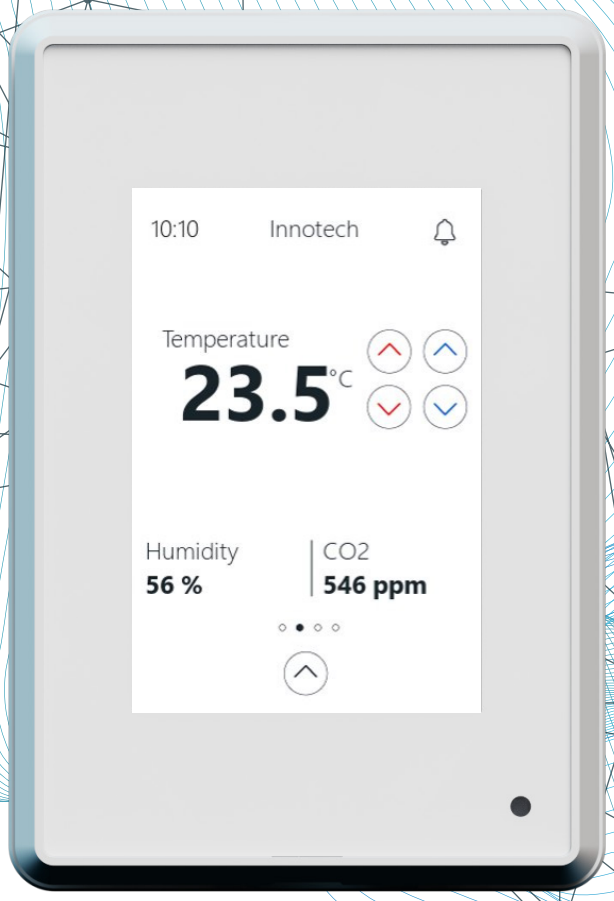

innTOUCH2 SmartSensor

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Version 1.1

November 2024

PM-241101

Connectivity

Intuitive UI
HVAC Control
Modern Design

INNOTECH®

Contact Information

Phone: +61 7 3421 9100
Email: sales@innotech.com
Web: www.innotech.com

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Revision History

VERSION	DATE	CHANGE SUMMARY
1.0	December 2023	Document First Revision
1.1	November 2024	Updated documentation for latest features in 1.1 and 1.2 firmware

CONTENTS

1. INTRODUCTION

This manual is intended to provide qualified technical personnel with complete and easy-to-follow instructions for the installation and commissioning of the Innotech innTOUCH2 Smart Sensor. Although the intent of this manual is to simplify the installation task, instructions contained in this manual assume that installation of an Innotech innTOUCH2 Smart Sensor will be accomplished by technically qualified personnel. Also, these instructions assume that installation personnel are familiar with local regulations, codes, and safety requirements. Installers should familiarise themselves with the content of this manual before attempting installation of the innTOUCH2 Smart Sensor.

Throughout this manual there are icons to illustrate notes and points of caution, as illustrated below:

These notices indicate a piece of useful information which should be read.

These notices important information that must be read before proceeding further to ensure success. Ignoring these instructions could result in damage to person or device.

1.1 SPECIAL CONSIDERATIONS

The following precautions and installation considerations must be observed to ensure personal safety and to prevent damage to equipment:

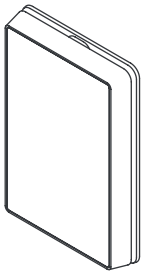
- Local safety regulations, building codes and ordinances must be complied with during installation. In cases of conflict with procedures in this manual, contact Innotech or its authorised representative for clarification.
- To prevent damage to equipment, avoid applying electrical power to the equipment prior to checking the system, unless specifically instructed to do so in this manual.
- The innTOUCH2 Smart Sensor can be installed using common tools and test equipment. Only qualified personnel familiar with local codes and practices should install the system. Wiring should only be performed by someone knowledgeable of electronics and wiring installation practices. Refer to the appropriate documentation when installing items provided by other manufacturers.

1.2 TOOLS AND TEST EQUIPMENT

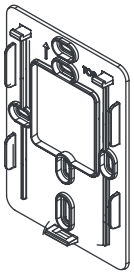
A No.2 Phillips screwdriver is required for mounting of the wall plate and a 2mm flat blade screwdriver is required for wiring of the terminals. A high impedance digital Multi-meter is the only item of electronic test equipment required.

1.3 IN THE BOX

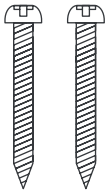
The innTOUCH2 Smart Sensor includes the following items:



Smart Sensor Unit



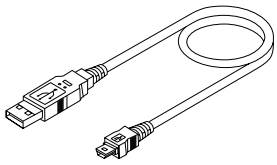
Wall Plate



M3.5 50mm PAN Head Screws

1.4 ACCESSORY ITEMS

The following item is available separately:



USA-MINI B Cable

2. INSTALLATION

This section of the manual contains instructions and related data to facilitate the installation of components of the Innotech innTOUCH2 Smart Sensor.

Innotech recognises that the installation examples described in this manual may not meet the user's requirements. However, information in this document should be used as a guide for all installations, regardless of whether the specific circumstances match the examples given. In all cases, installation personnel should familiarise themselves with the information contained in this section.

2.1 GENERAL INSTALLATION INSTRUCTIONS

- Do not mount near high voltage, high current cables or sources of strong radio frequency emissions such as transmitter antenna cables.
- Mount the devices in an area of minimum vibration and minimum exposure to mechanical damage.
- Ensure devices vents are not impeded by the wiring or other obstructions.
- Do not mount in direct sunlight or where there is a large variation in temperature due to moving air.

2.2 ELECTRICAL INSTALLATION

If any data presented in this manual disagrees with information in the applicable instruction manual, information in the manufacturer's instruction manual takes precedence. Customers are encouraged to contact Innotech Control Systems for further information or clarification of information presented herein via the contact details.

Electrical power to the system must be turned off throughout the installation process. Do not apply power to any part of the system until ready for Commissioning.

Cabling plays an important role in the installation of innTOUCH2 Smart Sensor devices. The following general cabling guidelines should be observed:

- When necessary to protect cabling from physical damage, both shielding and physical protection may be provided by running the cable in a metal conduit. Alternatively, use steel wire armoured (SWA) cable, which also contains an electromagnetic shield
- Avoid running cables in the vicinity of high voltage power cables or cables carrying switching voltages/currents.
- Power supply cables must have multi-strand conductors with a cross-sectional area of 0.5mm^2 for each conductor.
- For communications, a minimum 7 strand conductor (0.2mm^2) shielded cable is required.

2.3 NETWORK INSTALLATION

Innotech recommends the use of cables specifically designed for RS-485 networks. There are many cables on the market that meet the specifications for RS-485 networks.

Best reliability is achieved through a cable consisting of two individually shielded twisted pairs of low capacitance. Such cables also provide excellent mechanical strength and lowest electrical resistance, which is beneficial for maximum length cable runs.

Some CAT6 cable types may also be suitable in certain applications. Care should be taken when using CAT6 for Primary Networks as they frequently omit shielding. CAT6 cables should be shielded in order to provide reliable communications.

Any cable that meets or exceeds all the stated specifications is suitable for use:

- 2 twisted pairs
- Minimum conductor cross section AWG24 (0.205 mm2)
- Stranded core type is recommended (7 strands of 0.193 mm)
- Conductor Foil screened cable with a wire drain
- Less than 50 pf capacitance per metre between conductors
- Less than 80 pf capacitance per metre between conductors and screen
- Impedance 100 – 120 Ohms
- Sheath thickness 0.8 mm 240 V rated
- Equivalent to the Belden Part #8102

Note: RS-485 maximum data rate is affected by number of devices on the network and the length and type of cable used.

2.4 POWER INPUT

The innTOUCH2 Smart Sensor power requirements are as follows:

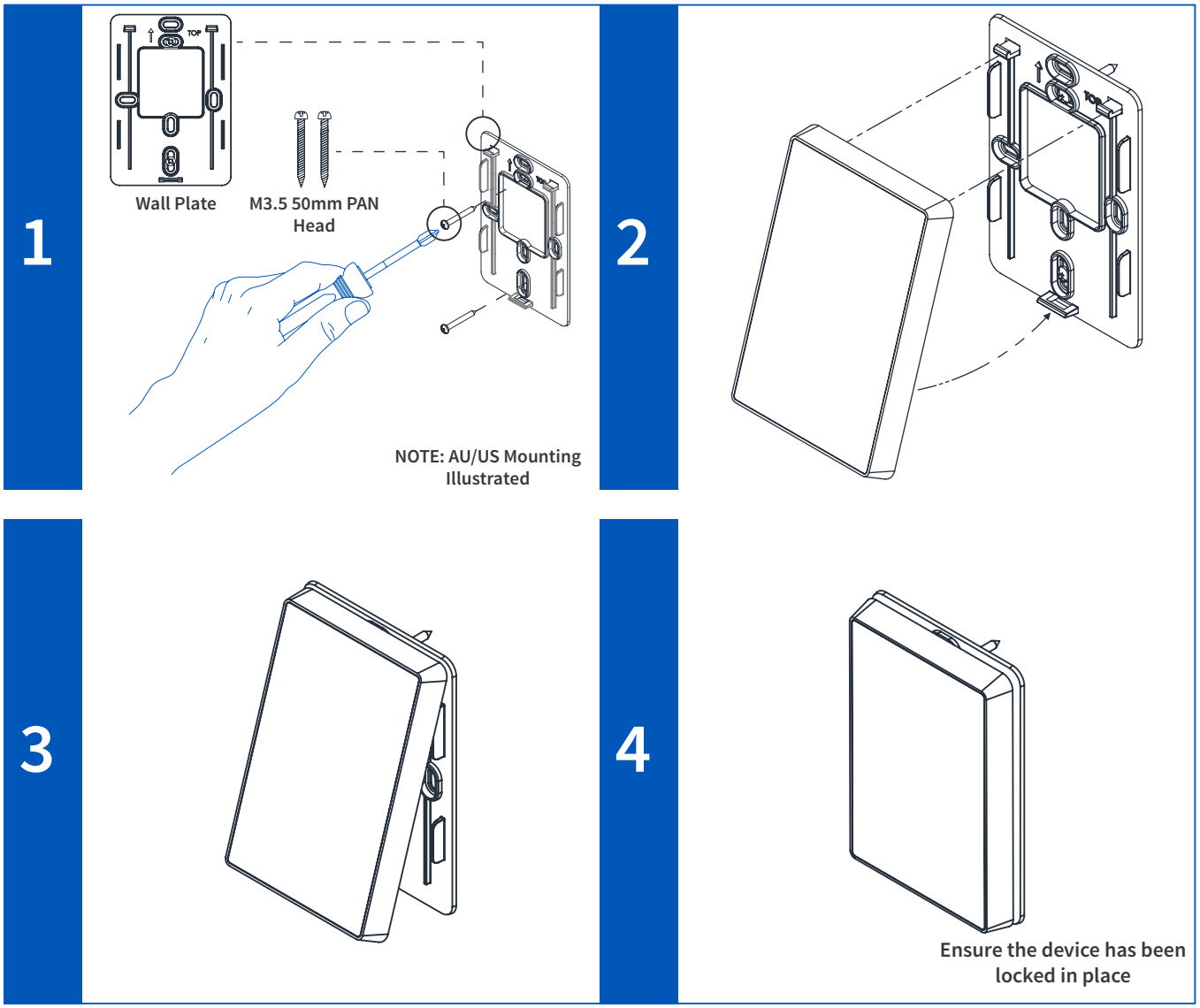
- 24VAC or 24VDC ±10%
- Recommended Transformer Rating: Refer to the applicable product data sheet.
- Power Consumption: Refer to the applicable product data sheet.

The operating voltage must meet the requirements of Safety Extra Low Voltage (SELV) to EN60730. The transformer used must be a class 2 safety transformer in compliance with EN60742 and be designed for 100% duty. It must also be sized and fused in compliance with local safety regulations.

A single transformer may be used to supply voltage to more than one controller or smart sensor, but you must ensure that the planned load is well within the rating of the transformer. The transformer output terminal designated as AC Neutral must be solidly earthed to the main earth link of the enclosure panel.

The Smart Sensor's power input is polarity dependent, ensure the active and neutral connections are made as per the diagram provided in the following section.

2.5 WALL MOUNTING



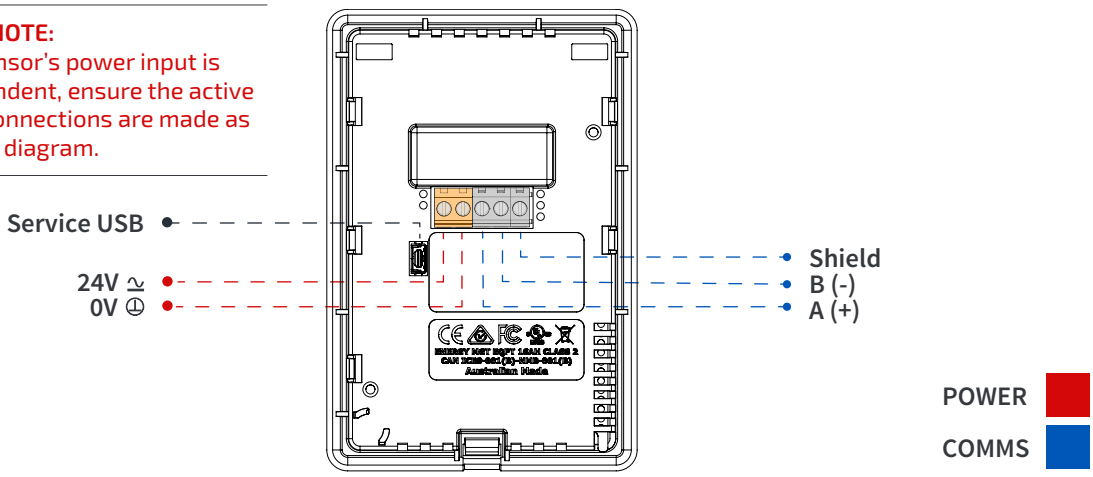
1. Mount the Wall Plate securely to the wall using the appropriate mounting holes.
2. Rotate the Smart sensor 20 to 45°
3. Place the Smart Sensor onto the Wall plate ensuring the hooks have griped the Smart sensor hook mounting holes
4. Lower the bottom down ensuring that it remains hooked, press until the plastic clip engages locking the Smart Sensor to the Wall plate.

Parts List

M3.5 Pan head screw 2x supplied.
Wall plate
innTOUCH2 Smart Sensor

2.6 MS/TP WIRING GUIDE

IMPORTANT NOTE:
The Smart Sensor's power input is polarity dependent, ensure the active and neutral connections are made as per the below diagram.

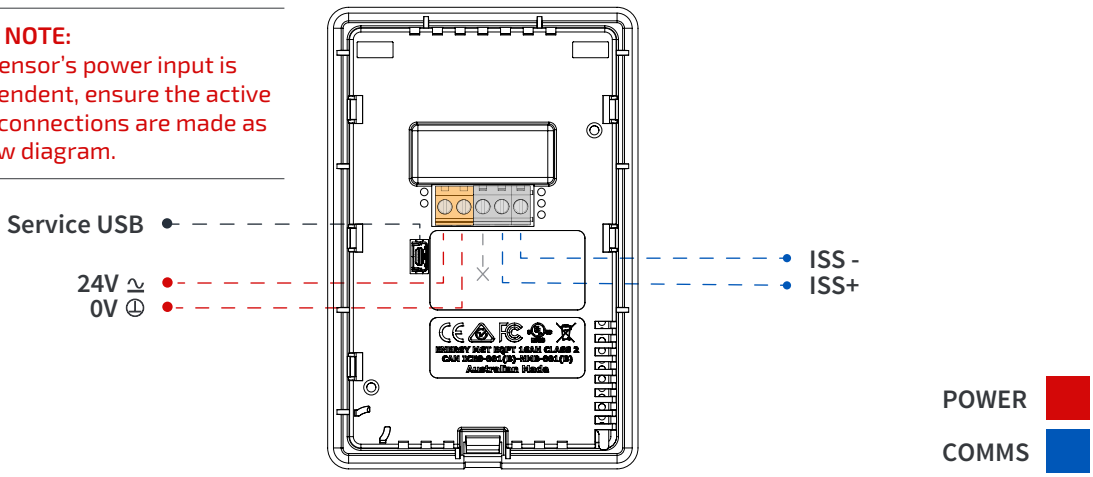


POWER	DESCRIPTION
24V AC/DC	24V+ / Active
0V	0V / Neutral
COMMS	**DESCRIPTION**
A(+)	Signal cable A
B(-)	Signal cable B
Shield	Cable Shield

RS485 Termination: User must install a 120 Ohm 1/4 Watt Metal Film resistor across A , B terminals if installed at end of line.

2.7 ISS WIRING GUIDE

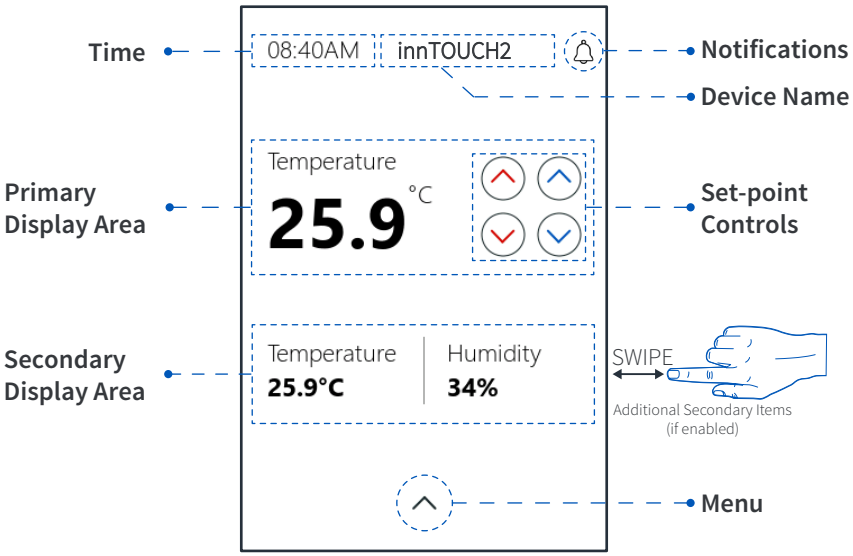
IMPORTANT NOTE:
The Smart Sensor's power input is polarity dependent, ensure the active and neutral connections are made as per the below diagram.



POWER	DESCRIPTION
24V AC/DC	24V+ / Active
0V	0V / Neutral
COMMS	**DESCRIPTION**
N/C	Not Connected
ISS +	ISS Positive Signal
ISS -	ISS Negative Signal

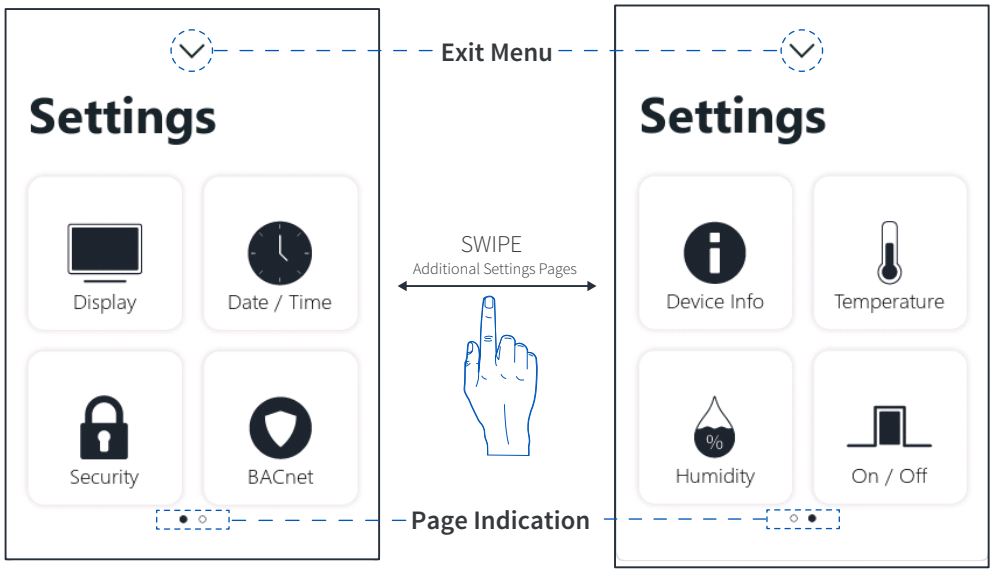
3. USER INTERFACE NAVIGATION

3.1 HOME PAGE

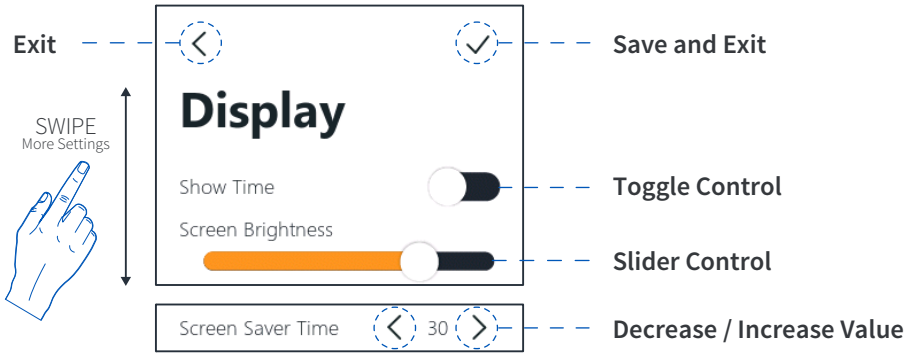


SETTING	DESCRIPTION
Time	Displays current time (if enabled)
Primary Display Area	Only one element can be allocated to primary display area (configured on individual setup pages) Displays current value Provides control set-point adjustment if configured. Pressing arrows displays the set-point value to allow adjustment o Cooling set-points adjusted with blue up/down arrows o Heating set-points adjusted with red up/down arrows o All other set-points adjusted with black up/down arrows
Secondary Display Area	Multiple elements can be allocated to secondary display area Displays current value Two values visible on screen at same time. Additional values visible by dragging over secondary area left/right. Secondary values can have editable set-points. Tap the desired value to present it in primary display area whereby the editable controls will become available (in primary area).
Menu	Access to Settings Menu
Messages	Flashing if a message / alarm event has occurred. Tap to view message log.

3.2 SETTINGS MENU



3.3 PAGE NAVIGATION AND CONTROL



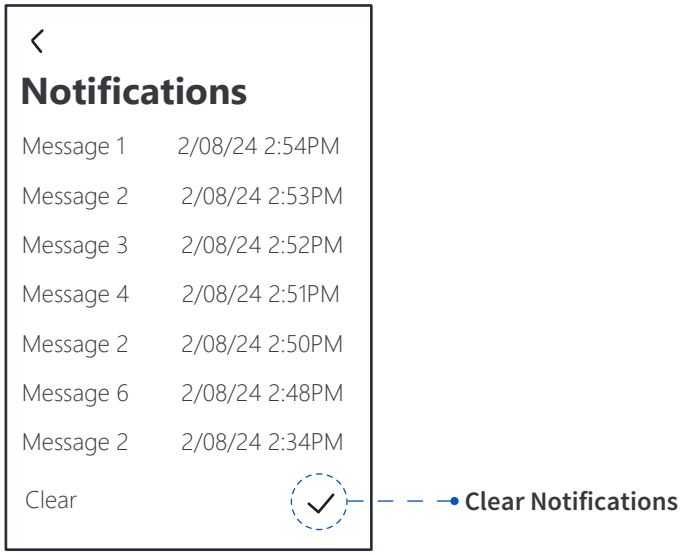
SETTING	DESCRIPTION
Exit	Returns to the previous page without saving changes
Save and Exit	Saves changes and returns to the previous page
Toggle Control	Allows settings to be enabled or disabled (On/Off)
Slider Control	Provides a linear control between minimum and maximum values
Decrease/Increase Value	Decrease value by pressing left arrow. Increase value by pressing right arrow. Hold arrow down for large value skipping
Vertical Swipe	Swipe vertically to access additional settings (where available)

4. NOTIFICATIONS

4.1 NOTIFICATIONS LIST

Selecting the Notifications Symbol, displays a list of last 10 messages that have occurred from latest to oldest. Notifications are generated by the controller writing to the '*messages object*' via ISS or BACnet.

To clear all notifications, scroll to the bottom of the list and tap the 'tick icon' next to '*Clear*'.



5. SETTINGS

5.1 DISPLAY

The display setting can be accessed by tapping the button Icon as shown.

Once accessed the following settings will be accessible, Screen brightness, screen saver, screen saver time and screen brightness (screen saver).

Screen brightness and screen saver brightness can all be adjusted using the sliders.

The screen saver can be turned on and off.

The screen saver time setting can be changed using the arrow buttons.

SETTING	DESCRIPTION
Show Time	Enable time display on home page.
Show Alarm	Enable 'Alarm Bell' icon display on home page
Screen Brightness	Changes screen brightness by percentage.
Screen Brightness (Screen saver)	Changes screen brightness of the screen saver page by percentage. This can be adjusted to zero (screen off). Will reset to screen brightness after 3s of not touching the screen.
Enable Screen Saver	Enable screen saver to cover home page.
Colour Theme	Select colour theme of the home page
Screen Saver Time	Duration of no activity on any screen before screen saver is activated.
Lock	Enable/Disable user ability to make changes based on security setting.

5.2 DATE / TIME

The display setting can be accessed by tapping the button Icon as shown.

Once accessed the following settings will be accessible, Date and Time.

Tap the element that requires modification. Arrows above and below appear and allow adjustment of value.

SETTING	DESCRIPTION
Adjust Date	Changes Date Value.
Adjust Time	Changes Time Value.
Time Format	Change format of clock shown: 12hr or 24hr.
Date Format	Change date formatting: DD/MM/YY, YY/MM/DD or MM/DD/YY
Lock	Enable/Disable user ability to make changes based on security setting.

5.3 SCHEDULE

The schedule setting can be accessed by tapping the button Icon as shown. Once accessed, a table listing week days is presented with chevrons to access further settings such as 'Start / Stop' times.

To update 'Start / Stop' times, tap the hour, minute or time format element to modify. Arrows above and below appear, and allow adjustment of value.

To activate the schedule entry, slide enable to the right.

To apply the changes, tap the 'tick-icon',
to cancel, tap the 'chevron'.

SETTING	DESCRIPTION
Day of Week	Tap the chevron to enable and set the start and stop times. If enabled, list will show the "Start Time" – "Stop Time" and if active will show a green dot.
Lock	Enable/Disable user ability to make changes based on security setting.

5.4 SECURITY

The display setting can be accessed by tapping the button Icon as shown.

Once accessed the following device information will be accessible, Set User Password and Set Admin Password. The passwords can be changed using the arrow buttons.

SETTING	DESCRIPTION
Set User Password	Sets User Password Default user password: 1111
Set Admin Password	Sets Admin password Default admin password: 6666
Reset Password	Use the Innotech upgrader to reset the device and reinstall device firmware. Refer to innotech support for upgrader.

5.5 BACnet

The display setting can be accessed by tapping the button Icon as shown.

Once accessed the following settings will be accessible, Baud Rate, MS/TP Address, BACnet ID, Info Frames, Max Master. APDU Time-out, and APDU Retries.

Settings with left/right arrows allow changing value one number at a time for short tap, or large skip by holding button down.

- ***Only available on models with MS/TP communication option***

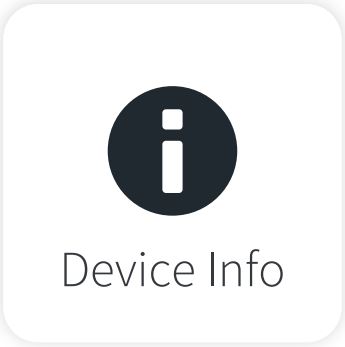
Note: Device will reset with any changes made to these settings

SETTING	DESCRIPTION
Baud Rate	Changes the Baud Rate to value from a pre-defined list. • Available baud rates (bps): 9600, 19200, 38400, 57600, 76800, 115200
MS/TP Address	Changes numeric value of the MS/TP Address. • Range: 1 to 127 • Default: 1
BACnet ID	Changes the numeric value of the BACnet ID. • Range: 0 to 4194304 • Default: 2200
Info Frames	Changes the number of Info Frames. • Range: 0 to 255 • Default: 1
Max Masters	Changes the number of Max Masters. • Range: 0 to 127 • Default: 127
APDU Timeout	Changes the timeout value in milliseconds for the APDU timeout in increments of 1000ms. • Range: 1000 to 9999 • Default: 6000
APDU Retries	Changes the number of APDU retries. • Default: 5
Lock	Enable/Disable user ability to make changes based on security setting.

5.6 DEVICE INFO

The display setting can be accessed by tapping the button Icon as shown.

Once accessed the following device information will be accessible, Bluetooth MAC, Bluetooth Access, Model Name, Firmware Version and Bluetooth state.



SETTING	DESCRIPTION
Bluetooth MAC	Displays Bluetooth MAC Address.
Bluetooth Access Code	Pairing code for Bluetooth.
Model Name	Displays Device Model Name.
Firmware Version	Displays Firmware version installed on the device.
Bluetooth State	Displays the current “connected” state of the Bluetooth connection.
Reboot	Reboots system upon tapping of ‘tick-icon’
Lock	Enable / Disable user ability to make changes based on security setting.

5.7 HUMIDITY

The display setting can be accessed by tapping the button Icon as shown.

Once accessed the following settings will be accessible, Show as Primary, Show as Secondary, Setpoint Editable, Show Decimal, Increment, Min Setpoint, Max Setpoint, Offset, Lock.

SETTING	DESCRIPTION
Show as Primary	Displays Humidity in primary location on home screen.
Show as Secondary	Displays Humidity in secondary location on home screen.
Setpoint Editable	Enable/disable if setpoint can be changed on home screen
Show Decimal	Enable/Disable Decimal place.
Increment	Changes by how much the setpoint changes. with each button push.
Min Setpoint	Changes Humidity Minimum Setpoint value. e.g. changing this to 20 will prevent user from adjusting the humidity setpoint below 20%.
Max Setpoint	Changes Humidity Maximum Setpoint value. e.g. changing this to 80 will prevent user from adjusting the humidity setpoint above 80%.
Offset	Changes the offset that is applied to the humidity reading
Lock	Enable/Disable user ability to make changes based on security setting.

5.8 MESSAGES

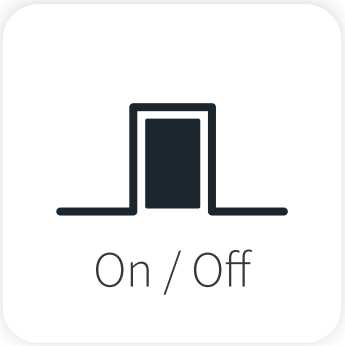
The messages shown on the notifications / alarms page can be accessed by tapping the button icon as shown.

SETTING	DESCRIPTION
Messages	Shows the mapping of messages present value (PV) to text e.g. when PV is written to 1, displaying the message text 'Message 1'.
Lock	Enable / Disable user ability to make changes based on security setting.

5.9 ON / OFF

The On/Off setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

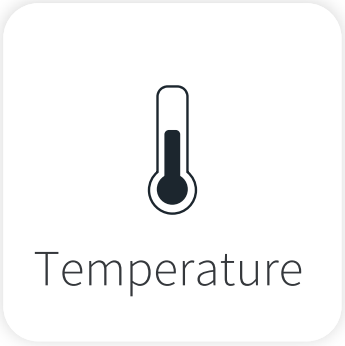


SETTING	DESCRIPTION
Show as Primary	Displays On/Off in primary location on home screen.
Show as Secondary	Displays On/Off in secondary location on home screen.
Value Editable	Enable/Disable Editing.
Display Values	Selection of the text used to represent on/off state. Tap the chevron to select from integrated options e.g. "Active/Inactive".
Lock	Enable/Disable user ability to make changes based on security setting.

5.10 TEMPERATURE

The display setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.



SETTING	DESCRIPTION
Show as Primary	Displays Temperature in primary location on home screen.
Show as Secondary	Displays Temperature in secondary location on home screen.
Setpoint Cool Editable	Enable/disable Cool Setpoint. Enable/disable if setpoint can be changed on home screen.
Setpoint Heat Editable	Enable/disable Heat Setpoint. Enable/disable if setpoint can be changed on home screen.
Units	Toggles between °Celsius and °Fahrenheit.
Show Decimal	Enable/Disable Decimal place.
Increment	Defines by how much the setpoint changes with each button push.
Min Setpoint Cool	Sets the minimum Cool Setpoint value. e.g. changing this to 20 will prevent user from adjusting the AC cooling setpoint below 20°C on this screen and on the home screen.
Max Setpoint Cool	Sets the maximum Cool Setpoint value. e.g. changing this to 25 will prevent user from adjusting the AC cooling setpoint above 25°C on this screen and on the home screen.
Min Setpoint Heat	Sets the minimum Heat Setpoint value. e.g. changing this to 25 will prevent user from adjusting the AC heating setpoint below 25°C on this screen and on the home screen.
Max Setpoint Heat	Sets the maximum Heat Setpoint value. e.g. changing this to 30 will prevent user from adjusting the AC heating setpoint above 30°C on this screen and on the home screen.
Offset	Changes the offset that is applied to the temperature reading.
Lock	Enable/Disable user ability to make changes based on security setting.

5.11 CO2

The CO2 setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays CO2 in primary location on home screen.
Show as Secondary	Displays CO2 in secondary location on home screen.
Setpoint Editable	Enable/Disable if setpoint can be changed on home screen.
Show Decimal	Enable/Disable Decimal place.
Increment	Sets incremental value. Defines by how much the setpoint changes with each button push.
Min Setpoint	Sets the minimum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint below set Min.
Max Setpoint	Sets the maximum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint above set Max.
Offset	Changes the offset that is applied to the CO2 reading.
Lock	Enable/Disable user ability to make changes based on security setting.

5.12 VOC

The VOC setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays VOC in primary location on home screen.
Show as Secondary	Displays VOC in secondary location on home screen.
Setpoint Editable	Enable/Disable if setpoint can be changed on home screen.
Show Decimal	Enable/Disable Decimal place.
Increment	Sets incremental value. Defines by how much the setpoint changes with each button push.
Min Setpoint	Sets the minimum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint below set Min.
Max Setpoint	Sets the maximum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint above set Max.
Offset	Changes the offset that is applied to the VOC reading.
Lock	Enable/Disable user ability to make changes based on security setting.

5.13 LUX

The LUX setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays LUX in primary location on home screen.
Show as Secondary	Displays LUX in secondary location on home screen.
Setpoint Editable	Enable/Disable if setpoint can be changed on home screen.
Show Decimal	Enable/Disable Decimal place.
Increment	Sets incremental value. Defines by how much the setpoint changes with each button tap.
Min Setpoint	Sets the minimum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint below set Min.
Max Setpoint	Sets the maximum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint above set Max.
Offset	Changes the offset that is applied to the LUX reading.
Lock	Enable/Disable user ability to make changes based on security setting.

5.14 PRESENCE

The presence setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays presence / occupancy in primary location on home screen.
Show as Secondary	Displays presence / occupancy in secondary location on home screen.
Display Values	Selection of the text used to represent on/off state. Tap the chevron to select from integrated options e.g. “Active/Inactive”.
Frequency Channel	Tap the chevron to select the channel that presence detection radar will run on. If multiple Inntouch2 devices are in vicinity of each other, then selecting a different channel avoids interferance.
Sensitivity	Tap the chevron to select motion sensitivity of the presence detection radar.
Lock	Enable/Disable user ability to make changes based on security setting.

5.15 ANALOG SPARES

The Analog Spares 1,2,3 setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays 'Analog Spare x' in primary location on home screen.
Show as Secondary	Displays 'Analog Spare x' in secondary location on home screen.
Setpoint Editable	Enable/Disable if setpoint can be changed on home screen.
Show Decimal	Enable/Disable Decimal place.
Increment	Sets incremental value. Defines by how much the setpoint changes with each button tap.
Min Value	Sets the minimum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint below set Min.
Max Value	Sets the maximum Setpoint value. e.g. changing this will prevent user from adjusting the setpoint above set Max.
Offset	Changes the offset that is applied to the analogue reading.
Lock	Enable/Disable user ability to make changes based on security setting.

5.16 LIGHT

The LUX setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays value in primary location on home screen.
Show as Secondary	Displays value in secondary location on home screen.
Value Editable	Enable/Disable editing on home screen.
Display Values	Selection of the text used to represent on/off state. Tap the chevron to select from integrated options e.g. "Active/Inactive".
Lock	Enable/Disable user ability to make changes based on security setting.

5.17 BLINDS

The blinds setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays value in primary location on home screen.
Show as Secondary	Displays value in secondary location on home screen.
Value Editable	Enable/Disable editing on home screen.
Display Values	Selection of the text used to represent on/off state. Tap the chevron to select from integrated options e.g. “Active/Inactive”.
Lock	Enable/Disable user ability to make changes based on security setting.

5.18 DIGITAL SPARES

The Digital Spares setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays value in primary location on home screen.
Show as Secondary	Displays value in secondary location on home screen.
Value Editable	Enable/Disable editing on home screen.
Display Values	Selection of the text used to represent on/off state. Tap the chevron to select from integrated options e.g. “Active/Inactive”.
Lock	Enable/Disable user ability to make changes based on security setting.

5.19 FAN

The fan speed setting can be accessed by tapping the button Icon as shown.

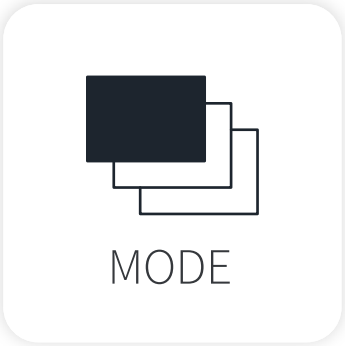
The available settings are listed in the table below.

SETTING	DESCRIPTION
Show as Primary	Displays value in primary location on home screen.
Show as Secondary	Displays value in secondary location on home screen.
Value Editable	Enable/Disable editing on home screen.
Lock	Enable/Disable user ability to make changes based on security setting.

5.20 MODE

The heating / cooling mode setting can be accessed by tapping the button Icon as shown.

The available settings are listed in the table below.



SETTING	DESCRIPTION
Show as Primary	Displays value in primary location on home screen.
Show as Secondary	Displays value in secondary location on home screen.
Value Editable	Enable/Disable editing on home screen.
Lock	Enable/Disable user ability to make changes based on security setting.

6. BACnet OBJECT LIST

Functional Group	Object Name	Object Type	Instance	Property	Read / Write	Function
Temperature Sensor	Temperature	Analog Input	0	Present Value	Read	Current temperature
				Units	Read	Temperature units (°C or °F)
	Temperature Heat Set-point	Analog Value	0	Present Value	Read/Write	Heat set-point on screen
				Units	Read	Temperature units (°C or °F)
				Min Pres Value	Read	Minimum heat set-point
				Max Pres Value	Read	Maximum heat set-point
	Temperature Cool Set-point	Analog Value	1	Present Value	Read/Write	Cool set-point on screen
				Units	Read	Temperature units (°C or °F)
				Min Pres Value	Read	Minimum cool set-point
				Max Pres Value	Read	Maximum cool set-point
	Temperature Offset	Analog Value	6	Present Value	Read/Write	Offset applied to current temperature
				Units	Read	Temperature units (°C or °F)
Humidity Sensor	Humidity	Analog Input	1	Present Value	Read	Current humidity
				Units	Read	Humidity units (%)
	Humidity Set-point	Analog Value	2	Present Value	Read/Write	Humidity set-point on screen
				Units	Read	Humidity units (%)
				Min Pres Value	Read	Minimum humidity set-point
				Max Pres Value	Read	Maximum humidity set-point
	Humidity Offset	Analog Value	7	Present Value	Read/Write	Offset applied to current humidity
				Units	Read	Humidity units (%)
CO_2 Sensor ^	CO_2	Analog Input	2	Present Value	Read	Current CO_2
				Units	Read	CO_2 units (ppm)
	CO_2 Set-point	Analog Value	3	Present Value	Read/Write	CO_2 set-point on screen
				Units	Read	CO_2 units (ppm)
				Min Pres Value	Read	Minimum CO_2 set-point
				Max Pres Value	Read	Maximum CO_2 set-point
	CO_2 Offset	Analog Value	8	Present Value	Read/Write	Offset applied to current CO_2
				Units	Read	CO_2 units (ppm)
VOC Sensor ^	VOC	Analog Input	3	Present Value	Read	Current VOC
				Units	Read	VOC units (ppm)
	VOC Set-point	Analog Value	4	Present Value	Read/Write	VOC set-point on screen
				Units	Read	VOC units (ppm)
				Min Pres Value	Read	Minimum VOC set-point
				Max Pre Value	Read	Maximum VOC set-point
	VOC Offset	Analog Value	9	Present Value	Read/Write	Offset applied to current VOC
				Units	Read	VOC units (PPM)
LUX Sensor ^	LUX	Analog Input	4	Present Value	Read	Current LUX
				Units	Read	LUX units (lux)
	LUX Set-point	Analog Value	5	Present Value	Read/Write	LUX set-point on screen
				Units	Read	LUX units (Lux)
				Min Pres Value	Read	Minimum LUX set-point
				Max Pres Value	Read	Maximum LUX set-point
	LUX Offset	Analog Value	10	Present Value	Read/Write	Offset applied to current LUX
				Units	Read	LUX units (Lux)
Occupancy Sensor ^	Presence	Binary Input	0	Present Value	Read	Occupancy detection state. Active - movement, Inactive = no movement

Table 1

Functional Group	Object Name	Object Type	Instance	Property	Read / Write	Function
Spare Function *	Analog Spare 1 *	Analog Value	11	Present Value	Read/Write	Represents any analog value on screen
				Units	Read	Any BACnet Unit (set on device) (°C)
				Min Pres Value	Read	Minimum allowable present value
				Max Pres Value	Read	Maximum allowable present value
	Analog Spare 2 *	Analog Value	12	Present Value	Read/Write	Represents any analog value on screen
				Units	Read	Any BACnet Unit (set on device) (°C)
				Min Pres Value	Read	Minimum allowable present value
				Max Pres Value	Read	Maximum allowable present value
	Analog Spare 3 *	Analog Value	15	Present Value	Read/Write	Represents any binary value on screen
				Units	Read	Any BACnet Unit (set on device) (°C)
				Min Pres Value	Read	Minimum allowable present value
				Max Pres Value	Read	Maximum allowable present value
	Digital Spare 1 *	Binary Value	3	Present Value	Read/Write	Represents any binary value on screen
	Digital Spare 2 *	Binary Value	4	Present Value	Read/Write	Represents any binary value on screen
Digital Control	On / Off	Binary Value	0	Present Value	Read/Write	Represent state of something that is turned on or off
	Light *	Binary Value	1	Present Value	Read/Write	Represents a state of light. On = active, off = inactive
	Blinds *	Binary Value	2	Present Value	Read/Write	Represents state of blinds. Active = open, inactive = closed
	Fan Speed *	Multi-state value	0	Present Value	Read/Write	Represents speed of fan shown on screen: 1=Off, 2=Low, 3=Med, 4=High, 5=Ultra High
				Number of States	Read	Number of possible states (adjusted on screen via max value
	Mode *	Multi-state value	1	Present Value	Read/Write	Represents mode of Air Con shown on screen: See State Text
				State Text	Read	1=Off, 2=Auto, 3=Cool, 4=Heat, 5=Dry, 6=Vent
				Number of States	Read	Number of possible states (adjusted on screen via max value)
Screen Saver	Screen Brightness	Analog Value	13	Present Value	Read/Write	Brightness of screen
				Units	Read	Brightness units (%)
	Screen Saver Brightness	Analog value	14	Present Value	Read/Write	Brightness of screen when screen saver active
				Units	Read	Brightness units (%)
Theme *	Theme *	Multi-state Value	2	Present Value	Read/Write	Theme shown on home screen: See State Text
				State Text	Read	1=Default, 2=Warm Red, 3=Warm Yellow, 4=Pastel Green, 5=Charcoal, 6=Coral Green, 7=Pastel Blue, 8=Lavender, 9=Deep Purple, 10= Coral Pink, 11=Peach, 12=Hot Pink, 13=Green,14=Innotech Blue, 15= Aqua 16 = Blood Orange
				Number of States	Read	Number of possible states (adjusted on screen via max value)
Schedule *	Schedule *	Binary Value	5	Present Value	Read	State of schedule programmed into screen. Active when calendar matches

Table 1 (cont)

^ *model specific options*

* *unavailable in firmware version 1.0*

Functional Group	Object Name	Object Type	Instance	Property	Read / Write	Function
Messages *	Messages *	Multi-state value	3	Present Value	Read/Write	Represents Message to be posted to screen. If written to a new value (other than 11), the message icon flashes on the home screen. 1 = “Message 1”, … 10 = “Message 10”. 11 = No Message.
				State Text	Read	Messages that will be shown 1 = “Message 1”, 2 = “Message 2”, … 10 = “Message 10”.
				Proprietary Prop 512	Read	BACnet Array of time stamp log of last 10 messages (epoch time)
				Proprietary Prop 513	Read	BACnet Array of log of last 10 message values (Present Value)

Table 1 (cont)
^ *model specific options*
* *unavailable in firmware version 1.0*

7. ISS COMMS MAPPING

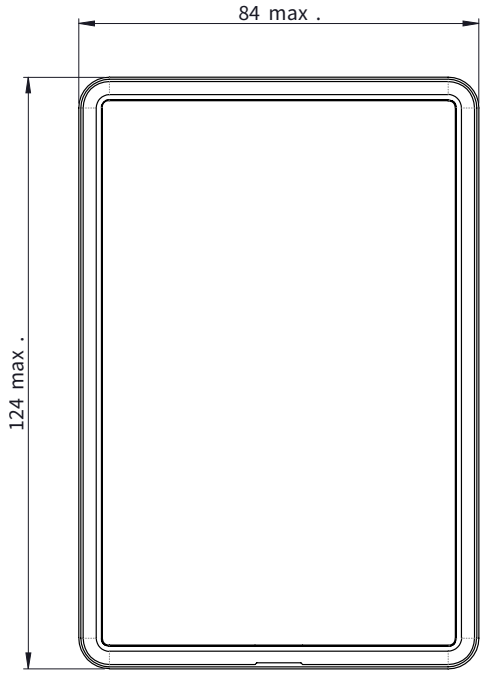
Comms types selected in focus when programming the controller config

Functional Group	ISS Comms Input Type (Read)	ISS Comms Output Type (Write)	Function
Temperature Sensor	Temperature	N/A	Current Temprature. 2 decimal places, 16-bit resolution
	Set-point	Set-point	Cool set-point. 2 decimal places, 16-bit resolution
	Heat set-point	Heat set-point	Heat set-point. 2 decimal places, 16-bit resolution
Humidity Sensor	Humidity	N/A	Current Humidity. 2 decimal places, 16-bit resolution
	Humidity set-point	Set-point	Humidity set-point. 2 decimal places, 16-bit resolution
VOC Sensor ^	Volatile Organics	N/A	Current VOC. 0 decimal places, 16-bit resolution
	Volatile Organics set-point	Volatile Organics set-point	VOC set-point. 0 decimal places, 16-bit resolution
CO2 Sensor ^	Carbon Dioxide	N/A	Current CO2. 0 decimal places, 16-bit resolution
	Carbon Dioxide set-point	Carbon Dioxide set-point	CO2 set-point. 0 decimal places, 16-bit resolution
Occupancy Sensor ^	Occupancy	N/A	Occupancy detection state. 1= movment, 0 = no movment
Spare Function	Analogue Spare 1	Analogue Spare 1	Represents any analogue value on screen. 2 decimal places, 16-bit resolution
	Analogue Spare 2	Analogue Spare 2	Represents any analogue value on screen. 2 decimal places, 16-bit resolution
	Analogue Spare 3	Analogue Spare 3	Represents any analogue value on screen. 2 decimal places, 16-bit resolution
	Digital Spare 1	Digital Spare 1	Represents any binary value on screen.
	Digital Spare 2	Digital Spare 2	Represents any binary value on screen.
Digital Control	After Hours	Run Status	Represent state of something that is turned on or off. i.e. maps to on/off screen control
	Light	Light	Represents a state of light. On = 1, off = 0
	Blinds	Blinds	Represents state of blinds. 1 = open, 0 = closed
	Fan	N/A	Represents speed of fan shown on screen: 1=Off, 2=Low, 3=Med, 4=High, 5=Ultra High
	Mode	Mode	Represents mode of Air Con. shown on screen: default - 1=Off, 2=Auto, 3=Cool, 4=Heat, 5=Dry, 6=Vent
Schedule	Schedule	N/A	State of programmed schedule entry. (1) Active when calendar matches local date/time. (0) otherwise
Messages	Message	Message	Represents Message to be posted to screen. If written to a new value (other than 11), the message icon flashes on the home screen. 1 = “Message 1”, … 10 = “Message 10”. 11 = No Message.

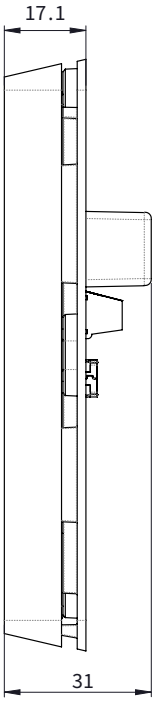
Table 2

^ *model specific options*

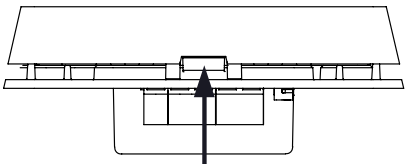
8. PRODUCT DIMENSIONS



Front View

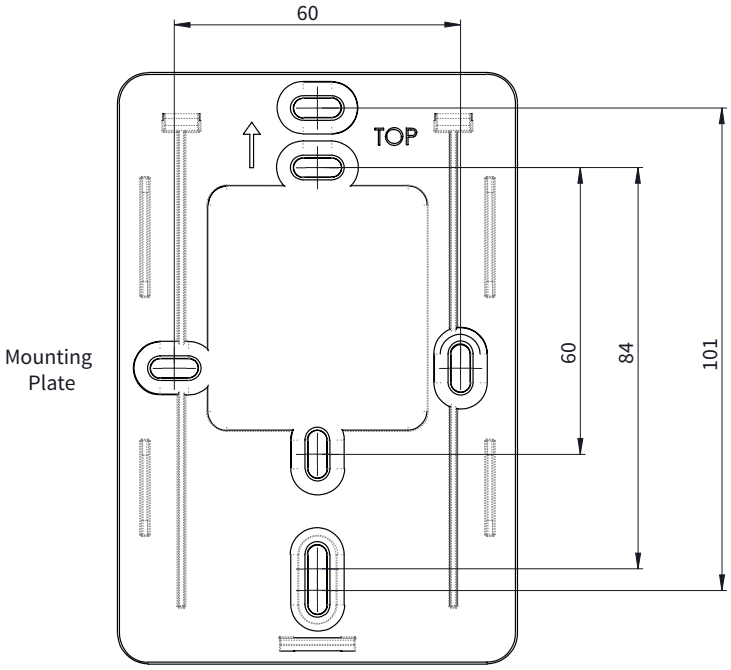


Side View



Bottom View

Push tab to Release



Mounting Plate

9. REGULATORY INFORMATION

The innTOUCH2 Smart Sensor conforms with the following:

APPROVALS AND LISTINGS
EN 61326-1 (CISPR 11 Group 1, Class B limits) EN IEC 63000 (RoHS3) ETSI EN 300 328 and IEC 62368-1 (Bluetooth module) For CE and RCM Labelling
Title 47 CFR, PART 15, Subpart B, Class B Title 47 CFR, PART 15, Subpart C, PART 2 Subpart J, (Contains FCC ID: Y82-DA14531MOD) For FCC Marking
IISED, ICES-001, Class B ISED: RSS-GEN, RSS-247, RSS-102 (Contains IC ID: 9576A-DA14531MOD) For ICES Marking
UL & C-UL Listed to UL916, File Numbers PAZX.E242628 and PAZX7.E242628

FCC & ISED Notice

This device complies with Part 15 of the FCC Rules and with the ISED Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Class B Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

⚠ Any changes or modifications not expressively approved by Innotech could void the user's authority to operate this equipment.

NOTES

INNOTECH®