

# mitsubishi electric



Building Air Conditioning Control System

## Remote ON/OFF Adaptor PAC-SE55RA-E

### Instruction Manual

This product is a wiring component that connects an external circuit to the indoor unit when the air conditioner is being operated by an external circuit (locally procured). Variations of the connection method with the external circuit will provide different types of operating configurations.

Example: Timer operation, remote control operation, others.

For your safety, first be sure to read "1 Safety Precautions" described below thoroughly and then install the Remote ON/OFF Adaptor PAC-SE55RA-E correctly.

## 1 Safety Precautions

- The following two symbols are used to denote dangers that may be caused by incorrect use and their degree:

|                |   |
|----------------|---|
| <b>WARNING</b> | This symbol denotes what could lead to serious injury or death if you misuse the PAC-SE55RA-E.                      |
| <b>CAUTION</b> | This symbol denotes what could lead to a personal injury or damage to your property if you misuse the PAC-SE55RA-E. |

- After reading this instruction manual, keep it in a place where the final user can see it anytime he or she wants to it. When someone moves, repairs or uses the PAC-SE55RA-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 force on the terminals.**  
Improper wiring connections may produce heat and possibly a fire.

**Never modify or repair the PAC-SE55RA-E by yourself.**  
Any deficiency caused by your modification or repair may result in an electric shock or fire. Consult with your dealer about repairs.

**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-SE55RA-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 the your dealer or technical representative immediately. 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.**  
Fail to do so may cause an electric shock or fire.

### CAUTION

**Do not install in any place exposed to flammable gas leakage.**  
Flammable gases accumulated around the body of PAC-SE55RA-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 a malfunction.

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

**Do not install in any place at a temperature of more than 40°C or less than 0°C or exposed to direct sunlight.**

## 2 Confirming the Supplied Parts

1. Check that the box contains one adaptor for remote ON/OFF adaptor (2m) in addition to this manual.
2. All parts other than the remote ON/OFF adaptor (PAC-SE55RA-E) are procured locally.
  - ① External timer : No voltage contact output timer (with separate circuits for power supply and switch).
  - ② Switch : Single pole, single action switch.

**Caution** Select a part with contacts for extremely low amperage. DC 5V or 12V is used at the contact points for the timer and switch so there is a load of only approximately 1mA. Improper switch selection could cause improper operation.

- ③ Transit relay : This is used when installing the wiring in accordance with "6. Wiring Restrictions."
- ④ Electric wire : The length of the electrical wiring for the remote ON/OFF adaptor is 2 meters.

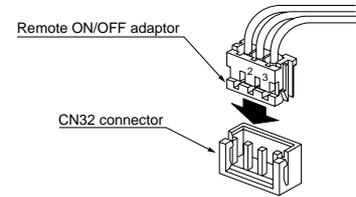
To extend this length, use sheathed vinyl cord or cable.  
Electric wire type: CVV, CVS, CPEV or equivalent.  
Wire size: 0.5 mm<sup>2</sup> to 1.25 mm<sup>2</sup>  
Keep wire extensions to within 10 meters.

Note : Please keep LVD. LVD;Low Voltage Directive (EC Directive of Europe)  
Apply some countermeasure for wiring and relay not to be touched from outside.

- ① Wiring should be covered by the insulation tube.
- ② Use relay with EU regulation.

### 3 Connecting to the Indoor Unit

1. Connect to the connector CN32 on the indoor controller board.
2. Press the connector for the remote ON/OFF adaptor into the CN32 connector.  
The connector can only be connected in one direction only. Do not force the connection.



### 4 Locally Procured Wiring

With the remote ON/OFF adaptor, variations of connection method with the locally installed circuit will provide different types of operating configurations.

Example: External timer operation, remote control operation

#### 1. Basic Connection Method

SW1 - Operating switch

Performs operation/stopping of indoor unit.

SW2 - Selecting switch

For selecting whether the operation/stopping is to be performed by external circuit or remote control.\*

\* Also includes system controller (central controller).

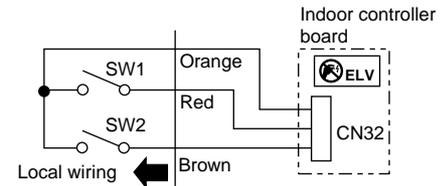
#### 2. Switch Settings (Refer to table at right for details.)

SW2 - If on.

- Operation/stopping cannot be controlled from remote controller.
- Other operations (such as temperature settings and changing fan speed) can be performed.
- Operation/stopping can be performed by SW1.

SW2 - If off.

- Operations can be performed from remote controller.
- Operation/stopping cannot be performed by SW1.

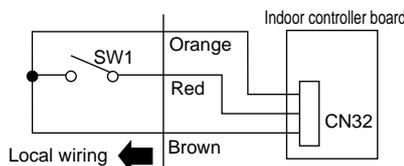


|                   |     | SW2                               |                                   |
|-------------------|-----|-----------------------------------|-----------------------------------|
|                   |     | ON                                | OFF                               |
| Remote controller | ON  | Cannot perform operation/stopping | Can perform operation/stopping    |
|                   | OFF | Operation                         | Cannot perform operation/stopping |

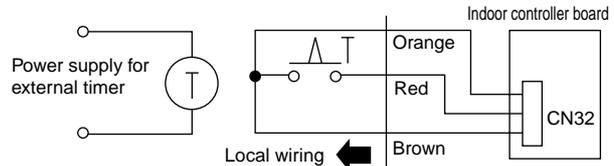
### 5 Examples of Usage

In either case, there is a 5 to 6 second delay from the time when the operating command is sent until the unit operates.

1. To perform operation/stopping by only remote operation or external timer and to prohibit operation/stopping by the remote controller, use the following circuits.

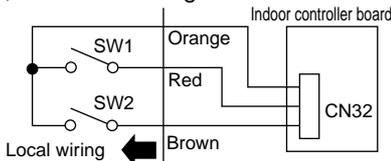


For remote operation

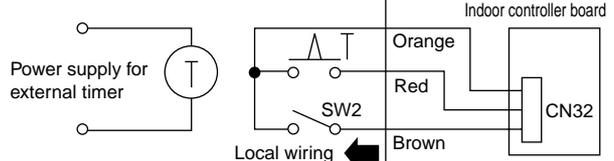


For remote timer operation

2. To perform operation/stopping by remote operation or external timer and allow operation/stopping by the remote controller, use the following circuits.

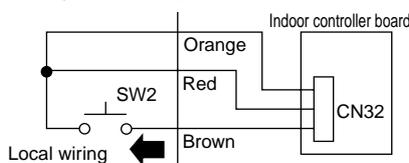


For remote operation



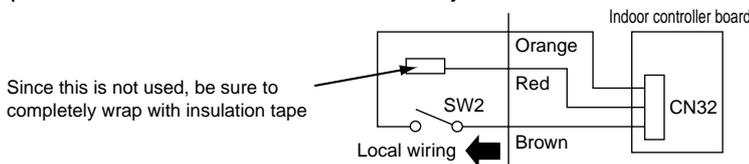
For remote timer operation

3. To start operation by remote operation and then freely use remote controller, use the following circuit.



Use a momentary switch (a switch that is turned on manually and turns off automatically) for SW2. Press SW2 (for 1 second or more) and the operation starts. After this, the remote controller can be used for operations.

4. To permit/prohibit the use of the remote controller by an external circuit.



If SW2 is on, operation cannot be performed by the remote controller.  
If SW2 is off, operation is permitted.

### 6 Wiring Restrictions

Keep the length of wire from the circuit board of the indoor unit within 10 meters. Excessive length could cause improper operation.

Use a transit relay when extending wiring such as remote wiring.

