Mini Touch Screen Controller

Contents

1. Warning Indications on the Air Conditioner Unit

Warning indication	Description
WARNING **ELECTRICAL SHOCK HAZARD** Disconnect all remote electric power supplies before servicing.	**WARNING** **ELECTRICAL SHOCK HAZARD** Disconnect all remote electric power supplies before servicing.
WARNING Moving parts. Do not operate unit with grille removed. Stop the unit before the servicing.	**WARNING** **Moving parts.** Do not operate unit with grille removed. Stop the unit before the servicing.
CAUTION High temperature parts. You might get burned when removing this panel.	**CAUTION** High temperature parts. You might get burned when removing this panel.
CAUTION Do not touch the aluminium fins of the unit. Doing so may result in injury.	**CAUTION** Do not touch the aluminium fins of the unit. Doing so may result in injury.
CAUTION **BURST HAZARD** Open the service valves before the operation, otherwise there might be the burst.	**CAUTION** **BURST HAZARD** Open the service valves before the operation, otherwise there might be the burst.

2.   IMPORTANT INFORMATION

➤ **All electrical work should be carried out by a competent person and wiring must be in accordance with the national electrical installation regulations.**

➤ **Ensure that installation work is done correctly using the information contained in this manual.**

➤ **Make all connections securely so that any outside forces acting on the cables are not applied to the terminals.**

➤ **Never modify or repair by yourself.**

➤ **Any attempt to do so will void the warranty.**

➤ **To dispose of this product, consult your dealer.**

⚠ WARNING

1.   Using the specified wires, ensure to connect the wires, and fix wires securely so that the external tension to the wires do not affect the connecting part of the terminals.
Incomplete connection or fixation may cause a fire, etc.
2.   Be sure to connect earth wire. (grounding work) Incomplete grounding cause an electric shock. Do not connect ground wires to gas pipes, water pipes, lightning rods or ground wires for telephone wires.
3.   Appliance shall be installed in accordance with national wiring regulations.
Capacity shortage of power circuit or incomplete installation may cause an electric shock or a fire.

⚠ CAUTION

• If incorrect/incomplete wiring is carried out, it will cause an electrical fire or smoke.
• Be sure to install an earth leakage breaker that is not tripped by shock waves.
  If an earth leakage breaker is not installed, an electric shock may be caused.
• Be sure to use the cord clamps attached to the product.
• Do not damage or scratch the conductive core and inner insulator of power and inter-connecting wires when peeling them.
• Use the power cord and Inter-connecting wire of specified thickness, type, and protective devices required.
• Never connect 220-240V power to the terminal blocks (A, B, U1/U2, U3/U4 etc.) for control wiring (Otherwise, the system will fail).

REQUIREMENT
• For power supply wiring, strictly conform to the Local Regulation in each country.
• For wiring of power supply of the outdoor units, follow the Installation Manual of each outdoor unit.
• Perform the electric wiring so that it does not come to contact with the high-temperature part of the pipe. The coating may melt resulting in an accident.
• After connecting wires to the terminal blocks, provide a trap and fix wires with the cord clamp.
• Run the refrigerant piping line and control wiring line in the same line.
• Do not turn on the power of the indoor unit until vacuuming of the refrigerant pipes completes.

Power supply wire and communication wires specifications

Power supply wire and communication wires are procured locally.
For the power supply specifications, follow to the table below. If capacity is little, it is dangerous because overheat or seizure may be caused. For specifications of the power capacity of the outdoor unit and the power supply wires, refer to the Installation Manual attached to the outdoor unit.

Indoor unit power supply
• For the power supply of the indoor unit, prepare the exclusive power supply separated from that of the outdoor unit.
• Arrange the power supply, earth leakage breaker, and main switch of the indoor unit connected to the same outdoor unit so that they are commonly used.
• Power supply wire specification: Cable 3-core 2.5mm^2, **in conformity with Design 60245 IEC 57.**

▼   **Power supply**

Power supply	220-240V —, 50Hz	
Power supply switch/Earth leakage breaker or power supply wiring/fuse rating for indoor units should be selected by the accumulated total current values of the indoor units		
Power supply wiring	Below 50m	2.5 mm^2

Control wiring, Central controller wiring
•   2-core with polarity wires are used for the Control wiring between indoor unit and outdoor unit and Central controller wiring.
•   To prevent noise trouble, use 2-core shield wire,
•   The length of the communication line means the total length of the inter-unit wire length between indoor and outdoor units added with the central control system wire length

3.   Product Overview

Description

The RBC-MTSC1 colour smart touch wall mounted controller is a capacitive icon-based touchscreen that is very intuitive, easy to use and very simple to install. The smart touch controller uses the same 2 wire format used for our standard controllers and no external power supply is needed to operate the device. This means this all new modern and stylish touchscreen controller can be installed onto any new or existing systems to provide a higher level of user comfort and experience.

Features

- Large capacitive display
- Configurable display icons; mode, fan; Up & Down, On/Off
- Up to 30 different wallpaper pictures for corporate display, messaging or advertising
- Use wallpapers for screensavers, timeouts or wake ups
- Integrated USB for fast upload of images
- RGB colour sliders to transform and match corporate environments
- Set DN codes
- Set central addresses
- Leak detection warning symbols to complement the current Toshiba solution
- Text inputs for instructions example "Error" "contact reception tel: 1234"
- Use CN61 connection to set back for energy saving for un-occupied space

MAIN FUNCTIONS

| FUNCTION	COMMAND INPUT	STATUS OUTPUT
ON/OFF Status	✓	✓
Operation Mode	Auto, Heat, Cool, Dry, Fan Only	✓
Fan Speed	Stop, Auto, Ultra-low, Low, Medium, High	✓
Louver	Horizontal, Vertical, Swing	✓
Set Temperature	18-29ºC	✓
Permit/Prohibit of Local Operation	ON/OFF, Mode, Set temp, fan speed, louver	✓
Error Status	Reset	✓
Error Code	Reset	✓

Limits

The device is limited to standard network restrictions applied to the TCC- link network

SPECIFICATION

Chassis material	Aluminium/Steel
Power Supply	12V DC
Number of Connectable Indoor Units	1
Operating Temperature/Humidity	0 to 40ºC/10 to 90%
Storage Temperature	-20 to 60ºC (no condensation)
Dimensions H X W X D	74 x 141 x 15 mm
Communications Platforms	USB 2.0, RS485, 2-wire Network Bus and Network Connection
Graphic Display	4.5" Capacitive Touch Screen
Air Conditioner Connection TCC Link	2-wire U3/U4 communication bus
Max wired length	500 m

4.   Connection Details

> **All electrical work should be carried out by a competent person and wiring must be in accordance with the national electrical installation regulations.**

TCC-NET Connections

A

B

J1
TCC-NET
A

J2
TCC-NET
B

J3
Ground

J4
RS485
DA-

J4
RS485
DB+
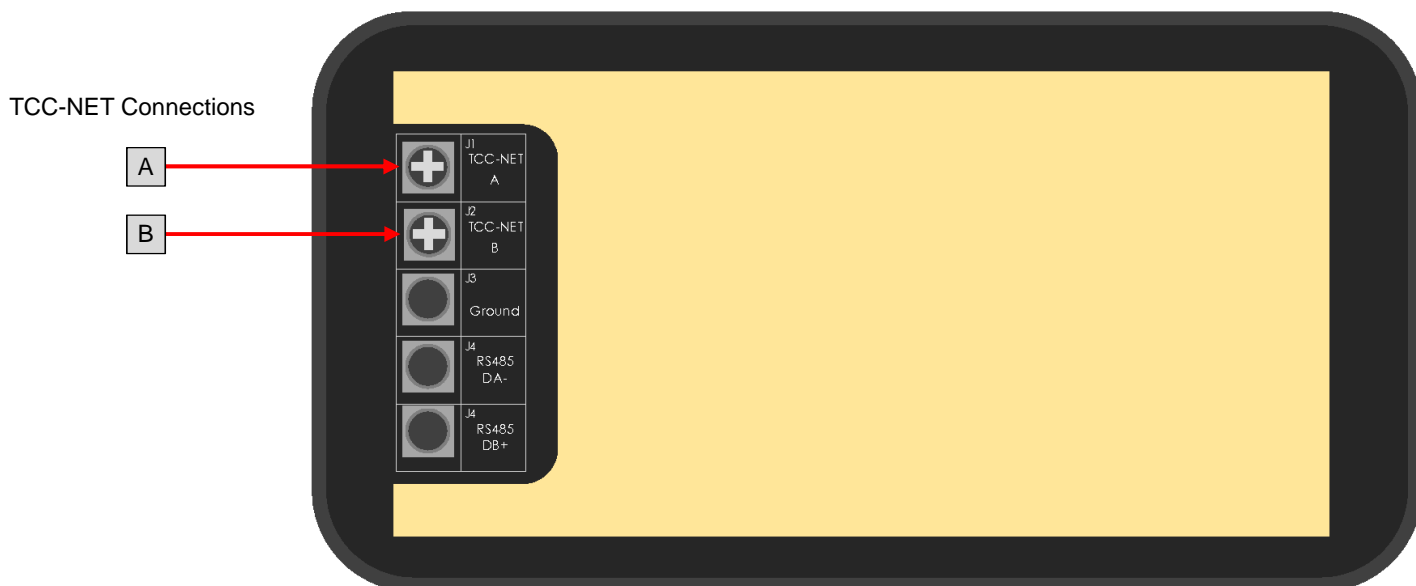
4.1.   Power Supply

The Mini Touch Screen Controller is powered on connection to the indoor unit A + B terminals.

4.2.   . USB

The USB interface located behind the cover plate is used for configuration via a PC and for upgrading the firmware.

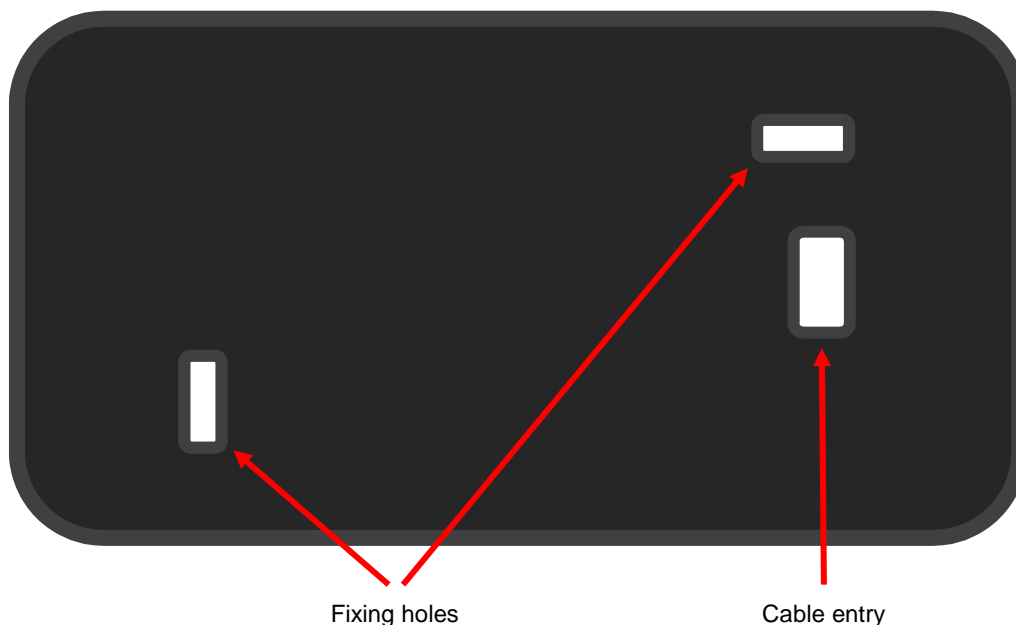> Ensure that the correct USB driver has been installed prior to connecting the Mini Touch Screen Controller to a PC.

4.3.   Firmware Updates *** IMPORTANT NOTICE ***

> *Please check our website on a regular basis to update controller software*

5.   Dimensions

5.1.   Fixing Frame

Fixing holes   Cable entry
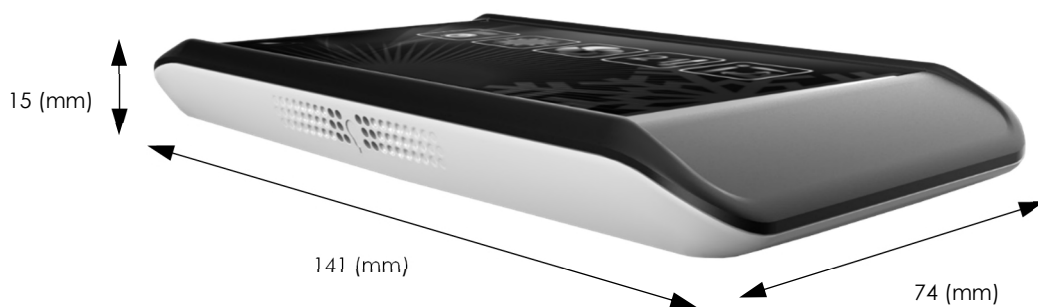
6.   User Interface

6.1.   Start-Up

Initialising start up display screen

6.2.   Ready

After initialisation the controller is ready to switch on

6.3.   Default View

Pressing the power icon displays the default screen

6.4.   Configuration

To access Configuration menu follow the sequence below on the screen using two fingers

Press and hold the bottom right hand corner of the screen keeping your finger in place (do not remove) and then press and hold the bottom left hand corner of the screen

Now keeping your finger on the left hand corner of the screen (do not remove) release your right hand finger and tap the bottom right hand corner of the screen four times with your finger

Executed correctly will reveal the configuration menu above

6.4.1. Configuration Menu Icons

|			
1. **General R/C setup**		2. **User interface setup**	
3. **DN code editing**		4. **Appearance**	
5. **Occupancy strategy**		6. **Not assigned or used**	
7. **Diagnostics**		8. **Model information**	
9. **Reboot button**		10. **Back button**	

6.4.2. General R/C Setup
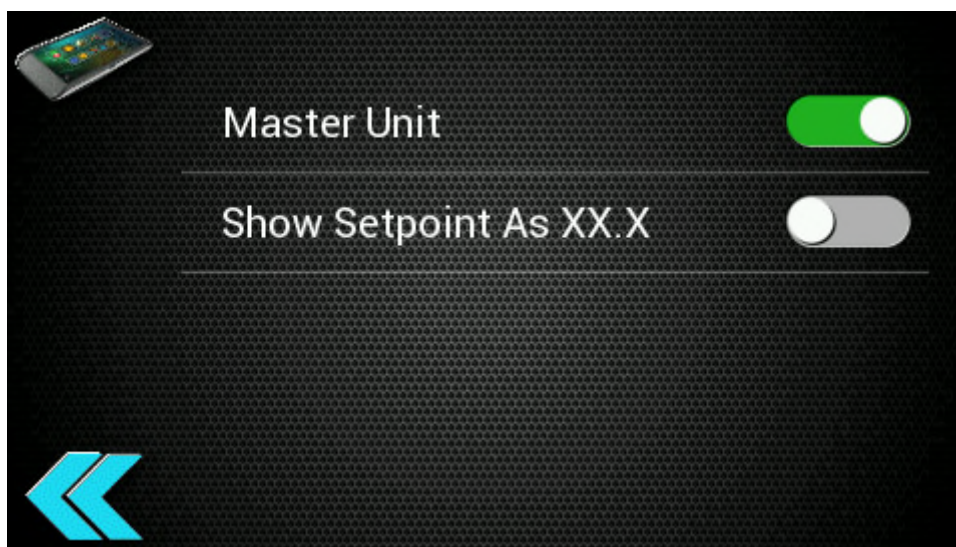
Enable or disable: header unit; show setpoint to 0 or 1 decimal place.

6.4.3.   User interface setup
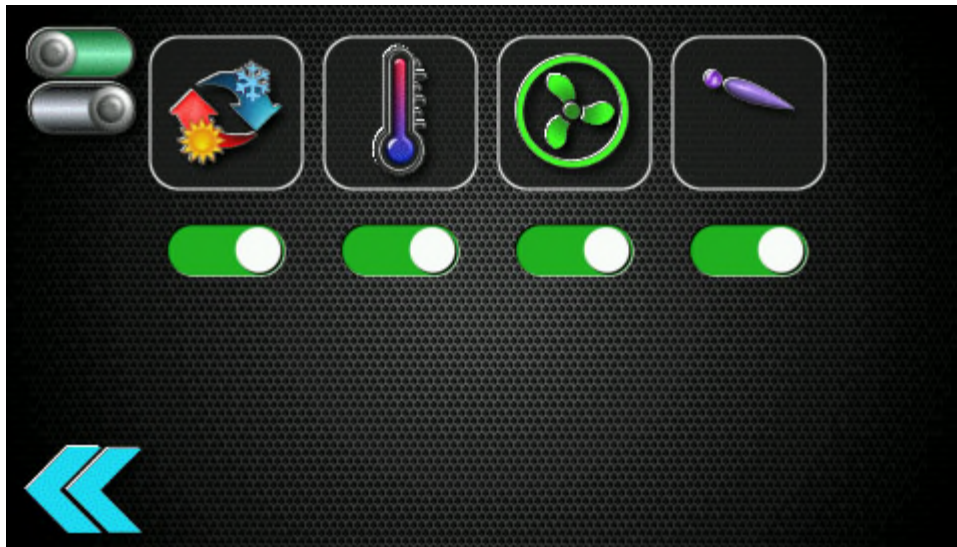
Enable or disable: operating mode; temperature change; fan speed; louvre operation. Tap button to change setting.

6.4.4.   DN code editing
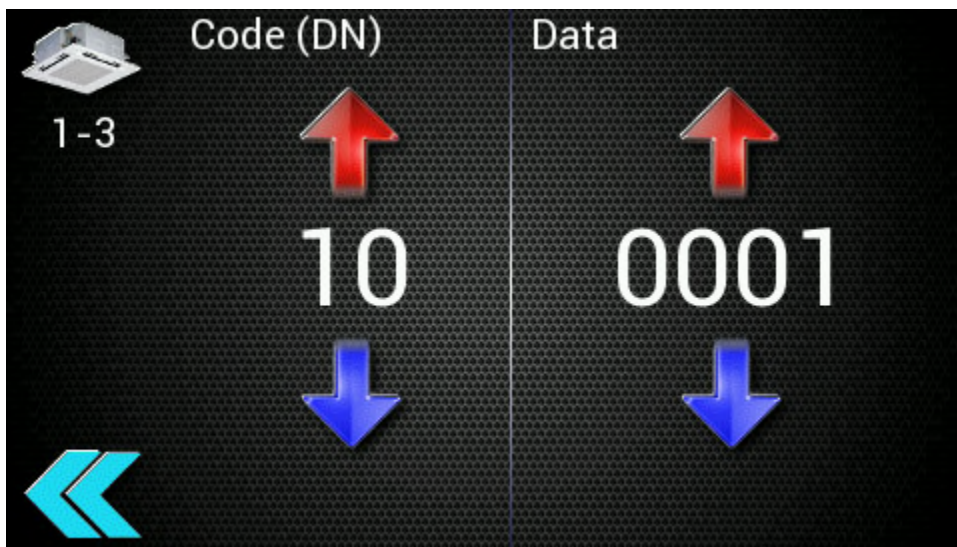
To change DN code settings use up/down arrow to move between DN codes.

To change data settings use up/down arrow to change value.

To enable changes press green "Send" button.

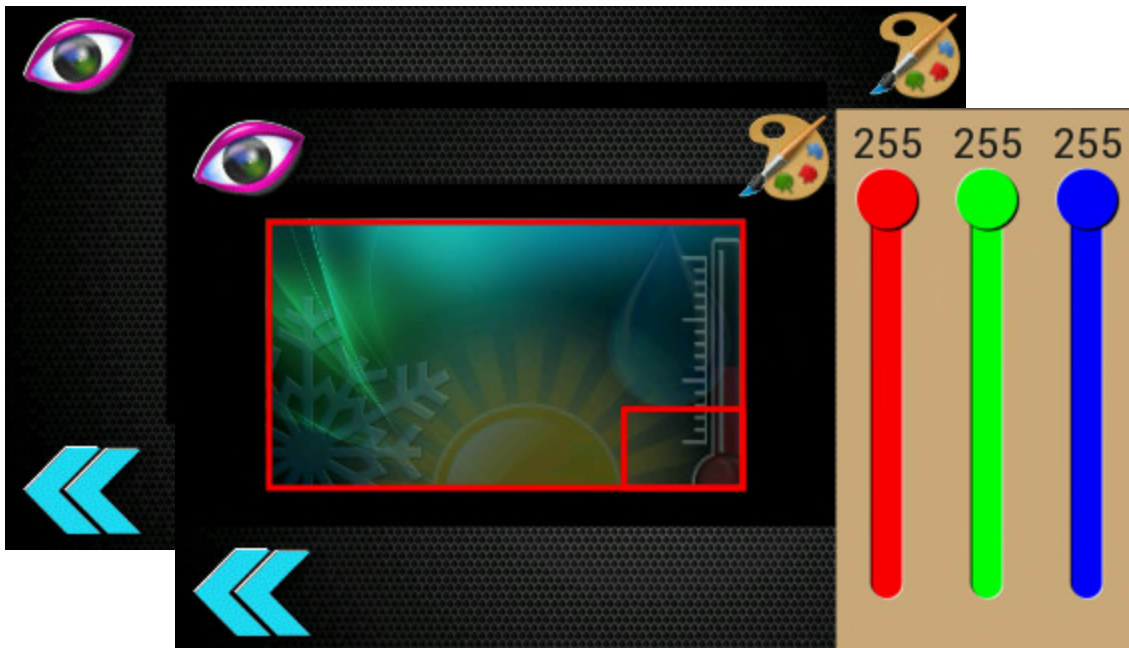To exit DN code use blue "Back button".

"Reboot button" is visible when configuration setting has changed and requires the indoor unit to be restarted to accept the command.

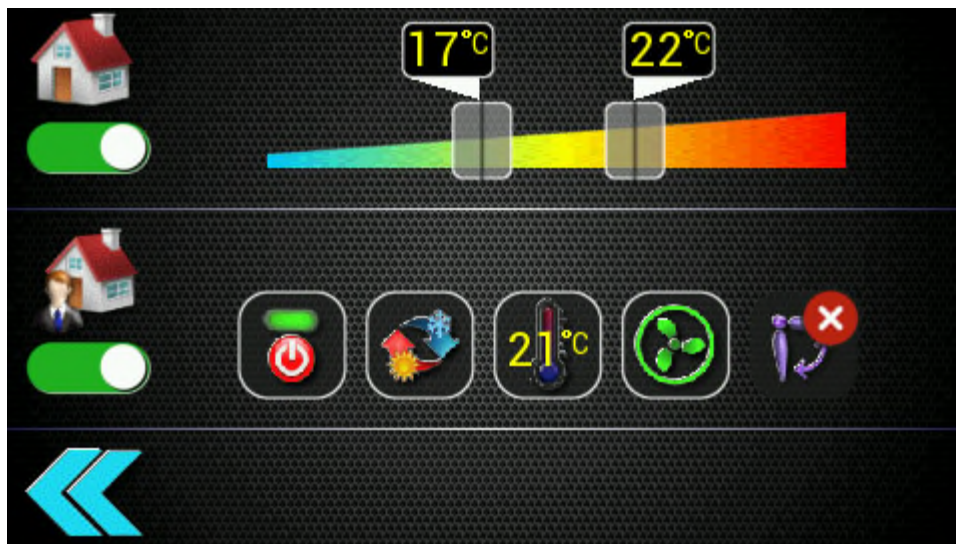To save settings press "Reboot button" displayed on "Configuration" screen

6.4.5.　Appearance

Colour tones can be adjusted to change appearance. Touch paint board to reveal RGB colour sliders.

6.4.6.　Occupancy Strategy

Enable or disable: temperature setting limits for cooling and heating. Tap button to change setting.

Use slider to set minimum and maximum temperature conditions.
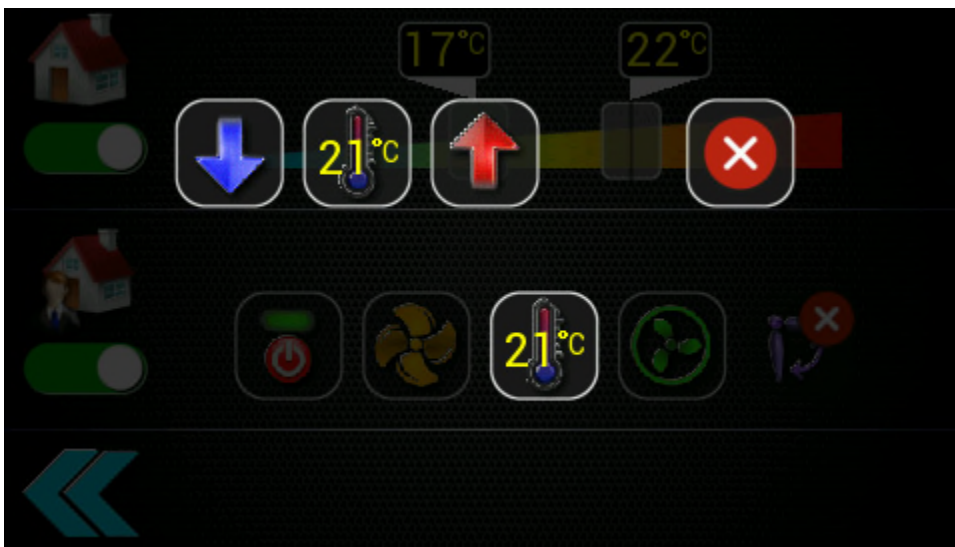
Enable or disable: on/off; mode; temperature adjustment; fan speed; louvre operation Tap button to change setting.
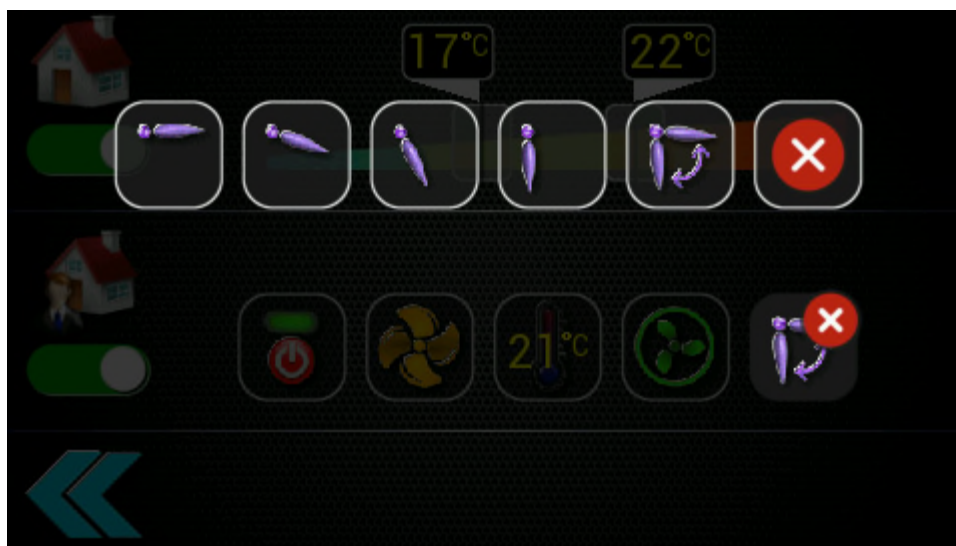
Enable or disable on/off button.

Enable or disable to fix mode.

Enable or disable temperature change. To change setpoint use up/down arrow to change value.

Enable or disable to fix fan speed.
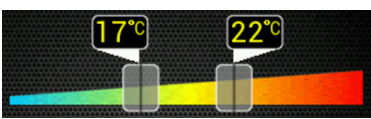
Enable or disable louvre operation. Tap to select fixed louvre position or set auto-swing.

Enable or disable temperature setting

Enable or disable activity mode settings. Disable prevents selection of activity mode

	Low fan speed		Cooling mode		Auto mode
	Medium fan speed		Heating mode		Temperature setting
	High fan speed		Fan only mode		Louvre operation
	Auto fan speed		Dry mode		On/Off
	Minimum and maximum temperature setting		Disable activity		

6.4.7. Diagnostics

Warning symbol on display indicates fault code. To access diagnostics refer to 6.4 Configuration page 9.

Displays error message. Tap air conditioner to reveal error codes.
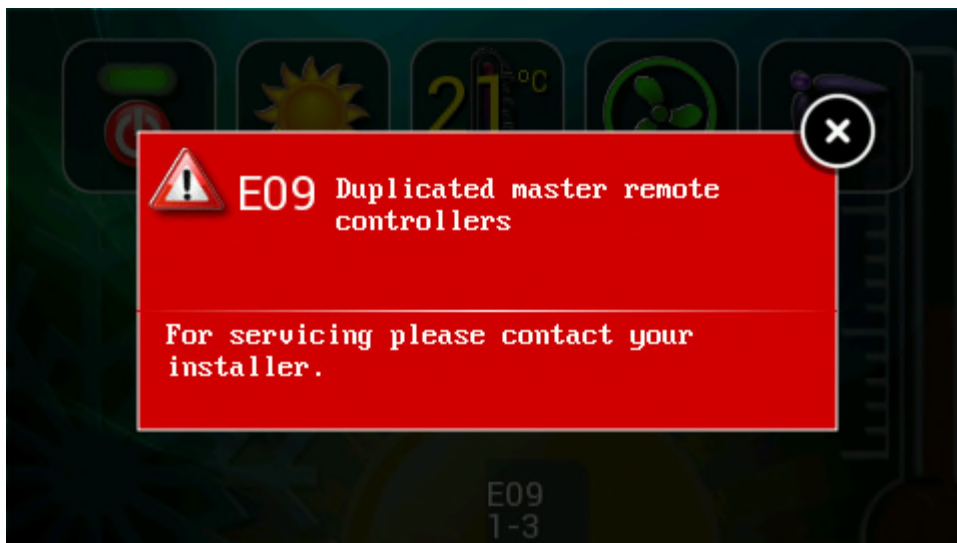
6.4.8. Model information
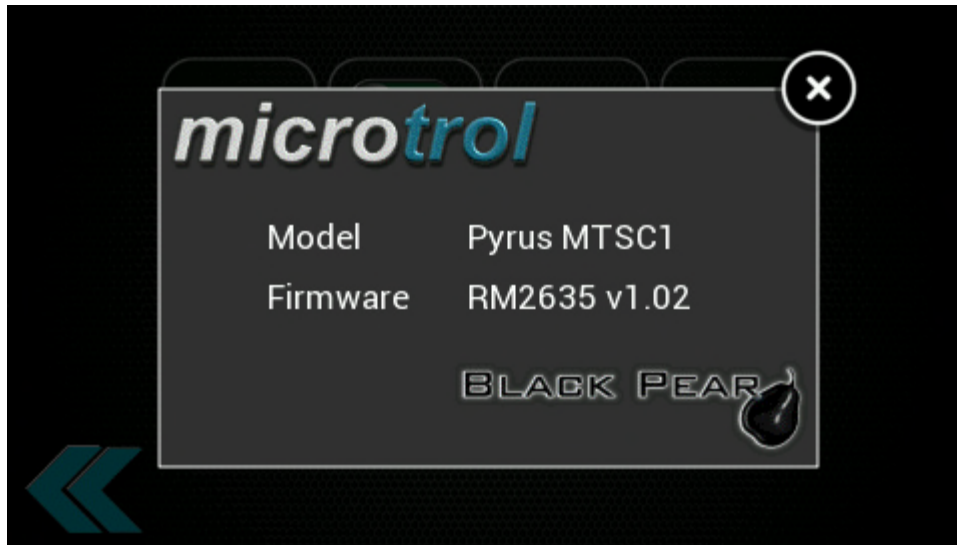
6.4.9. Reboot button

	Tap to save and update settings

6.4.10. Back button

	Tap to exit and return to previous screen

6.5. Version History and New Features Guide

6.5.1. Version Information

v0.12   - initial release

7.   Trouble Shooting Error Codes

Error Code	Description
C05	Sending error in TCC-LINK central control device
C06	Receiving error in TCC-LINK central control device
C12	Batch alarm of general-purpose equipment control interface
E01	Communication error between indoor and remote controller (Detected at remote controller side)
E02	Sending error of remote controller
E03	Communication error between indoor and remote controller (Detected at indoor side)
E04	Communication circuit error between indoor and outdoor (Detected at indoor side)
E06	Decrease of No. of indoor units
E07	Communication circuit error between indoor/outdoor (Detected at outdoor side)
E08	Duplicated indoor addresses
E09	Duplicated master remote controllers
E10	Communication error between indoor PCB
E12	Automatic address start error
E15	No indoor automatic address
E16	Capacity over/No. of connected indoor units
E18	Communication error between indoor header and follower units
E19	Outdoor header units quantity error
E20	Other line connected during automatic address
E23	Sending error in communication between outdoor units
E25	Duplicated follower outdoor address
E26	Decrease of No. of connected outdoor units
E28	Follower outdoor unit error
E31	IPDU communication error
F01	Indoor TCJ sensor error
F02	Indoor TC2 sensor error
F03	Indoor TC1 sensor error
F04	TD1 sensor error
F05	TD2 sensor error
F06	TE1 sensor error
F07	TL sensor error
F08	TO sensor error
F10	TA sensor error
F12	TS1 sensor error
F13	TH sensor error
F15	Outdoor temp. sensor misconnection (TE1,TL)
F16	Outdoor pressure sensor misconnection (Pd,Ps)
F23	Ps sensor error
F24	Pd sensor error
F29	Indoor other error
F31	Outdoor EEPROM error
H01	Compressor break down
H02	Magnet switch error/Overcurrent relay operation/Compressor error (lock)
H03	Current detection circuit error
H04	Comp-1 case thermo operation
H06	Low pressure protective operation
H07	Low oil level protection
H08	Oil level temp. sensor error
H14	Comp-2 case thermo operation
H16	Oil level detection circuit error/Magnet switch error/Overcurrent relay error

Error Code	Description
L03	Duplicated indoor header units
L04	Duplicated outdoor line address
L05	Duplicated indoor units with priority (Displayed in indoor unit with priority)
L06	Duplicated indoor units with priority (Displayed in unit other than indoor unit with priority)
L07	Group line in individual indoor unit
L08	Indoor group/Address unset
L09	Indoor capacity unset
L10	Outdoor capacity unset
L20	Duplicated central control addresses
L28	Maximum number of outdoor units exceeded
L29	No. of IPDU error
L30	Auxiliary interlock in indoor unit
L31	IC error
P01	Indoor fan motor error
P03	Discharge temp. TD1 error
P04	High-pressure switch detection error
P05	Phase-missing detection/Phase order error
P07	Heat sink overheat error
P10	Indoor overflow error
P12	Indoor fan motor error
P13	Outdoor liquid back detection error
P15	Gas leak detection
P17	Discharge temp. TD2 error
P19	4-way valve inverse error,
P20	High-pressure inverse error
P22	Outdoor fan IPDU error
P26	G-Tr short circuit protection error
P29	Comp position detection circuit error
P31	Follower indoor unit error (Group error)

Note: For further information regarding the above error codes, please contact your local Toshiba A/C supplier, or Toshiba A/C technical support.

Note: Toshiba Carrier UK Limited reserves the right to change specification without notice.

TOSHIBA

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