AIR-CONDITIONER CONTROL SYSTEM

INTERFACE KIT
SC-BIKN-E
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INTERFACE KIT (OPTIONAL PARTS)

1. Applicable model

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface kit</td>
<td>SC-BIKN-E</td>
<td>SRK50ZHX-S</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SRK60ZHX-S</td>
</tr>
</tbody>
</table>

2. List of connectable devices

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wired remote control</td>
<td>RC-E3</td>
</tr>
<tr>
<td>Super link adapter</td>
<td>SC-ADN-E</td>
</tr>
<tr>
<td>Central control</td>
<td>SC-SL1N-E, SC-SL2N-E, SC-SL3N-AE/BE</td>
</tr>
</tbody>
</table>

3. Exterior dimensions

![Exterior dimensions diagram]

4. Circuit board component layout

![Circuit board component layout diagram]
## System configuration

### 1 Wired remote control system

- **Wired remote control (RC-E3)**
- **Interface kit (SC-BIKN-E)**

Multiple units (16units~48units) can be controlled with a single remote control. Contact your dealer when you connected 48 units or more.

Use a wired remote control for retirement homes, school classrooms and similar locations.

- **Wired remote control (RC-E3)**
- **Interface kit (SC-BIKN-E)**

### 2 Control of multiple units with a remote control

- **Interface kit (SC-BIKN-E)**
- **Super link adapter (SC-ADN-E)**
- **Central control (SC-SL1N-E, SC-SL2N-E, SC-SL3N-AE/BE)**
- **Wired remote control (RC-E3)**

Multiple units (16units~48units) can be controlled with a single remote control. Contact your dealer when you connected 48 units or more.

For hotels and similar facilities with multiple units installed, the remote control is used to turn multiple air conditioning units ON or OFF.

- **Interface kit (SC-BIKN-E)**
- **Super link adapter (SC-ADN-E)**
- **Central control (SC-SL1N-E, SC-SL2N-E, SC-SL3N-AE/BE)**
- **Wired remote control (RC-E3)**

※1 Either wireless remote control or wired remote control can be selected. If it is necessary to control each room separately, use the wired remote control.

### 3 Remote operation

- **Using the remote start/stop switch timer, etc., the unit can be started and stopped by inputting level or by inputting pulses.**
- **The run signal, heating signal, compressor ON signal and check signal can be received by non-voltage contacts.**

Remote start and stop and remote monitoring.

- **Interface kit (SC-BIKN-E)**
- **Remote ON/OFF monitor kit (Customer arrangements)**
6. Installation of interface kit

### Accessories included in package

Please check to make sure all the accessories have been included.

<table>
<thead>
<tr>
<th>Part name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor unit connection cable (total cable length: 1.8 m)</td>
<td>1</td>
</tr>
<tr>
<td>Wood screws (for mounting the interface: ø4 × 25)</td>
<td>2</td>
</tr>
<tr>
<td>Tapping screws (for mounting the clamp and interface mounting bracket)</td>
<td>3</td>
</tr>
<tr>
<td>Interface mounting bracket</td>
<td>1</td>
</tr>
<tr>
<td>Clamp (for the indoor unit)</td>
<td>1</td>
</tr>
</tbody>
</table>

### Connecting the interface and indoor unit

1. Remove the air inlet panel, lid and front panel.
2. Take the control lid out of the control box.
3. There is a terminal (marked with CNS) for the indoor control board. In connecting an interface, connect to the terminal securely with the connection harness supplied with an optional “Interface connection kit SC-B1KN-E”.
4. House the control lid in the control box.
5. Fasten the connection harness onto the indoor control box with clamp supplied with the kit.
6. Reinstall the front panel, lid and air inlet panel.
Connecting the interface and the indoor unit

1. Remove the upper case of the interface.
   • Take out the 2 screws in the interface case.
2. Install the indoor unit’s connection cable in the interface.
   • Connect the connector of the indoor unit connection cable to the connector on the interface’s circuit board.
3. Fasten the indoor unit connection cable using clamp.
   • Cable can be brought in from the top or from the back.
   • Use side cutters, etc. to cut out the thin knockouts used to run wires into the case.
4. Connect the indoor unit’s connection cable to the control board in the indoor unit.
   • Connect the indoor unit connection cables’ connector securely to the indoor unit’s control board.
   • Use the clamp provided as an accessory to fasten the connection cable, fastening it securely to the control box.
   • Read the installation manual for the indoor unit concerning connections inside the indoor unit.

Names of each part of the interface unit

- Clamp for fastening indoor unit connection cable
- Interface board
- Indoor unit connection terminal
- Wired remote control* terminal block
- CNT terminal
- Clamp for fastening the wired* remote control connection cable
- ROM terminal
- DIP switch (SW2)
- DIP switch (SW3)
- Address setting rotary switch (SW1)
- Super link adapter (SC-ADN-E) terminal block*
- Clamp for fastening the super link adapter * (SC-ADN-E) connection cable

* Either the super link adapter (SC-ADN-E) cable or the wired remote control connection cable can be connected.
**Interface installation**

Install the interface so that the connection cable can reach the indoor unit (approximately 1.3 m). If the connection cable is extended, operation will be faulty, so do not extend the cable.

Fasten the unit to a wall, pillar or similar location.

*DO NOT install interface and wired remote control on the following places*
- Places exposed to direct sunlight
- Places near heat devices
- High humidity places
- Hot surface or cold surface enough to generate condensation
- Places exposed to oil mist or steam directly
- Uneven surface

**If the unit is mounted directly to a wall**

1. Mount the lower case of the interface unit to a flat surface using the wood screws supplied with the unit.
2. Mount the upper case.

**Recessing the unit in a wall**

1. Recess the electrical box (procured locally) and each connection cable inside the wall.
2. Fasten the lower case of the interface unit to the electrical box using screws (M4 screws, procured locally).
3. Mount the upper case to the lower case.

**Mounting with the mounting bracket**

1. Mount the interface unit’s upper case.
2. Mount the mounting bracket to the interface unit using the tapping screws supplied with the unit.
3. Mount the mounting bracket to a wall surface, etc. using the wood screws provided.
CNT connector functions

Turning the contacts ON/OFF, the running status of the air conditioner can be monitored from the External control unit (remote display).

1. Connect a locally procured remote control unit to the CNT terminal.
2. In case of the pulse input, switching “OFF” the DIP switch SW2-1 on the main unit PCB.
3. When setting at Operation permission/prohibition Mode, switching “OFF” the DIP switch SW2-3.

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Remote control input</td>
<td>Level input (At shipment)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR1 OFF ⇒ ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR1 ON ⇒ OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR2 OFF ⇒ ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR2 ON ⇒ OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR3 OFF ⇒ ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR3 ON ⇒ OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR4 OFF ⇒ ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR4 ON ⇒ OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR5 Air conditioner ON depending on the level signal at OFF ⇒ ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XR5 Air conditioner ON depending on the pulse signal at OFF ⇒ ON</td>
</tr>
</tbody>
</table>

In the operation permission/prohibited mode, wired/wireless remote control operations are allowed only when the input is turned ON.

Super link adapter connection

See the super link adapter’s manual concerning connections to the super link adapter. For electrical work, the power supply of all appliance on the super link line must be turned off.

1. Switching “ON” the DIP switch SW2-2 on the circuit board.
   Caution: You can use the wireless remote control, which is attached to the indoor unit, even after connecting the wired remote control. However, some of the functions other than the basic functions such as the RUN/STOP, setting temperature change, etc. may not operate properly. On some functions, it may occur also a mismatch between the display and actual actions.

2. Connections between the interface and super link adapter

3. Fasten the super link adapter cable with clamps.

<table>
<thead>
<tr>
<th>No.</th>
<th>Names of recommended signal wires</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shielded wire</td>
</tr>
<tr>
<td>2</td>
<td>Vinyl cabtyre round cord</td>
</tr>
<tr>
<td>3</td>
<td>Vinyl cabtyre round cable</td>
</tr>
<tr>
<td>4</td>
<td>Vinyl insulated vinyl sheathed cable for control</td>
</tr>
</tbody>
</table>

Within 200 m: 0.5 mm² × 2 cores
Within 300 m: 0.75 mm² × 2 cores
Within 400 m: 1.25 mm² × 2 cores
Within 600 m: 2.0 mm² × 2 cores
### Wired remote control connection

Please see the instruction in the wired remote control's manual concerning connection to the wired remote control.

1. Set to ON the DIP switch “SW2-2” on the PCB.
   
   **Caution:** You can use the wireless remote control, which is attached to the indoor unit, even after connecting the wired remote control. However, some of the functions other than the basic functions such as the RUN/STOP, setting temperature change, etc. may not operate properly. On some functions, it may occur also a mismatch between the display and actual actions.

2. Connect the interface and remote control.

#### Installation and wiring of remote control

4. Install remote control referring to the attached installation manual.
5. Wiring of remote control should use 0.3mm² × 2 core wires or cables (on-site configuration).
6. Maximum prolongation of remote control wiring is 600 m.
   
   If the prolongation is over 100m, change to the size below.
   
   But, wiring in the remote control case should be under 0.5mm². Change the wire size outside of the case according to wire connecting.
   
   Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
   
   100-200m——0.5mm² × 2 cores, Under 300m——0.75mm² × 2 cores, Under 400m——1.25mm² × 2 cores, Under 600m——2.0mm² × 2 cores.
7. Avoid using multi-core cables to prevent malfunction.
8. Keep remote control line away from earth (frame or any metal of building).
9. Make sure to connect remote control line to the remote control and terminal block of interface kit (No polarity)
10. Fasten the connection cables with clamps.

#### Control of multiple units by a single remote control.

A remote control can control multiple units (Up to 16).

- In above setting, all multiple units will operate under same mode and temperature setting.
- Connect all interface kits with 2 core remote control line.
- Set unique remote control communication address from "0" to "F" to each inside unit by the rotary switch SW1 on the interface kit's PCB.
- After a unit is energized, it is possible to display an indoor unit address by pressing AIR CON NO. button on the remote control unit. Press the or button to make sure that all indoor units connected are displayed in order.

#### Master/slave setting when more than one remote control unit are used

A maximum of two remote control units can be connected to one indoor unit (or one group of indoor units.)

- Set SW1 (wired remote control) to "Slave" for the slave remote control unit.
- It was factory set to "Master" for shipment.

**Caution:** Remote control sensor is disabled.

#### How to set upper and lower limit value

1. Stop the air-conditioner, and press SET (SET) and MODE (MODE) button at the same time for over three seconds.

   The indication changes to "FUNCTION SET ▼".

2. Press ▼ button once, and change to the "TEMP RANGE ▲" indication.
3. Press SET (SET) button, and enter the temperature range setting mode.
4. Confirm that the "Upper limit ▲ " is shown on the display.
5. Press SET (SET) button to fix.
6. 1. Indication: "LCD V ▲ SET UP "→ "UPPER 28˚C \ V ▲ "
2. Select the upper limit value 30˚C with temperature setting button ▼ "UPPER30˚C V ▲ " (blinking)
3. Press SET (SET) button to fix. "UPPER 30˚C" (Displayed for two seconds)
4. After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼ ".
7. Press ▼ button once, "LOWER LIMIT ▲ " is selected, press SET (SET) button to fix.
   
   1. Indication: "LCD V ▲ SET UP "→ "LOWER 20˚C \ V ▲ "
2. Select the lower limit value 18˚C with temperature setting button ▼ "LOWER18˚C V ▲ " (blinking)
3. Press SET (SET) button to fix. "LOWER 18˚C" (Displayed for two seconds)
4. After the fixed lower limit value displayed for two seconds, the indication will return to "LOWER LIMIT ▼ "
8. Press ON/OFF button to finish.

- It is possible to finish by pressing ON/OFF button on the way, but unfinished change of setting is unavailable.
- During setting, if you press (RESET) button, you return to the previous screen.
7. Wired remote control (Optional parts)

The figure below shows the remote control with the cover opened. Note that all the items in the liquid crystal display (LCD) area are shown for explanation purpose.

Characters displayed with dots in the liquid crystal display (LCD) area are abbreviated.

Note (1) The SRK models do not support the buttons and functions displayed in [ ].

Pull the cover downwards to open.

* If you press any of the buttons above and “INVALID OPER” is display, the button has no function. But it does not mean a failure.
8. Installation of wired remote control

(1) Selection of installation location
Avoid the following locations
(a) Direct sunlight.
(b) Close to heating device.
(c) Highly humid or water splashing area.
(d) Uneven surface.

(2) Installation procedure
(a) Open the cover of remote control, and remove the screw under the buttons without fail.

(b) Remove the upper case of remote control.
Insert a flat-blade screwdriver into the dented part of the upper part of the remote control, and wrench slightly.

In case of embedding cord
① Embed the electrical box and remote control cord beforehand.

② Prepare two M4 screws (recommended length is 12-16mm) on site, and install the lower case to electrical box. Choose either of the following two positions in fixing it with screws.

③ Connect the remote control cord to the terminal block. Connect the terminal of remote control (X,Y) with the terminal of interface kit (X,Y). (X and Y are no polarity)
④ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.

In case of exposing cord
① You can pull out the remote control cord from left upper part or center upper part. Cut off the upper thin part of remote control lower case with a nippers or knife, and grind burrs with a file etc.

② Install the lower case to the flat wall with attached two wooden screws.

③ Connect the remote control cord to the terminal block. Connect the terminal of remote control (X,Y) with the terminal of interface kit (X,Y). (X and Y are no polarity) Wiring route is as shown in the below diagram depending on the pulling out direction.

The wiring inside the remote control case should be within 0.3mm² (recommended) to 0.5mm². The sheath should be peeled off inside the remote control case. The peeling-off length of each wire is as below.

<table>
<thead>
<tr>
<th>Pulling out from upper left</th>
<th>Pulling out from upper center</th>
</tr>
</thead>
<tbody>
<tr>
<td>X wiring : 215mm</td>
<td>X wiring : 170mm</td>
</tr>
<tr>
<td>Y wiring : 195mm</td>
<td>Y wiring : 190mm</td>
</tr>
</tbody>
</table>

④ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.
⑤ In case of exposing cord, fix the cord on the wall with cord clamp so as not to slack.

Installation and wiring of remote control
① Wiring of remote control should use 0.3mm² x 2 core wires or cables. (on-site configuration)
② Maximum prolongation of remote control wiring is 600 m. If the prolongation is over 100m, change to the size below. But, wiring in the remote control case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

100-200m ................. 0.5 mm² x 2 cores
Under 300m ............... 0.75 mm² x 2 cores
Under 400m ............... 1.25 mm² x 2 cores
Under 500m ............... 2.0 mm² x 2 cores
9. Setting functions using the wired remote control

(1) The initial function setting for typical using is performed automatically for a remote control unit and an indoor unit by the outdoor unit connected, when remote control and inside unit are connected.

As long as they are used in a typical manner, there will be no need to change the initial settings. If you would like to change the initial setting marked “◆”, set your desired setting as for the selected item.

The procedure of functional setting is shown as the following diagram.

As for detail of setting, refer to the installation manual of remote control.

(2) Flow of function setting

Start : While indoor unit do not operate, press “ ” (SET) and “ ” (MODE) button for 3 seconds at the same time.
Reset : Press “ ” (RESET) button.
Select : Press “ ” button.
End : Press “ ” button.

It is possible to finish above setting on the way, and unfinished change of setting is unavailable.

◆ : Initial settings
◆ : Automatic criterion
◆ : The SRK model cannot set the items described in ◆ in the function.

(3) Clearing the function setting

Pressing “CHECK” (CHECK) + “ ” (TIMER) + “ ” (MODE) buttons simultaneously reverts the function setting data to the data which are set at the shipping from factory.

① Remote control unit functions (FUNCTION▼)

- Automatic operation is impossible (Remote control function)
- Temperature setting button is not working
- Mode button is not working
- On/Off button is not working
- Fan speed button is not working
- Louver button is not working
- Timer button is not working
- Remote thermostor is not working.
- Remote thermostor is working.
- Remote thermostor is working, and to be set for producing -3.0°C increase in temperature.
- Remote thermostor is working, and to be set for producing -2.0°C increase in temperature.
- Remote thermostor is working, and to be set for producing -1.0°C increase in temperature.
- Remote thermostor is working, and to be set for producing 0.0°C increase in temperature.
- Remote thermostor is working, and to be set for producing 1.0°C increase in temperature.
- Remote thermostor is working, and to be set for producing 2.0°C increase in temperature.
- Remote thermostor is working, and to be set for producing 3.0°C increase in temperature.

② Function setting

In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board, the operation of ventilation device is linked with the operation of indoor unit.

If you change the range of set temperature, the indication of set temperature will vary following the control.

If you input signal into CNT of the indoor printed circuit board from external, all units which connect to the same remote control are operated according to the input from external.

In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board, you can operate/stop the ventilation device independently by (VENT) button.

If you input signal into CNT of the indoor printed circuit board from external, the indoor unit will be operated independently according to the input from external.

If you input signal into CNT of the indoor printed circuit board from external, all units which connect to the same remote control are operated according to the input from external.

In normal working indications, indoor unit temperature is indicated instead of airflow.

If you input signal into CNT of the indoor printed circuit board from external, only the master remote control can be indicated.

Temperature indication is by degree C
Temperature indication is by degree F
2 Indoor unit functions (I/U FUNCTION ▶)

![Diagram of indoor unit functions]

Note 1: Fan setting of “HIGH SPEED”

<table>
<thead>
<tr>
<th>Fan tap</th>
<th>Indoor unit air flow setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>STANDARD</td>
<td>HI-MID-LO</td>
</tr>
<tr>
<td>HI-LO</td>
<td>HI-MID</td>
</tr>
</tbody>
</table>

Initial function setting of some indoor unit is “HIGH SPEED”.

Note 2: If to change re-set with other indoor unit, push button, and indoor selection indication (for example: I/U 000) is set back.

Note 3: Only when plural indoor units are connected Indoor No. selection

Note 4: If you change the indoor function “04                   ”, you must change the remote control function “14                   ” accordingly.

The filter sign is indicated after running for 180 hours.

If you change the indoor function “06                   ”, you must change the remote control function “16                   ” accordingly.

You can select the lower step position in the four.

The louver can stop at any position.

Permission/prohibition control of operation will be valid.

When stop signal is inputed from remote on-off terminal “CNT -6”, all indoor units are stopped immediately.

When heating thermostat is OFF, fan speed is low speed.
When heating thermostat is OFF, fan speed is set speed.
When heating thermostat is OFF, fan speed is operated intermittently.
When heating thermostat is OFF, the fan is stopped.
When the remote thermistor is working, “FAN OFF” is set automatically.
Do not set “FAN OFF” when the indoor unit’s thermistor is working.

Change of indoor heat exchanger temperature to start frost prevention control.

When stop signal is inputed from remote on-off terminal “CNT -6”, all indoor units are stopped immediately.

Working only with the single split series.
To control frost prevention, the indoor fan tap is raised.

Drain pump is run during cooling and dry.
Drain pump is run during cooling, dry and heating.
Drain pump is run during cooling, dry, heating and fan.
Drain pump is run during cooling, dry and fan.

After cooling is stopped or cooling thermostat is OFF, the fan does not perform extra operation.
After cooling is stopped or cooling thermostat is OFF, the fan perform extra operation for half an hour.
After cooling is stopped or cooling thermostat is OFF, the fan perform extra operation for six hours.
After cooling is stopped or cooling thermostat is OFF, the fan perform extra operation for six hours.

After heating is stopped or heating thermostat is OFF, the fan does not perform extra operation.
After heating is stopped or heating thermostat is OFF, the fan perform extra operation for half an hour.
After heating is stopped or heating thermostat is OFF, the fan perform extra operation for two hours.
After heating is stopped or heating thermostat is OFF, the fan perform extra operation for six hours.

During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after twenty minutes’ OFF.
During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after five minutes’ OFF.
(4) How to set function

1) Stop air-conditioner and press ( ) (SET) ( ) (MODE) buttons at the same time for over three seconds, and the "FUNCTION SET " will be displayed.

2) Press ( ) (SET) button.
3) Make sure which do you want to set, "FUNCTION " (remote control function) or "I/U FUNCTION " (indoor unit function).
4) Press or button. Select "FUNCTION " (remote control function) or "I/U FUNCTION " (indoor unit function).
5) Press ( ) (SET) button.

6) [On the occasion of remote control function selection]  
   1) "DATA LOADING" (Indication with blinking)  
      Display is changed to "01 GRILLE SET".
   2) Press or button.  
      "No. and function" are indicated by turns on the remote control function table, then you can select from them.  
      (For example)

   3) Press ( ) (SET) button.  
      The current setting of selected function is indicated.  
      (For example) "AUTO RUN ON" ← If "02 AUTO RUN SET" is selected

   4) Press or button.  
      Select the setting.

   5) Press ( ) (SET) button.  
      "SET COMPLETE" will be indicated, and the setting will be completed.
      Then after "No. and function" indication returns, Set as the same procedure if you want to set continuously and if to finish, go to 7.

   6) Press or button.  
      "DATA LOADING" (Indication with blinking)  

   7) Press ( ) (SET) button.  
      Setting is finished.

7) Press ( ) (OFF) button.  
   Setting is finished.

[How to check the current setting]  
When you select from "No. and function" and press set button by the previous operation, the "Setting" displayed first is the current setting.
(But, if you select "ALL UNIT " , the setting of the lowest number indoor unit is displayed.)
(5) The range of temperature setting.
When using the wired remote control in parallel with the wireless remote control:
It is necessary to change the setting temperature range for the wired remote control. (The setting temperature may not be displayed correctly unless it is changed.) Change the setting temperature for the wired remote control with the following procedure 2).
When shipped, the range of set temperature differs depending on the operation mode as below.
Heating : 16~30°C (55~86°F)
Except heating (cooling, fan, dry, automatic) : 18~30°C (62~86°F)

1) Upper limit and lower limit of set temperature can be changed with remote control.
Upper limit setting: valid during heating operation. Possible to set in the range of 20 to 30°C (68 to 86°F).
Lower limit setting: valid except heating (automatic, cooling, fan, dry) Possible to set in the range of 18 to 26°C (62 to 79°F).
When you set upper and lower limit by this function, control as below.

a) When \(\bar{1}\) TEMP RANGE SET, remote control function of function setting mode is "INDN CHANGE" (factory setting),
   [If upper limit value is set]
   During heating, you cannot set the value exceeding the upper limit.
   [If lower limit value is set]
   During operation mode except heating, you cannot set the value below the lower limit.

b) When \(\bar{2}\) TEMP RANGE SET, remote control function of function setting mode is "NO INDN CHANGE"
   [If upper limit value is set]
   During heating, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit.
   But, the indication is the same as the temperature set.
   [If lower limit value is set]
   During except heating, even if the value lower than the lower limit is set, lower limit value will be sent to the indoor unit.
   But, the indication is the same as the temperature set.

2) How to set upper and lower limit value
a) Stop the air-conditioner, and press \(\square \) (SET) and \(\square \) (MODE) button at the same time for over three seconds.
   The indication changes to "FUNCTION SET ▼ "

b) Press \(\uparrow\) button once, and change to the "TEMP RANGE ▲ " indication.

c) Press \(\downarrow\) (SET) button, and enter the temperature range setting mode.

d) Confirm that the "Upper limit ▲ " is shown on the display.

e) Press \(\downarrow\) (SET)button to fix.

f) ①Indication: " 30˚C ▲ SET UP" –> "UPPER 28˚C ▲ ",'n
   ②Select the upper limit value 30°C with temperature setting button \(\uparrow\). "UPPER30˚C ▲ " (blinking)
   ③Press \(\downarrow\) (SET) button to fix. "UPPER 30˚C" (Displayed for two seconds)
   After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼ ".

g) Press \(\downarrow\) button once, "LOWER LIMIT ▲ " is selected, press \(\downarrow\) (SET) button to fix.
   ①Indication: " 18˚C ▲ SET UP" –> "LOWER 20˚C ▲ ",'n
   ②Select the lower limit value 18°C with temperature setting button \(\downarrow\). "LOWER18˚C ▲ " (blinking)
   ③Press \(\downarrow\) (SET) button to fix. "LOWER 18˚C" (Displayed for two seconds)
   After the fixed lower limit value displayed for two seconds, the indication will return to "LOWER LIMIT ▼ ",'n
h) Press \(\square OFF\) button to finish.

- It is possible to finish by pressing \(\square OFF\) button on the way, but unfinished change of setting is unavailable.
- During setting, if you press \(\square\) (RESET) button, you return to the previous screen.
10. Super link adapter (SC-ADN-E)

**1. Accessories**

<table>
<thead>
<tr>
<th>SL E board</th>
<th>Metal box</th>
<th>Metal cover</th>
<th>Screw for Ground</th>
</tr>
</thead>
<tbody>
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<td>SL E board</td>
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</tr>
</tbody>
</table>

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<tr>
<th>Pan head screws</th>
<th>Locking supports</th>
<th>Binding band</th>
<th>Grommet</th>
</tr>
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<td>Grommet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4×8L 2 pieces</th>
<th>To secure the print board and the metal box</th>
<th>Made of nylon 4 pieces</th>
</tr>
</thead>
<tbody>
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<td>4×8L 2 pieces</td>
<td>To secure the print board and the metal box</td>
<td>Made of nylon 4 pieces</td>
</tr>
</tbody>
</table>

**2. Function**

Allowing the central control SL1N-E, SL2N-E, and SL3N-AE/BE to control and monitor the room air conditioning unit.

**3. Control switching**

Settings can be changed by the switch SW3 on the SL E board as in the following.

<table>
<thead>
<tr>
<th>Switch</th>
<th>Symbol</th>
<th>Switch</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ON</td>
<td>Master</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Slave</td>
<td></td>
</tr>
<tr>
<td>SW3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ON</td>
<td>Fixed previous protocol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Automatic adjustment of Super Link protocol</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ON</td>
<td>Indicates the forced operation stop when abnormality has occurred</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Indicates the status of running/stop as it is, when abnormality has occurred</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>ON</td>
<td>The hundredth address activated &quot;1&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>The hundredth address activated &quot;0&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**4. Connection Outline**

Signal line specification

<table>
<thead>
<tr>
<th>Communication method</th>
<th>New Super Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line type</td>
<td>MVVS</td>
</tr>
<tr>
<td>Line diameter</td>
<td>0.75/1.25mm²</td>
</tr>
<tr>
<td>Signal line (total length)</td>
<td>up to 1500/1000m (*1)</td>
</tr>
<tr>
<td>Signal line (maximum length)</td>
<td>up to 1000m</td>
</tr>
</tbody>
</table>

(1) Set the Super Link network address with SW1 (tens place), SW2 (ones place), and SW3-4 (hundreds place).
(2) Set the SL E board SW3-1 to be ON (Master) when using this without any remote control (no wired remote control nor wireless remote control).
(3) Set up the plural master/slave device using the dip switches on the indoor unit board.
(4) Set up the remote control master/slave device using the slide switch on the remote control board.
(5) Set up "0" to "F" using the address rotary switch on the indoor unit board when controlling the indoor unit with the multiple remote control.

Basic Connections

- Outdoor unit
- Internal/external Crossing
- Interface kit (SC-BiKN-E)
- Super link adapter (SC-ADN-E)
- Wired remote control (RC-E3)
5 Installation

1. When using the metal box (mounted on the indoor unit / mounted on the back of the remote control):
   (1) Mount the SL E board in the metal box using the locking supports.
   (2) Wiring should go through the provided grommet since then through the wiring to the hole on the Metal box.
   Secure the grommet after inserting the grommet into the Metal box as shown in below figure, then tie the wiring at the outlet of the unit using a binding band.

Connect grounding. Connect grounding for the power line to Ground 1, and grounding for the signal line to Ground 2 or to the Ground on the indoor unit control box.

Location of installation

Install the device at the location where there are no electromagnetic waves nor where there is water and dust. The specified temperature range of the device is 0 to 40˚C. Install the device at the location where the ambient temperature stays within the range. If it exceeds the specification, make sure to provide solution such as installing a cooling fan. When used outside of the range, it may cause abnormal operation.

6 Indicator display

Check the LED 3 (green) and LED 2 (red) on the SL E board for flashing.

<table>
<thead>
<tr>
<th>SL E board LEDs</th>
<th>Inspection mode</th>
<th>Display on the integrated network control device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Off Flashing</td>
<td>Normal communication</td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>• Disconnection in the remote control communication line (X or Y)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Faulty indoor unit remote control power</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Faulty remote control communication circuit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Faulty CPU on SL E board</td>
</tr>
<tr>
<td></td>
<td>One flash</td>
<td>• Disconnection in the Super Link signal line (A or B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Faulty Super Link signal circuit</td>
</tr>
<tr>
<td></td>
<td>Two flashes</td>
<td>• Faulty address setting for the SL E board</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Set up the address for more than 128)</td>
</tr>
<tr>
<td></td>
<td>Three flashes</td>
<td>• SL E board parent not set up when used without a remote control</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Faulty remote control communication circuit</td>
</tr>
<tr>
<td></td>
<td>Four flashes</td>
<td>• Address overlapping for the SL E board and the Super Link network connected indoor unit</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>• Number of connected devices exceeds the specification for the multiple indoor unit control</td>
</tr>
</tbody>
</table>

- E1
- E2
- E10
11. Operation permission/prohibition control

The air conditioner operation is controlled by DIP switch SW2-3 on the interface kit board and inputting the external signal into the CnT.

(1) The operation mode is switched over between Permission and Prohibition by DIP switch SW2-3 on the interface kit control board.

<table>
<thead>
<tr>
<th>When the DIP switch SW2-3 is ON</th>
<th>When the DIP switch SW2-3 is OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal operation is enable (when shipping) When CnT input is set to ON, the operation starts and if the input is set to OFF, the operation stops. For the CnT and remote control inputs, the input which is activated later has priority and can start and stop the operation.</td>
<td>Permission / Prohibition mode When CnT input is set to ON, the operation mode is changed to permission and if input is set to OFF the operation is prohibited.</td>
</tr>
</tbody>
</table>

(2) When the CnT input is set to ON (Operation permission)

(a) The air conditioner can be operated or stopped by the remote control signal. (When the "CENTER" mode is set, the operation can be controlled only by the center input.)

(b) When the CnT input is changed from OFF to ON, the air conditioner operation mode is changed depending on the status of the DIP switch SW2-1 on the interface kit board.

<table>
<thead>
<tr>
<th>When the DIP switch SW2-1 is ON</th>
<th>When the DIP switch SW2-1 is OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>The signal (a) above starts the air conditioner. (Shipping status)</td>
<td>When the CnT input is set to ON, the air conditioner starts operation. After that, the operation of the air conditioner depends on (a) above. (Local status)</td>
</tr>
</tbody>
</table>

(3) When the CnT input is set to OFF (Prohibition)

(a) The air conditioner cannot be operated or stopped by the remote control signal.

(b) The air conditioner operation is stopped when the CnT input is changed from ON to OFF.

(4) When the operation permission / prohibition mode is set to effective by the indoor function setting selected by the remote control, the operation depends on (1) above.
12. External control (remote display)/control of input signal

(1) External control (remote display) output

Following output connectors (CnT) are provided on the printed circuit board of interface kit.

- **Operation output**: Power to engage DC 12V relay (provided by the customer) is outputted during operation.
- **Heating output**: Power to engage DC 12V relay (provided by the customer) is outputted during the heating operation.
- **Compressor OPERATION output**: Power to engage DC 12V relay (provided by the customer) is outputted while the compressor is operating.
- **MALFUNCTION output**: When any error occurs, the power to engage DC 12V relay (provided by the customer) is outputted.

(2) Control of input signal

Control of input signal (switch input, timer input) connectors (CnT) are provided on the control circuit board of interface kit.

However, when the operation of air conditioner is under the Center Mode, the remote control by CnT is invalid.

(a) Level input

If the factory settings (DIP switch SW2-1 EXTERNAL INPUT on the PCB of interface kit) are set, or “LEVEL INPUT” is selected in the wired remote control’s indoor unit settings.

1) Input signal to CnT OFF → ON - - - - Air conditioner ON
2) Input signal to CnT ON → OFF - - - - Air conditioner OFF

(b) Pulse input

When DIP switch SW2-1 on the PCB of interface kit is OFF at the field or “PULSE INPUT” is selected in the wired remote control’s indoor unit settings.

Input signal to CnT becomes valid at OFF → ON only and the motion of air conditioner [ON/OFF] is inverted.

Note (1) The ON with the * mark indicates an ON operation using the remote control unit switch, etc.