

1P351712-1B

DIII-NET/Modbus Communication adaptor Installation Manual

DTA116A51

Also see installation manual attached to equipment you connect.
Please read these "SAFETY PRECAUTIONS" carefully before installing
option adaptor and be sure to install it correctly.

- They both contain important information regarding safety. Be sure to observe all precautions without fail.

⚠ WARNING

Failure to follow these instructions properly may result in personal injury or loss of life.

⚠ CAUTION

Failure to observe these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- After completing installation, conduct a trial operation to check for faults.
Ask the customer to store the installation manual.

⚠ WARNING

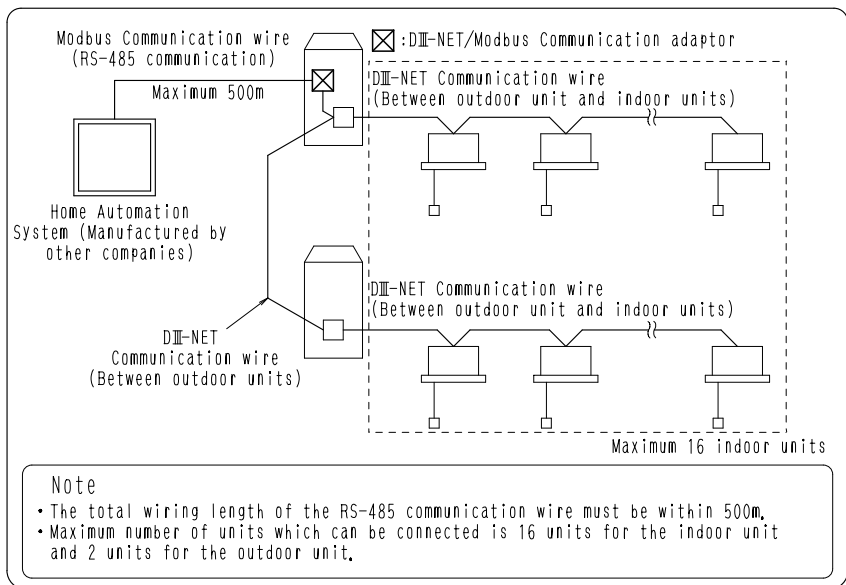
- Ask your dealer or other qualified personnel to carry out installation work
Do not attempt to install the unit yourself. Improper installation may result in an electric shock or fire.
- Do not relocate or reinstall the unit yourself
Improper installation work may result in an electric shock or fire.
Ask your local dealer to carry out relocation and reinstallation of the unit.
- Install the unit in accordance with the instructions in this installation manual
Improper installation may result in an electric shock or fire.
- Be sure to use only the specified accessories and parts for installation work
Failure to use the specified parts may result in the unit falling, an electric shock, or fire.
- Always perform installation work with the power supply shut off
Touching energized electric parts causes an electric shock.
- Do not disassemble, modify or repair the unit
An electric shock or fire may be caused.
- Make sure that all wiring is secured, that the specified wires are used, and that there is no strain on the terminal connections or wires
Improper connection or securing of wires may result in abnormal heat build-up or fire.
- The choice of materials and installations must comply with the applicable national and international standards
- 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 an electric shock or fire.
- When wiring the power supply and connecting the 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 an abnormal heat buildup, an electric shock, or fire.

⚠ CAUTION

- Be very careful about product transportation
- Safely dispose of the packing materials
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.
- In a domestic environment, this product may cause radio interference
In such case, the user may be required to take adequate measures.
- Disposal requirements Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation
- Fill the wiring through hole with putty
Entry of water or insects may result in electric leakage or malfunction.
- Do not operate with wet hands
An electric shock and malfunction may be caused.
- Do not wash this unit with water
An electric shock or fire may be caused.

1 System Outline

This adaptor is an interface which is required to monitor and control the indoor unit from the Home Automation System manufactured by the other companies. It can stop the indoor unit operation, monitor and control the operation mode, preset temperature, air flow rate and direction via Modbus communication. It can also carry out emergency supervisory, monitor and reset the filter sign.



2 Accessories

The following items are packed.

| Name | ① DIII-NET/Modbus Communication adaptor |
|-------------|---|
| Form | |
| No. of pcs. | 1 |

| Name | Accessories bag (TypeA) | Accessories bag (TypeB) | Installation Manual |
|-------------|-------------------------|-------------------------|---------------------|
| No. of pcs. | 1 | 1 | 1 |

Accessories bags use either TypeA or TypeB.
This is determined by the outdoor unit series.

Contents of accessories bag

● TypeA

Application model of outdoor unit

| Series | Model name |
|--------|---|
| VRVⅢ-S | RXYMQ-PVE, RXYMQ-PV4A, RXYMQ-PVET, RXMQ-PVE |

| Name | ② Wire of power supply (White/Black) | ③ Wire of DIII-NET Communication (Orange/Yellow) | ④ Clamp material |
|-------------|--------------------------------------|--|------------------|
| No. of pcs. | 1 set | | 1 |

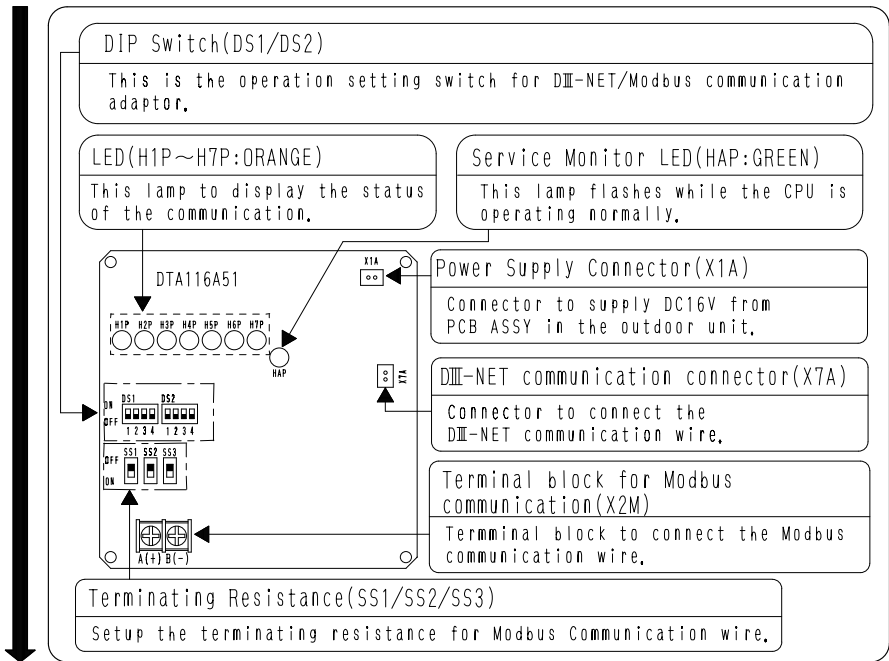
● TypeB

Application model of outdoor unit

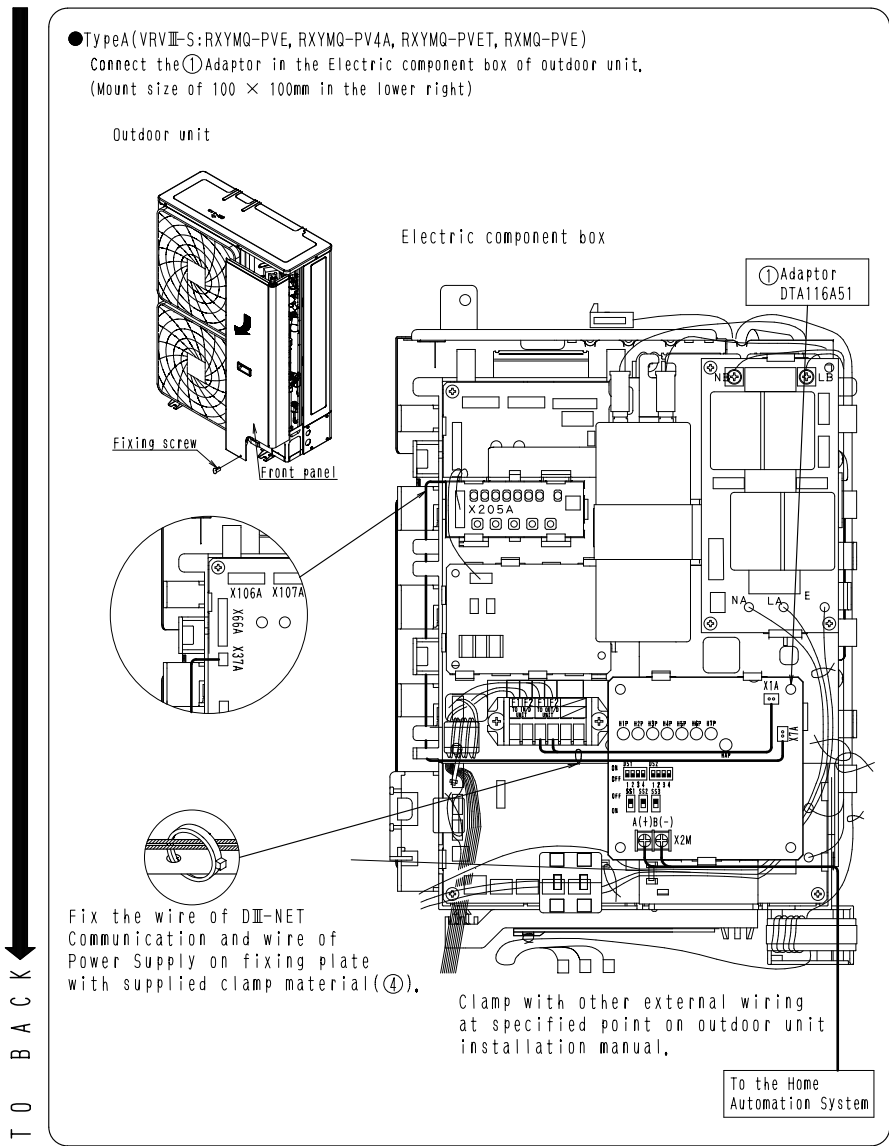
| Series | Model name |
|--------|--|
| VRVⅢ | RXYQ-PAY1(E), RXYQ-PAYC(E), RXYQ-PAYL(E), RXYQ-PTL(E) RXYQ-PYLT, RXYQ-PTLT, RHXYQ-SYL, RXQ-PAY1 |
| VRVⅢ-Q | RQCEQ-PY1 |

| Name | ⑤ Wire of power supply (White/Black) | ⑥ Wire of DIII-NET Communication (Orange/Yellow) | ⑦ PCB Support | ⑧ Clamp material | ⑨ Wire clip |
|-------------|--------------------------------------|--|---------------|------------------|-------------|
| No. of pcs. | 1 | 1 | 4 | 1 | 3 |

3 Parts name and function



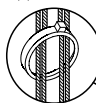
4 Mounting Method



T O B A C K

- TypeB(VRVIII:RXVQ-PAY1(E), RXVQ-PAYC(E), RXVQ-PAYL(E), RXVQ-PTL(E), RXVQ-PYLT, RXVQ-PTLT, RHXYQ-SYL, RXQ-PAY1)
(VRVIII-Q:RQCEQ-PY1)
- Connect the ①Adaptor with the ⑦PCB support in the Electric component box of outdoor unit, (Mounting holes of 90 × 90mm in the upper left)

Electric component box



Fix the wire of DIII-NET Communication, RS-485 Communication wire to other wirings with clamp material.

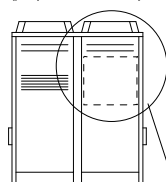
Attached supplied Wire clip(⑨) and fix the wire of DIII-NET Communication, RS-485 Communication wire and wire of power supply.

① Adaptor
DTA116A51

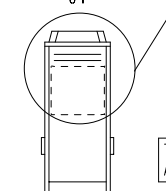


(*)Some outdoor unit do not contain circuit board "A7P"

Outdoor unit



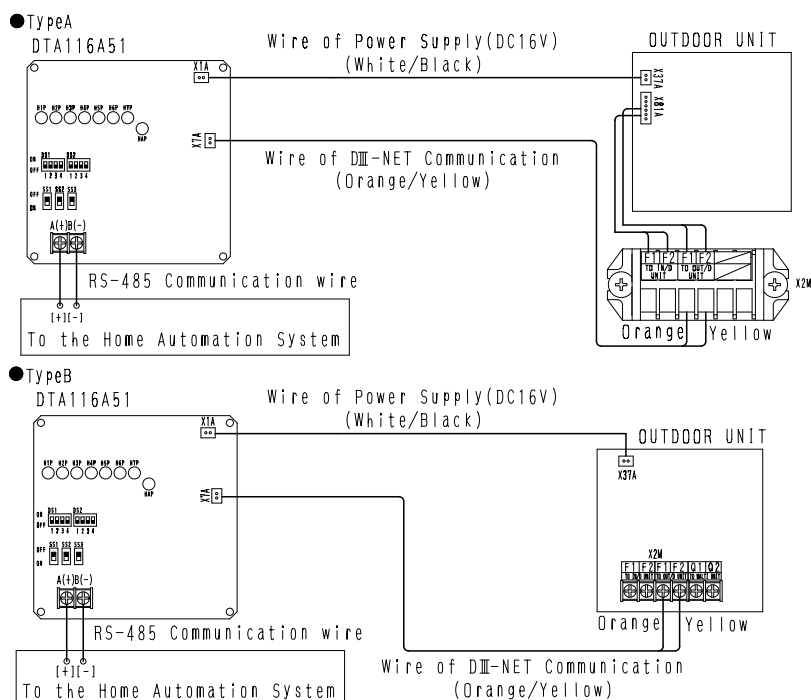
Or



To the Home Automation System

Clamp with other external wiring at specified point on outdoor unit installation manual.

5 Electric Wiring



- (1) Power Supply wiring (TypeA/TypeB common)
Connect between this adaptor connector(X1A) and outdoor unit circuit board connector(X37A) with ② or ⑤ wire of power supply.
- (2) DIII-NET Communication wiring(DIII-NET)
Connect with ③ or ⑥ wire of DIII-NET Communication. Connecting work changes with the model of outdoor unit.
(TypeA) Connect between this adaptor connector(X7A) and terminal for communication (F1/F2 of "TO OUT/D UNIT") with ③ wire of DIII-NET Communication.
(TypeB) Connect between this adaptor connector(X7A) and outdoor unit circuit board terminal (F1/F2 of "TO OUT/D UNIT") with ⑥ wire of DIII-NET Communication.
- (3) Modbus Communication wiring(Modbus:RS-485) (TypeA/TypeB common, Local procurement parts)
Connect between this adaptor Modbus Communication Terminal(X2M) and Home Automation System Terminal.
Connect between this adaptor A[+]connector and Home Automation System Terminal +connector, B[-]connector and Home Automation System Terminal -connector.
In case of using shielding wire, do not earth with outdoor unit.
Please earth with connecting device.

See ④ Mounting Method to know the wiring route.

Note

- Wire Specification of Modbus transmitting
Use the wire thickness $0.75\text{mm}^2 \sim 1.25\text{mm}^2$.
- Maximum wire length between this adaptor and Home Automation System is 500m. Over length of wire causes then transmission error.
Make sure to the length of wire.
- Modbus transmission wiring has polarity. Be sure to connect after checking the polarity of wire.

⑥ Field Configuration

(1) DIP Switch(DS1/DS2)

- DS1:Modbus communication setting
Matching with your Home Automation System, setup in accordance with the table below.

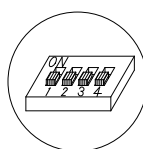
| No. | Item | OFF | ON |
|-----|---------------------|---------|----------|
| 1 | Unused(Note1) | - | - |
| 2 | Communication speed | 9600bps | 19200bps |
| 3 | Stop Bit | 1 | 2 |
| 4 | Parity Check | Even | Odd |

:Factory default

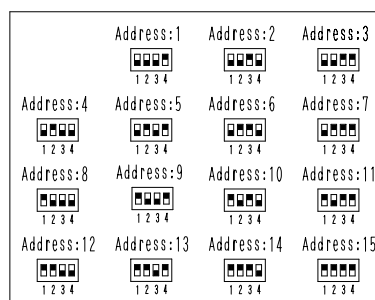
(Note1) DS1-1 is not used.
Please do not change.

• DS2:Address setting

Set the address of this adaptor in accordance with the Fig. on the right.



Factory default
Address : 0

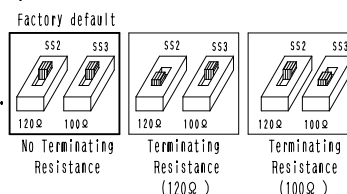


At Address:0 setting, monitoring and control can not be carried out from the Home Automation System since Modbus communication can not be performed.

(2) Terminating Resistance(SS1/SS2/SS3)

Setup the terminating resistance in accordance with the Fig. on the right.

(Note2) SS1 is not used.
Please do not change.



(3) Group Address setting

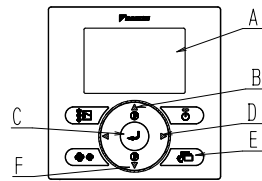
Note

- All indoor units be powered on before setting the DIII-NET address.
- The DIII-NET address needs to be unique between every indoor unit.

To use this adaptor, set the DIII-NET address on each indoor unit.
Operation changes with the remote controllers to be used.

After all electrical wiring works, and all indoor/outdoor unit are powered on, set the DIII-NET address.

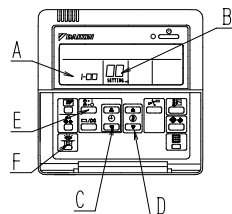
• Case of Navigation Remote Controller



- A Display
- B Up button
- C Menu/Enter button
- D Right button
- E Cancel button
- F Down button

1. Press and hold the Cancel button (E) for 4 seconds or more.
The "Filed setting" menu is displayed.
2. Using the Up button(B) and Down button(F), select "Group No. setting" and press the Menu/Enter button(C) .
The "Group No. setting" menu is displayed.
3. Using the Up button(B) and Down button(F), select "Group No. setting(Group)" and press the Menu/Enter button(C) .
The current address setting is displayed.
4. Press the Menu/Enter button(C) to release the current address setting. The mode indication changes from "Setting to Release" .
You are now ready to change the DIII-NET address.
5. Using the Up button(B) and Down button(F), select the address you want to set.
6. Press the Menu/Enter button(C).
The DIII-NET address has been set.
7. Press the Cancel button (A) three times.
You are now brought back to normal mode.

• Case of Wired Remote Controller



- A Address display area
- B Parameter number display area
- C Programming time buttons
- D Temperature setting buttons
- E Timer ON/OFF button
- F Inspection/Test operation button

1. Press and hold the Inspection/Test Operation button (F) for 4 seconds or more. "SETTING" appears in the center of remote controller display(B).
2. Using the Temperature Setting buttons (D), change the value shown in the parameter number display area (B) to "00". In the address display area (A), the current address setting is displayed. (This area will show "?" if no address is set.)
3. Press the Timer ON/OFF button (E) to make the "GROUP" indicator blink.
You are now ready to change the DIII-NET address.
4. Using the Programming time buttons (C), select the address you want to set.
5. Press the Timer ON/OFF button (E) to make the "GROUP" indicator stay lit.
The DIII-NET address has been set.
6. Press the Inspection/Test Operation button (F).
You are now brought back to normal mode.

■ TRADEMARK

Modbus is a registered trademark of Schneider Electric S.A.