RV-WMB Wallbus Room Display

Description

The RV-WMB Room View display is designed for mounting on a standard electrical back box. It includes temperature and humidity sensors.

It has a high definition colour backlit LCD touch screen display with occupation override, setpoint, and fan speed control.

It is designed to operate with Trend IQ4 and IQeco controllers. It connects to the controller by a two wire polarity independent wall bus which carries both data and power.

Features

- Single power/data connection to controller reduces wiring
- Temperature and humidity sensing
- Calculated dew point output
- Operates in either °C or °F
- Portrait or landscape orientation
- High definition colour backlit touch screen LCD display
- Setpoint, fan speed, and occupancy override controls.
- Display of CO_2 Concentration and Outside Air Temperature values from controller
- Function key options (lights, blinds etc)
- Backup/Transfer of configuration details using micro SD card

Physical
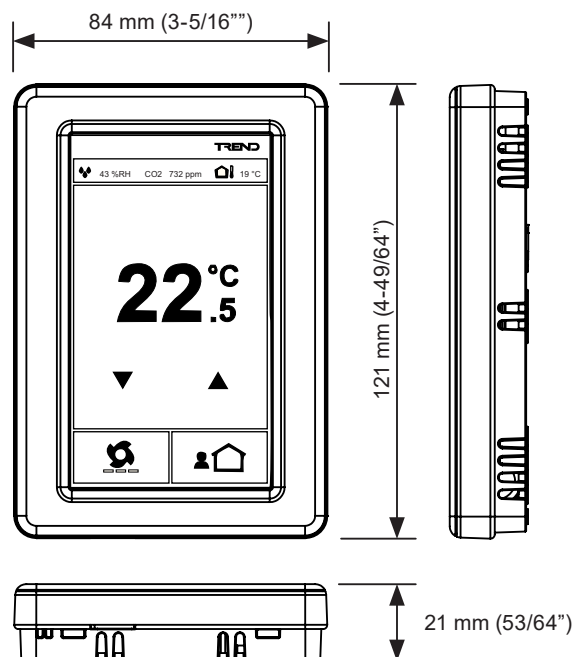
FUNCTIONALITY

The RV-WMB enables the setpoint to be displayed and adjusted locally. It also provides for the display and adjustment of fan speed and occupancy.

It includes both a humidity sensor and a temperature sensor and can output the temperature in either °C or °F. It will also calculate the dew point and make it available to the controller. The data in the controller that the RV-WMB can display and change is fixed, but will only be enabled if set up in the controller.

There are up to four touch screen buttons two of which are normally used to control fan, and occupation override. They can be set up with alternative icons for the control of blinds, heating, lights, windows, or backlight off control. The IQeco (prior to v2.3) supports 2 buttons and the IQeco (v2.3 or greater) and IQ4 support up to 4 buttons.

It connects to an IQ4 or IQeco via its wallbus connector. This two wire connection carries both data and power.

DISPLAY

The RV-WMB's display normally shows room temperature (main value) and humidity but can also display the temperature setpoint, CO_2, and outside air temperature values from the controller. These values are only displayed if supplied by the controller. The display is divided into three main areas:

Main Value
Buttons
Status Bar

Status Bar

Main Value
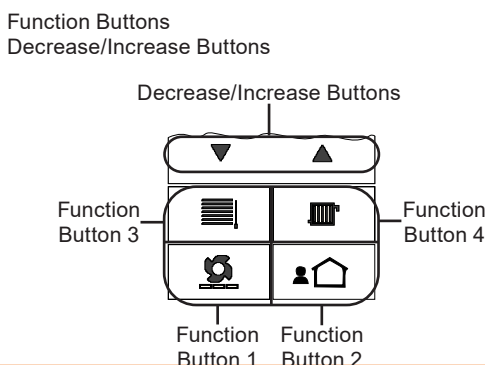(default = Room
temperature)
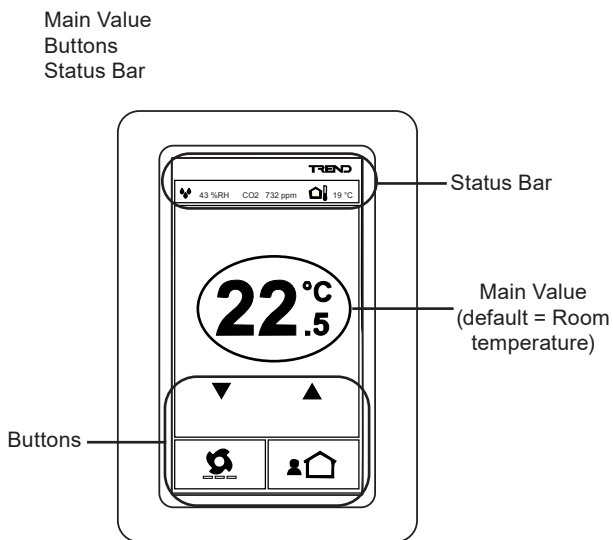
Buttons

Main Value

By default room temperature is the main value displayed by the RV-WMB but it can be changed to temperature setpoint using the Settings Menu. ⌁ indicates that the setpoint is being displayed.

Buttons

The RV-WMB has two areas of the display defined as buttons:

Function Buttons
Decrease/Increase Buttons

Decrease/Increase Buttons

Function
Button 3

Function
Button 4

Function
Button 1

Function
Button 2

Function Buttons

The RV-WMB can have up to four function buttons, which can all be used by the IQ4 and IQeco (v2.3 or greater); the IQeco (prior to v2.3) can only use buttons 1 and 2.

Button 1 and button 2 are normally used to control fan speed and occupation override. It is possible to configure the strategy so that they control other items.

The icons shown on all of the function buttons can be configured to suit the controlled items using the Settings Menu or by configuring the controller strategy (IQ4 and IQeco, v2.3 or greater, only).

Icon		Description
Configured for occupation override	👤🏠	Indicates an unoccupied status when under automatic control. Pressing button will override to occupied.
	🏠	Indicates an occupied status when under automatic control. Pressing button will override to unoccupied.
	👤🏠	Indicates an unoccupied status when under manual control. Pressing button will revert to automatic.
	🏠	Indicates an occupied status when under manual control. Pressing button will revert to automatic.
Configured for fan control	🌀	For single speed fan indicates ON
	🌀	For single speed fan indicates OFF. For multi-speed fan used in conjunction with icons below to indicate fan status.
		AUTO — Indicates multi-speed fan is in automatic control.
		▭▭▭ **(Off)** — Indicates multi-speed fan manual control speeds.
		▬▭▭ **(Low)**
		▬▬▭ **(Medium)**
		▬▬▬ **(High)**
▤		Button controls blinds
▥		Button controls heating
☼		Button controls lights
⊞		Button controls windows
◑		Button controls backlight off

Each function button can be removed from the display if it is not required using the Settings Menu or by configuring the controller strategy (IQ4 and IQeco, v2.3 or greater, only).

All function buttons can control a binary value (e.g. on/off fan), but only function buttons 1, 3 and 4 can control an enumerated value (e.g. fan off. low, medium, high, auto). Only function button 2 can control occupation override or backlight off.

Fan buttons: Pressing the fan button (🌀) will allow the user to override the fan speed control.

The way the fan operates is dependent on the type of fan control set up in the controller. For a 2 position fan, the fan icon changes to inverse (🌀) to indicate on, and the normal icon (🌀) to indicate the fan is off. For a multi-position fan, the first press switches the fan off, and subsequent presses step through the available fan speeds (e.g. low, medium, high), and the next press sets it back to AUTO. The off, low, medium, and high manual speeds, and automatic control state are shown by the fan icon (🌀) in conjunction with ▭▭▭, ▬▭▭, ▬▬▭, ▬▬▬, AUTO respectively.

Note: It is possible to configure the strategy in IQ4 or IQeco (v2.3 or greater) to override the fan button control.

Occupation override buttons: During automatic control the button will appear as either ⌂ or ⌂ depending on the occupation status. Normally pressing the button will override into the opposite occupation state and the button will appear as ⌂ or ⌂ depending on the occupation status. Pressing the occupation button again will return the occupation state to automatic control. For IQ4 and IQeco (v2.3 or greater) the override can also be controlled from the controller.

Backlight control button: Function button 2 can be configured for backlight off control. Pressing the button (◖) causes the backlight to turn off with only the button icon showing. Pressing the button again will turn the backlight on full (will dim after 1 minute). For IQ4 and IQeco (v2.3 or greater) the backlight state can also be controlled from the controller.

Decrease (▼) or increase (▲) buttons
During normal operation pressing the decrease or increase buttons will display the setpoint adjustment screen (if not displayed by default), and they can then be used to change the setpoint. The ✓ button to is used to confirm the change; ✗ is used to cancel it.

When in the settings menu these buttons are used to scroll up and down the menus and set values.

Status Bar

The Status bar will display Humidity, CO_2 concentration, and Outside Air Temperature if they are supplied to the RV-WMB by the controller.

Humidity — CO$_2$ Concentration — Outside Air Temperature
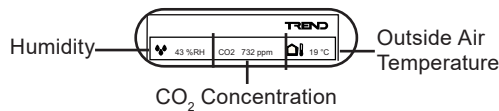
The icons used in the Status bar are described below:

Icon	Description
💧	Humidity
CO$_2$	CO$_2$ concentration - numerical
CO$_2$ 🔶	CO$_2$ level indication - graphical
⌂↓	Outside temperature

The Status bar also provides access to the Settings Menu when it is touched for more than 5 seconds.

NORMAL OPERATION

Startup Reset

The RV-WMB will perform a reset cycle when power is applied. On first start up it will then display a page allowing the unit's orientation (portrait or landscape) to be selected, (on subsequent startups this page is not displayed but orientation can be changed using the Settings Menu). If the orientation is changed the unit will pause and then restart. Once the orientation is set it will display a page showing the unit firmware version, wallbus address, and serial number. If communications with the controller are unsuccessful for at least 3 to 6 minutes the RV-WMB screen will display 'ERR' (error).

The time taken to show the full display will increase with the number of items shown on the screen (e.g. more buttons, more values).

Illumination State

By default the display's backlight will be dimmed. Pressing anywhere on the screen will brighten the backlight. About 1 minute after the last button is pressed the backlight will be dimmed.

Note: Buttons will act on the first press.

HARDWARE

Enclosure

The enclosure consists of a plastic back plate with a plastic clip-on main module. The back plate has several mounting holes enabling it to be used with a standard UK electrical back box, a standard US or Danish utility conduit box, or a 60 mm wall outlet box (dry lining wall boxes are not recommended as they prevent flush fitting). Space must be left around the unit for airflow and access to remove the main module.
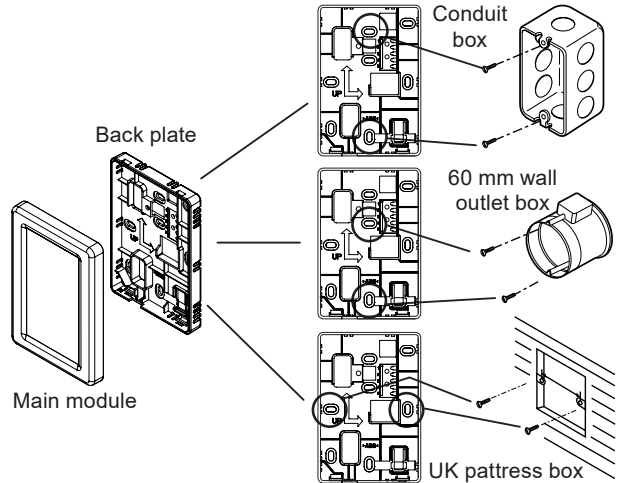
The unit is supplied with a dust cover for use during installation.

Input Power Supply

The RV-WMB is powered via the wallbus connection from the controller. You will need to ensure that the controller is capable of providing a minimum of 30mA for the RV-WMB.

The maximum number of devices that can be connected to the wallbus is governed by the total current consumption of all the devices and the maximum current available from the controller.

The IQeco39, IQecoVAV, and /230 variants of IQ41x and IQ422 controllers can all provide the full wallbus current of 50 mA. However, the current available from all other IQ4 controllers is dependent on other demands on their combined supply. See the IQ4 Configuration Manual (TE201263) for help with calculating the available current.

The IQeco wallbus supply is typically restricted to 10 mA but may be increased by reducing loads to other terminals which use the combined supply. See the IQeco31, 32, 35, 38 Data Sheet (TA201176) for further details.

Backup/Transfer

The RV-WMB configuration is stored in non-volatile memory (EEPROM). The configuration can be backed up to an micro SD card which can be transferred to another RV-WMB facilitating the configuration of multiple units.

Display

The RV-WMB has a colour backlit LCD display.

Communication

The RV-WMB connects to the controller's wallbus port using two polarity independent wires - see the RV-WMB Installation Instructions (TG201355). For maximum distance from the controller to the farthest wallbus device see table in specification section.

Address Switch

The RV-WMB has a wallbus address switch which is supplied with the switch in the binary zero (default) position. This position sets the RV-WMB's wallbus address to the address defined in the Settings Menu (default = 2). It should be left in this position.

For use with the IQeco (which can only have one wallbus device), the address must remain at 2.

If there is more than one device on the wallbus (i.e for IQ4), the RV-WMB's address may need to be changed from the Settings Menu (range 2 to 15). The Wallbus Interface module's address must be set the same as its RV-WMB for communications to succeed.

Note: Although the address range is 2 to 15, the number of wallbus devices connected to the controller will be limited by the controller's wallbus supply - see Input Power Supply.
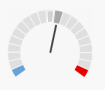
FIRMWARE

The firmware in the RV-WMB controls its basic functionality (e.g. what is displayed, the results of pressing the buttons).

Settings Menu

The Settings Menu enables changes to be made to the way the RV-WMB operates. Access to the Settings Menu is protected by a 4 digit PIN.

The following functions can be stepped through in the appropriate direction using the decrease/increase buttons. Selecting an item displays a submenu of items before the final selection is made using the ✓ button to confirm; using ✕ will cancel the selection. The exit icon (➡) returns to the previous menu level.

Set PIN: Allows the PIN required to access the Settings Menu to be changed - see "Security" on page 4.		
Homescreen: Specifies what is displayed on the home screen		
	Main Parameter (editable): The main value shown on the screen	
		Room Temperature (default)
		Temp Setpoint: Temperature setpoint
	Show Logo (editable)	
		Trend Logo (default): Trend logo shown in top right corner of display
		No logo: No logo shown on display
Setpoint Type (editable): Specifies whether the temperature setpoint is displayed as a number or as a graphic.		
	Numerical (default) 25.5 °C	
	Graphical	
Orientation (editable):		
	Portrait (default)	
	Landscape	
Note Changing the orientation causes the unit to pause and then restart.		
Colour Scheme: Specifies the colour scheme used by the RV-WMB		
	Light, High Contrast, Dark, Red, Green, Blue, Orange, Purple.	

Button 1 (editable)**:** Enables the button icon to be changed or removed.			
	None (not displayed), **Override, Backlight off, Fan, Blinds, Heating, Lights, Window** *Note: only buttons 1, 3 and 4 can control an enumerated value (e.g. fan off. low, medium, high, auto). Only button 2 can control occupation override or backlight off mode.* Buttons 1 and 2 normally control fan speed and occupation override respectively. The strategy can be configured to define the use of the buttons, in which case the icon can be changed appropriately.		
Button 2 (editable): As per button 1			
Button 3 (editable): As per button 1			
Button 4 (editable): As per button 1			
CO$_2$ Configuration			
	Lower threshold (editable):		
		Can be adjusted between 0 and 3000 ppm. Default = 750	
	Upper threshold (editable):		
		Can be adjusted between 0 and 3000 ppm. Default = 1250.	
	Type (editable):		
		Numerical (default) E.g CO$_2$ 732 ppm	
		Graphical: This is shown as a cloud: green, amber, or red (i.e. a traffic light system). 🟢 (green): Current value below low CO$_2$ threshold level. 🟠 (amber): Current value between low and high CO$_2$ threshold levels 🔴 (red): Current value above high CO$_2$ threshold level.	
Device			
	Firmware Version (read only): **Factory Configuration** (read only): **Device Address**: This is the address of the RV-WMB on the wallbus (default =2). The address can be changed from here (range 2 to 15) if the address switch is set to zero - see address switch on page 4. **Upgrade Firmware:** Initiates a firmware upgrade from a micro SD card plugged in to the RV-WMB. **Load Configuration from SD:** Transfers the Settings Menu configuration from a micro SD card plugged in to the RV-WMB. Can be used to restore configuration, or to transfer configuration from other RV-WMBs. **Save Configuration to SD:** Transfer the Settings Menu configuration to a micro SD card plugged in to the RV-WMB. Can be used as backup, or to transfer configuration to other RV-WMBs. *Note: the Upgrade Firmware and Load/Save Configuration selections are followed by a confirmation screen. These functions also detect errors (e.g. missing/unformatted SD card, missing file).*		

Note: Certain editable parameters may be set from the Settings Menu and from the controller in which case changes made from the Settings Menu may be overridden by the controller.

Security

The RV-WMB is pre-programmed with a 4 digit PIN to protect entry to the Settings Menu. The PIN must be changed using the Set PIN function within the Settings Menu to protect the RV-WMB from unauthorised changes. All 4 digits should be set up, and the first digit cannot be zero. If the PIN is forgotten, contact Trend Technical Support.

Fan Configuration

For IQeco (prior to v2.3), the fan can be operated in one of seven modes (0 to 6), set by the 'Fan Configuration' parameter (f) of I/O module 2.

For IQ4 and IQeco (v2.3 or greater) the fan configuration mode is set by the controller to one of five modes (0 to 4) according to the appropriate function button's configuration PV. The equivalents to IQeco modes 5 and 6 (blinds modes) are achieved by using modes 3 and 4 with a blinds icon.

Mode	Description
0	Fan not controlled. The Fan function button is not shown on the Home display.
1	2 position fan (Off/On). The fan icon (🌀) indicates the fan is off, and the inverse fan icon(🌀) indicates the fan is on. The Fan function button sends values 0=OFF, 255=ON.
2	3 position fan (Off, On, Auto). For Off and On, the fan icon (🌀) is shown with three bars underneath. If all 3 bars are empty (▭▭▭), the fan is Off, if all three bars are full (▬▬▬), the fan is On. The fan icon (🌀) and AUTO indicate the fan is in Auto mode. The Fan function button sends values 0=OFF, 1=ON, 4=AUTO

| Mode	Description
3	4 position fan (Off, 1, 2, 3). The Fan function button sends values 0=OFF, 1=Low, 2=Medium, 3=High. See appropriate rows in table in mode 4 below:
4	5 position fan (Off, 1, 2, 3, Auto). Fan function button sends values 0=OFF, 1=Low, 2=Medium, 3=High, 4=AUTO. The button is shown with a fan (🌀) above off, low, medium, high icons, or AUTO.
5 IQeco only	4 position blind (0, 1, 2, 3). The state is not indicated by the icons. The value sent from the RV-WMB on each Fan function button press cycles between 0, 1, 2, 3. It can be used to control another device; for example, it can be used to control a window blind (0=static, 1=raise, 2=static, 3=lower).
6 IQeco only	5 position blind (0, 1, 2, 3, 4). The state is not indicated by the icons. The value sent from the RD-WMB on each Fan function button press cycles between 0, 1, 2, 3, 4. It can be used to control another device.

Process Variables (PVs)

Information is transferred between the controller and the RV-WMB using Process Variables (PVs). This is true for both IQeco and IQ4. However, for IQeco (prior to v 2.3) the relationship between strategy modules and the PVs is fixed, and all that is required is to make the appropriate modules available in the strategy - see "Main Value" on page 27. This method is aso supported by by IQeco v2.3 or greater so that strategies created for the earlier IQeco are supported.

IQeco v 2.3 or greater can use, and IQ4 will use, a more flexible method where the Wallbus Interface module is configured to make the links - see "Use with IQ4 (or IQeco v2.3 or greater)" on page 7.

Each PV is either an input to the RV-WMB, an output from the RV-WMB or an input/output.

For the RV-WMB's internal values (e.g. temperature, humidity, and dewpoint), the values are outputs from the RV-WMB and the displayed values on the RV-WMB are separate inputs to the RV-WMB.
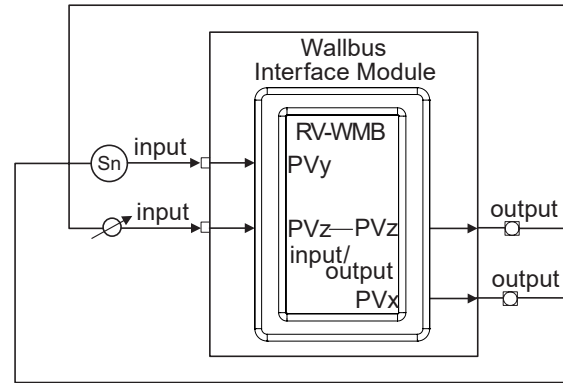
This can be seen in the diagram where PVx is an output from the RV-WMB which is connected to a sensor module in the strategy. The sensor's output is then sent back to the RV-WMB for display (PVy). This enables the strategy to change the value before display (e.g apply an offset).

Some values are both input and output (e.g. setpoint). In the example the input and output of the knob are both connected to PVz. If the value is changed in the RV-WMB it is written to the knob, and if the value of the knob is changed (e.g by text comms) the value is written to the RV-WMB, the last one changed becomes the current value.

The table below lists the PVs.

PV	Variable	Description	Input/Output	*Overwrite Settings Menu
1001	Temperature	The RV-WMB temperature sensor reading.	Output	No
1002	Humidity	The RV-WMB humidity sensor reading.	Output	No
1003	Dew point	The dew point calculated in the RV-WMB.	Output	No
1004	Firmware version	RV-WMB's firmware version	Output	No
1005	Factory configuration	Numeric code for RV-WMB configuration e.g 110:TH	Output	No
2001	Temperature configuration	Defines units displayed for temperature and setpoint, and used for temperature measurement and dew point calculation, 1 = °C, 2 = °F	Input	No
2002	Display temperature	Room temperature to be displayed on RV-WMB.	Input	No

PV	Variable	Description	Input/Output	*Overwrite Settings Menu
2003	Fan Configuration (Button 1)	Defines what type of control the button 1 supports (only modes 0 to 4) - see "Fan Configuration" on page 5. 0 = No button 1 = 2 position (Off/On) -binary function 2 = 3 position fan (Off, On, Auto) - enumerated 3 = 4 position fan (Off, 1, 2, 3) -enumerated 4 = 5 position fan (Off, 1, 2, 3, Auto) - enumerated	Input	No
2004	Occupation State	Occupation state 0 = Occupied 1 = Unoccupied 255 = No button	Input	No
2005	Setpoint high limit	Maximum value the temperature setpoint can be set to.	Input	Yes
2006	Setpoint low limit	Minimum value the temperature setpoint can be set to.	Input	Yes
2007	Display humidity	Humidity to be displayed on RV-WMB.	Input	No
2008	Setpoint Enable	Enables temperature setpoint to be changed from RV-WMB. Disabling it allows setpoint value to be displayed without being able to change it. 0 = Disable, 1 = Enable (default)	Input	No
2009	Fan Enable	Enables fan setting to be changed from RV-WMB. Disabling it allows fan status to be displayed without being able to change it. 0 = Disable, 1 = Enable (default)	Input	No
200A	Override Enable	Enables occupation to be overridden from RV-WMB. Disabling it allows occupation status to be displayed without being able to change it. 0 = Disable, 1 = Enable (default)	Input	No
200B	Display CO_2	The value of CO_2 from the controller to be displayed on the RV-WMB	Input	No
200C	Display Outdoor Temperature	The value of outside air temperature from the controller to be displayed on the RV-WMB	Input	No
200E	CO_2 Display Mode	Selects either numeric or graphic images for the display of CO_2 concentration 0 = Numeric (default), 1 = Graphic If this is set up it will overwrite the setting in the RV-WMB.	Input	Yes
200F	CO_2 threshold level 1	The lower indication level in the RV-WMB below which the green cloud is shown in graphical display mode. If this is set up it will overwrite the setting in the RV-WMB.	Input	Yes
2010	CO_2 threshold level 2	The upper indication level in the RV-WMB above which the red cloud is shown in graphical display mode. If this is set up it will overwrite the setting in the RV-WMB.	Input	Yes
2012	Button 3 Configuration	As PV 2003	Input	No
2013	Button 4 Configuration	As PV 2003	Input	No
6001	Fan state (Button 1)	This is the current state of button 1. It can be set to any value within the range defined by button 1 configuration (PV2003).	Input/Output	Yes
6002	Override state (Button 2)	This is the current state of button 2. It can be set to 0 or 1. If PV2004 (Occupation State) is set to 255, this will be ignored. For occupation override these are: 0 - automatic, 1 - override.	Input/Output	Yes
6003	Setpoint	The current value of temperature setpoint. It can be set in the range between Setpoint low limit (PV2006) and Setpoint high limit (PV2005).	Input/Output	Yes
6004	Button 3 State	As for PV6001 but for button 3 (range set by PV20012)	Input/Output	Yes
6005	Button 4 State	As for PV6001 but for button 4 (range set by PV20013).	Input/Output	Yes
6007	Backlight Control	The backlight state. 0: Backlight off 1: Backlight on	Input/Output	Yes
B020	Button 1 icon	Defines icon for button 1. 0: no icon 1: Fan 2: (not usable) 3: Blinds 4: Heating 5: Lights 6: Window 7: (not usable)	Input/Output	Yes
B021	Button 2 icon	Defines icon for button 2. As for B020 with additions 2: Occupation 7: Backlight Off Control	Input/Output	Yes

PV	Variable	Description	Input/Output	*Overwrite Settings Menu
B022	Button 3 icon	Defines icon for button 3. As for B020.	Input/Output	Yes
B023	Button 4 icon	Defines icon for button 4. As for B020.	Input/Output	Yes

*Those PVs tagged 'yes' will overwrite the values set by the Settings Menu when sent from the controller. For input/output PVs, as well as controller values overwriting the Settings Menu values, the Settings Menu values will overwrite the controller values. As explained above this is normally done in the strategy by connecting the input and output from the interface module to a knob or switch. The last change (either from controller or Settings Menu) will set the current value.

Function Buttons: When used with IQ4 (or IQeco v2.3 or greater) there are three PVs for each of the three buttons, 1, 3, and 4:

> **Button Configuration** (PVs 2003, 2012, 2013): This PV should be set to enable/disable the button and its display on the screen. The non-zero values define what states the button will step through in sequence as it is pressed.

> **Button State** (PVs 6001, 6004, 6005): This is the value of the parameter being controlled.

> **Button icon** (PVs B020, B022, B023): This PV should be set to enable/disable display of the icon. The non-zero values define what icon is displayed on the button.

Button 2 is an exception. It can only control binary items. It is the only button which can control occupation override or backlight off. It can be disabled and not displayed by setting PV2004 to 255. Its icon is set by B021 which can be set to no icon (value 0) or any of the other icons.

If used for occupation override, the occupation state is defined by PV2004, and the override state is defined by PV6002. These two PVs will produce the four states which are shown by the icons: occupied, unoccupied, overridden to unoccupied, and overridden to occupied. If button 2 is used for another binary item (e.g heating on/off) the override state PV6002 should be used to control the item in the strategy.

The use of button 2 for backlight off control is a special case: pressing the button will set PV6007 which controls the backlight directly (zero is light off, one is light on). Since PV6007 is an input/output the controller can both monitor the backlight state and control it.

CONFIGURATION

Use with IQ4 (or IQeco v2.3 or greater)

If the RV-WMB is to be used with an IQeco (v2.3 or greater) or IQ4, the strategy to interface with the device must be configured using IQ®SET. This can be done in two ways:

> Using the IQ SET strategy block
> Manual configuration

Using the IQ SET strategy block (recommended):

- Add the IQ SET strategy block to the strategy. The strategy block (RV-WMB-TH) is located in the 'Standard Block' section of the Strategy Library in the 'RV' section of 'WMB Room Modules'.
- Set the Wallbus Interface module's 'Address' parameter to the RV-WMB's address on the Wallbus (default is 2)
- Ensure that the Wallbus Interface module's inputs and outputs are linked to the required modules in the strategy.

Important: When using the strategy block (as explained above) some PVs write their value to the RV-WMB and will overwrite changes to that PV made in the RV-WMB's Settings Menu. If this is not required remove the PV from the Wallbus Interface module's inputs. See "Process Variables (PVs)" on page 5 for details.

Adding the strategy block will automatically add the Wallbus Network module, and create an instance of the Wallbus Interface module.

The strategy block configures the inputs and outputs of the Wallbus Interface module as detailed below:

> Address 2
> Room temperature, humidity and dew point output to strategy from RV-WMB and fed back for display via sensor modules.
> Fan configured as a 5 position fan (Off, 1, 2, 3, Auto) - (4)
> Temperature setpoint high limit 25 - linked to 'Setpoint Highlimit' knob
> Temperature setpoint low limit 15 - linked to 'Setpoint Lowlimit' knob
> Temperature setpoint can be changed from controller 'Setpoint' knob or RV-WMB
> Fan state can be changed from controller 'Fan State' knob or RV-WMB.
> Occupation can be overridden from controller 'Override State' switch or RV-WMB
> Occupation state output to RV-WMB
> °C used for temperature and setpoint units
> CO_2 concentration displayed as numeric
> Lower CO_2 threshold 750
> Upper CO_2 threshold 1250
> CO_2 concentration and Outdoor temperature inputs available for connection
> Button 3 not displayed
> Button 4 not displayed
> Button 1 to 4 icons are not set up or read back by the strategy
> Backlight control not implemented

This configuration should be suitable for most applications. If different functionality is required the strategy will need to be modified after the strategy block has been added.

Manual configuration:

- Add the Wallbus Network module to the strategy (default values will be suitable).
- Add a Wallbus Interface module to the strategy.
- Set the Wallbus Interface module's 'Address' parameter to the RV-WMB's address on the Wallbus.
- Set up the Wallbus Interface module's input and output connections to specify the PV (PV Index) in the RV-WMB that they are to be linked to as well as their other parameters. The RV-WMB's PVs are described in "Process Variables (PVs)" on page 5.
- Link the Wallbus Interface module's inputs and outputs to the required modules in the strategy.

For details of the Wallbus Network and Wallbus Interface modules see IQeco Configuration Manual (TE201089) or the IQ4 Configuration Manual (TE201263). For details of using IQ SET - see the IQ SET Manual (TE200147)

Use with IQeco prior to v2.3

Note: This method is also supported by IQeco v2.3 or greater so that existing strategies are still compatible.

Connecting the RV-WMB to the IQeco makes additional I/O channels available to the controller. The RV-WMB is considered to be an additional I/O module (I/O module 2) of WMB display type.

Configuring this module gives additional I/O channels and some fixed mapping to the controller variables.

This method is described fully in the IQeco Configuration Manual (TE201089).

COMPATIBILITY

The RV-WMB is compatible with IQeco with firmware version 2 or greater, and with the IQ4 firmware version 3.30 or greater. IQ SET v7.0 or greater is required to configure IQ4 for use with RV-WMB. IQ SET v7.04 is required to configure IQeco v2.3 or greater for use with RV-WMB.

IQeco standard strategies can use the RV-WMB without any further engineering.

There is a special set of standard strategies for using the RV-WMB with an IQeco v2.3 or greater. These use the more flexible method of interfacing (also used by IQ4) described on p7. This method enables the IQeco to use all four function buttons.

FIELD MAINTENANCE

The RV-WMB requires no routine maintenance.

DISPOSAL

COSHH (Control of Substances Hazardous to Health - UK Government Regulations 2002) ASSESSMENT FOR DISPOSAL OF RV-WMB . No parts affected.

RECYCLING ♲.
All plastic and metal parts are recyclable. The printed circuit board may be sent to any PCB recovery contractor to recover some of the components for any metals such as gold and silver.

> **WEEE Directive:**
>
> At the end of their useful life the packaging and product should be disposed of by a suitable recycling centre.
>
> Do not dispose of with normal household waste.
> Do not burn.

INSTALLATION

The RV-WMB should be mounted on a standard electrical back box or front panel using two screws. The installation involves:

Mounting unit
Connecting to controller for power and data.
Configuring controller
Configuring RV-WMB
Testing operation

The installation and configuration procedure is covered in the RV-WMB Installation Instructions (TG201355).

ORDER CODES

RV-WMB-TH   Room Display (complete with dust cover). Compatible with IQ4 or IQeco with a wallbus connection It has a temperature sensor, humidity sensor, calculated dew point output, setpoint control, occupation override, occupation status display, and fan speed control. It also has the ability to display CO_2 concentration and outside temperature values from the controller.

RV-WMB-TH-BX   Room Display without bezel (complete with dust cover) for use RV-BW-A paintable bezel. Compatible with IQ4 or IQeco with a wallbus connection It has a temperature sensor, humidity sensor, calculated dew point output, setpoint control, occupation override, occupation status display, and fan speed control. It also has the ability to display CO_2 concentration and outside temperature values from the controller.

RV-BW-A   Paintable bezel for use with RV-WMB-TH-BX.

SPECIFICATION

ELECTRICAL

Buttons	:(touch screen) 2 raise/lower buttons and 4 programmable function buttons
Display	:High definition coloured backlit touch screen LCD display
Communication	:WMB wallbus. Two wire bus for connection of display units to controller. Polarity independent.
Cable Type	:Unscreened twisted pair.
Bus length	:60 m (200 ft) max.
Number of devices	:10 max. Depends on which devices and which controller are used - see Input Power Supply on page 3.
Temperature Sensor	:Solid state
Temperature range	:0 °C (32 °F) to +50 °C (122 °F)
Temperature Accuracy	:±0.2 °C at 25 °C (±0.36 °F at 77 °F)Total system accuracy ±1 °C at 25 °C (±1.8 °F at 77 °F)
Humidity sensor	
Humidity Range	:0 to 95 %RH non-condensing
Humidity Accuracy	:±5 %RH
Setpoint Control	:Increment/Decrement by 0.5 °C (1 °F) (or 0.05 x range if set to graphic)
Backup	:Micro SD card (FAT 32 formatted) used to backup, restore, and transfer settings

MECHANICAL

Dimensions	:84 mm (3 5/16") x 121 mm (4 49/64") x 21 mm (53/64") from electrical back box
Material	
Main module	:ABS
Back plate	:ABS
Weight	:148 g, (5 1/4 ozs)
Protection	:IP30
Connections	:Polarity independent, 2 part connector with 2 screw terminals for 0.33 to 0.82 mm^2 (22 to 18 AWG) cross section area cable.

ENVIRONMENTAL

Operating Temperature	:0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	:-20 °C to 65.°C (-4 °F to 150 °F)
Approvals	:CE, UL94-V0 plastic enclosure; FCC Part 15, Class B

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