9. External Control Adaptor for Outdoor Unit

9.1 DTA104A61 / DTA104A62 / DTA104A53

<table>
<thead>
<tr>
<th>Accessories</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>External control adaptor for outdoor unit</td>
<td>1</td>
<td>PCB support</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clamp</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Installation manual</td>
<td>8</td>
</tr>
</tbody>
</table>

**NOTES**
- The kit type (DTA104A61·51 type, DTA104A62·52 type, DTA104A53 type) varies according to the air conditioner model.
- The installation box for adaptor PCB is required with the following air conditioner models.
- FXC(Q) ............. ................................................... KRP1B96
- FXFQ-P ............. .................................................. KRP1H98
- FXF, FXFQ-M ............. .......................................... KRP1D98
- FXH(Q) ............. ................................................... KRP1C93
- FXA(Q) ............. ................................................... KRP4A93
- FXD(Q) ............. ................................................... KRP1B101
- FXMQ-P ................. .............................................. KRP4A96

**General description of system**

With the external control adaptor, outdoor units are controlled as follows.

1. Operation mode (COOL/HEAT/FAN) is switched simultaneously for more than one outdoor unit.
   - If switching operation mode by indoor unit remote controller or COOL/HEAT selector,
   - Except RSEY(V)~KT

You can simultaneously switch operation mode for outdoor units in [ ].
2. Demand control and low-noise control are executed simultaneously for more than one outdoor unit.

- Except ‘SEV(1)’–I’

Demand control and low-noise control are executed simultaneously for outdoor units in [ ]

2 Names of parts and functions

- Power supply connector (D1, D2)
  To adapter power supply connector or indoor unit or NS unit

- Terminal block for transmission (F1, F2)
  See wiring method

- Function switch (SS11) (Factory set:ON)
  The contents of the address setting switch set the COOL/HEAT address, demand address, or both addresses,

- Microcomputer normal monitor (WAP:ON)
  Flashes when the microcomputer is operating normally.

- Demand, low-noise input terminal block (N1W)
  Connects control input from electrical appendices host computer monitor panel, demand controllers, timers, etc.

- Address setting switch (D01, 2)
  Sets COOL/HEAT address or demand address.

For details, see the wiring diagram (rear surface).

C: 1PA03164D
3 Installation

- Install the adaptor inside the electric parts box of indoor unit of same refrigerant circuit.
- If installing on a BS unit, install the adaptor inside the electric parts box of the BS unit.

BS Unit

Installation box is necessary for second adaptor (FXS).

Ceiling-mounted cassette type

Corner model

FXK(Q)

Adaptor

Installation box

Note: A separate plate is needed to install the adaptor PCB.

Ceiling-mounted Built-in type

FXS(Q)

Adaptor

Installation box

Note: Installation box is necessary for second adaptor (FXS).

Ceiling Mounted Duct Type

FXD(Q)

Installation box

Note: Installation box for adaptor PCB is required to install the adaptor.
**Ceiling - mounted Duct type**

FXM(Q)-125MA
FXM40-125

**Ceiling Suspended type**

FXH(Q)

**Wall mounted type**

FXA(Q)

**Floor-standing type**

FXL(Q) FXN(Q)

**Note:**
Installation box for adaptor PCB is required to install the adaptor.

**Note:**
For installation, the optional kit of adaptor PCB installation box is required.
4 Electrical wiring

1. Connect the power supply wiring from the adaptor to the adaptor power supply connector on the PCB of the Indoor unit or BS unit.
2. Connect the transmission wiring to the various terminal blocks, and to the F1 and F2 terminals on the PCB. (Use double-core wiring with no polarity.)
3. Using the attached wiring ties, clamp the transmission wiring to weak field wiring, etc.

Note 1: If mounting on a BS unit, connect the BS unit’s terminal block (F1 and F2, indoor unit side) with F1 and F2 of the adaptor.

NOTES

* (Transmission wiring specifications)
Sheathed wire (2 wire) 0.75 – 1.25 mm²

* (Transmission wiring length)
Malfunction of transmission may occur if the following limits are exceeded.
Total wiring length: Max. 1000 m
No. of branches: Max. 16

4. If carrying out demand or low-noise input, connect the adaptor’s terminals as shown below.

Host computer monitor panel or demand controller

(B0137)
**Input signal**
Constant a contact
Input current is approx. 10 mA per contact.
For the relay contact, use a weak current contact.

**Outside wiring specifications**
Recommended wiring: 0.75-2 mm² sheathed wire
Wiring length: Within 150 m
Keep a minimum 50 mm from power supply wiring to prevent malfunction.

**Demand input terminal**
Short circuit between (Demand 1) - (C)...As a guideline, demand should be about 70%.
Short circuit between (Demand 2) - (C)...As a guideline, demand should be about 40%.
Short circuit between (Demand 3) - (C)...Forced thermo OFF

**Low-noise input terminal**
When terminals are short-circuited during cooling, capacity save (outdoor unit fan low-speed turn, compressor frequency control) is carried out.
Use only at night when load is slight.

**How to set demand control in the field**
1. Outdoor unit field setting
   - Setting mode 1...Turn ON low noise control as explained in the outdoor unit's service manual.
   - Setting mode 2...Match low noise and demand addresses to the external control adaptor address.
2. External control adaptor settings
   - Function switch (SS1)
     Set SS1 to either “BOTH” or “DE”.
   - Address setting switch (DS1, DS2)
     Match DS1 and DS2 to the low noise and demand addresses of the outdoor unit.

**5 Field settings**

1. The contents of the various settings for unified switching of the operation mode (cool, heat, fan) are as follows.

   - **Field setting start**
     - Grouping the outdoor units by each operation mode.
     - Each group shall be required this adaptor.
     - Means of switching operation mode(s)
     - COOL/HEAT selector
       - Set SS2 of the adaptor to “OFF”.
   - Indoor unit remote controller
     - Set SS1 of the P board of the outdoor unit set as “MASTER” to “OUTSIDE UNIT” (See the outdoor unit’s CAUTION ON OPERATION)
     - Set SS1 of the P board of the outdoor unit set as “MASTER” to “INDOOR UNIT” (See the outdoor unit’s CAUTION ON OPERATION)
     - 5-bit COOL/HEAT address of the adaptor and outdoor units. (See Note 1.)
     - The adaptor is set by DS1, 2. (See fig. 2.)

   - **Field setting complete**

Note 1: Match the address of the adaptor and outdoor units for each control unit.
2. The contents of the various settings for unified switching of demand and low noise operation are as follows.

Field setting start

Divide the outdoor units for demand control and low-noise control into units to be switched together (Herein after refer to as "demand control group"). An adaptor is required for each unit.

Set the 5-bit demand address of the adaptor and outdoor units. Set the service mode for the outdoor units by operating the switches on the P board ass'y. (See fig. 3.) The adaptor is set by DS1, 2. (See fig. 1.)

Field setting complete

3. To carry out operation mode switching and demand control simultaneously

You can carry out operation mode switching and demand control simultaneously by setting function switch SS1 on the adaptor to "BOTH." Only one address, however, can be set on the adaptor, so the "operation mode switch unit" and "demand control unit" are the same.

SS1

- BOTH
- CH
- DE

FUNCTION

Factory set to "BOTH."

Set the COOL/HEAT address, demand address and low noise address, or both as needed.

- Left (BOTH)
- Middle (CH)
- Right (DE = LOW NOISE)

Note 2: The outdoor unit can have an independent "COOL/HEAT address" and "demand address". You can therefore set the "operation mode group" and "demand control group" to different ranges.
Fig. 1 Setting of 5-bit cool/heat address by D51-2

Designate and set cool/heat addresses 0-31 for each operation mode switch unit.

No. 0

... No. 7

... No. 8

... No. 15

... No. 16

... No. 31

Fig. 2 (Ex.) To set the outdoor unit’s cool/heat address to No. 15:

Procedure | Setting contents | MODE | TEST | C/H SELECT | L.N.O.P. | SEQ. START
--- | --- | --- | --- | --- | --- | ---
When power turned on | Setting mode (factory set) | LED20 | LED21 | LED22 | LED23 | LED24 | LED25 | LED25
Hold down next page button for 5 secs. | Enters address setting. | | | | | | | |
Push operation button one time. | Enters cool/heat address setting. | | | | | | | |
Push confirmation button one time. | Make sure cool/heat address has been entered. | | | | | | | |
Push operation button 15 times. (Address No. = Times pushed) | Sets cool/heat address. | | | | | | | |
Push confirmation button two times. | Check cool/heat address. | | | | | | | |
Push next page button one time. | Returns to set mode. | | | | | | | |

Fig. 3 (Ex.) To set the outdoor unit’s demand address to No. 7:

Procedure | Setting contents | MODE | TEST | C/H SELECT | L.N.O.P. | SEQ. START
--- | --- | --- | --- | --- | --- | ---
When power turned on | Setting mode (factory set) | LED20 | LED21 | LED22 | LED23 | LED24 | LED25 | LED25
Hold down next page button for 5 secs. | Enters address setting. | | | | | | | |
Push operation button two times. | Enters demand address setting. | | | | | | | |
Push confirmation button one time. | Make sure demand address has been entered. | | | | | | | |
Push operation button 7 times. (Address No. = Times pushed) | Sets demand address. | | | | | | | |
Push confirmation button two times. | Check demand address. | | | | | | | |
Push next page button one time. | Returns to set mode. | | | | | | | |