
















# **Mini Touch Screen Controller With 7-day Scheduler**



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# 1. Warning Indications on the Air Conditioner Unit

Warning indication	Description			
<table border="1"> <tr> <td data-bbox="180 371 316 595" rowspan="2">  </td> <td data-bbox="320 371 675 443"> <p><b>WARNING</b></p> </td> </tr> <tr> <td data-bbox="320 443 675 595"> <p><b>ELECTRICAL SHOCK HAZARD</b> Disconnect all remote electric power supplies before servicing.</p> </td> </tr> </table>		<p><b>WARNING</b></p>	<p><b>ELECTRICAL SHOCK HAZARD</b> Disconnect all remote electric power supplies before servicing.</p>	<p><b>WARNING</b></p> <p><b>ELECTRICAL SHOCK HAZARD</b></p> <p>Disconnect all remote electric power supplies before servicing.</p>
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## 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<sup>2</sup>, 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 <sup>2</sup>

#### 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-MTSC2 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

- 4.3" TFT LCD with capacitive touch interface
- 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
- Real time clock and 7-day scheduler

		<b>MAIN FUNCTIONS</b>
<b>FUNCTION</b>	<b>COMMAND INPUT</b>	<b>STATUS OUTPUT</b>
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	18-29°C	✓
Permit/Prohibit of Local Operation	ON/OFF, Mode, Set temp, fan speed, louver	✓
Error Status	Reset	✓
Error Code	Reset	✓

#### Limits

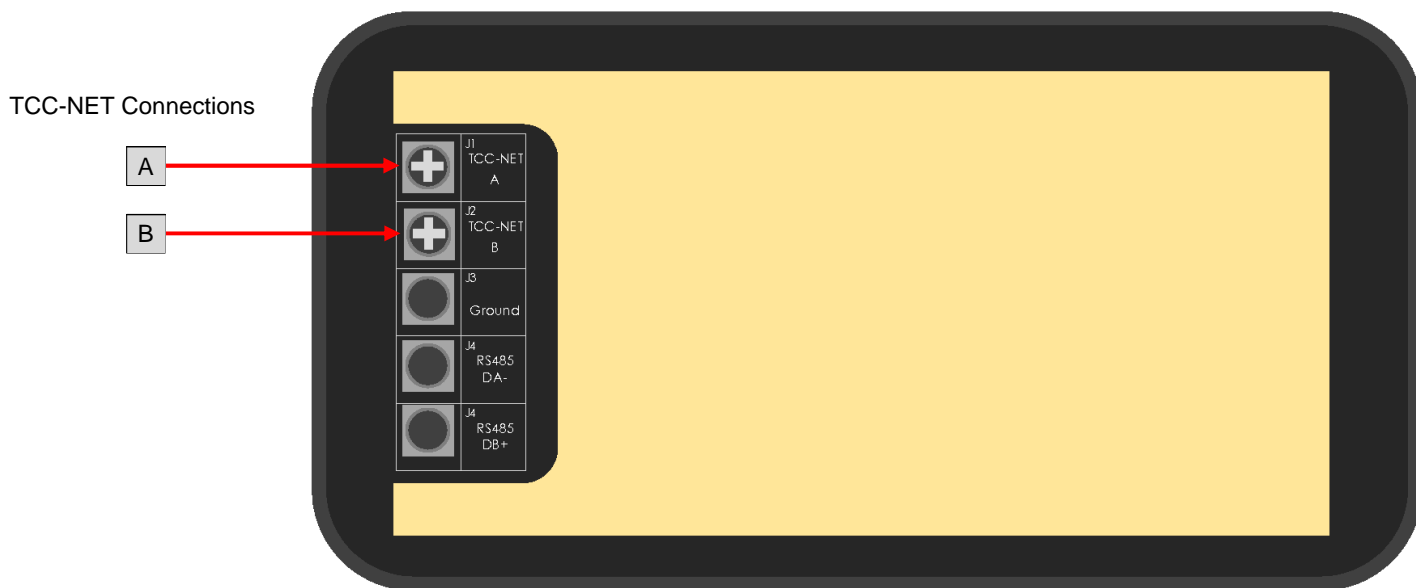
The device is limited to standard network restrictions applied to the TCC- link network

#### SPECIFICATION

Chassis material	PC-ABS
Power Supply	16V DC
Number of Connectable Indoor Units	1~8
Operating Temperature/Humidity	0 to 40°C/10 to 90%
Storage Temperature	-20 to 60°C (no condensation)
Dimensions H X W X D	74 x 141 x 15 mm
Communications Platforms	Indoor unit A/B network, USB 2.0
Graphic Display	4.3" Capacitive Touch Screen
Air Conditioner Connection TCC Link	2-wire A/B network
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.**



### 4.1. Power Supply

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

### 4.2. . USB

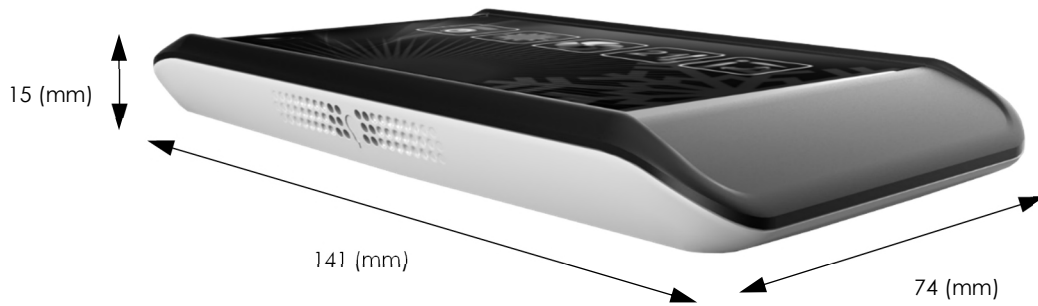
The USB interface (micro USB A/B socket) located on the bottom of the enclosure, is used for configuration via a PC and for upgrading the firmware.

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

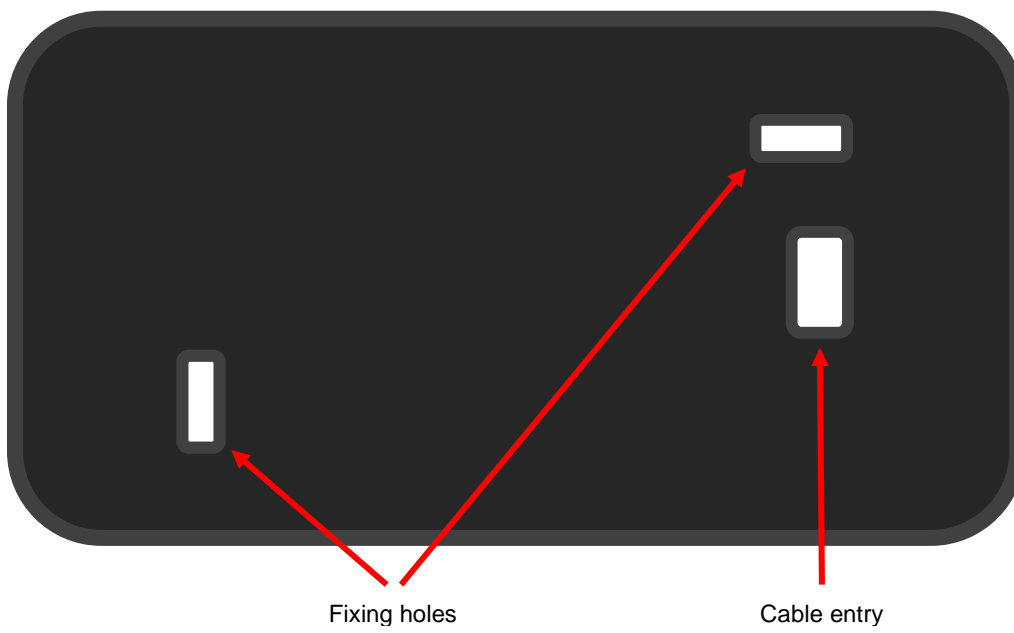
### 4.3. Firmware Updates **\*\*\* IMPORTANT NOTICE \*\*\***

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

## 5. Dimensions



### 5.1. Fixing Frame



## 6. User Interface

### 6.1. Start-Up



Initialising start up display screen

Remote Controller communication initialisation screen can take up to 5 minutes to complete (when system is auto-addressing).

### 6.2. Ready



After initialisation, the controller is ready to switch on.



## 6.3. Default View



Pressing the power icon displays the default screen

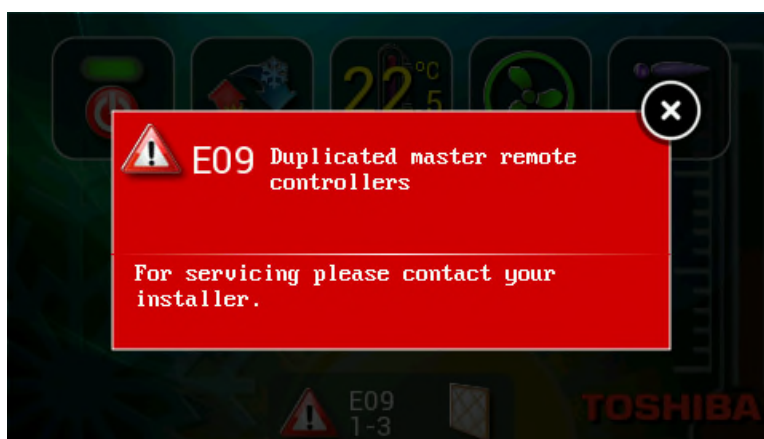
### 6.3.1. Error and Filter Sign Indicator



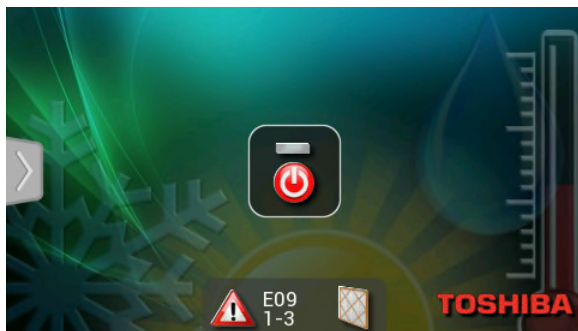
The indicator is displayed whenever an error is detected or a filter needs cleaning.

### 6.3.2. Error Code

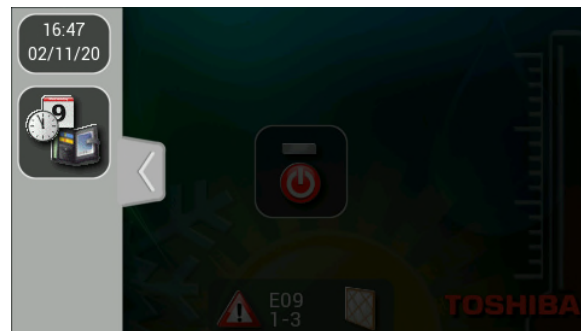
Tap the error code to display the error description and service information.



## 6.4. Control Panel



Tap the handle on the left of the screen to open the control panel.



The control panel shows the current time and date. It also gives access to the clock / scheduler configuration screen.

### 6.4.1. Configuration






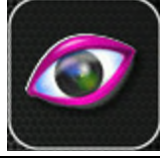





To access Configuration menu follow the sequence below on the screen using two fingers.

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.

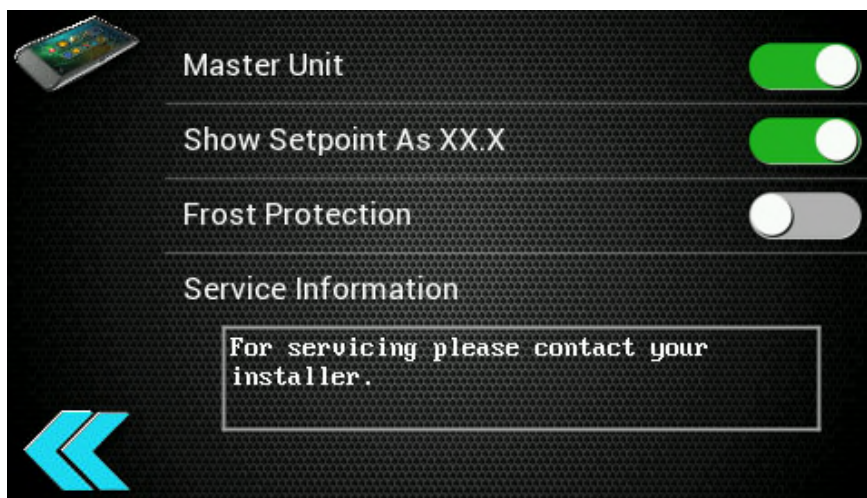
Now keeping your finger on the left hand corner of the screen (do not remove) release your right hand finger and tap the bottom right hand corner of the screen four times with your finger.

Executing this sequence correctly will reveal the configuration menu above.

### 6.4.2. Configuration Menu Icons

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

### 6.4.3. General R/C Setup



Enable or disable: header unit; show setpoint to 0 or 1 decimal place, frost protection. The service information is currently only editable via the PC configuration tool.

### 6.4.4. Frost Protection

**Note:** It is recommended that the temperature sensor in the controller is selected for the return air reading, due to the possibility of invalid readings from the indoor unit sensor while the fan is not running.

Once enabled, the return air temperature will be constantly monitored, and the following strategy is executed...

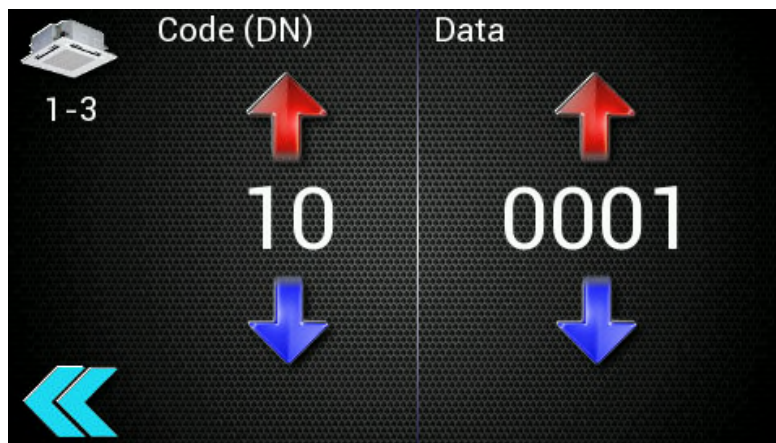
Frost Protection State	Return Air Temperature	Action
Inactive	< 8.0°C	1) Save current indoor unit state 2) Set indoor unit as follows... On, Heating, SP=21°C 3) Frost Protection State=Active
Active	>=10.0°C	1) Restore indoor unit state 2) Frost Protection State=Inactive

### 6.4.5. User Interface Setup



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

### 6.4.6. 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, then press the green “Send” button.  
 To exit DN code use blue “Back button”.



To change to a different indoor unit, tap the air conditioner icon. The selection window will be displayed. Available units will be highlighted. Tap the required unit to edit its DN codes.

### 6.4.7. Appearance

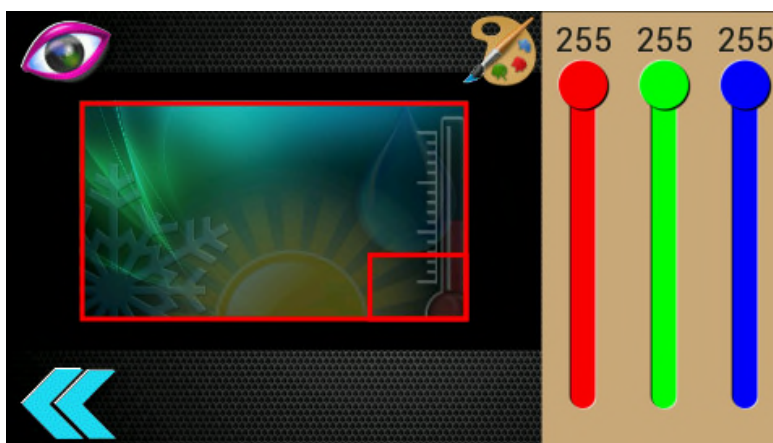
The background image and logo can be altered on this screen. The images must have been downloaded to the controller using the Pyrus R/C configuration software.

Tap the background rectangle to show the currently installed images. Tap the required image to select. The background image can be disabled using the slider switch in the top left corner of the screen. If disabled, a plain white background will be used, which can be tinted using the colour adjustment sliders (see below).

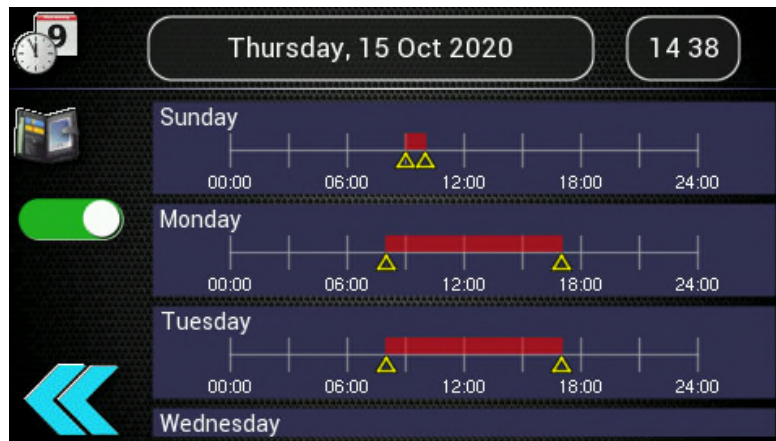
Tap the logo rectangle to show the currently installed logos. Tap the required logo to select. The logo can be disabled using the slider switch in the top left corner of the screen.



Colour tones of the background image can be adjusted to change appearance. Touch the palette icon to show and hide the RGB colour sliders.



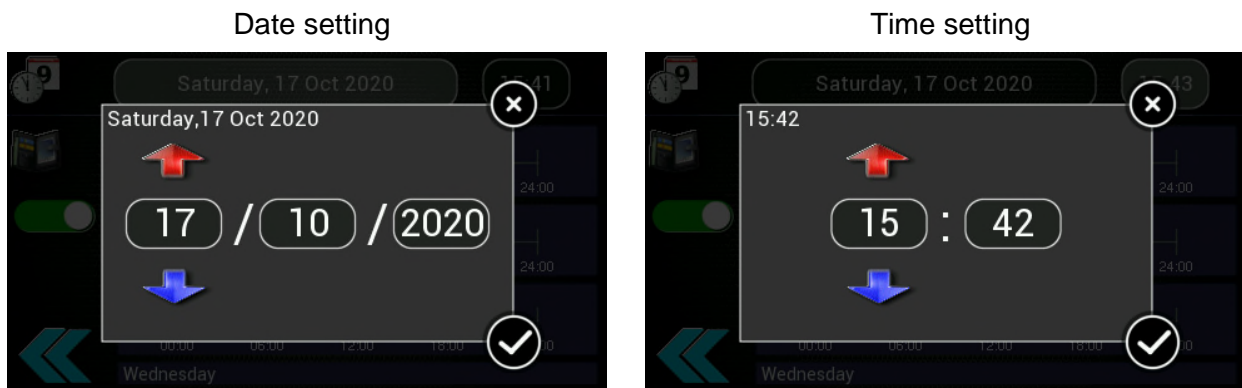
## 6.4.8. Clock and Scheduler



## 6.4.9. Date and Time

The MTSC2 contains a super-capacitor to provide backup power to the real-time clock. When fully charged, it will keep the clock running for approximately 2½ days, enough to handle the occasional power outage.

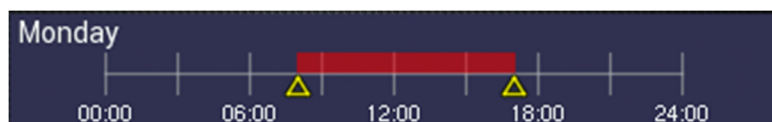
If power runs out, the clock will reset to 00:00 01/01/2016.  
Tap the date or time to display the appropriate setting window.



Tap the item to adjust and use the up/down arrows to change. Press and hold an arrow to speed up the adjustment.

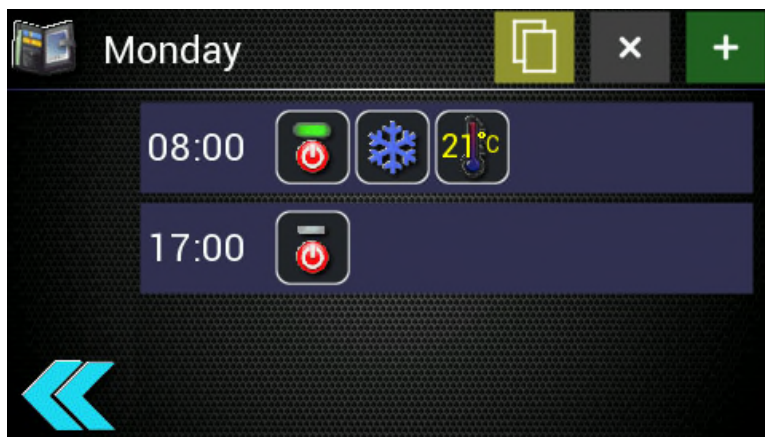
## 6.4.10. Scheduler




The 7-day scheduler allows up to 8 control events to be programmed each day. Enable or disable the scheduler by tapping the toggle switch.



Each timeline summary indicates when control events will occur and when the indoor unit is programmed to be on. Tap the timeline to edit the control events for that day.

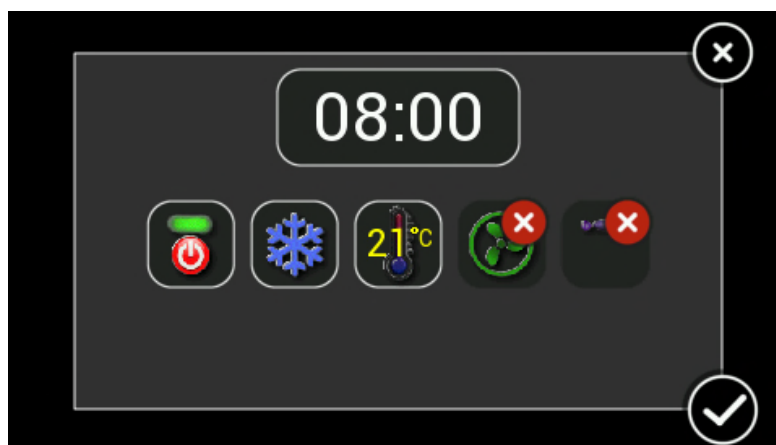
### 6.4.11. Programming Control Events




	Add new control event.
	Toggle 'delete event' buttons.
	Copy this event list to other days.

### 6.4.12. Adding or Editing Control Events

Tapping an existing event or the 'Add Event' button will bring up the event edit window.



Tap the time or control icons to adjust event settings. Selecting the  for any control setting will prevent that setting from being actioned by the scheduler.

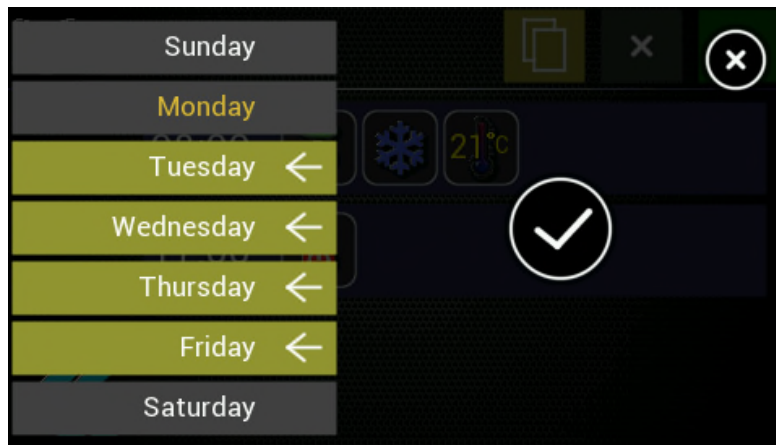
### 6.4.13. Deleting Control Events

Tap the 'Delete Event' toggle button to show/hide the delete button next to each event. Tapping the delete button removes the corresponding event from the schedule list.



### 6.4.14. Copying Event List

Tapping the 'Copy Event' button will bring up the 'Copy Event List' window. The events for the currently selected day can be copied to any of the other days of the week.



Tapping on a day will show/hide the selection indicator. In the example above, Monday is the source and Tuesday, Wednesday, Thursday and Friday have been selected to receive a copy of Monday's event list.

## 6.4.15. Diagnostics



Displays the following information:

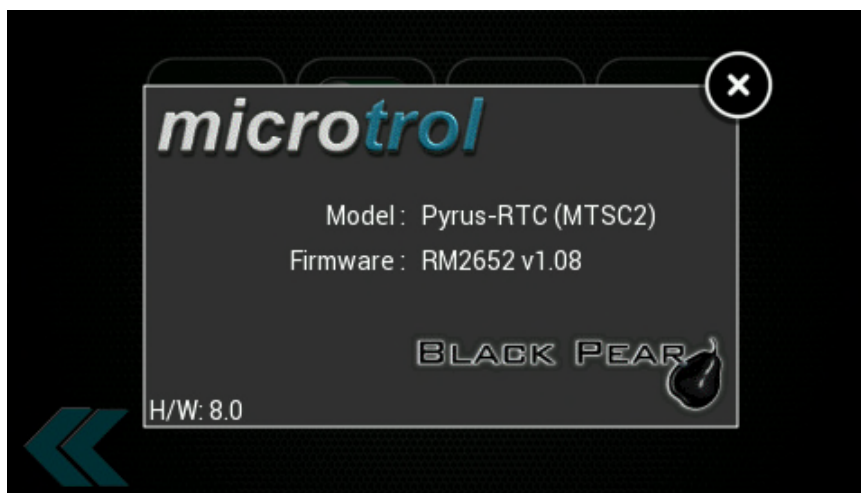
- 1) Room air temperature from the remote controller and the master indoor unit. The thermometer icon indicates which is selected as the controlling return air sensor.
- 2) The number of units in error.
- 3) The number of units with the filter sign active.
- 4) The occupancy state (if occupancy strategy is enabled). [MTSC1 only]

The filter reset button is displayed if the filter sign count is non-zero.

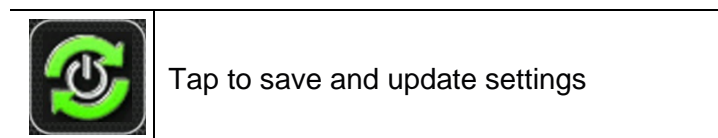
Tapping the air-conditioner icon will display the status of all connected indoor units.



## 6.4.16. Model Information



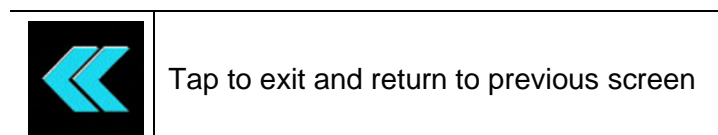
## 6.4.17. Reboot Button



Will be displayed when certain configuration changes require the indoor units and Remote Controller to be restarted.



## 6.4.18. Back Button




Tap to exit and return to previous screen.

When changing configuration settings, modified settings will be saved and the Remote Controller redisplay the HVAC control screen.

### 6.4.19. USB Configuration Mode (H/W rev. 8.0 and above)

This feature allows the MTSC2 to be powered up via a USB cable, to help simplify the process of off-site configuration, and also allow the unit to be demonstrated without being connected to an indoor unit.



This screen is displayed if the controller is only connected via USB. At this point use the PC configuration software to setup the controller / download new images, or tap the  button to enter demonstration mode.

### 6.4.20. Demonstration Mode

The controller pretends to be connected to 2 indoor units, one with an active error, the other with an active filter sign, and behaves as if it were connected to actual units.

## **6.5. Version History and New Features Guide**

### **6.5.1. Version Information**

v1.00 - 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)
<p><b>Note:</b> For further information regarding the above error codes, please contact your local Toshiba A/C supplier, or Toshiba A/C technical support.</p>	

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

# TOSHIBA



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