TOSHIBA Carrier

Installation Manual

Model:TCB-PCMO4UL

# External master ON/OFF control board

## Precautions for safety

- Read these “Precautions for Safety” carefully before installation work.
- The precautions described below include important items regarding safety. Observe them without fail. Understand the following details (indications and symbols) before reading the body text, and follow the instructions.

The meanings of indications

| | |
|---|---|
| ⚠ WARNING | Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm or loss of life if the product is handled improperly. |
| ⚠ CAUTION | Text set off in this manner indicates that failure to adhere to the directions in the caution could result in serious bodily injury or damage to property if the product is handled improperly. |

- After completion of installation, perform test run to check for any problems. Explain method of use and maintenance to the customer by following the descriptions in the manual. Ask customer to keep this Manual at accessible place for future reference.

### ⚠WARNING

- Only a qualified installer or qualified service person is allowed to do installation work.
  If installation is carried out by an unqualified individual, fire or electric shock may result.
- Perform installation work reliably according to this installation manual.
  Incomplete installation may cause electric shock, fire or abnormal operation.
- Electrical work must be performed by a qualified installer or qualified service person in accordance with this installation manual. The work must satisfy all local, national and international regulations.
  Inappropriate work may result in electric shock or fire.
- Connect the specified wires firmly and clamp them securely so that external force applied to the wires does not affect the connector pins.
  Improper wire connection or clamping may result in fire or malfunction.
- Do not disassemble, modify, repair or move the product yourself.
  Doing so may cause fire, electric shock, injury or water leaks.
- Ask a qualified installer or qualified service person to do any repairs or to move the product.

## *1* External view

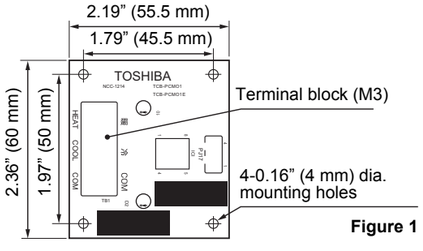



Figure 1

## *2* Accessories

Table 1

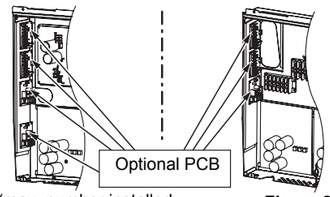
| No. | Part Name | | Qty |
|---|---|---|---|
| 1 | Connection cable |  | 1 |
| 2 | Support to fix the board |  | 4 |
| 3 | Earth screw |  | 2 |
| 4 | Binding band A |  | 4 |

## *3* Installation procedures

(1) Before proceed an installation work, please make sure the power supply is OFF.
(2) Insert four fixing supports (2) into the holes on the “Optional PCB”. (See Figure 1)
(3) Attach the “Optional PCB” on the designated location in the electrical component box of the header outdoor unit. (See Figure 2)
(4) Use the attached connection cable (1) and connect the connector (PJ17) on the “Optional PCB” to the connector (CN512 or CN508 or CN510 or CN509) on the “Interface PCB”. (See Figure 3)
(5) Use the binding band (4) to tie and adjust a cable length.

**[PCB Installation Position]**

SMMS-i, SMMS-e
MMY-MAP072
MMY-MAP096,114, 120, 144, 168
SHRM-i, SHRM-e
MMY-MAP072
MMY-MAP096,120, 144, 168




(max. number installed:
072: 4 pcs
096, 114, 120, 144, 168: 3 pcs)

Figure 2

Connector Positions

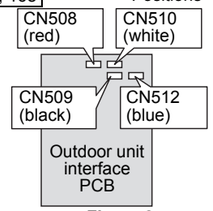



Figure 3

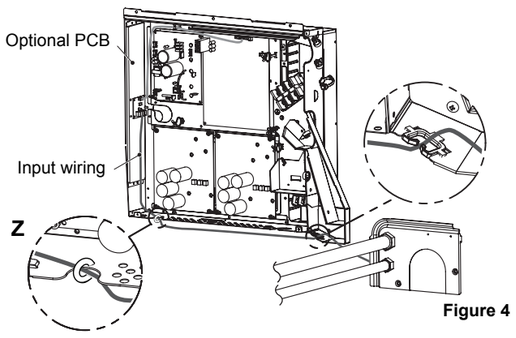



Figure 4

**[PCB Installation Position]**

**NOTE**

Distance input wiring from high voltage parts.

(1) Tie an input wiring with the binding band A (4) at the position **Z** shown in the Figure 4.
(2) Route the connection cable as shown in the Figure 4.
Also, use lower conduit hole for wiring.

## *4* Details of operation, wiring diagram

### ■ External master ON/OFF control

**Model: SMMS-i, SHRM-i, SMMS-e, SHRM-e**

**NOTE**

Use copper supply wires.

**▼ Function**

By connecting the cable (1) to the interface PC board on an outdoor unit, all indoor units connected to the outdoor unit enable to operate simultaneously.

**▼ Operation**

The outdoor unit connection is for the header unit (U1).

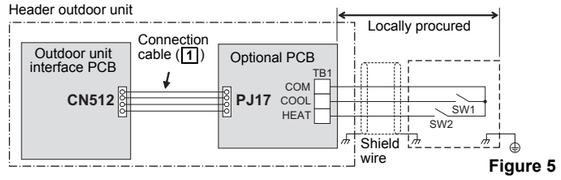



Figure 5

SW1: Operation input switch
SW2: Stop input switch

Table 2

| Terminal | Input Signal | Operation |
|---|---|---|
| COOL (SW1) | ON / OFF | All indoor units operate together |
| HEAT (SW2) | ON / OFF | All indoor units stop together |

### ⚠CAUTION

Provide no-voltage pulse contacts for each terminal.
Hold the ON state for at least 100 msec.
Do not turn SW1 and SW2 ON simultaneously

### ■ Night time operation (sound reduction) control

**Model: SMMS-i, SHRM-i, SMMS-e, SHRM-e**

**▼ Function**

As the cable (1) is connected to the “Interface PCB” on an outdoor unit, both compressor speed and fan speed are restricted while the signal of the night operation control is input. It makes the noise reduction during the night time operation.

**▼ Operation**

The outdoor unit connection is for the header unit (U1).

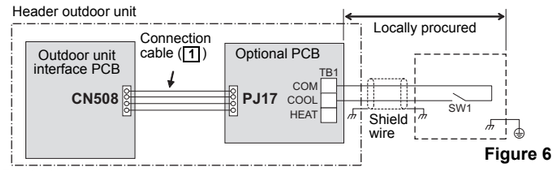



Figure 6

SW1: Night time signal switch

Table 3

| Terminal | Input Signal | Operation |
|---|---|---|
| COOL (SW1) | ON / OFF | Night time operation control |
| | ON / OFF | Normal operation |

### ⚠CAUTION

Each terminal should be connected to dry contact.

### ■ Operation mode selection control

**▼ Function**

The heating/cooling mode of the system can be selected by connecting to the interface PCB of outdoor units.

**▼ Operation**

The outdoor unit connection is for the header unit (U1).

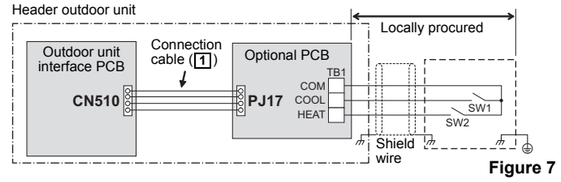



Figure 7

SW1: Cooling mode specified input switch
SW2: Heating mode specified input switch

Table 4

| Input Signal | | Operation: Selected operation mode |
|---|---|---|
| Cooling (SW1) | Heating (SW2) | |
| ON | OFF | Cooling operation only |
| OFF | ON | Heating operation only |
| OFF | OFF | Normal operation |

### ⚠CAUTION

Each terminal should be connected to dry contact.

**Model: SMMS-i, SHRM-i, SMMS-e, SHRM-e**

**The Switching of processing of Indoor Unit Operation State**

Processing of the operation state can be switched for indoor units in a mode other than the selected operation mode by setting the jumper lead (J01) of the header outdoor unit interface PCB.

Table 5

| Jumper lead | Details of Processing |
|---|---|
| J01 connected (factory default) | Unallowed indoor units in a mode other than the selected operation mode are not treated as priority (thermo OFF state). (Unallowed indoor units) |

| Operation Mode | Operation State | Remote control |
|---|---|---|
| Cooling unit | Air blow operation at blow rate set on remote control | ⏻, ❁ indicator is displayed. |
| Heating unit | Air blow operation at super-slow blow rate | |
| Air blow unit | Regular air blow operation at blow rate set on remote control | |

| J01 cut | Indoor units in a mode other than the selected operation mode are forcibly switched to the selected operation mode. |
|---|---|

| PC board selection mode | Remote control operation/display | |
|---|---|---|
| Normal | ❄, 💧, ☀, or ✣ can be selected | When using the remote control, ⏻ (mode select control) indicator is displayed. |
| Cool | Only ❄, 💧, or ✣ can be selected | |
| Heat | Only ☀ or ✣ can be selected | |

### ■ Snowfall fan control

**Model: SMMS-i, SHRM-i, SMMS-e, SHRM-e**

**▼ Function**

The outdoor unit fan operates at snowfall by connecting to the outdoor unit interface PCB.

**▼ Operation**

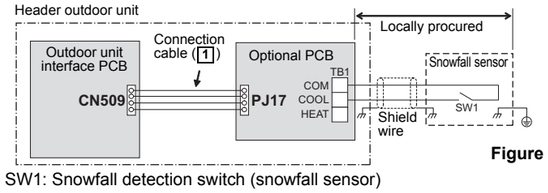



Figure 8

SW1: Snowfall detection switch (snowfall sensor)

Table 6

| Terminal | Input Signal | Operation |
|---|---|---|
| Cooling (SW1) | ON / OFF | Snowfall fan control (Fan in outdoor unit operates.) |
| | ON / OFF | Normal operation |

### ⚠CAUTION

Provide no-voltage continuous contacts for each terminal.