

Touch Point 2.0

User Manual

Hardware

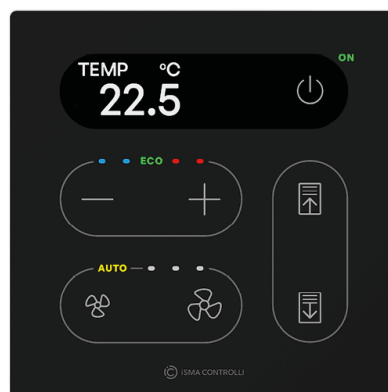
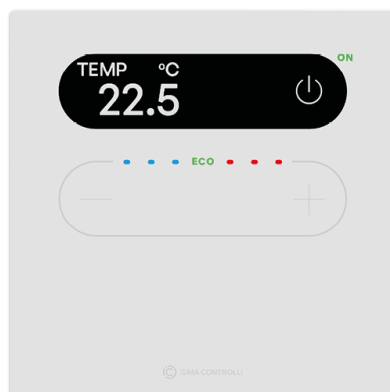
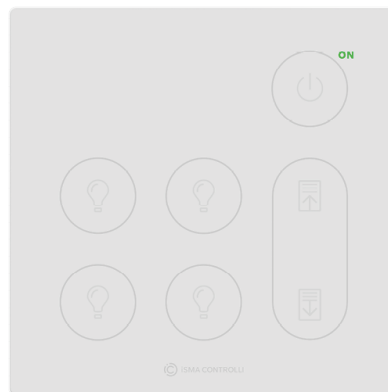
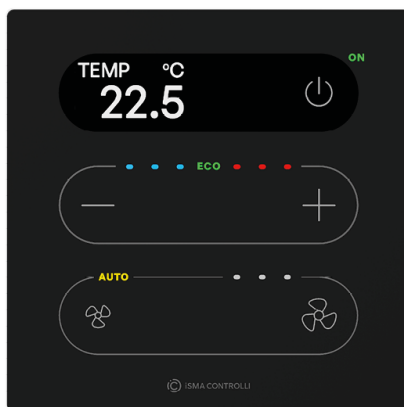


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1 Introduction

Touch Point 2.0 is a modern comfort management wall panel with two most popular open communication protocols: Modbus RTU/ASCII and BACnet MS/TP. The Touch Point 2.0 is available in five lines:

- **Touch Point 2.0** series:
 - equipped with a display,
 - with occupancy, setpoint control, and fan control buttons,
 - with LED indicators,
 - available in different configurations of sensors (temperature, CO₂, and humidity),
 - available in different configurations of colors (black or white);
- **Touch Point ONE 2.0** series:
 - equipped with a display,
 - with occupancy control button,
 - TP ONE 2.0: with 6 generic buttons,
 - TP ONE 2L/1B 2.0: with setpoint and fan control dedicated buttons and 2 generic buttons,
 - with LED indicators,
 - available in different configurations of sensors (temperature, CO₂, and humidity),
 - available in different configurations of colors (black or white);
- **Touch Point VAV 2.0** series:
 - equipped with a display,
 - with occupancy and setpoint control buttons,
 - with LED indicators,
 - available in different configurations of sensors (temperature, CO₂, and humidity),
 - available in different configurations of colors (black or white);
- **Touch Point Network Sensor 2.0** series:
 - glass front without a display and buttons,
 - one navigation LED,
 - available in different configurations of sensors (temperature, CO₂, and humidity),
 - available in different configurations of colors (black or white);
- **Touch Point Light & Blind 2.0** series:
 - glass front without a display,
 - with master power button programmable for light and blind control,
 - with generic buttons,
 - with LED indicators,
 - available in different configurations of colors (black or white).

The panels can be configured using the iSMA Configurator software or Modbus registers/BACnet objects. It fits most of standard junction boxes in Europe and can easily be installed using a wall back box.

1.1 Revision History

Date	Rev.	Description
16 Jun 2026	1.0	First edition

2 Safety Rules

- Improper wiring of the product can damage it and lead to other hazards. Make sure that the product has been correctly wired before turning the power on.
- Before wiring or removing/mounting the product, make sure to turn the power off. Failure to do so might cause an electric shock.
- Do not touch electrically charged parts such as power terminals. Doing so might cause an electric shock.
- Do not disassemble the product. Doing so might cause an electric shock or faulty operation.
- Use the product only within the operating ranges recommended in the specification (temperature, humidity, voltage, shock, mounting direction, atmosphere, etc.). Failure to do so might cause a fire or faulty operation.
- Firmly tighten the wires to the terminal. Failure to do so might cause a fire.
- Avoid installing the product in close proximity to high-power electrical devices and cables, inductive loads, and switching devices. Proximity of such objects may cause an uncontrolled interference, resulting in an instable operation of the product.
- Proper arrangement of the power and signal cabling affects the operation of the entire control system. Avoid laying the power and signal wiring in parallel cable trays. It can cause interferences in monitored and control signals.
- It is recommended to power controllers/modules with AC/DC power suppliers. They provide better and more stable insulation for devices compared to AC/AC transformer systems, which transmit disturbances and transient phenomena like surges and bursts to devices. They also isolate products from inductive phenomena from other transformers and loads.
- Power supply systems for the product should be protected by external devices limiting overvoltage and effects of lightning discharges.
- Avoid powering the product and its controlled/monitored devices, especially high power and inductive loads, from a single power source. Powering devices from a single power source causes a risk of introducing disturbances from the loads to the control devices.
- If an AC/AC transformer is used to supply control devices, it is strongly recommended to use a maximum 100 VA Class 2 transformer to avoid unwanted inductive effects, which are dangerous for devices.
- Long monitoring and control lines may cause loops in connection with the shared power supply, causing disturbances in the operation of devices, including external communication. It is recommended to use galvanic separators.
- To protect signal and communication lines against external electromagnetic interferences, use properly grounded shielded cables and ferrite beads.
- Switching the digital output relays of large (exceeding specification) inductive loads can cause interference pulses to the electronics installed inside the product. Therefore, it is recommended to use external relays/contactors, etc. to switch such loads. The use of controllers with triac outputs also limits similar overvoltage phenomena.
- Many cases of disturbances and overvoltage in control systems are generated by switched, inductive loads supplied by alternating mains voltage (AC 120/230 V). If they do not have appropriate built-in noise reduction circuits, it is recommended to use external circuits such as snubbers, varistors, or protection diodes to limit these effects.

3 Technical Specification

Power supply	Voltage	DC: 20-40 VDC, AC: 24 V AC ± 20%							
	Power consumption	Up to 0.6 W at 24 VDC, up to 1.9 VA at 24 V AC							
Built-in sensors	Temperature sensor	10k NTC type, range: 0-50C, accuracy: ± 0.5C, resolution: ± 0.1C							
	Humidity sensor (applies to versions with humidity sensor)	Range: 0-100% RH, accuracy: ± 2% RH in range 10-90% RH, resolution: ± 0.1% RH							
	CO ₂ sensor (applies to versions with CO ₂ sensor)	Range: 400-2000 ppm, accuracy: 50 ppm + 5% of reading							
COM1	RS485 interface	Up to 128 devices							
		Half-duplex							
	Communication protocols	Modbus RTU/ASCII, BACnet MS/TP							
	Ports	2 Smart Plug RJ45 + screw connector							
	Baud rate	2400-115200							
Front panel	Touch Point 2.0 series:		Touch Point 2.0	Touch Point ONE 2.0	Touch Point ONE 2L/1B 2.0	Touch Point VAV 2.0	Touch Point Light&Blend 2.0	Touch Point Network Sensor 2.0	
	Surface		White/black glass						
	Display		TFT 0.96"				N/a		
	Backlight		3 intensity modes						N/a
	Buttons		5	7	7	3	7 (4L1B), 5 (4L)	N/a	
	LED	Temperature (red)	3	N/a	2	3	N/a	N/a	
		Temperature (blue)	3	N/a	2	3	N/a	N/a	
		Fan (white)	3	N/a	3	N/a	N/a	N/a	
		Fan auto (yellow)	1	N/a	1	N/a	N/a	N/a	
		Occupancy (green)	1	1	1	1	1	N/a	

		ECO (configurable)	1	N/a	1	1	N/a	N/a
		Navigation RGB	1	1	1	1	1	1
Ingress protection	IP rating	IP20 for indoor installation						
Temperature	Operating	From 0°C to +40°C						
	Storage	From -40°C to +70°C						
Humidity	Relative	From 5% to 95% RH (without condensation)						
Screw connector	Type	Removable screw terminals						
	Maximum cable size	1.5 mm ² (26...16 AWG)						
Housing	Material	Plastic, self-extinguishing ABS						
	Mounting	Standard 60 mm wall back box						
Dimensions	Metric	86.00x86.00x14.80 mm						
	Inches	3.39x3.39x0.58 in						

4 Hardware Specification

This section outlines all details regarding hardware specification of the Touch Point 2.0 panel.

4.1 Panel Versions

4.1.1 Touch Point 2.0

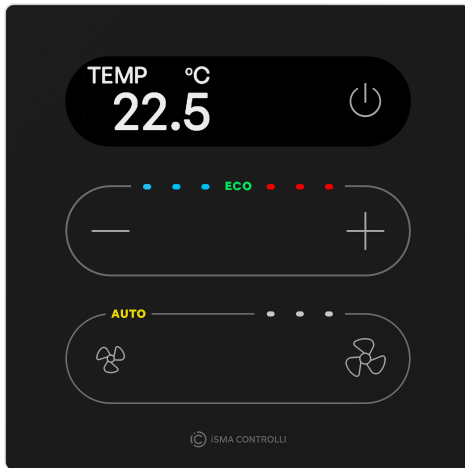


Figure 1. TP-DISP-B-2

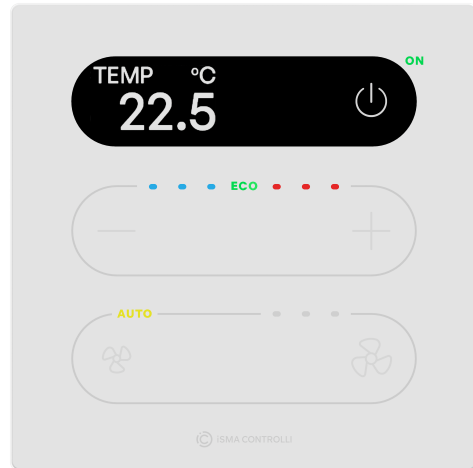


Figure 2. TP-DISP-W-2

Touch Point 2.0 series - basic line of the Touch Point 2.0 generation panels:

- equipped with a display,
- with occupancy, setpoint control, and fan control buttons,
- with LED indicators,
- available in different configurations of sensors (temperature, CO₂, and humidity),
- available in different configurations of colors (black or white).

Touch Point 2.0	Sensors			Display	Color	
	Temperature	Humidity	CO ₂		Black	White
Panel code				Yes	Black	White
TP-DISP-B-2	✓			✓	✓	
TP-DISP-W-2	✓			✓		✓
TP-H-DISP-B-2	✓	✓		✓	✓	
TP-H-DISP-W-2	✓	✓		✓		✓
TP-C-DISP-B-2	✓		✓	✓	✓	

TP-C-DISP-W-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-HC-DISP-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-HC-DISP-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

4.1.2 Touch Point ONE 2.0



Figure 3. TP-ONE-DISP-B-2

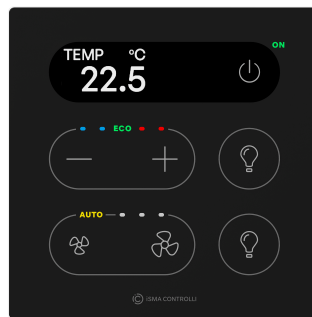


Figure 4. TP-ONE-DISP-2L-B-2

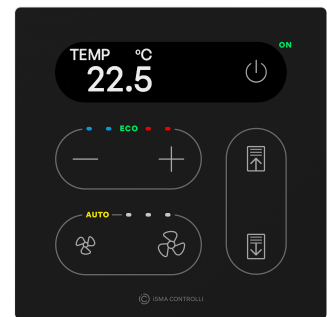


Figure 5. TP-ONE-DISP-1B-B-2

Touch Point ONE 2.0 series - line of **all-in-one room control** Touch Point 2.0 panels:

- equipped with a display,
- with occupancy control button,
- TP ONE 2.0: with 6 generic buttons,
- TP ONE 2L/1B 2.0: with setpoint and fan control dedicated buttons and 2 generic buttons,
- with LED indicators,
- available in different configurations of sensors (temperature, CO₂, and humidity),
- available in different configurations of colors (black or white).

Touch Point ONE 2.0	Sensors			Display	Color	
	Temperature	Humidity	CO ₂		Black	White
Panel code	Temperature	Humidity	CO ₂	Yes	Black	White
TP-ONE-DISP-B-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-ONE-DISP-W-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-ONE-H-DISP-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-ONE-H-DISP-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-ONE-C-DISP-B-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

TP-ONE-C-DISP-W-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-ONE-HC-DISP-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-ONE-HC-DISP-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-ONE-DISP-2L-B-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
TP-ONE-DISP-2L-W-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
TP-ONE-H-DISP-2L-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
TP-ONE-H-DISP-2L-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
TP-ONE-C-DISP-2L-B-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TP-ONE-C-DISP-2L-W-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TP-ONE-HC-DISP-2L-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TP-ONE-HC-DISP-2L-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TP-ONE-DISP-1B-B-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
TP-ONE-DISP-1B-W-1	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
TP-ONE-H-DISP-1B-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
TP-ONE-H-DISP-1B-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
TP-ONE-C-DISP-1B-B-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TP-ONE-C-DISP-1B-W-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TP-ONE-HC-DISP-1B-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TO-ONE-HC-DISP-1B-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

4.1.3 Touch Point VAV 2.0

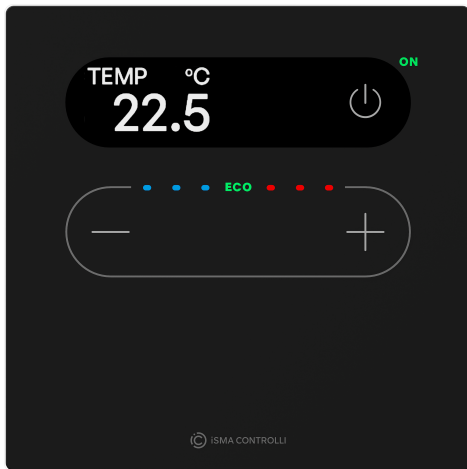


Figure 6. TP-VAV-DISP-B-2

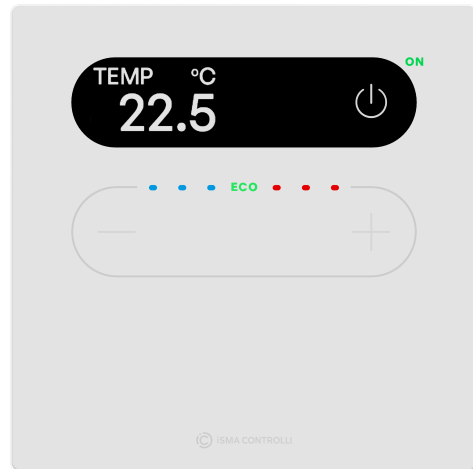


Figure 7. TP-VAV-DISP-W-2

Touch Point VAV 2.0 series - line of the Touch Point 2.0 panels **with no fan control buttons**:

- equipped with a display,
- with occupancy and setpoint control buttons,
- with LED indicators,
- available in different configurations of sensors (temperature, CO₂, and humidity),
- available in different configurations of colors (black or white).

Touch Point VAV 2.0	Sensors			Display	Color	
	Temperature	Humidity	CO ₂		Black	White
TP-VAV-DISP-B-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-VAV-DISP-W-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-VAV-H-DISP-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-VAV-H-DISP-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-VAV-C-DISP-B-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-VAV-C-DISP-W-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
TP-VAV-HC-DISP-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

TP-VAV-HC-DISP-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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4.1.4 Touch Point Network Sensor 2.0

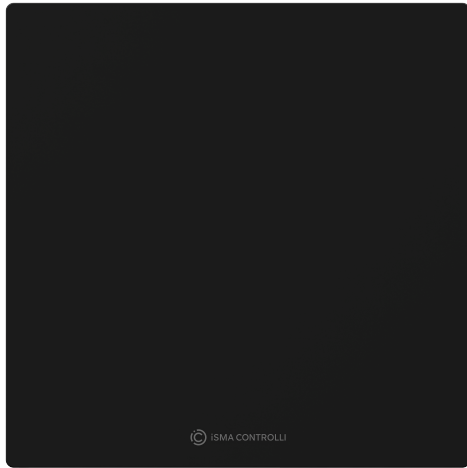


Figure 8. TP-NS-B-2

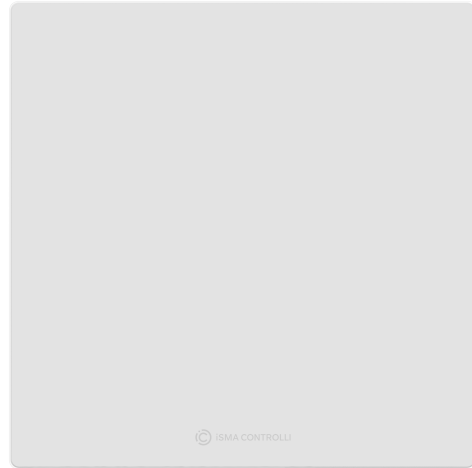


Figure 9. TP-NS-B-2

Touch Point Network Sensor 2.0 series - line of the Touch Point 2.0 **multisensor** panels:

- glass front without a display or buttons,
- one navigation LED,
- available in different configurations of sensors (temperature, CO₂, and humidity),
- available in different configurations of colors (black or white).

Touch Point Network Sensor 2.0	Sensors			Color	
	Temperature	Humidity	CO ₂	Black	White
TP-NS-B-2	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
TP-NS-W-2	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
TP-NS-H-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
TP-NS-H-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
TP-NS-C-B-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-NS-C-W-2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

TP-NS-HC-B-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TP-NS-HC-W-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

4.1.5 Touch Point Light & Blind 2.0

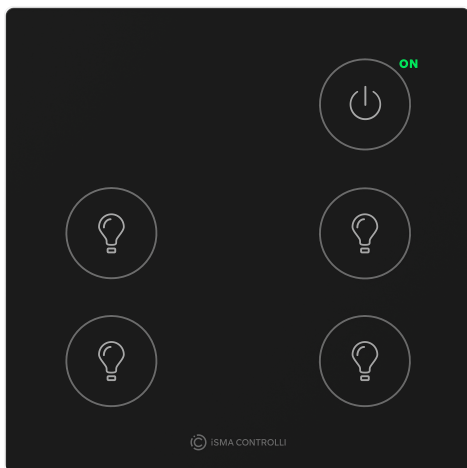


Figure 10. TP-4L-B-2

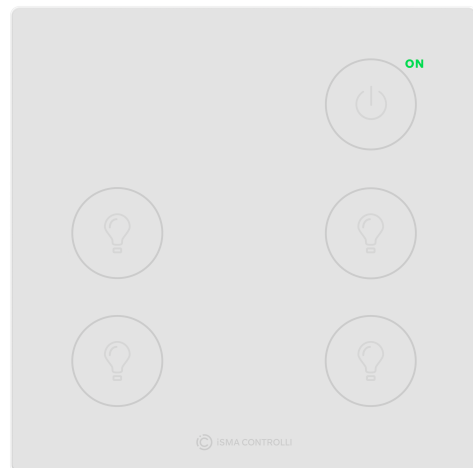


Figure 11. TP-4L-W-2

Touch Point Light & Blind 2.0 series - line of the Touch Point 2.0 panels **with light and blind control buttons**:

- glass front without a display,
- with master power button programmable for light and blind control,
- with generic buttons,
- with LED indicators,
- available in different configurations of colors (black or white).

Touch Point Light & Blind 2.0	Color	
	Black	White
Panel code		
TP-4L-B-2	<input checked="" type="checkbox"/>	
TP-4L-W-2		<input checked="" type="checkbox"/>
TP-4L1B-B-2	<input checked="" type="checkbox"/>	
TP-4L1B-W-2		<input checked="" type="checkbox"/>

Legend:

- H - with temperature and humidity sensors
- C - with temperature and CO₂ sensors
- HC - with temperature, humidity, and CO₂ sensors
- xL - with light control buttons
- xB - with blind control buttons
- B - black version
- W - white version

4.2 Dimensions [mm]

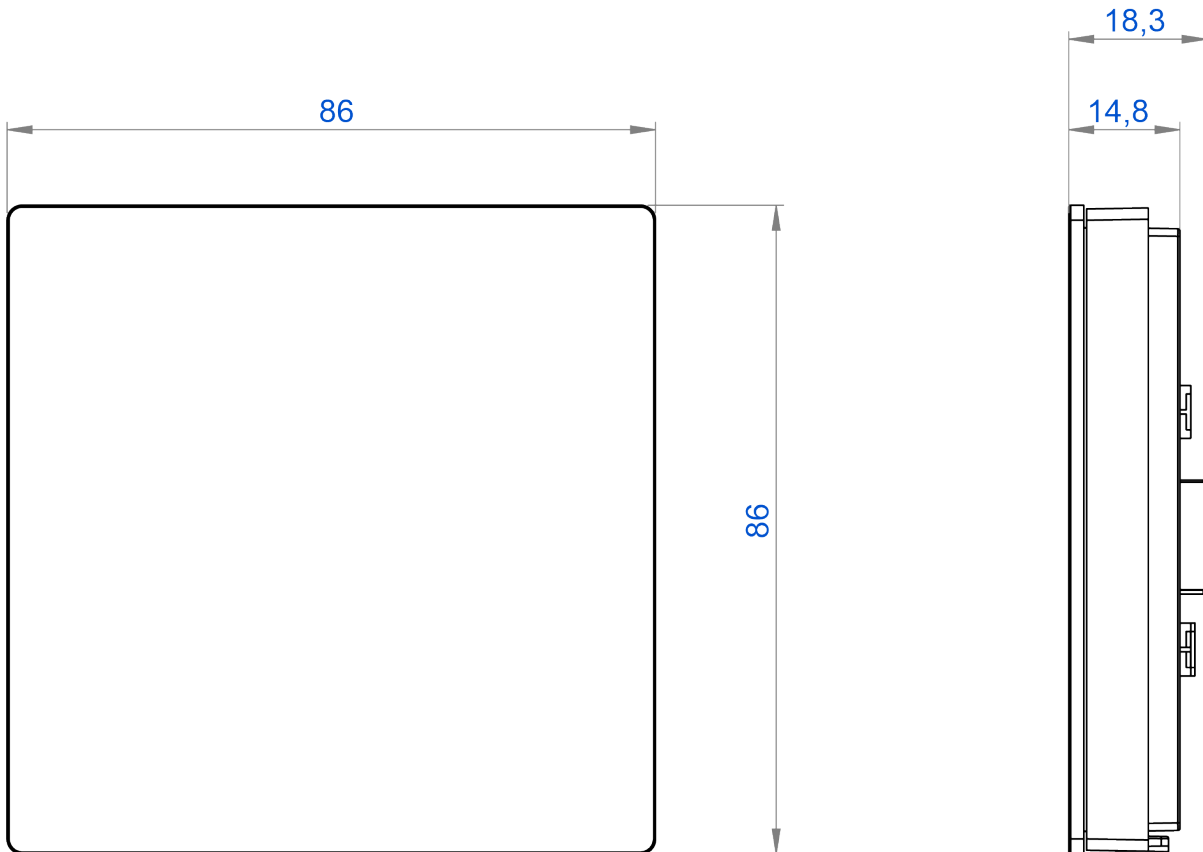


Figure 12. Dimensions

Touch Point 2.0 dimensions	[mm]	[in]
Height	86.00	3.39
Length	86.00	3.39
Width	14.80	0.58

4.3 Touch Panel

Warning!

This section does not apply to the Touch Point Network Sensor 2.0 series, which is not equipped with a touch panel and LEDs.

The only exception is the navigation LED, which works in all Touch Point 2.0 series.

4.3.1 Control Buttons

Auto-calibration

Touch buttons are cyclically auto-calibrated. During the process, buttons are not responsive; in such a case, wait a few seconds and press the button again.

Touch Point 2.0

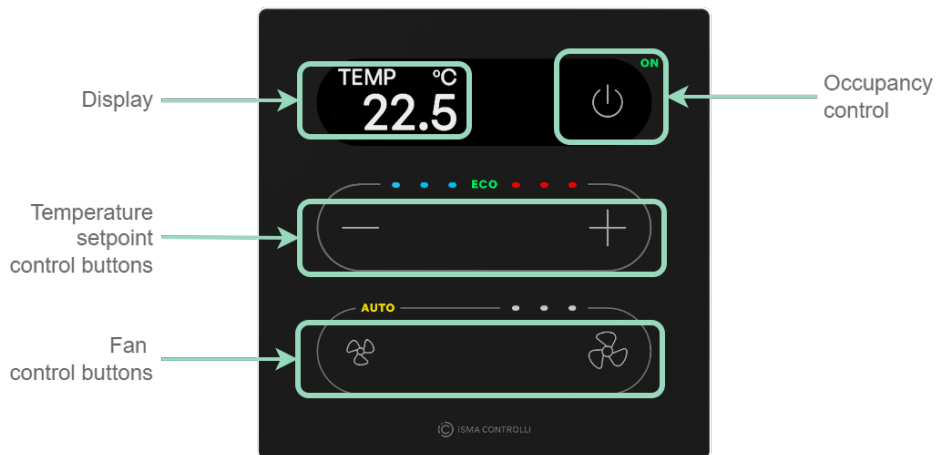


Figure 13. TP-x-DISP-x-2

- 1 button for occupancy control,
- 2 buttons for temperature setpoint (-/+ control),
- 2 buttons for fan control.

Touch Point ONE 2.0

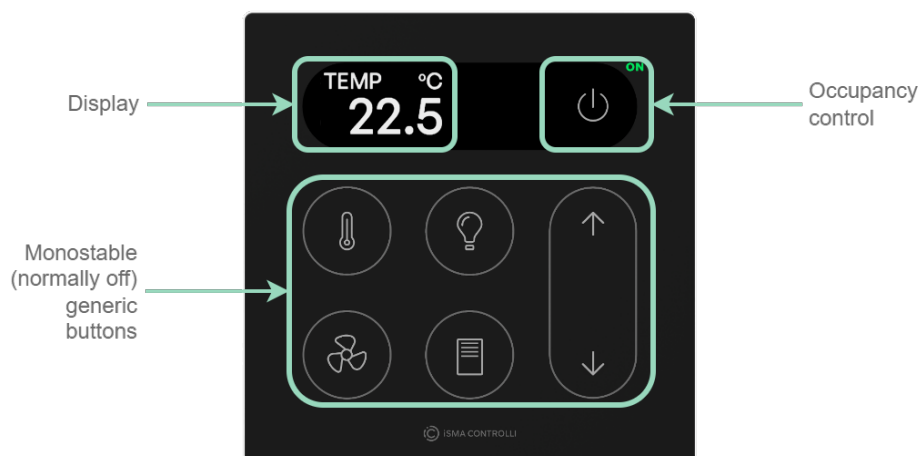


Figure 14. TP-ONE-x-DISP-x-2

- 1 button for occupancy control,
- 6 generic buttons (by default, in a monostable (normally off) mode).

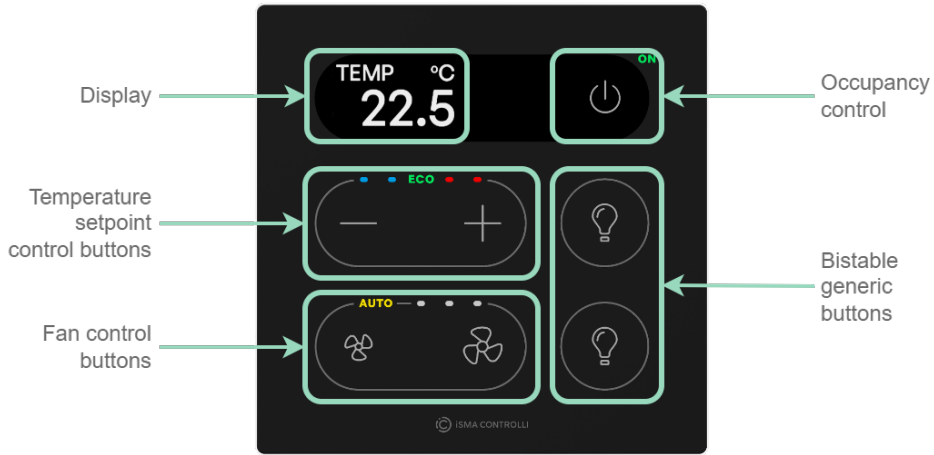


Figure 15. TP-ONE-x-DISP-2L-x-2

- 1 button for occupancy control,
- 2 buttons for temperature setpoint (-/+ control),
- 2 buttons for fan control,
- 2 generic buttons (by default, in a bistable mode).

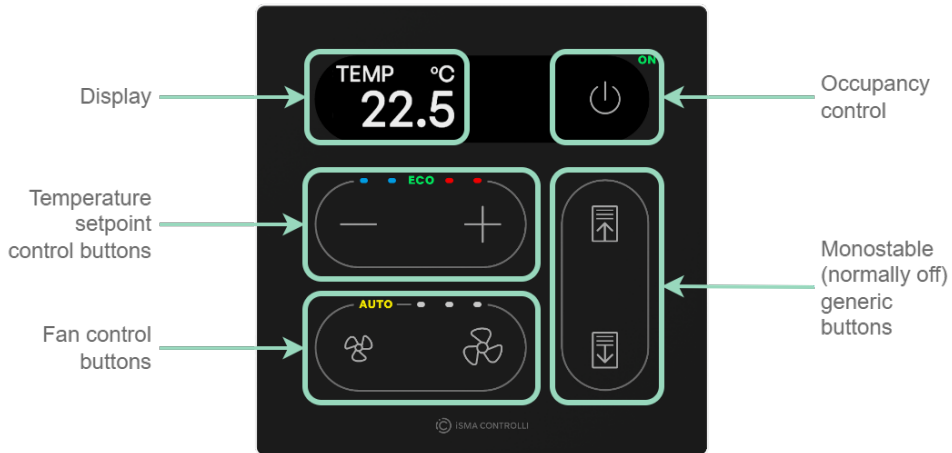


Figure 16. TP-ONE-x-DISP-1B-x-2

- 1 button for occupancy control,
- 2 buttons for temperature setpoint (-/+ control),
- 2 buttons for fan control,
- 2 generic buttons (by default, in a monostable (normally off) mode).

Touch Point VAV 2.0

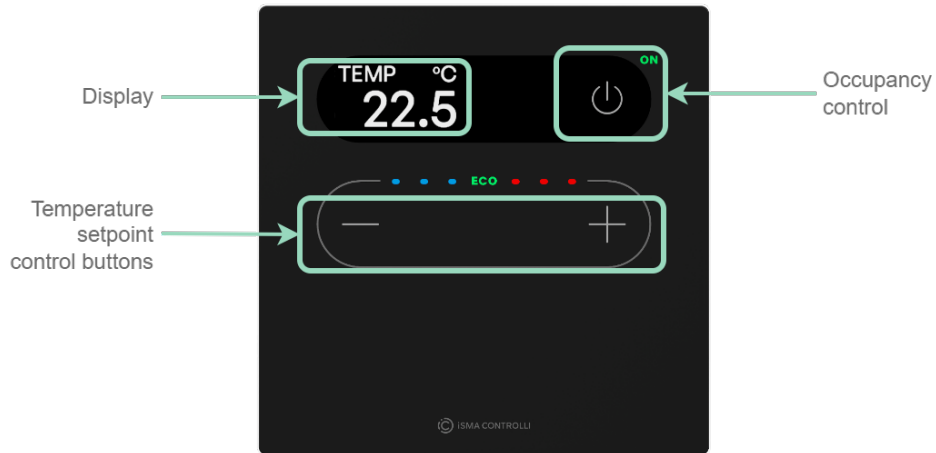


Figure 17. TP-VAV-x-DISP-x-2

- 1 button for occupancy control,
- 2 buttons for temperature setpoint (-/+) control.

Touch Point Light & Blind 2.0

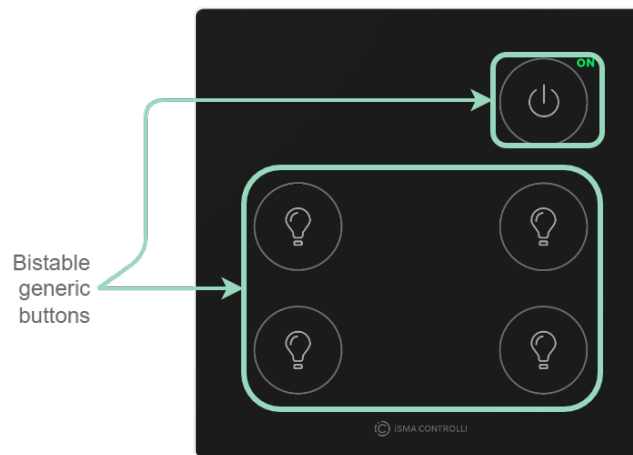


Figure 18. TP-4L-x-2

- 1 icon for occupancy status,
- 5 generic buttons (by default, in a bistable mode).

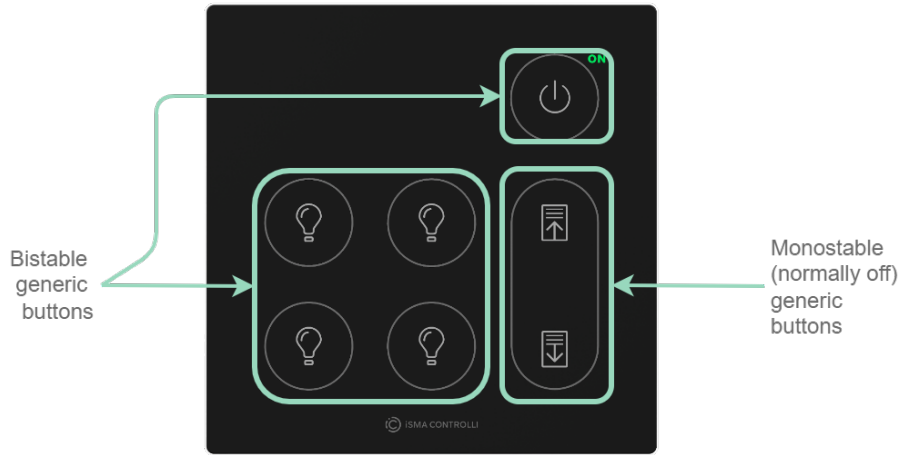


Figure 19. TP-4L1B-x-2

- 1 icon for occupancy status,
- 5 generic buttons (by default, in a bistable mode),
- 2 generic buttons (by default, in a monostable (normally off) mode).

4.3.2 LCD Display

The LCD display shows following information:

- temperature setpoint or offset (after pushing a + or – button, according to configuration);
- temperature current value with unit;
- humidity current value with unit (optionally);
- CO₂ current value with unit (optionally).

Note: Currently displayed parameters change with a frequency set in the 40217 register.

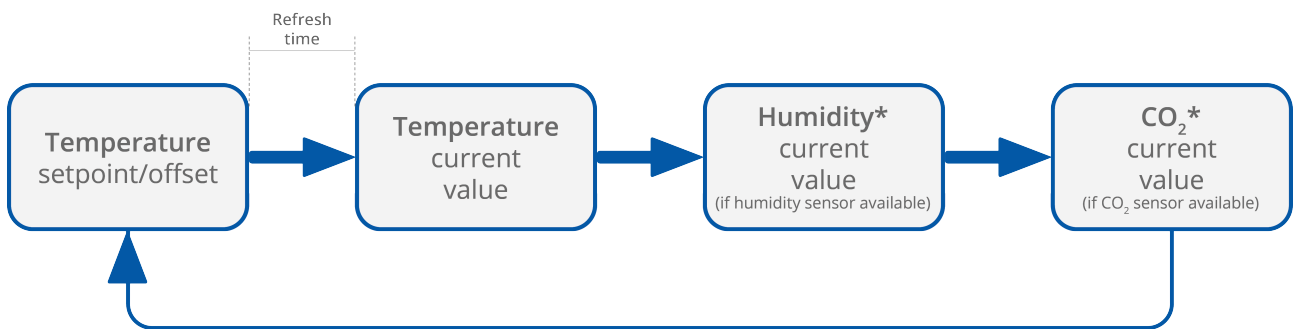


Figure 20. Display sequence

4.3.3 LEDs

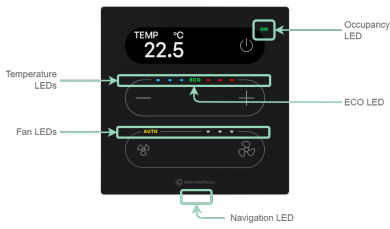


Figure 21. Touch Point 2.0

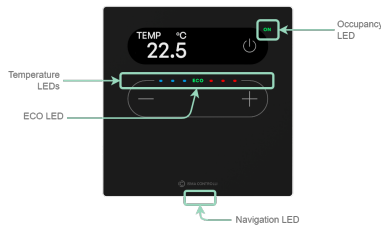


Figure 22. Touch Point VAV 2.0

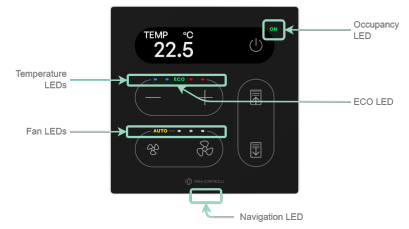


Figure 23. Touch Point ONE 2L and 1B 2.0

The Touch Point 2.0, Touch Point VAV 2.0, and Touch Point ONE 2L and 1B 2.0 panels are equipped with:

- 1 green LED for signaling occupancy status;
- 3 blue and 3 red LEDs for temperature signalization (cooling or heating);
- 1 ECO LED;
- 1 navigation LED to localize the panel in the dark.

Additionally, in Touch Point 2.0 and Touch Point ONE 2L and 1B 2.0 panels:

- 4 white LEDs for fan modes indication.

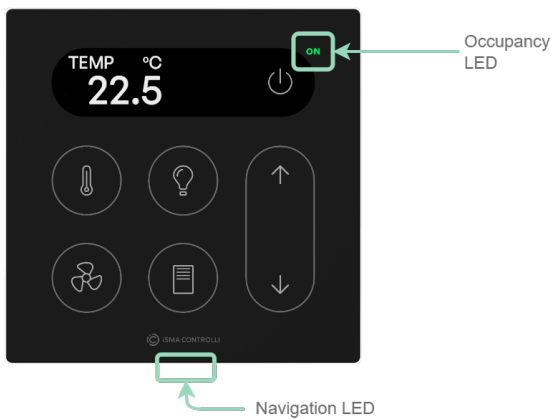


Figure 24. Touch Point ONE 2.0

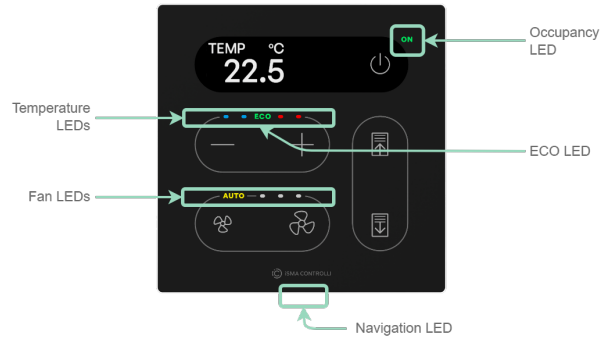


Figure 25. Touch Point L&B 2.0

The Touch Point ONE 2.0 and Touch Point L&B 2.0 panels are equipped with:

- 1 green LED for signaling occupancy status;
- 1 navigation LED to localize the panel in the dark.

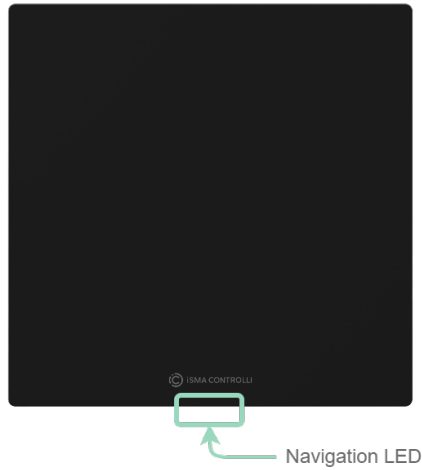


Figure 26. Touch Point NS 2.0

The Touch Point Network Sensor 2.0 panels are equipped with:

- 1 navigation LED to localize the panel in the dark.

4.3.4 LED Modes

The Touch Point 2.0 panels work in 3 modes of LED lighting intensity:

- **active:** the LED lighting mode after any button on the screen has been touched;
- **idle:** the LED lighting mode after a time set from a last button has been touched;
- **standby:** the LED lighting mode after a time set from going into the idle mode.

All lighting intensity values in these three different modes can be set in the 40207-40216 Modbus registers.

4.4 Buzzer

The Touch Point 2.0 panel are equipped with a buzzer, which informs about a detected touch with a short sound.

The buzzer also provides a CO₂ alarm function, which emits sounds once the CO₂ level exceeds a set alarm value. The alarm can be confirmed and muted by pressing any button.

Please note that in the Touch Point Network Sensor 2.0 series, the CO₂ alarm is not active by default.

The buzzer may be activated or deactivated using the DEVICE_CONFIGURATION register/object (bit 0, BUZZER).

Register Value	Description
0	Buzzer deactivated
1	Buzzer activated

By default, the buzzer is active.

The buzzer can be set to one of four available sounds:

- discrete,
- loud,
- classic,
- retro.

4.5 CO₂ Sensor

Note

Applicable to Touch Point 2.0 panels equipped with the CO₂ sensor (marked -C- in the product code).

Touch Point 2.0 panels equipped with a CO₂ sensor are provided with **an automatic sensor calibration system**.

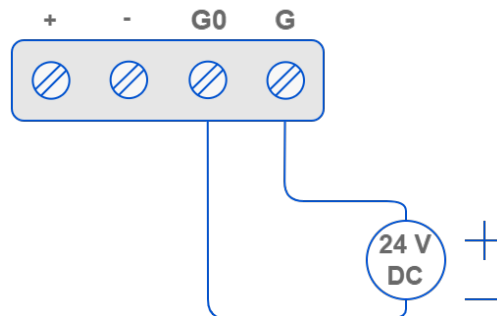
The sensor maintains a measurement accuracy using an automatic self-calibration (ASC), which continuously analyzes measurement history and assumes periodic exposure to fresh outdoor air with a known CO₂ level, ensuring long-term stability without user intervention. To support correct operation, the sensor should be regularly exposed to fresh air (approx. 400 ppm CO₂) for at least a few minutes, and at least once per week it should operate continuously for several hours to allow the calibration algorithm to update properly. The device should not be permanently placed in environments with constantly elevated CO₂ levels, and proper airflow around the sensor must be ensured by avoiding obstructions and direct proximity to CO₂ sources.

Proper calibration requires that room ventilation meets applicable standards. If adequate ventilation is not available, this requirement can be met by ventilating the room for at least one hour per day.

- **Lack of fresh air:** If the sensor is placed in a constantly occupied or poorly ventilated space, it may not be exposed to a true fresh air level. In such cases, the sensor may incorrectly establish a higher baseline level, resulting in consistently low readings.
- **Manual calibration:** Manual calibration of the CO₂ sensor is possible by applying a numeric offset (positive or negative). A reliable reference sensor can be used to calibrate the sensor offset accurately.

4.6 Power Supply

4.6.1 DC Power Supply Connection



Power supply from PELV/SELV source

Figure 27. DC power supply connection

4.6.2 AC Power Supply Connection

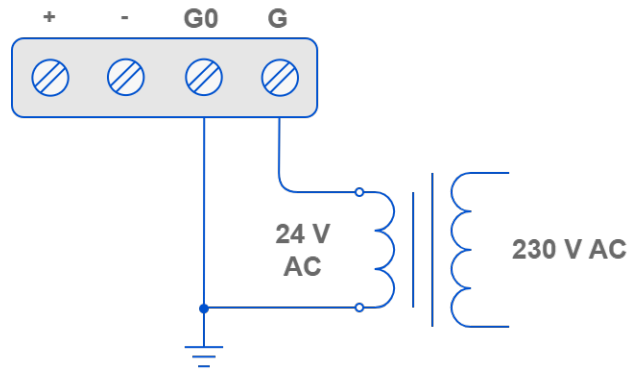


Figure 28. AC power supply connection

4.6.3 RJ45 Power Supply Connection

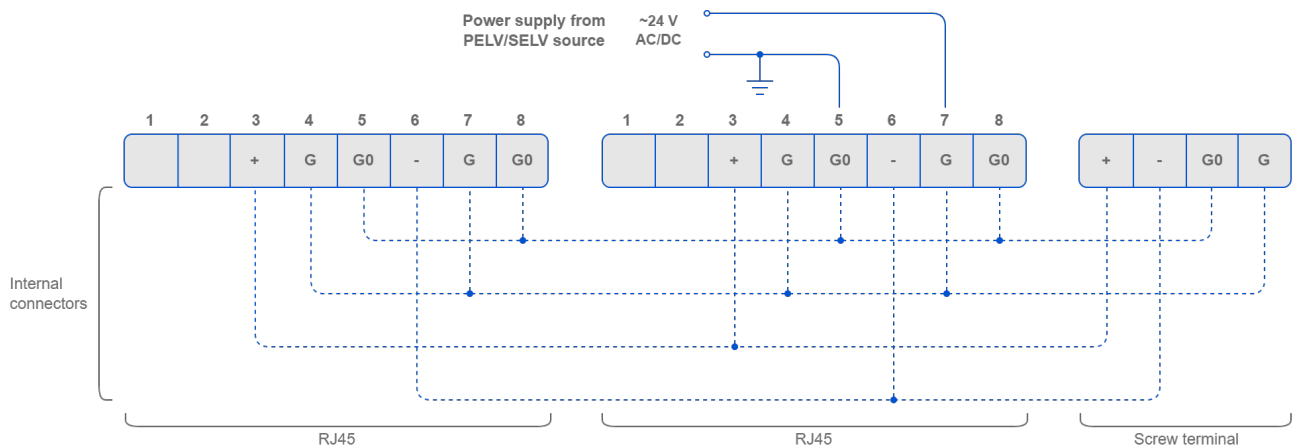


Figure 29. RJ45 power supply connection

4.7 Communication

The Touch Point 2.0 panels support Modbus RTU/ASCII and BACnet MS/TP communication protocols, using 2 RJ45 sockets and a screw terminal. The panel has one USB type C (USB 2.0) port for communication with the iSMA Configurator software.

Note: A communication protocol is selected by setting a second switch on the DIP switch on the back of the panel:

- **Off:** Modbus RTU/ASCII (default);
- **On:** BACnet MS/TP.

4.7.1 RS485 Connection

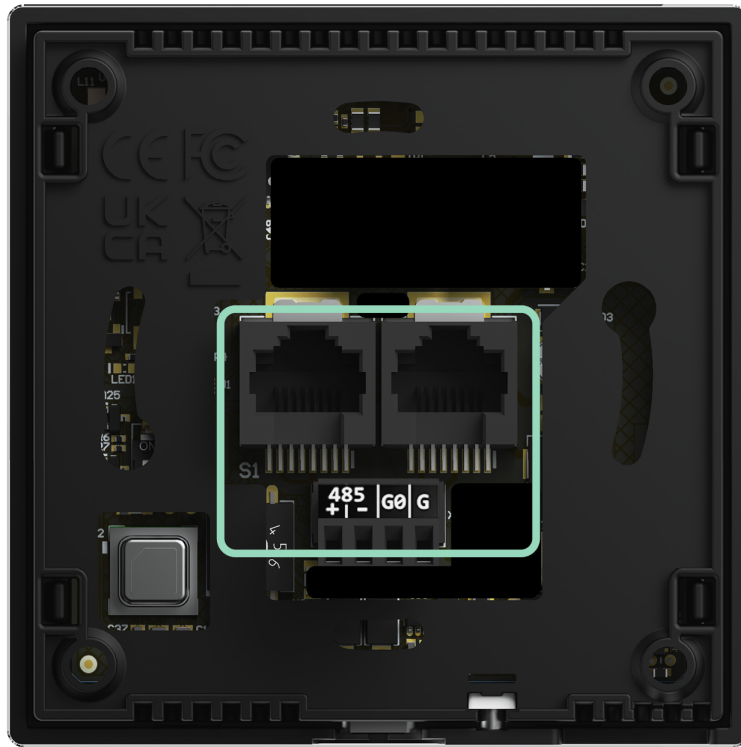


Figure 30. RS485 connectors

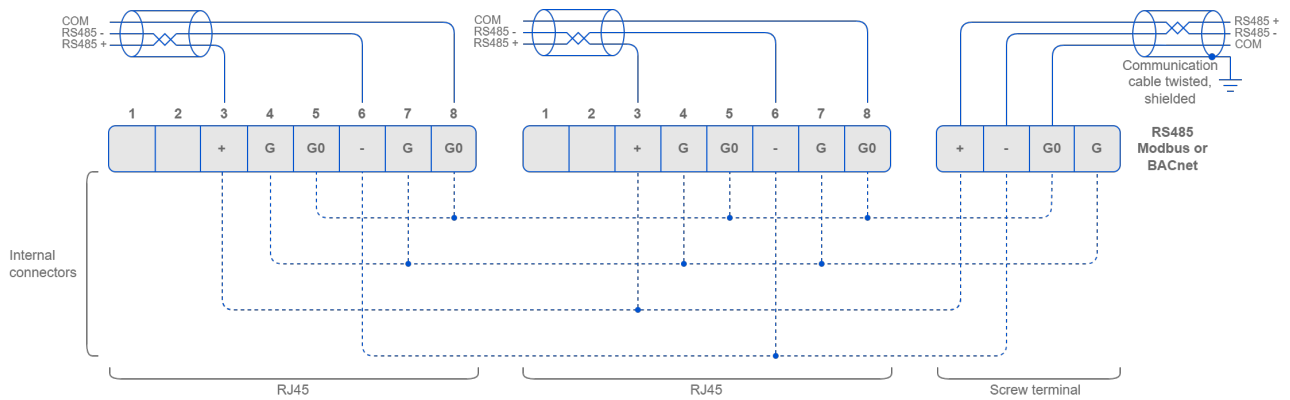


Figure 31. RS485 connection

4.7.2 RS485 Network Termination

Transmission line effects often present problems for data communication networks. These problems include reflections and signal attenuation.

To eliminate the presence of reflections of signal from the end of the cable, the cable must be terminated at both ends with a resistor across the line adequate to its characteristic impedance. Both ends must be terminated since the propagation is bidirectional. In case of an RS485 twisted pair cable this termination is typically 120 Ω .

Note: A termination resistor can be added with a third switch on the DIP switch on the back of the panel:

- **Off:** termination resistor disconnected (default);
- **On:** termination resistor added.

4.7.3 USB Connection

The USB port is used to communicate with product software, iSMA Configurator, for configuration and firmware updates.

The USB port provides 5 VDC power supply.

The USB communication with the panel can be enabled/disabled in the iSMA Configurator or using the Modbus register/BACnet object.

Warning

If the USB communication is disabled, the iSMA Configurator cannot establish communication with the panel using the USB cable. It is then required to enable the USB communication using the Modbus register/BACnet object.

4.8 DIP Switch

The Touch Point 2.0 panel is equipped with a 3-position DIP switch. Each of three sections has a separate function:

- the first switch allows for restoring default settings;
- the second switch allows for selecting a communication protocol;
- and the third switch allows for the RS485 network termination.

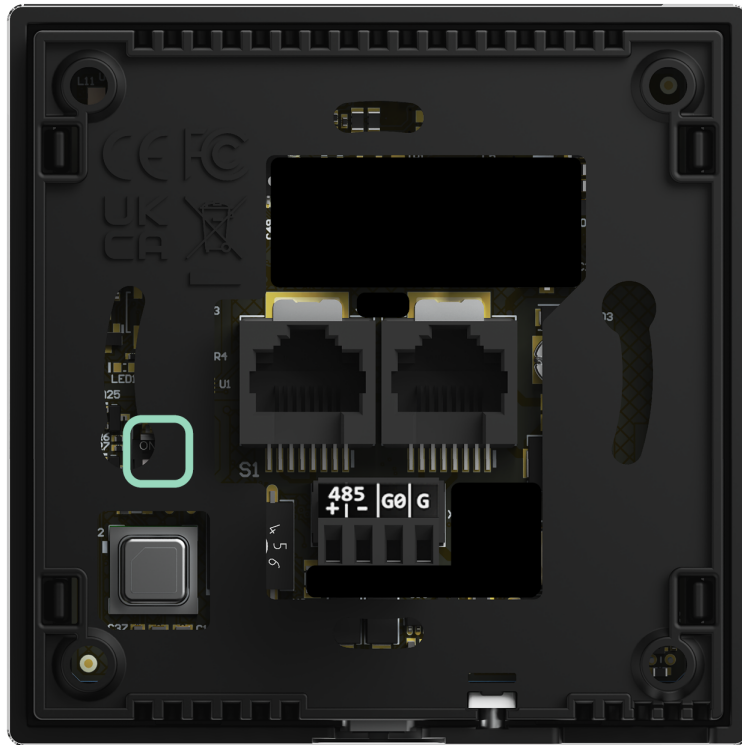


Figure 32. DIP switch location under the back cover

4.8.1 Restoring Default Settings

The first switch provides a possibility to restore default settings in the panel. In order to do so, follow the steps below:

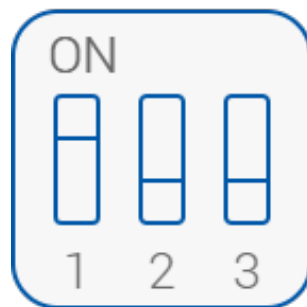


Figure 33. Restoring default settings

- Turn off the power supply;
- set the first switch to on;
- turn on the power supply;
- wait until 5 seconds pass;
- set the first switch to off.

Default Settings

Variable	Default Value
Baud rate	115200
Stop bits	1
Data bits	8
Parity bits	None
Protocol	Modbus RTU
Modbus address	1
Replay delay	None

4.8.2 Selecting Communication Protocol

The second switch selects between the available communication protocols, Modbus RTU/ASCII or BACnet MS/TP:

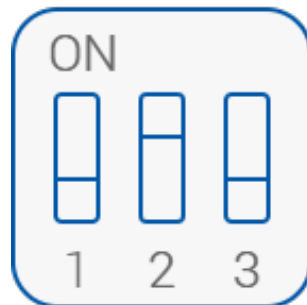


Figure 34. Selecting communication protocol

- Off: Modbus RTU/ASCII (default);
- On: BACnet MS/TP.

4.8.3 RS485 Network Termination

The third switch adds or disconnects a termination resistor to the RS485 network:

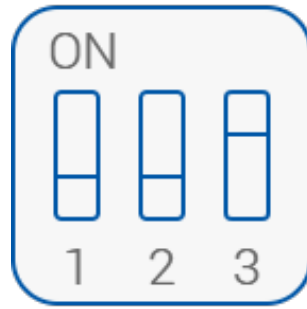


Figure 35. Adding a termination resistor

- **Off:** termination resistor disconnected (default);
- **On:** termination resistor added (120 Ω).

4.9 Rotary Switch

4.9.1 Setting Device Address

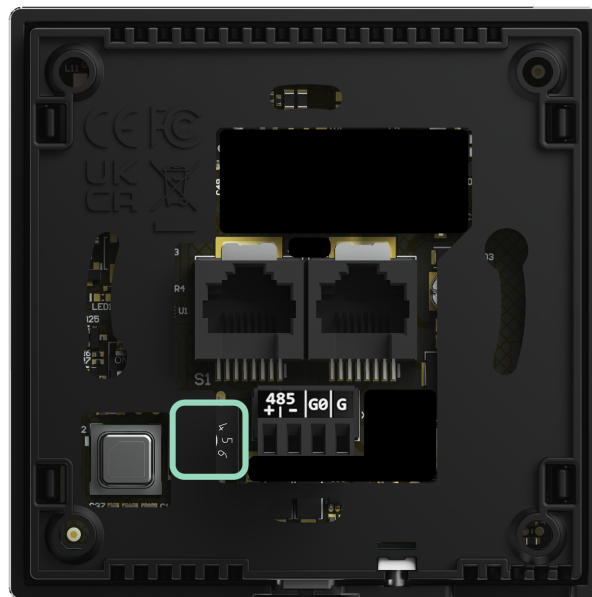


Figure 36. Rotary switch location under the back cover

The Touch Point 2.0 panel is equipped with a rotary switch, which allows for setting a Modbus address in a range from 0 to 9. If the switch is set to 0, the address is read from the ADDRESS register/object (decimal address: 22).

5 Mounting and Installation

5.1 Mounting Without a Back Box

It is possible to mount the Touch Point 2.0 panel without a back box in walls where a square hole of at least 51 x 51 mm can be cut directly in the wall. Then, it is required to securely install the installation screws in the wall in the position of the installation holes on the frame.

5.2 Mounting With a Back Box

For other cases, it is recommended to follow the below steps of installation with a wall back box.

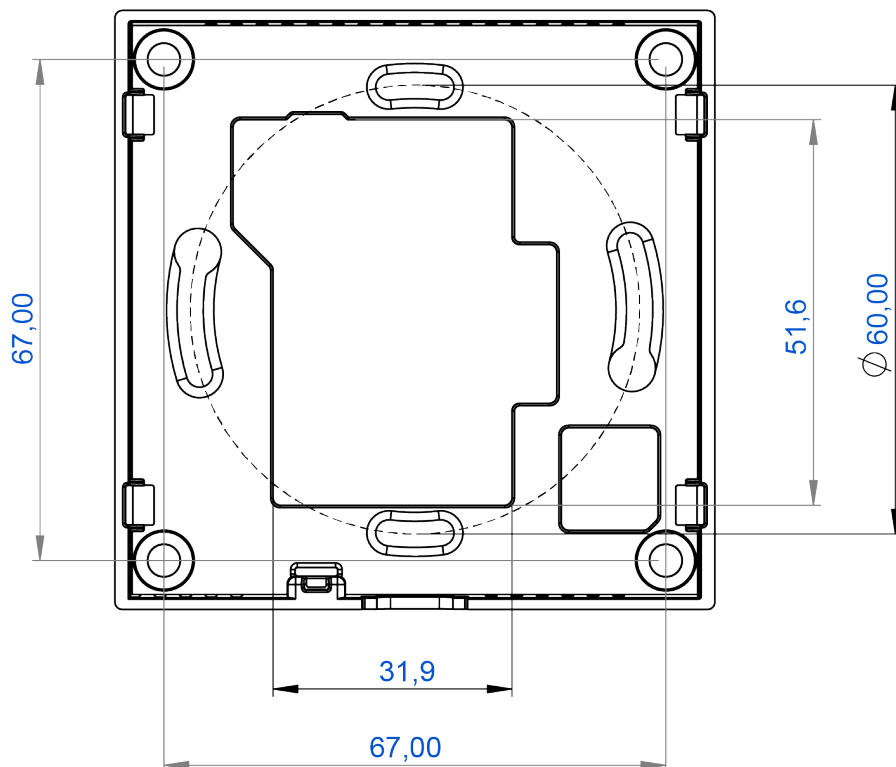


Figure 37. The back box of the panel – junction box fittings

Step 1: Fit the back box to the junction box.

Step 2: Fit the panel to the back box, starting from up corners. Make sure the USB port is headed downwards.

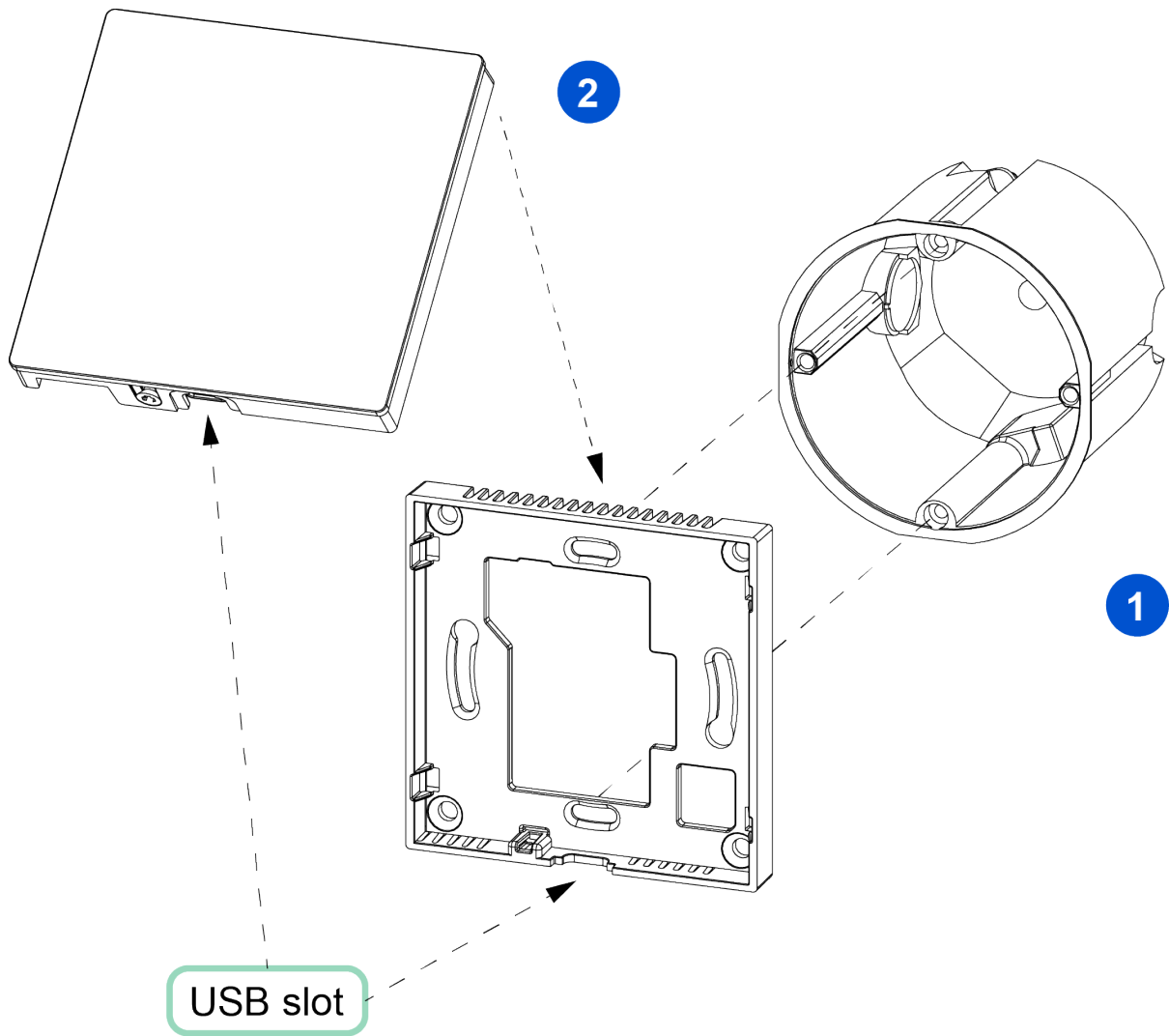


Figure 38. Fitting the junction box, back box, and the panel

Step 3: Gently push in the bottom corners of the panel to the back box.

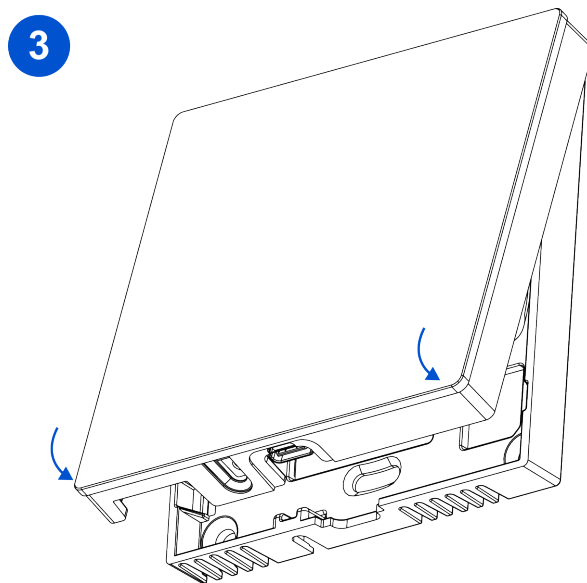


Figure 39. Fitting down corners in the back box

Step 4: Screw the panel to the back box. Turn the screw clockwise.

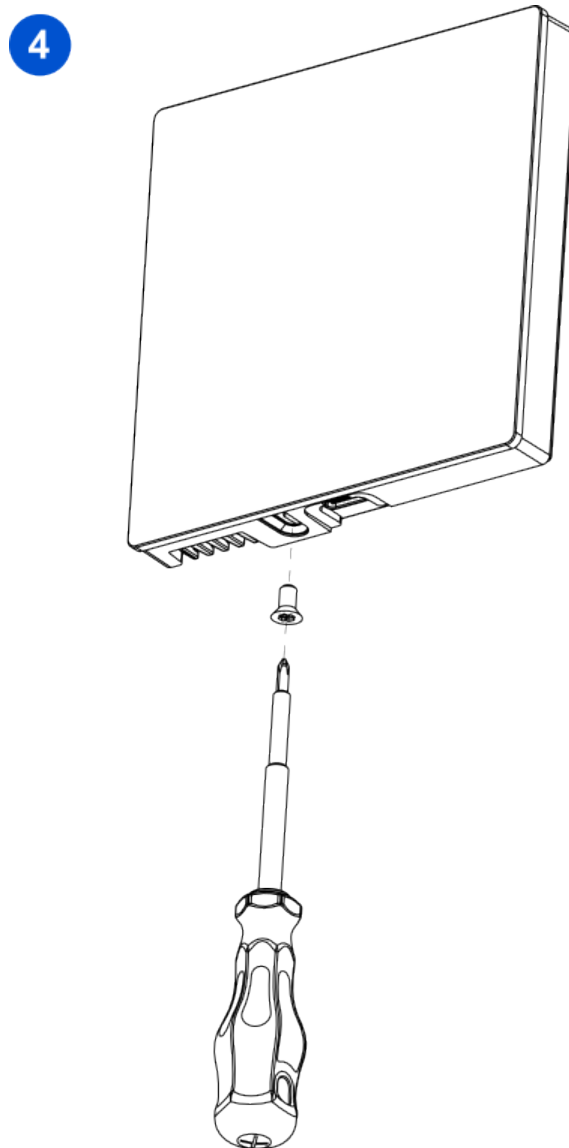


Figure 40. Screw the panel to the back box

Warning!

- Please ensure that any of the construction materials (for example, wall insulation, wall infill, wool, etc.) does not come into contact with the PCB board and cause any pressure on it.
- Please ensure that no pressure is exerted on the RJ45 cable that could push the board out of place.
- Please make sure that the mounting surface is flat and has no irregularities which could cause a housing distortion or glass sticking out.