MITSUBISHI ELECTRIC

Air-Conditioners For Building Application

External Heater Adapter

PAC-SE56RA-E

Installation Manual

R-410A Series

This manual describes installation of the External Heater Adapter that connects to MR SLIM P-series R-410A air conditioner indoor unit. This product is a special wiring part used to control an electric heater by the air conditioner. For your safety, be sure to read 1 Safety Precaution described below before installing PAC-SE56RA-E.

1 Safety Precaution

- The following two symbols are used to denote dangers that may be caused by incorrect use.

⚠ **WARNING**	This symbol denotes what could lead to serious injury or death if your misuse the PAC- SE56RA-E.
⚠ **CAUTION**	This symbol denotes what could lead to a personal injury or property damage if you misuse the PAC- SE56RA-E.

- After reading this instruction manual, keep it in a place where the end user can find it anytime he or she wants it. When someone moves, repairs or uses the PAC- SE56RA-E, make sure that this manual is forwarded to the final user.

⚠ WARNING

Ask your dealer or technical representative to install the unit.
Any deficiency caused by your own installation may result in an electric shock or fire.

Ensure that installation work is done correctly following this instruction manual
Any deficiency caused by installation may result in an electric shock or fire.

Firmly connect the wiring using the specified cables.
Carefully check that the cables do not exert any forces on the terminals.
Improper wiring connections may produce heat and possibly a fire.

Never modify or repair the PAC- SE56RA-E.
Any deficiency caused by your modification or repair may result in an electric shock or fire.
Consult with your dealer about repair.

All electrical work must be performed by a licensed technician, according to local regulations and the instructions given in this manual.
Any lack of electric circuit or any deficiency caused by installation may result in an electric shock or fire.

Do not move and re-install the PAC- SE56RA-E yourself.
Any deficiency caused by installation may result in an electric shock or fire.
Ask your distributor or special vendor for moving and installation.

Stop the operation if any malfunction occurs.
If malfunction occurs (burning smell, etc.) stop the operation and turn off the power supply. Contact your dealer or technical representative. If the controller continues to operate after a malfunction occurs, this may cause damage, electric shock or fire.

Do not turn on the main power until installation has been completed.
Doing so may result in electric shock or fire.

Leave sufficient space between heater and indoor unit to allow for air movement to prevent the indoor unit from overheating.
If they are installed too closely and the indoor unit temperature exceeds 40 ˚C, malfunctions or fire may result.

Keep the heater clean to keep the indoor unit from sucking in accumulated dust on the heater.
Dust particles that enter the indoor unit may cause fire.

When air conditioner and heater are configured to perform an interlocked operation, do not use any other type of cables except this external heater adapter (PAC- SE56RA-E).
The use of any other type of cables may result in malfunctions or fire.

Do not build a heater into the indoor unit.
Doing so may result in fire.

⚠ CAUTION

Do not install in any place exposed to flammable gas leakage.
Flammable gases accumulated around the body of PAC- SE56RA-E may cause an explosion.

Do not use in any special environment.
Using in any place exposed to oil (including machine oil), steam and sulfuric gas may deteriorate the performance significantly or give damage to the component parts.

Wire so that it does not receive any tension.
Tension may cause wire breakage, heating or fire.

Do not install in any place where acidic or alkaline solution or special spray are often used.
Doing so may cause an electric shock or malfunction.

Do not install in any steamy place such a bathroom or kitchen.
Avoid any place where moisture is condensed into dew.
Doing so may cause an electric shock or malfunction.

Do not wash with water.
Doing so may cause an electric shock or malfunction.

Do not install in any place at a temperature of more than 40˚C (104˚F) or less than 0˚C (32˚F) or exposed to direct sunlight.

2 Parts list

Make sure that the following items are included in the package.

(1) External output cable (with yellow connector) ..... 1 pcs.

3 Connection to the Indoor Unit

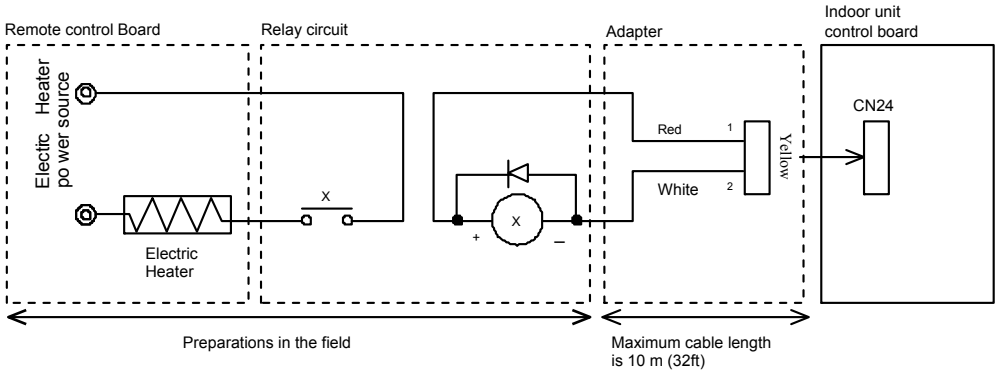
(1) external output cable (with yellow connectors)
This cable is used to connect the relay circuit that is used for an interlocked operation of indoor unit and electric heater. Connect the cable to connector **CN24** on the indoor unit control board.

4 Locally Procured Wiring

A basic connection method is shown.
(i.e. interlocked operation with the electric heater).

For relay X use the specifications given below Operation coil
Rated voltage: 12VDC
Power consumption: 0.9W or less
* Use the diode that is recommended by the relay manufacturer at both ends of the relay coil.
The length of the electrical wiring for the PAC-SE56RA-E is 2 meters (6-1/2 ft)
To extend this length, use sheathed 2-core cable.
Control cable type: CVV, CVS, CPEV or equivalent.
Cable size: 0.5 mm^2 ~1.25mm^2 (16 to 22 AWG)

Don't extend the cable more than 10 meters (32ft)



Outline of functions

The back-up heater signal is sent out according to the temperature difference between set temperature and indoor room temperature.
This function is available only in heating operation.

NOTE:
In defrost, hot adjust and power off mode the output on CN 24 will be 0VDC

	Temperature Difference (Z = set temp. – room temp.)	**CN 24 Out Put**
1	Z ≤ 0°C (°F)	0Vdc (OFF)
2	Z ≥ 0 ≤ 2.5°C (4.5°F)	maintains current out put
3	Z ≥ 2.5°C (4.5°F)	12Vdc (ON)

5 Wiring Restrictions

Keep the length of the cable connecting to the circuit board of the indoor unit shorter than 10 meters (32ft).
Longer than 10 meters (32ft) could cause improper operation.
Use a transit relay when extending wiring such as remote wiring.

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