

DR CONTROL BOX

Installation Instructions for MIDEA FMVDR series

Before you start

- Read and understand this manual before operating this equipment. The manual should be kept for future reference along with the product supplied. Improper installation or handling will cause leakage, electric shock, or fire.
- DR control box is only to be installed by a qualified person who is familiar with the installation, construction, operation or maintenance of the equipment and the hazards involved. In addition this person is competent, trained and authorized to undertake the work involved in accordance with established safety and working procedures.
- Do not turn on the power before all work has been completed. Otherwise it may cause serious accidents such as electric shock or fire.

1. FEATURE

This product is designed to be compatible with an air conditioning demand response program. The DR control box connected with your air conditioner and the Demand Control Signal Receiver (DCSR) which is field supplied needs to be installed in your air conditioning system. A separate arrangement with the energy provider to access the Demand Response feature must be made.

The power consumption of the compressor will be reduced after receipt of the signal from the energy provider if the DR control box is fitted to the pre configured air conditioner.

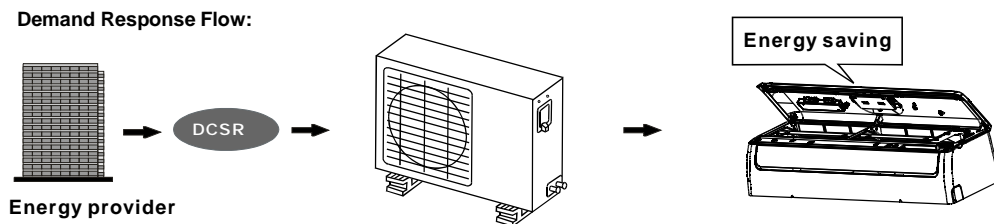


Fig.1

2. FUNCTIONS

- During the operation of the unit, if the DR control box receives the signals via the mains input from the DCSR, it will send signals of DR1, DR2 or DR3 to the indoor unit. The indoor unit display area will display d1, d2 or d3. The DR information (including DR malfunction) cannot be displayed when the unit is off or under abnormal condition, self clean operation, or LED display feature is activated.

DR mode	Description of operation in this mode
DR mode 1	Compressor off.
DR mode 2	The air conditioner continues to cool or heat during the Demand Response event, but the electrical energy consumed by the air conditioner in a half hour period is not more than 50% of the total electrical energy that would be consumed if operating at the rated capacity in a half hour period.
DR mode 3	The air conditioner continues to cool or heat during the Demand Response event, but the electrical energy consumed by the air conditioner in a half hour period is not more than 75% of the total electrical energy that would be consumed if operating at the rated capacity in a half hour period.

- When a DR signal input malfunction occurs, the display area of indoor unit will display "dE" and the unit will operate without DR mode.
- Initiating a forced cool operation under DR mode, or going into DR mode under forced cool operation are both valid. Whilst in DR mode and operation on forced cool mode for half an hour, the unit will go into Auto mode with a SET temperature of 24°C.
- DR mode is not valid under Self Clean operation but activating Self Clean feature using the remote controller is valid whilst in DR mode.
- When the unit goes into a DR mode, it performs moderate operation though the cooling or heating effect may be reduced.

NOTE : The DR control box is specially designed with ON/OFF function and Switch function controlled externally. Multiple units can be controlled simultaneously. A magnetic ring should be used if the connective cable is too long. Maximum length of the connective cable is not to exceed 100 meters from the external control switch to the end wire.

ON/OFF function: When the external control switch is opened, the indoor unit will go into Auto mode with the setting temperature of 24 C. When the external control switch is closed, the indoor unit turns off automatically. The remote controller is enabled regardless of ON or OFF state of the indoor unit. No prioritized operation between the remote controller and the external control switch

SWITCH function: The interfaces of SWITCH 1 and SWITCH 2 have been connected by placing a jumper cap on CN42 position (see wiring diagram on next page) in the factory. If connecting to the external control switch, make sure to remove the jumper cap on CN42 first. When the external control switch is closed, the indoor unit is adjustable and the remote controller is enabled. When the external control switch is opened, the indoor unit is forced shutdown, the display area of indoor unit will display "CP" and the remote controller is disabled.

3. Accessories (packed with outdoor unit)

DR Connective wire A	Connecting the indoor unit & outdoor unit (Length: 9m)
DR Connective wire B	Connection to DR terminal board of outdoor unit (Length: 250mm)

IMPORTANT:

During connection, no wires should be allowed to touch refrigerant tubing, the compressor or any high voltage parts. DR connective wires A & B should be fixed with band to ensure they are firmly connected.

4. WIRE CONNECTION OF INDOOR UNIT AND OUTDOOR UNIT

WARNING: Before performing any electrical work, unplug the unit and turn off the main power to the system

1. The DR control box has been installed and connected with the indoor unit as shown in Fig.2.



Fig.2

2. Remove cover of the electrical control box of indoor unit by loosening the screw. Inside there is a connector which can be connected with the DR connective wire A(9m) , as shown in Fig.3.

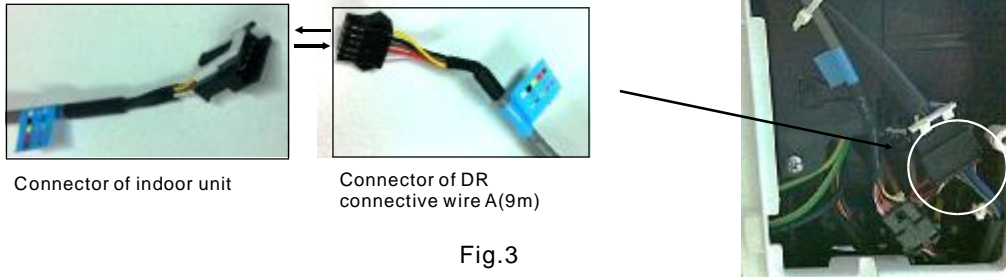


Fig.3

3. The outdoor DR board is installed at the back of the right-side plate of outdoor unit, fixed by two screws as shown in Fig. 4 (the DR board is installed on the plate horizontally or vertically (model dependent)). First remove the top cover and then take down the DR board by loosening the screws from outside of the outdoor unit. Using the DR connective wire B(250mm), connect to the DR board with the DR connective cable A(9m). Then connect the DR board with DCSR as shown in Fig.5. After connection, reinstall the DR board on the right-side plate with the original two screws.

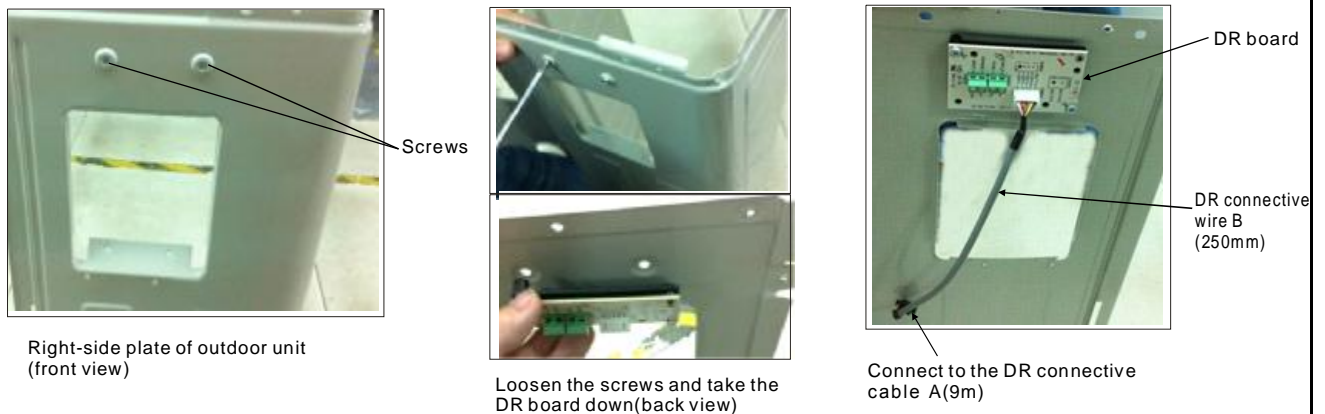


Fig.4

4. Wiring diagram of indoor unit and outdoor unit, Fig5. For more details, please refer to the Installer's Manual of the Demand Control Signal Receiver supplied by Electric Power Company..

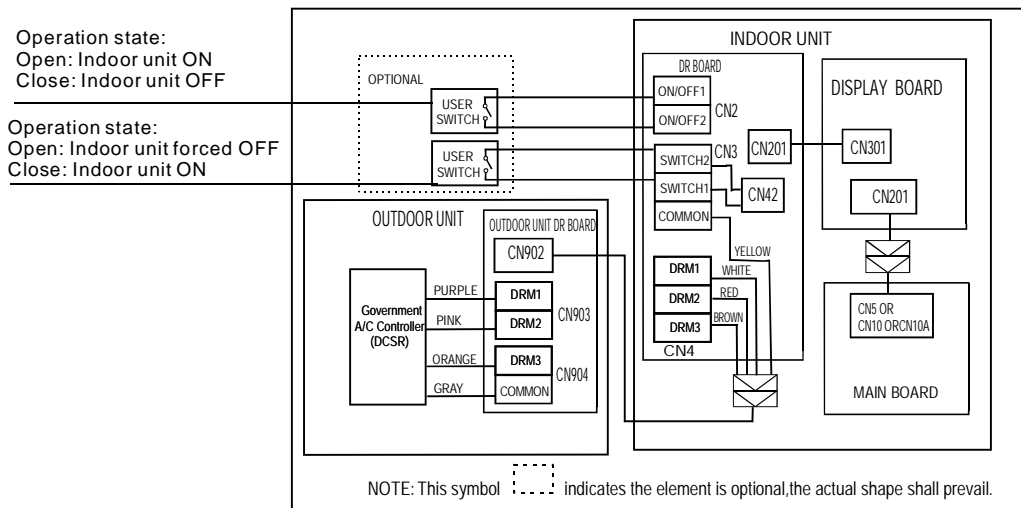


Fig.5

DR CONTROL BOX

Installation Instructions for MIDEA DMORCDR, MIS splits & MM series Multi's

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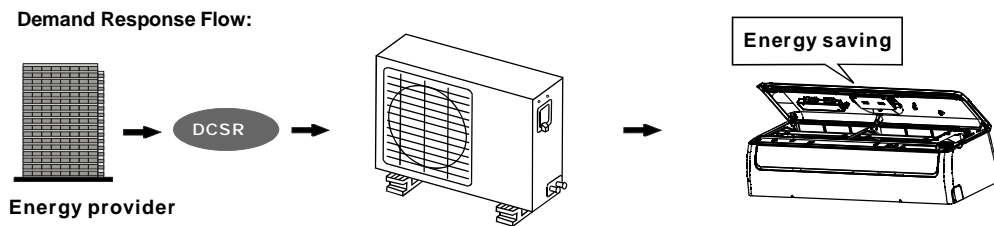


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3. WIRE CONNECTION TO DR BOARD

WARNING: Before performing any electrical work, unplug the unit and turn off the main power to the system. During connection, no wire should be allowed to touch refrigerant tubing, the compressor or any high voltage parts.

1. Remove the top panel and shield panel from the outdoor unit.
2. Connect the DR board to the Demand Control Signal Receiver(DCSR) which is field supplied, according to the colour of the wires.
3. Please see the wiring diagrams as shown below. For more details, please refer to the Installer's Manual of the Demand Control Signal Receiver supplied by Electric Power Company..

Model A

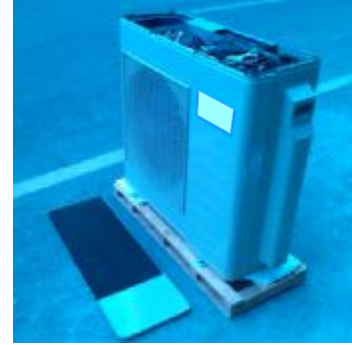


1. First remove the top panel.

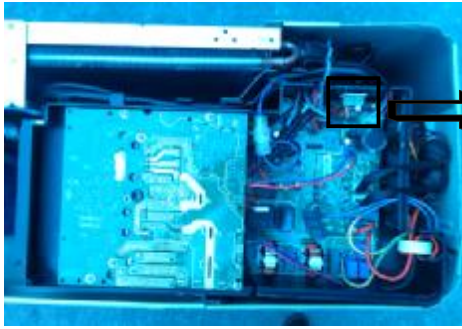


2. Then remove the shield panel to find the DR board.

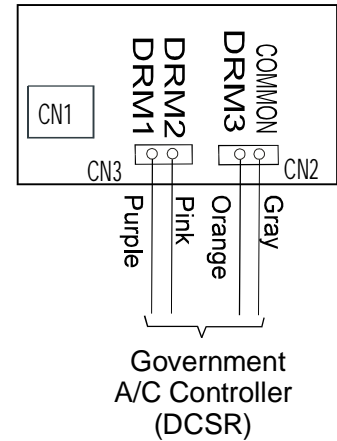
Model B



For some models, to connect the DR board, just remove the top panel.



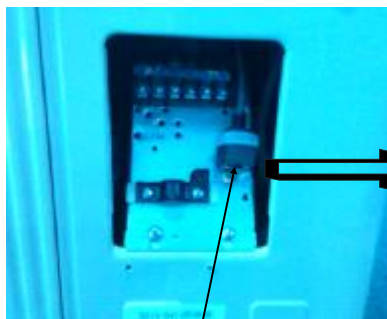
Connect the cable with DR board



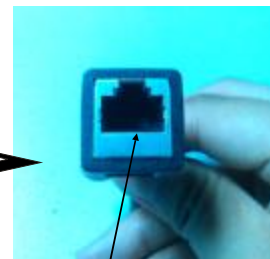
Model C



First remove handle cover.



Plug-in connector



Insert the connector all the way.