws on the heat exchanger (M) to remove it.

Exercise caution when removing heavy parts.