

Daikin Air Conditioner

Wiring adaptor for electrical appendices (DS-NET adaptor)

Installation manual DAT113B51 Professional Multiple Use

1P150221-1A

Please read these "SAFETY CONSIDERATIONS" carefully before installing air conditioning equipment and be sure to install it correctly. After completing the installation, make sure that the unit operates properly during the start-up operation. Please instruct the customer on how to operate the unit and keep it maintained. Also, inform customers that they should store this installation manual along with the operation manual for future reference. This air conditioner comes under the term "appliances not accessible to the general public".

Meaning of warning, caution and note symbols.

- WARNING** Indication a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- CAUTION** Indication a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
- NOTE** Indication situation that may result in equipment or property-damage-only accidents.

WARNING

Ask your dealer or qualified personnel to carry out installation work. Do not try to install the machine by yourself. Improper installation may result in water leakage, electric shocks or fire.

Perform installation work in accordance with this installation manual. Improper installation may result in water leakage, electric shocks or fire.

Be sure to use only the specified accessories and parts for installation work. Failure to use the specified parts may result in water leakage, electric shocks, fire or the unit falling.

Carry out the specified installation work after taking into account strong winds, typhoons or earthquakes. Improper installation work may result in the equipment falling and causing accidents.

Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local laws and regulations and this installation manual. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.

Make sure that all wiring is secured, the specified wires are used, and no external forces act on the terminal connections or wires. Improper connections or installation may result in fire.

When wiring the power supply and connecting the remote controller wiring and transmission wiring, position the wires so that the electric parts box lid can be securely fastened. Improper positioning of the electric parts box lid may result in electric shocks, fire or the terminals overheating.

Before touching electrical parts, turn off the unit.

Ground the air conditioner. Do not connect the ground wire to gas or water pipes, lightning rod or a telephone ground wire. Incomplete grounding may result in electric shocks.

When installing or relocating the system, be sure to keep the refrigerant circuit free from substances other than the specified refrigerant (R410A), such as air.

Do not reconstruct or change the settings of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion may result.

Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.

Install a leak circuit breaker, as required. If a leak circuit breaker is not installed, electric shock may result.

Do not install the air conditioner or the remote controller in the following locations:

- where a mineral oil mist or an oil spray or vapor is produced, for example in a kitchen
Plastic parts may deteriorate and fall off or result in water leakage.
- where corrosive gas, such as sulfuric acid gas, is produced
Corroding copper pipes or soldered parts may result in refrigerant leakage.
- near machinery emitting electromagnetic waves
Electromagnetic waves may disturb the operation of the control system and result in a malfunction of the equipment.
- where flammable gases may leak, where there are carbon fiber or ignitable dust suspensions in the air, or where volatile flammables such as thinner or gasoline are handled.
Operating the unit in such conditions may result in fire.

CAUTION

Be very careful about product transportation.

Safely dispose of the packing materials. Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries. Tear apart and throw away plastic packaging bags so that children will not play with them. If children play with a plastic bag which was not torn apart, they face the risk of suffocation.

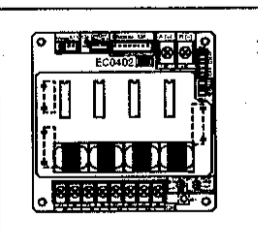
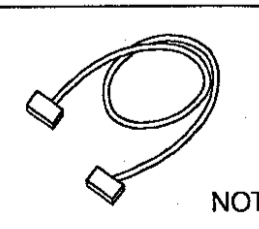
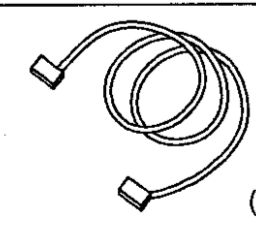
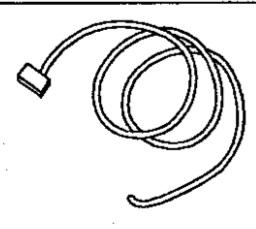
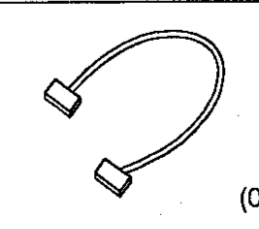
NOTE

Install the indoor and outdoor units, power supply wiring and connecting wires at least 3.5ft. away from televisions or radios in order to prevent image interference or noise. (Depending on the radio waves, a distance of 3.5ft. may not be sufficient enough to eliminate the noise.)

Remote controller (wireless kit) transmitting distance can result shorter than expected in rooms with electronic fluorescent lamps. (Inverter or rapid start types) Install the indoor unit as far away from fluorescent lamps as possible.

1 ACCESSORIES

Check if the following accessories are included in the kit.

| Adaptor | Relaying wire harness | | | |
|--|---|---|---|---|
| | (1) for the power source | (2) for connecting Modem | (3) for connecting control input of forced start/stop | (4) D-SUB 25 \leftrightarrow 15 changer |
|  |  |  |  |  |
| | x4 | x1 | x1 | x1 |
| | NOTE1 | (5m) | (5m) | (0.15m) |
| PC board support | x4 | | | |
| Installation manual | x1 | | | |

NOTE1

- Relaying wire harness inside the power source depends on the type of the indoor unit to which this kit is to be equipped. (The following table indicates the type of harness to be used.)
- Each of the four (4) pieces of harnesses for the power source contained has each different length, only one of which is to be used.
- Each of the four (4) pieces of harnesses for the power source is marked "A", "B", "C" and "D" for identification purpose on its connector area.

NOTE2

- Kits vary according to applicable models.
- A special adaptor fixing plate and box are required for the following models.

Personal Home Use

| Model name of the indoor unit to which this kit is to be equipped | Installation box for adaptor | Harness for the power source to be used | |
|---|------------------------------|---|---------------------|
| | | Marking | Harness length (mm) |
| FA-F | - | A | 500 |
| FAY-F | - | A | 500 |
| FAY-FA | - | A | 500 |
| FAYP-B | - | A | 500 |
| FHK-F | - | A | 500 |
| FHYK-FJ | - | A | 500 |
| FH(Y)B-F | KRP1B97 | A | 500 |
| FHB-F | KRP1B97 | A | 500 |
| FAY-L | KRP4A93 | A | 500 |
| FH(Y)-B | KRP1C93 | B | 800 |
| FHY-P-B | KRP1C93 | B | 800 |
| FV(Y)-LA | KRP4A95 | B | 800 |
| FFQ-BV1B | KRP1B101 | C | 1150 |
| FUY-FJ | KRP1B97 | C | 1150 |
| FUYP-B | KRP1B97 | C | 1150 |
| FH(Y)C-K | KRP1B98 | C | 1150 |
| FHYCP-D | KRP1D98 | C | 1150 |

Professional Multiple Use

| Model name of the indoor unit to which this kit is to be equipped | Installation box for adaptor | Harness for the power source to be used | |
|---|------------------------------|---|---------------------|
| | | Marking | Harness length (mm) |
| FXX | - | A | 500 |
| FXXQ | - | A | 500 |
| FXL(Q), FXYL, FXN(Q), FXYLMP | - | A | 500 |
| FXM(Q)200-250, FXYM200-250 | - | A | 500 |
| FXM(Q)40-125, FXYM40-125 | - | A | 500 |
| FXS(Q), FXYSP, FXYB | - | A | 500 |
| FXYA | - | A | 500 |
| FXYD-KA | - | A | 500 |
| FXC(Q), FXYCP | KRP1B96 | A | 500 |
| FXA(Q) | KRP4A93 | A | 500 |
| FXH(Q), FXYHP | KRP1C93 | B | 800 |
| FFQ, FXZQ | KRP1B101 | C | 1150 |
| FXF(Q) | KRP1D98 | C | 1150 |
| FXD(Q) | KRP1B101 | D | 1900 |

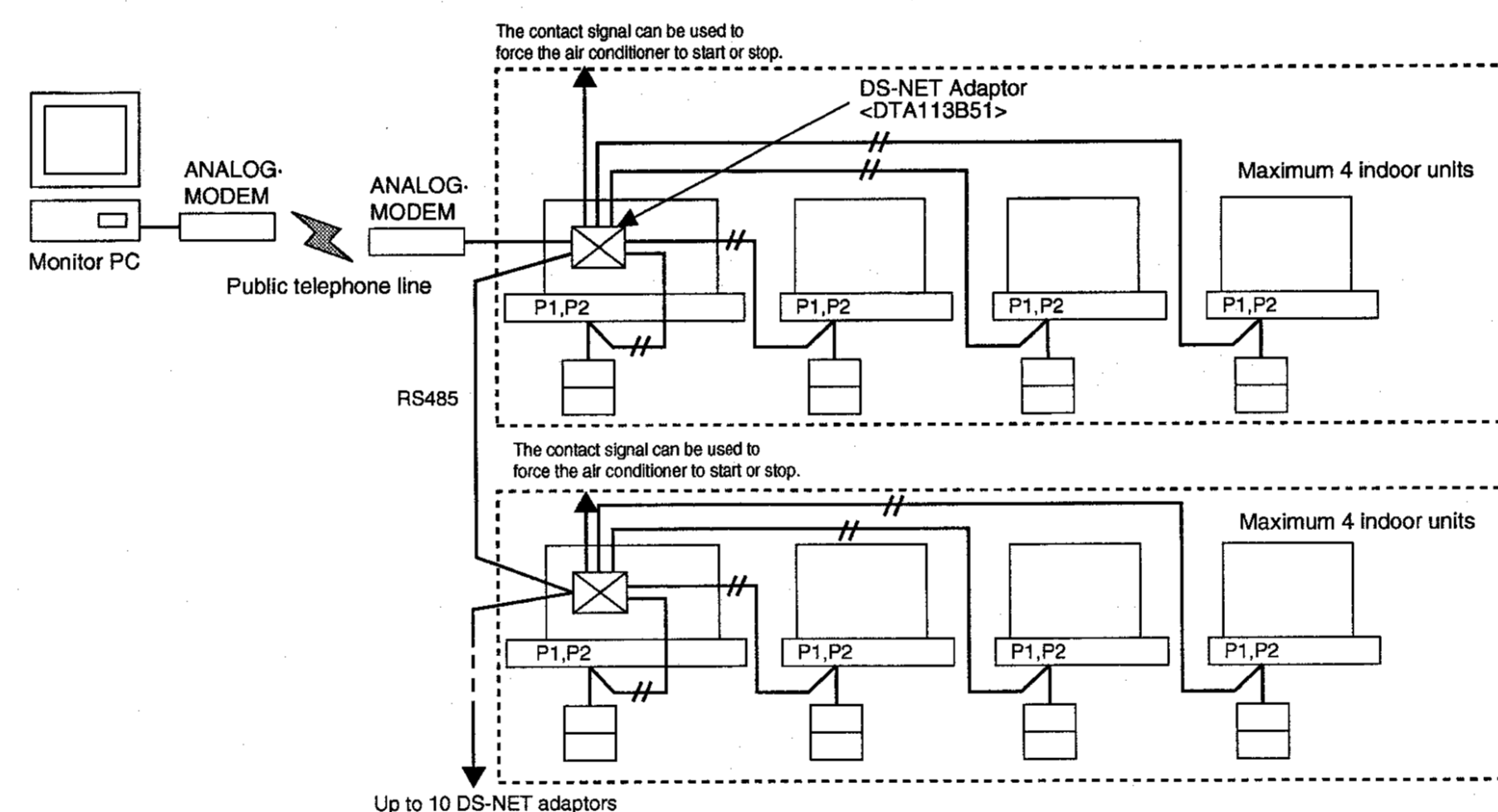
2 SYSTEM OUTLINE

Attaching this adaptor to the indoor unit makes it possible to monitor and control the air conditioner from a remote monitor PC or a GSM cellular phone. To perform monitoring and control from a remote monitor PC (Professional Multiple Use), you will need to prepare two of the specified analog modems, a PC, and the monitoring software which is sold separately.

To perform monitoring and control from a GSM cellular and public telephone line phone (Personal Home Use), you will need to prepare one specified GSM modem and a GSM cellular phone with a short message function. Each will need a SIM card.

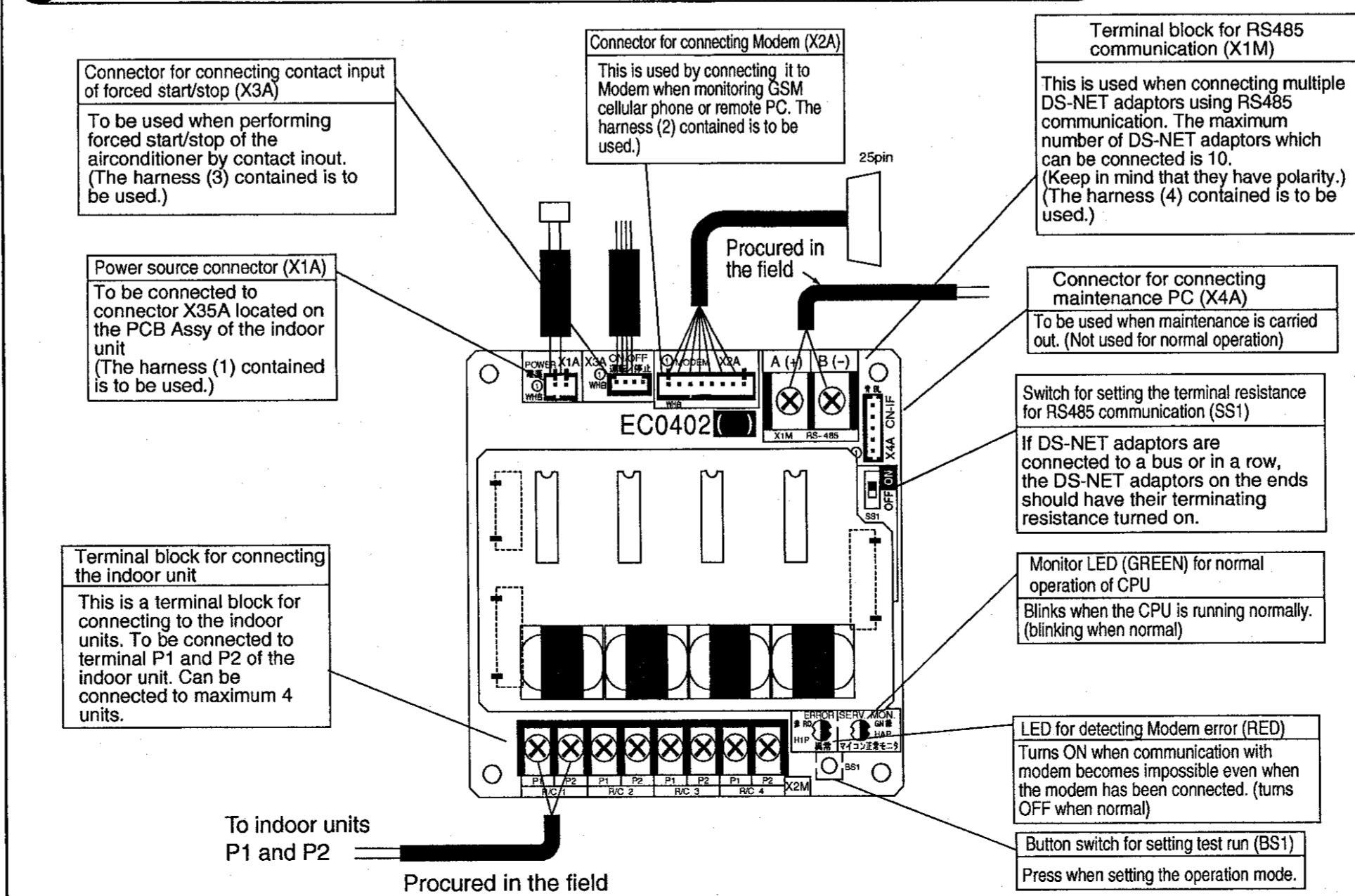
It is possible to perform automatic alternation operation and backup operation of the air conditioners without using a remote monitor PC or a GSM cellular phone. One of these adaptors can be used to monitor and control up to 4 indoor units connected to a remote controller line (P1 and P2).

When performing monitoring and control using the remote monitoring software, up to 10 adaptors can be used to cover up to 40 indoor units. (When using a GSM cellular phone, this kind of extension is not possible by connecting multiple adaptors.)



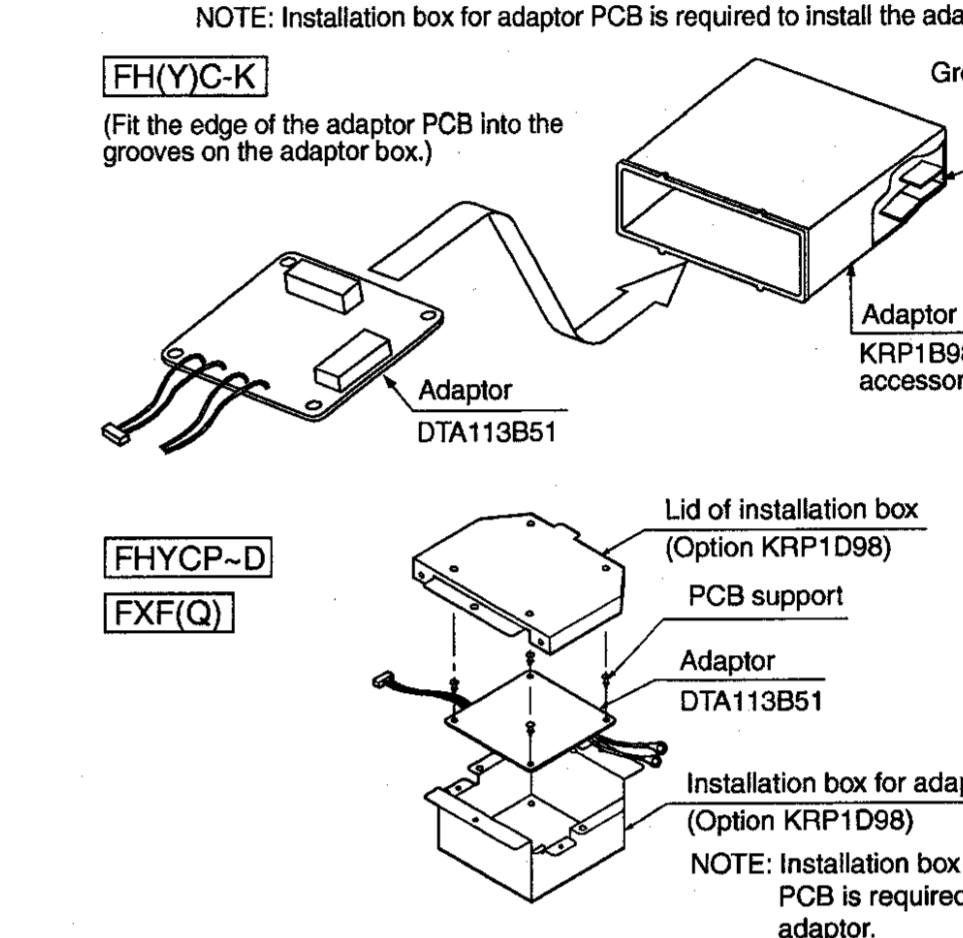
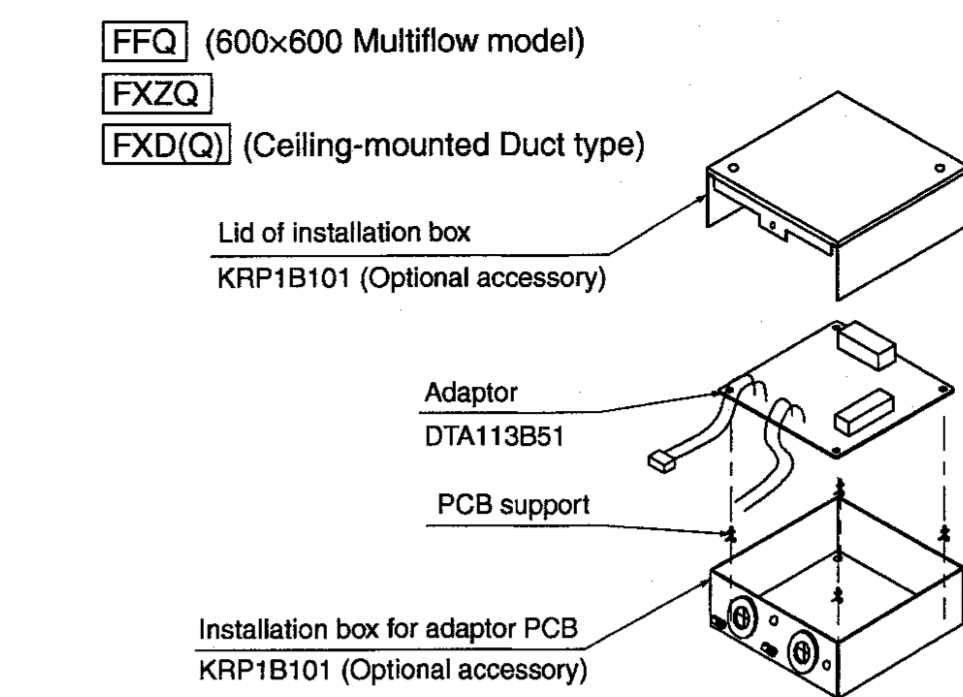
- A remote controller is always required for the air-conditioner to be connected to this adaptor.
- When the adaptor is attached, two remote controllers cannot be used to control the units.
- When the adaptor is attached, it cannot be used in conjunction with a wireless remote controller.
- This adaptor cannot be used together with Centralized Remote Controller, Intelligent Touch Controller, BAC net Gateway, and Wiring Adaptor for Electrical Appendices (2), etc.

3 NAME OF PARTS AND FUNCTION (Professional Multiple Use)



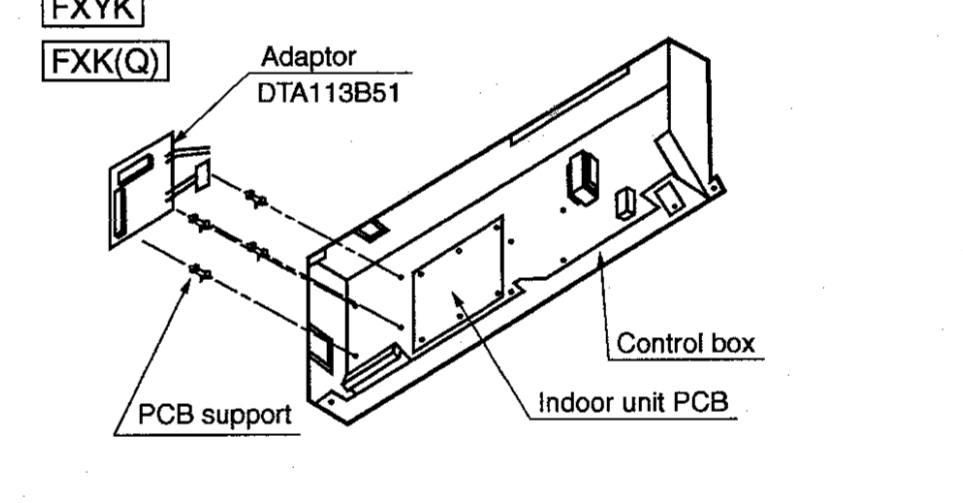
4 INSTALLATION

((Ceiling-mounted cassette type))
((Ceiling-mounted Duct type))



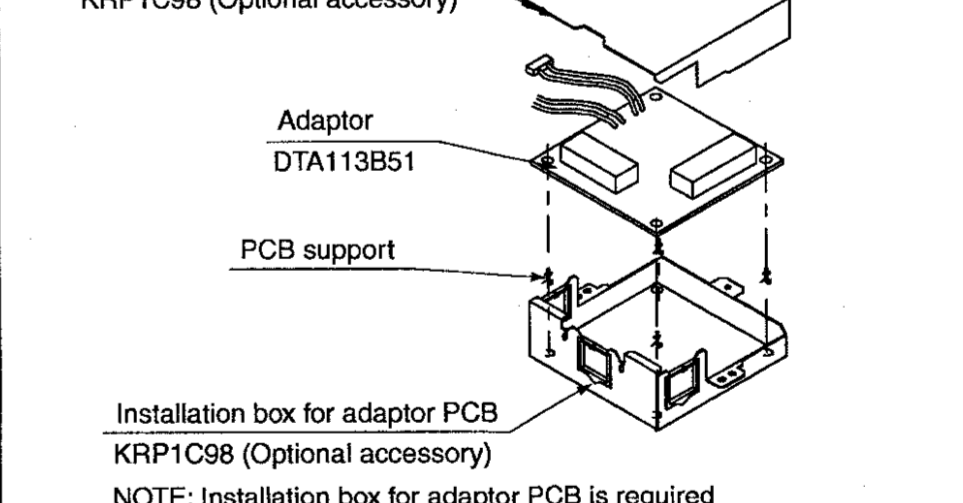
((Ceiling-mounted cassette type))

((Floor-standing type))



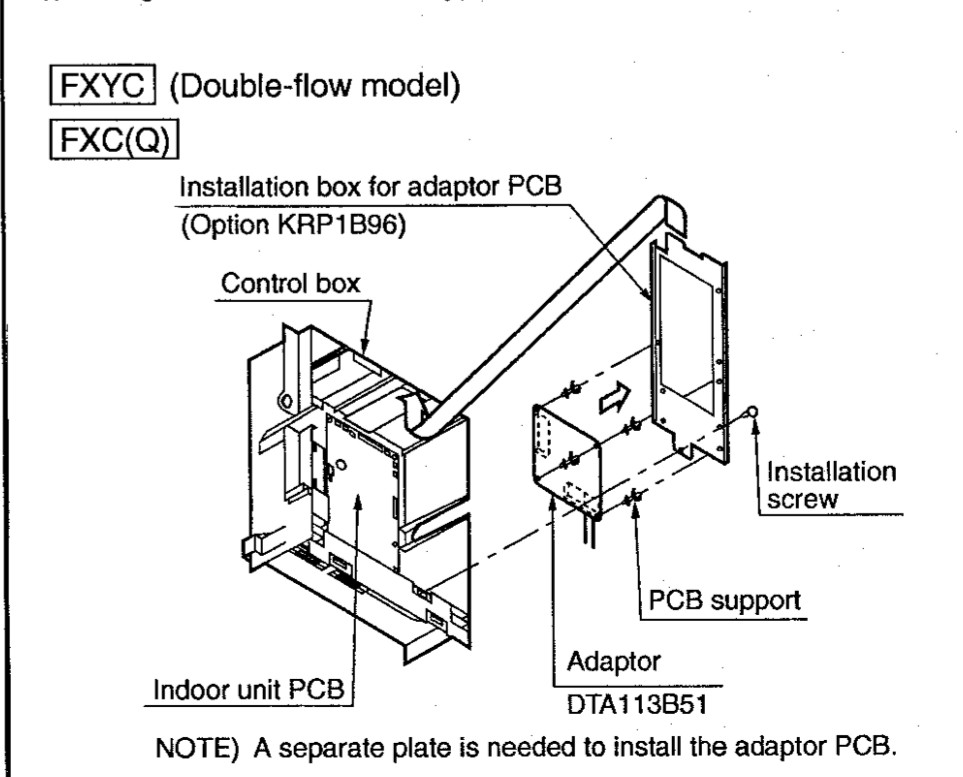
((Ceiling-mounted cassette type))

((Floor-standing type))

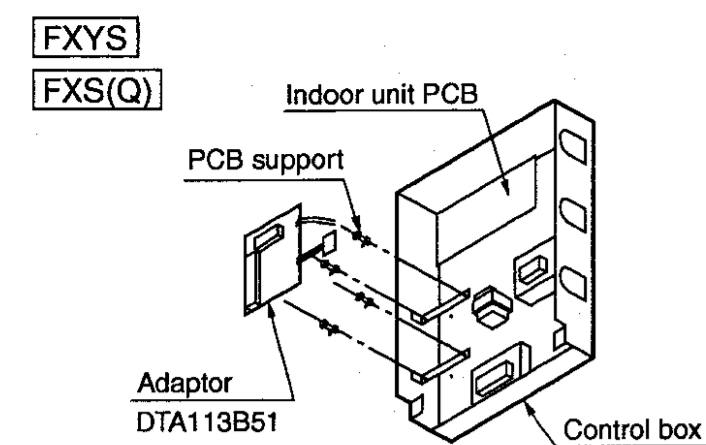


((Ceiling-mounted cassette type))

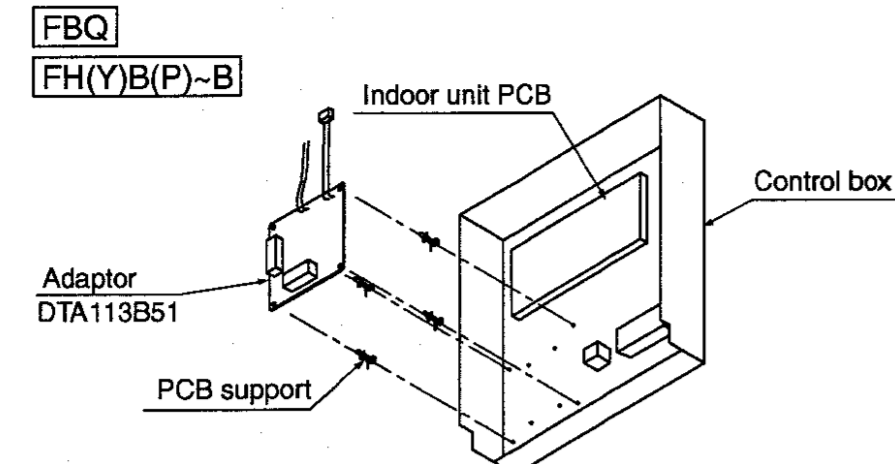
((Wall-mounted type))



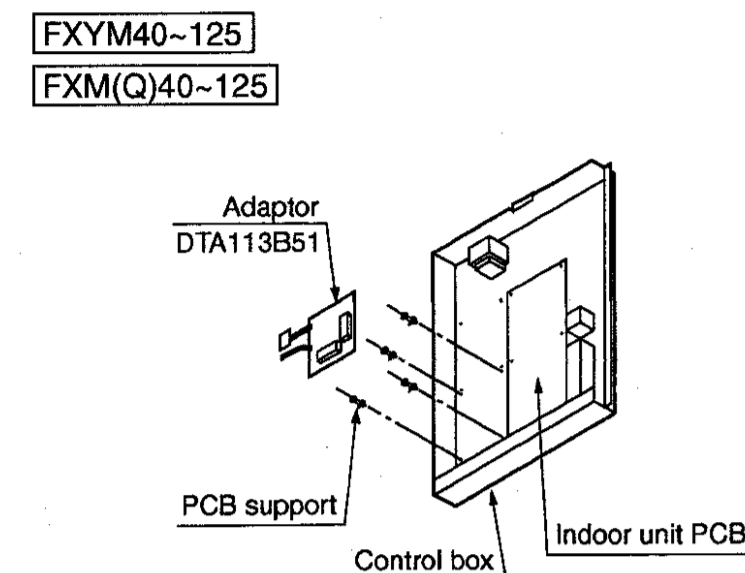
((Ceiling-mounted built-in type))



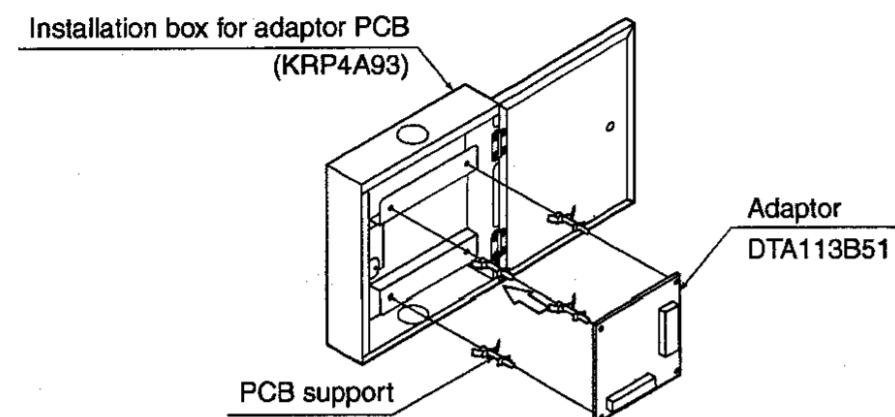
((Ceiling-mounted built-in type))



((Ceiling-mounted duct type))



[FXA(Q)]



5 ELECTRIC WIRING (Professional Multiple Use)

The contact is constant contact. The output conditions are level reading.

- When the forced operation contact is closed, all stopped units are continuously instructed to operate.
- When the forced stop contact is closed, all operating units are continuously instructed to stop.
- Once the forced stop contact is closed, all indoor units which are stopped at that time are instructed to operate, so even if the forced stop contact is closed immediately after, the indoor units will operate for a moment and then stop. (This is the same as with remote controller operation.)

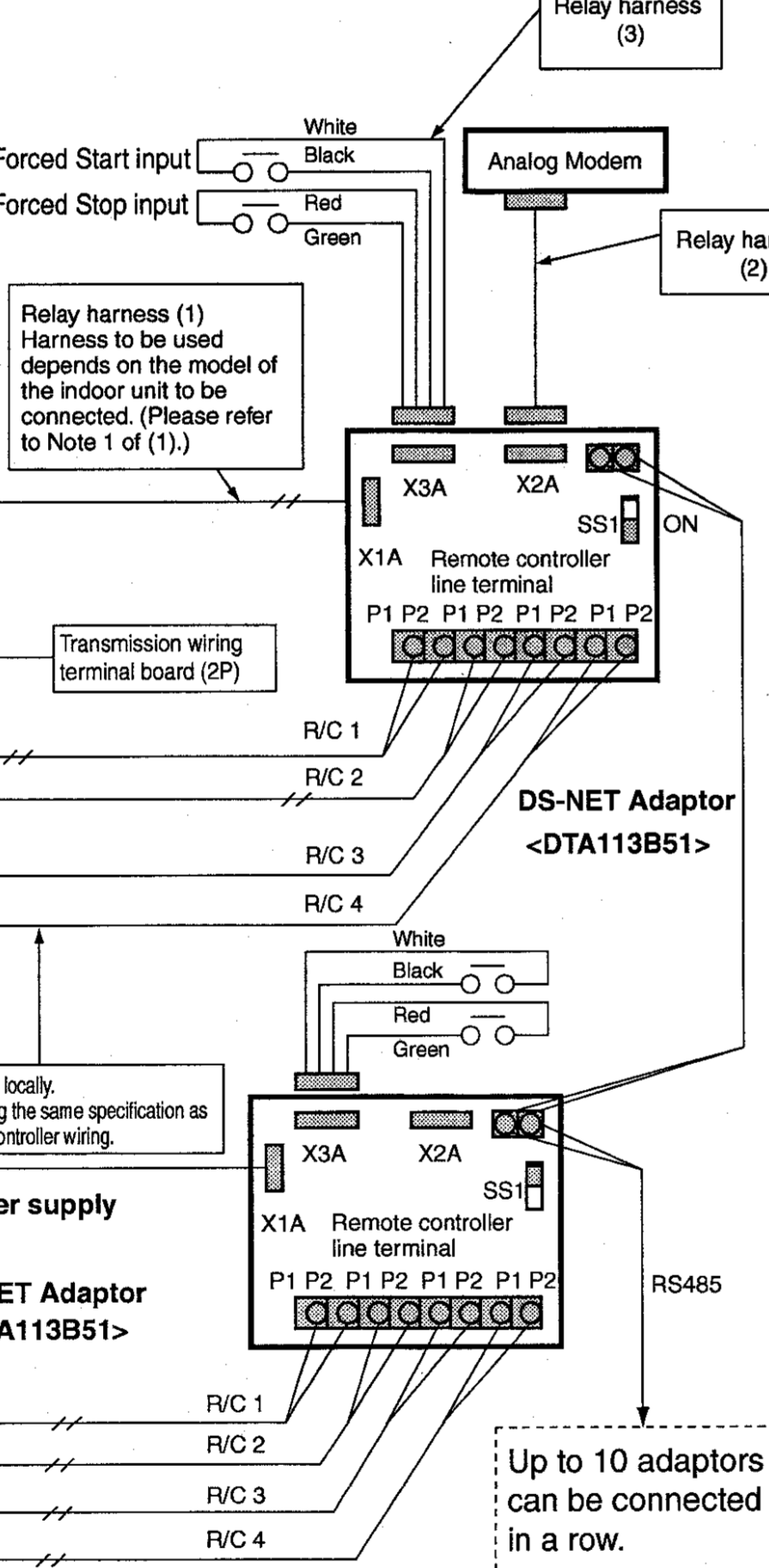
The contact is to be purchased locally.

The current applied when the contact is ON is approx. DC16V, 10mA.

Input is via momentary A-contact.

Minimum 1 second is required for turning ON.

Please don't clamp with high voltage cable.



Electrical wiring
Procured on-site sheathed vinyl cord
(VCTF 0.2 mm² or 0.3 mm²)

- Turn on only two adaptors SS1 (terminating resistor), the first and the last, of the group of adaptors connected to RS485.
- Set the address of the adaptor(s) according to the table of 6. ABOUT SETTING.
- Once the DS-NET adaptor is connected with a modem cable it becomes the master basic circuit board.
- Set the adaptor address of the master basic circuit board to 0.
- Set each adaptor address of slave basic circuit boards to 1 up to 10 (max), in order.
- If the adaptor address of slave basic circuit boards are not set, all the basic circuit boards will be considered master and communication will not be possible. Be sure to set the adaptor address of slave basic circuit boards.
- If the adaptor address of slave basic circuit boards are not set on different numbers, different adaptors will have same number therefore communication will not be possible.

6 ABOUT SETTING

Before using the adaptor in Personal Home Use, it is necessary to use the remote controller's service function to set the operation modes. The settings are made using button switch BS1 on the adaptor and the remote controller connected to the indoor unit in which the adaptor has been installed.

Backup Control

This function starts up the air-conditioner to maintain the number of units which were operating before a power outage, if the operating air-conditioner stops because of a power outage or an error (not including warning or precaution alarms). The air-conditioners which were started up are stopped once those air-conditioners which stopped due to the error are restored.

Even if the error alert condition is set to include warning and precaution alarms (Error Report set value 3 or 4) and an alert is generated by a warning or precaution alarm, the backup function will not be used. The error alert condition does not affect the automatic backup operation function.

Automatic Alternating Operation Control

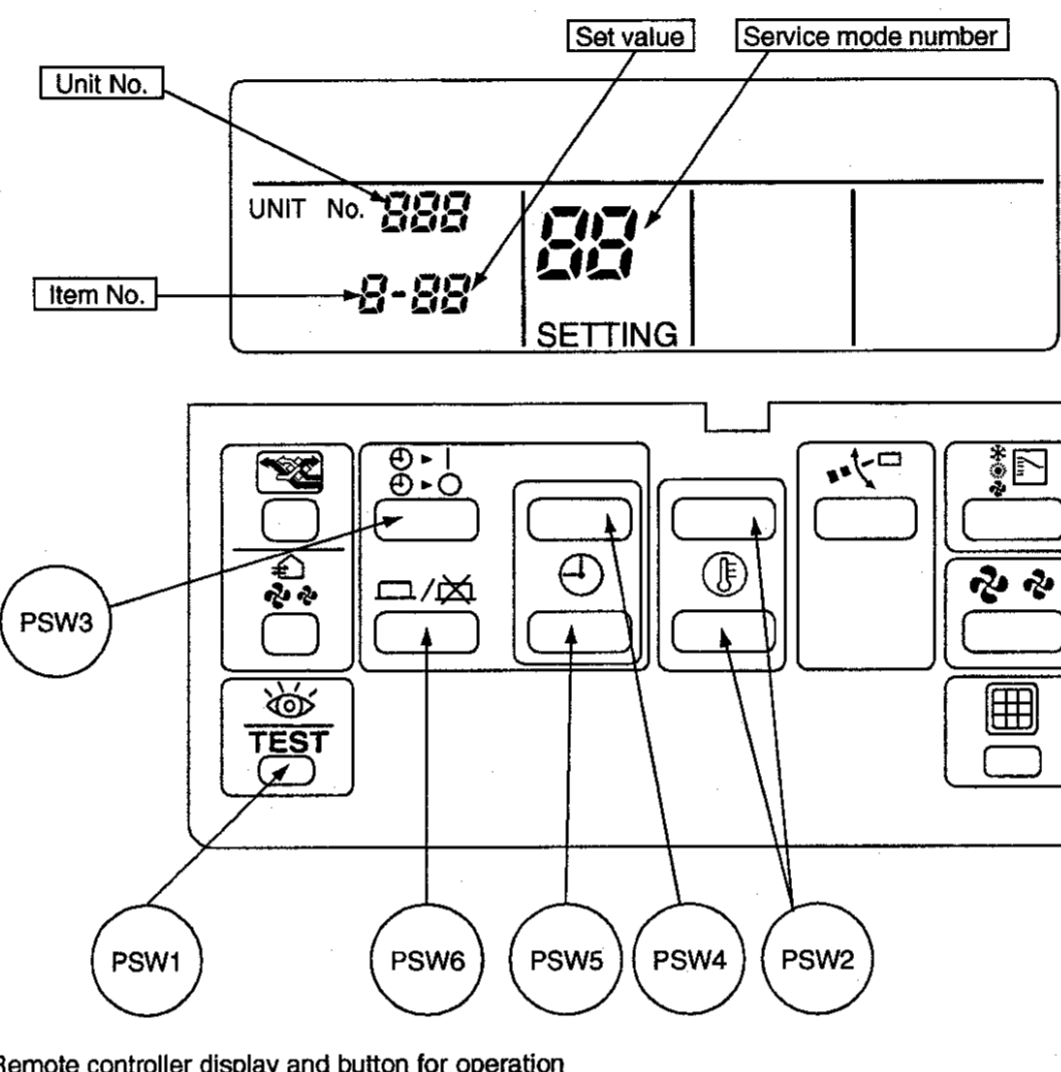
This function turns air-conditioners on and off for at certain set intervals in order to average out the operating times of each air-conditioner. The operation pattern is determined by the number of air-conditioners connected and the minimum number of guaranteed operating units. The minimum number of guaranteed operating units can be set to between 1 and 3 when in automatic alternating operation.

Sequential Start Control

This function prevents an excess of startup current when starting up all air conditioners simultaneously using batch operation of the air conditioners. Sequential start control is not available when a GSM modem is connected.

The sequential start function is only valid when instructed by a command from the monitor PC. Turning this function on for Personal Home Use is meaningless.

- Turn on only two adaptors SS1 (terminating resistor), the first and the last, of the group of adaptors connected to RS485.
- Set the address of the adaptor(s) according to the table of 6. ABOUT SETTING.
- Once the DS-NET adaptor is connected with a modem cable it becomes the master basic circuit board.
- Set the adaptor address of the master basic circuit board to 0.
- Set each adaptor address of slave basic circuit boards to 1 up to 10 (max), in order.
- If the adaptor address of slave basic circuit boards are not set, all the basic circuit boards will be considered master and communication will not be possible. Be sure to set the adaptor address of slave basic circuit boards.
- If the adaptor address of slave basic circuit boards are not set on different numbers, different adaptors will have same number therefore communication will not be possible.



| Procedures for setting | Remote controller display |
|---|---------------------------|
| 1. Pressing BS1 on the adaptor makes it possible to make the settings using the remote controller function and causes H1P (Red) on the adaptor to flash. | |
| 2. After completing Step 1., the remote controller display will show "88" after around a minute. After completing Step 1., the remote controller display will return to normal after around 75 seconds. | |
| 3. Pressing PSW1 (TEST) for 4 seconds in a row causes the remote controller to display the service functions. The service mode number in the right Fig (1) becomes "01". Here, we can carry out the setting of service mode number 20 and 21 by means of setting procedure 4. | |
| 4. In this display, you can operate PSW2 to PSW6 and settings No. 1 through 11 shown in the following Table. (When this happens, the unit no. may not be displayed due to the service mode number.) | |
| 1) By operating PSW2, select either "Service mode number" 20 or 21. | |
| 2) By operating PSW3, set the "Unit number" to 15. (Right Fig (2)) | |
| 3) By operating PSW4, select to "Item No." (Right Fig (3)) | |
| 4) By operating PSW5, select "1" or "2". (Right Fig (4)) | |
| 5) Finally, press PSW5 and fix the set value. | |
| 5. Pressing PSW1 (TEST) for 4 seconds in a row causes the remote controller to display service mode number 40. Further, if PSW1 (TEST) is pressed for 4 seconds in a row again, service mode number 50 is displayed. | |
| 6. In the remote controller's service function display, you can operate PSW2 to PSW6 and settings 12 through 15 shown in the following Table. | |
| 1) By operating PSW3, set the "Unit number" to 15. (Right Fig (2)) | |
| 2) By operating PSW4, select to "Item No." (Right Fig (3)) | |
| 3) By operating PSW5, select "1" or "2". (Right Fig (4)) | |
| 4) Finally, press PSW5 and fix the set value. | |
| 7. Pressing PSW1 (TEST) again returns the remote controller service function display to return to normal | |
| 8. After performing Step 7., press SW1 on the adaptor to turn off the remote controller service function. This causes H1P to turn off. However, if service number 20 has been changed, H1P does not go off and instead doubles the flash speed. | |
| 9. After completing Step 8., the remote controller display will show "88" after around a minute. If, after service number 20 has been changed, H1P flash cycle speed has doubled, H1P will go off. After completing Step 8., the remote controller display will return to normal after around 75 seconds. | |

| No. | Setting Items | Service Mode No. | Item No. | Set value | Unit No. | Remarks |
|-----|--|------------------|----------|---|----------|---|
| 1 | RS-232 Port Function | | 0 | 3: Upper unit present (analog modem) | | |
| 2 | Automatic Reception | 20 | 6 | 1: No *2: Present | | *2: Present The RS-232 port function is only enabled when "3: Upper unit present (analog modem)" is true. |
| 3 | Backup Control | | 0 | 1: No *2: Present | | |
| 4 | Sequential Start Control | 21 | 2 | 1: No *2: Present | | |
| 5 | Minimum Guaranteed Units for Operation | | 3 | Minimum guaranteed units during automatic alternation operation. | | Setting range: 1, 2, and 3 *: 1 |
| 6 | Regular Report | | 0 | *1: No 2: Present | | |
| 7 | Filter Sign Report | | 1 | *1: No 2: Present | | |
| 8 | Communications Error Report | | 2 | *1: No 2: Present | | |
| 9 | Additional Connection Error Report | | 3 | *1: No 2: Present | 15 | |
| 10 | Operation Status Change Report | | 4 | *1: No 2: Present | | |
| 11 | Error Report | | 5 | *1: No 2: Only an error 3: Error and warning 4: Error, warning, and precaution | | |
| 12 | Automatic Alternation Operation Time | | 0 | Automatic Alternation Operation Time (H): the tens place | | Setting range: 00 to 99 (H) 00H: No automatic alternation operation function *: 00H |
| | | | 1 | Automatic Alternation Operation Time (H): the one place | | |
| | | | 2 | Regular Report Time Time (H) - No. 10 | | Setting range: 00:00 to 23:59 *: 02:00 |
| | | | 3 | Regular Report Time Time (H) - No. 1 | | Note: the time setting value becomes 02:00 when in error. Example 25:00, 10:85, etc. |
| | | | 4 | Regular Report Time Time (M) - No. 10 | | |
| | | | 5 | Regular Report Time Time (M) - No. 1 | | |
| | | | 6 | (Reservation) | | |
| | | | 7 | (Reservation) | | |
| 13 | Regular Report Time | 50 | | | | |
| 14 | (Reservation) | | | | | |
| 15 | Adaptor address | | 8 | Upper 4 bits of the address (Set in 0 to 1) | | Setting range: 0, 1, 2, ... 31 (0 is necessary) *: 0. Note: The adaptors cannot be set outside the range of 1 to 31. The setting is set to 0 when a value outside this range is set. |
| | | | 9 | Lower 4 bits of the address (Set in 0 to 15) | | |

Bold heading should be necessary. *: Factory settings

| Adaptor address | Upper 4 bits | Lower 4 bits | Adaptor address | Upper 4 bits | Lower 4 bits |
|-----------------|--------------|--------------|-----------------|--------------|--------------|
| 0 | | 0 | 16 | | 0 |
| 1 | | 1 | 17 | | 1 |
| 2 | | 2 | 18 | | 2 |
| 3 | | 3 | 19 | | 3 |
| 4 | | 4 | 20 | | 4 |
| 5 | | 5 | 21 | | 5 |
| 6 | | 6 | 22 | | 6 |
| 7 | | 7 | 23 | | 7 |
| 8 | | 8 | 24 | | 8 |
| 9 | | 9 | 25 | | 9 |
| 10 | | 10 | 26 | | 10 |
| 11 | | 11 | 27 | | 11 |
| 12 | | 12 | 28 | | 12 |
| 13 | | 13 | 29 | | 13 |
| 14 | | 14 | 30 | | 14 |
| 15 | | 15 | 31 | | 15 |