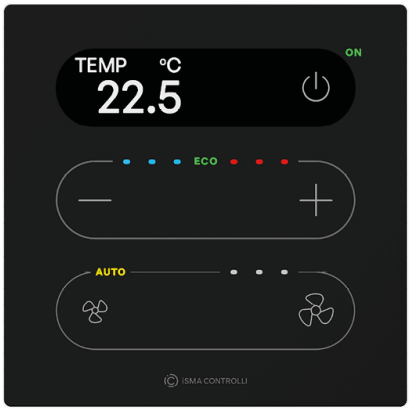
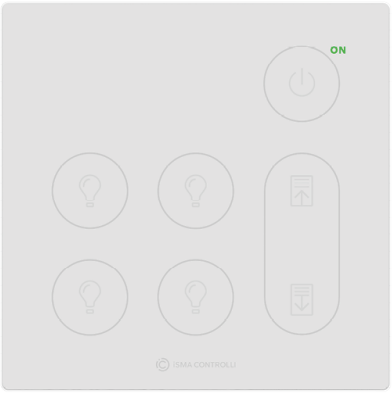
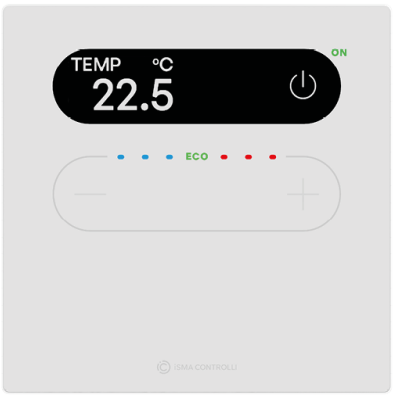
Touch Point 2.0

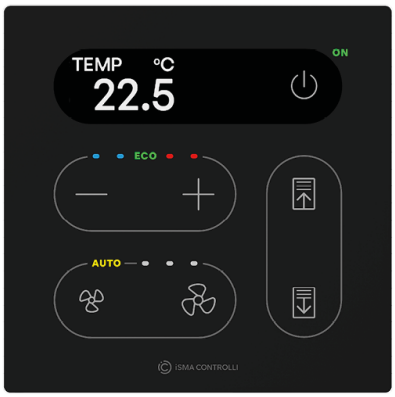
User Manual

Software









iSMA CONTROLLI S.p.A. - Via Carlo Levi 52, 16010 Sant'Olcese (GE) - Italy | support@ismacontrolli.com

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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, CO_2, 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, CO_2, 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, CO_2, 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, CO_2, 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

1.2 Touch Point Panels Product Codes

1.2.1 Touch Point 2.0 Series

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, CO_2, and humidity),
- available in different configurations of colors (black or white).

TP-DISP-W-2, TP-DISP-B-2
TP-H-DISP-W-2, TP-H-DISP-B-2
TP-C-DISP-W-2, TP-C-DISP-B-2
TP-HC-DISP-W-2, TP-HC-DISP-B-2

1.2.2 Touch Point ONE 2.0 Series

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, CO_2, and humidity),
- available in different configurations of colors (black or white).

Up to 4 light and 4 blind control:
TP-ONE-DISP-W-2, TP-ONE-DISP-B-2
TP-ONE-H-DISP-W-2, TP-ONE-H-DISP-B-2
TP-ONE-C-DISP-W-2, TP-ONE-C-DISP-B-2
TP-ONE-HC-DISP-W-2, TP-ONE-HC-DISP-B-2
2L (light control):
TP-ONE-DISP-2L-W-2, TP-ONE-DISP-2L-B-2
TP-ONE-H-DISP-2L-W-2, TP-ONE-H-DISP-2L-B-2
TP-ONE-C-DISP-2L-W-2, TP-ONE-C-DISP-2L-B-2
TP-ONE-HC-DISP-2L-W-2, TP-ONE-HC-DISP-2L-B-2
1B (blind control):
TP-ONE-DISP-1B-W-2, TP-ONE-DISP-1B-B-2
TP-ONE-H-DISP-1B-W-2, TP-ONE-H-DISP-1B-B-2
TP-ONE-C-DISP-1B-W-2, TP-ONE-C-DISP-1B-B-2
TP-ONE-HC-DISP-1B-W-2, TP-ONE-HC-DISP-1B-B-2

1.2.3 Touch Point VAV 2.0 Series

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, CO_2, and humidity),
- available in different configurations of colors (black or white).

TP-VAV-DISP-W-2, TP-VAV-DISP-B-2
TP-VAV-H-DISP-W-2, TP-VAV-H-DISP-B-2
TP-VAV-C-DISP-W-2, TP-VAV-C-DISP-B-2
TP-VAV-HC-DISP-W-2, TP-VAV-HC-DISP-B-2

1.2.4 Touch Point Light & Blind 2.0 Series

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).

TP-4L-W-2, TP-4L-B-2
TP-4L1B-W-2, TP-4L1B-B-2

1.2.5 Touch Point Network Sensor 2.0 Series

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, CO_2, and humidity),
- available in different configurations of colors (black or white).

TP-NS-W-2, TP-NS-B-2
TP-NS-H-W-2, TP-NS-H-B-2
TP-NS-C-W-2, TP-NS-C-B-2
TP-NS-HC-W-2, TP-NS-HC-B-2

Legend:

- **H** - with temperature and humidity sensors
- **C** - with temperature and CO_2 sensors
- **HC** - with temperature, humidity, and CO_2 sensors
- **B** - black version
- **W** - white version

2 User Interface Guide

Warning!
This section applies to the **Touch Point 2.0**, **Touch Point ONE 2.0**, **Touch Point VAV 2.0**, and **Touch Point L&B 2.0** series. The Touch Point Network Sensor 2.0 series is **not equipped** with a display or any control buttons.

2.1 Basic Functionalities

2.1.1 Temperature Setpoint Control

Touch Point 2.0, Touch Point ONE 2L/1B 2.0, Touch Point VAV 2.0

In order to change a temperature setpoint on a touch panel, use the plus (+) and minus (–) buttons:

- 1 press of a plus button enters the temperature setpoint editing mode;
- press a plus button (single press or long press) to increment the temperature setpoint by a step value set in the SETPOINT_STEP register/object (decimal address: 1507);
- press a minus button (single press or long press) to decrement the temperature setpoint by a step value set in the SETPOINT_STEP register/object (decimal address: 1507);
- stop pressing buttons when the required value is reached; the display will end the editing mode after a time set in the EXIT_EDIT_TIME register/object (decimal address: 223).

An unavailable action is signalized by a double beep.

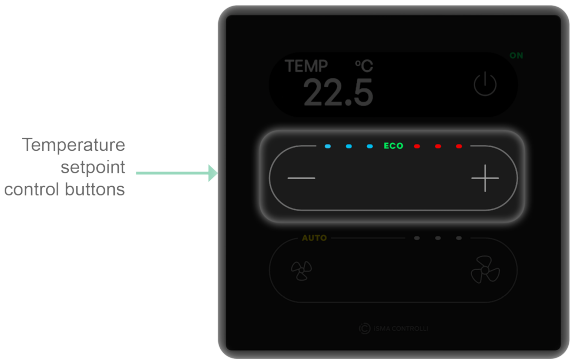


Figure 1. TP 2.0, TP VAV 2.0

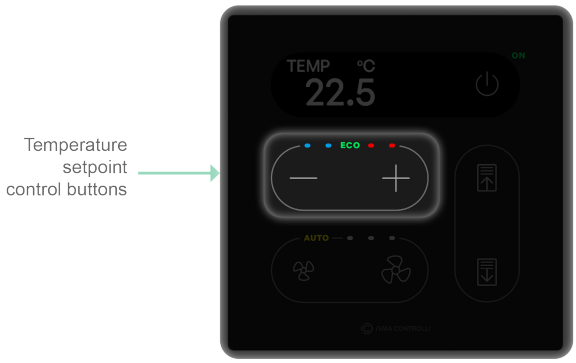


Figure 2. TP ONE 2L/1B 2.0

2.1.2 Fan Control

Touch Point 2.0, Touch Point ONE 2L/1B 2.0

In order to change a fan mode on a touch panel, use the small fan and big fan buttons. Pressing either of the buttons changes the fan mode to one of the available:

- off (no icon on a fan control panel is lit);
- 1-speed manual mode (first left circle icon on a fan control panel is lit);
- 2-speed manual mode (two circle icons on a fan control panel are lit);
- 3-speed manual mode (three circle icons on a fan control panel are lit);
- auto (AUTO icon on a fan control panel is lit).

An unavailable action is signalized by a double beep.

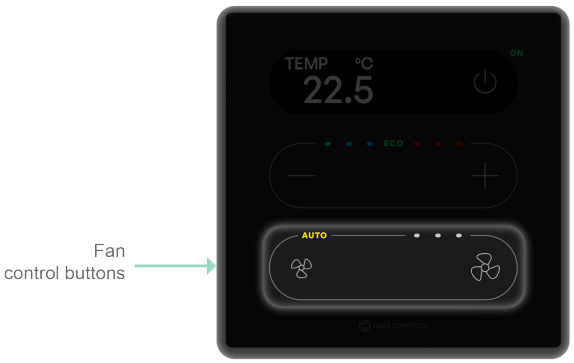


Figure 3. TP 2.0 series

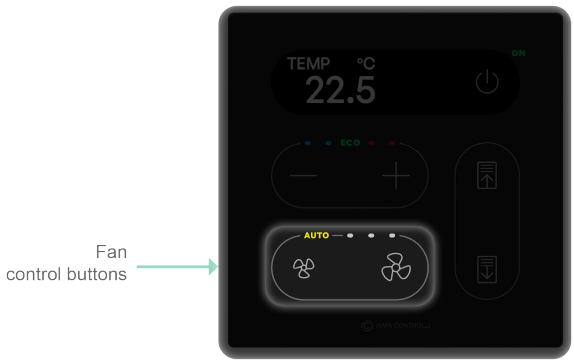


Figure 4. TP ONE 2L/1B 2.0 series

2.1.3 Occupancy

To change an occupancy status, use a power button in the top right corner of the panel. The green ON LED signalizes if the panel is in the occupied mode.

Figure 5. Occupancy button and status LED

> **Note**
> In the Touch Point L&B 2.0 panels, the power button is a generic button, which functionality can be changed by programming. For more details, please see the Generic Buttons Functionalities section below.

2.1.4 CO2 Alarm

If a CO_2 alarm occurs, it can be switched off by pressing any button on the touch panel (see CO2 Alarm).

2.2 Generic Buttons Functionalities

The Touch Point ONE 2.0 and Touch Point Light&Blind 2.0 panels control differs from the rest of panels due to the functionality of generic buttons.

Generic buttons do not have any default logic assigned to their operation. First, it is required to program them in the controller, using the iC Tool or the nE2 Link module (see the Generic Buttons Programming Guide).

Generic buttons can be used either as bistable switches or monostable (normally off/on) switches.

2.2.1 Touch Point ONE 2.0

All generic buttons on the Touch Point ONE 2.0 panel are by default set to a monostable (normally off) mode. To change this setting or assign logic to the buttons, use a dedicated component designed strictly for programming the Touch Point ONE 2.0 panel, the TPOneControlLogic component in the nano EDGE ENGINE Comfort Control library.

Figure 6. Generic buttons on the Touch Point ONE 2.0

To learn more about the programming and operation of the Touch Point ONE 2.0 panel, please see the Generic buttons programming guide.

2.2.2 Touch Point ONE 2L/1B 2.0, Touch Point Light&Blind 2.0

The Touch Point ONE 2L/1B 2.0, Touch Point Light&Blind 2.0 are equipped with the following generic buttons:

Figure 7. TP ONE 2L 2.0 generic buttons

Figure 8. TP ONE 1B 2.0 generic buttons

The generic buttons on the Touch Point ONE 2L 2.0 panel are by default set to a bistable mode.

The generic buttons on the Touch Point ONE 1B 2.0 panel are by default set to a monostable (normally off) mode.

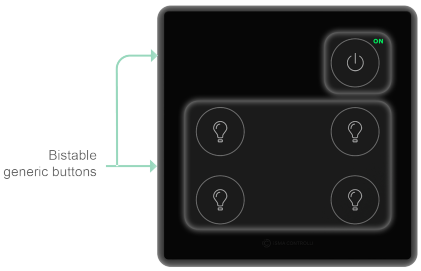


Figure 9. Touch Point 4L 2.0 generic buttons

Figure 10. Touch Point 4L1B 2.0 generic buttons

The generic buttons on the Touch Point 4L 2.0 panel are by default set to a bistable mode.

The generic buttons on the Touch Point 4L1B 2.0 panel are by default set to:

- buttons with light bulbs and power button: bistable mode,
- up/down blind buttons: monostable (normally off) mode.

To learn more about the programming of the generic buttons on the Touch Point ONE 2L/1B 2.0 and Touch Point Light&Blind 2.0, please see the Generic buttons programming guide.

2.3 Generic Buttons Programming Guide

The Touch Point 2.0 panels equipped with generic buttons are the Touch Point ONE 2.0 and Touch Point Light&Blind 2.0 series. These two series of Touch Point 2.0 panels are dedicated to facilitate light and blind control with Modbus/BACnet-enabled controllers. They are recommended to be integrated with the ZAC24-IP-D, the DALI-2 controller driven by the nano EDGE ENGINE.

Generic buttons can be freely programmed as they do not have any default logic assigned to their operation. They can be configured to one of the following modes of operation:

- monostable - normally on,
- monostable - normally off,
- bistable,
- disable,
- blocked.

The following section describes steps to connect the ZAC24-IP-D controller with a compatible Touch Point 2.0 panel.

2.3.1 Touch Point ONE 2.0

The Touch Point ONE 2.0 panel is programmed with the use of the TpOneControlLogic component from the nano EDGE ENGINE's ComfortControl library. The component offers a pre-configured logic for the generic buttons functional distribution on the Touch Point ONE 2.0 touch panel.

Figure 11. Touch Point ONE 2.0

Step 1: Connection

Make sure that the Touch Point ONE 2.0 panel and the controller are powered and correctly connected to the network.

In the nano EDGE ENGINE software tool (iC Tool/nE2 Link module), go to the Networks container, Modbus network (Modbus is recommended).

> **Recommended parameters**
> It is recommended to set the polling mode to fast with the fast mode parameter set to 100 ms.

Add devices to the network and address them properly.

Step 2: Points

For a correct connection with the TpOneControlLogic component, it is required to add the following three network points to the Modbus device:

- AnalogPoint for the generic buttons state register (Address slot: 1348),
- AnalogPoint for the screen select mode register (Address slot: 324),
- AnalogPoint for the temperature setpoint register (Address slot: 1500).

Step 3: TpOneControlLogic component

Add the TpOneControlLogic component (from the ComfortControl library) to the application.

> **Recommended parameters**
> It is recommended to add the TpOneControlLogic component to the application, which scan time is set to 100 ms. Slower applications may hinder a proper operation of the component.

Step 4: Data Points and Linking

Add three AnalogDataPoints to the same application, where the TpOneControlLogic component has been added.

Create the following Reference Link **from the Reference slot in the network point to the Reference slot in the Data Point**:

- AnalogPoint for the generic buttons state to the first AnalogDataPoint.

Create the following Reference Links **from the Reference slot in the Data Point to the Reference slot in the network point**:

- AnalogDataPoint to the AnalogPoint for the screen select mode,
- AnalogDataPoint to the AnalogPoint for the temperature setpoint.

Create the following links with the TpOneControlLogic component:

- (incoming) AnalogDataPoint's (referenced to generic buttons register) Out slot to the Button States slot,
- (outgoing) the Screen Select slot to the In slot of the AnalogDataPoint referenced to the screen select mode register,
- (outgoing) the Setpoint Value slot to the In slot of the AnalogDataPoint referenced to the temperature setpoint register.

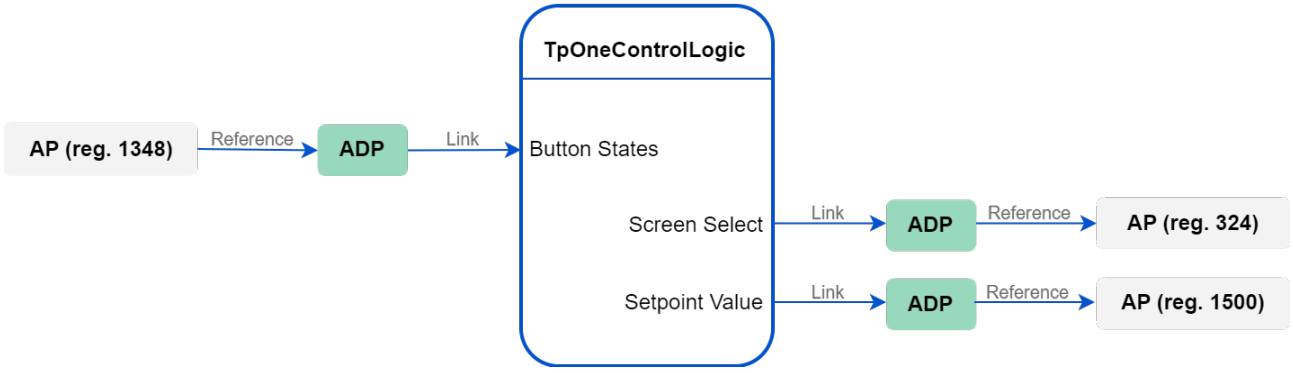


Figure 12. TpOneControlLogic links

If required, configure the rest of the TpOneControlLogic component slots as necessary.

Light dimming

To control the light with dimming, use the LightOnOffDimming2Switch component available in the LightControl library.

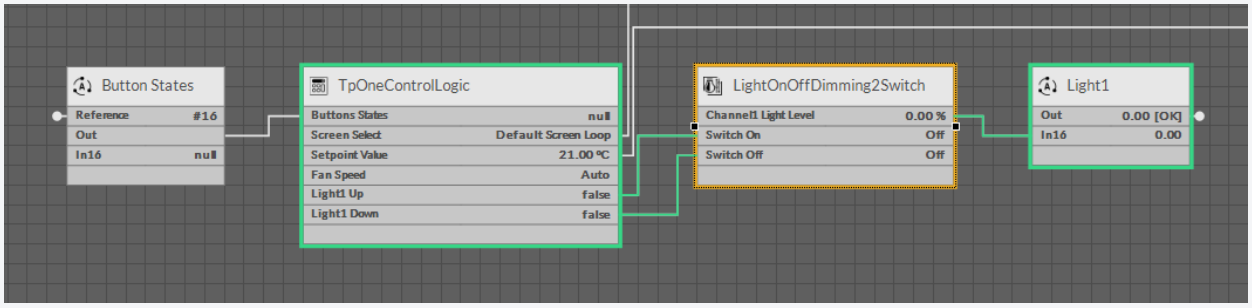


Figure 13. Light dimming with the LightOnOffDimming2Switch component

Add the LightOnOffDimming2Switch component to the application. Link the Light Up and Light Down slots of the TpOneControlLogic component, corresponding to the generic button, with the Switch On and Switch Off slots of the LightOnOffDimming2Switch component. Then, link the Channel1 Light Level slot of the LightOnOffDimming2Switch with the input slot of the AnalogDataPoint controlling the light.

2.3.2 Touch Point ONE 2L/1B 2.0 and Touch Point Light&Blind 2.0

The Touch Point ONE 2L/1B 2.0 and Touch Point Light&Blind 2.0 panels are equipped with generic buttons, which can be programmed with the use of the GENERIC_BUTTON_STATES register.

Step 1: Connection

Make sure that the Touch Point ONE 2L/1B 2.0/Touch Point Light&Blind 2.0 panel and controller are powered and correctly connected to the network.

In the nano EDGE ENGINE software tool (iC Tool/nE2 Link module), go to the Networks container, Modbus network (Modbus is recommended).

> **Recommended parameters**
> It is recommended to set the polling mode to fast with the fast mode parameter set to 100 ms.

Add devices to the network and address them properly.

Step 2: Point

Add the following the network point to the Modbus device:

- AnalogPoint for the generic buttons state register (Address slot: 1348).

Step 3: Data Point and Linking

Add the AnalogDataPoint to the application.

> **Recommended parameters**
> It is recommended to add the Data Point to the application, which scan time is set to 100 ms. Slower applications may hinder a proper data transmission between the panel and the controller.

Create the Reference Link from the AnalogPoint for the generic buttons state to the AnalogDataPoint (from the Reference slot in the network point to the Reference slot in the Data Point).

Step 4: Bits

Add the Numeric2Binary component to the same application, where the AnalogDataPoint has been added.

Link the AnalogDataPoint's Out slot to the In slot of the Numeric2Binary component. Use the Numeric2Binary bits slots to link the data from the corresponding generic button in the application (for example, to the components from the LightControl library).

The GENERIC_BUTTON_STATES register contains information about generic buttons states on bits 0-6:

Button no.	Bit
1	0
2	1
3	2
4	3

Button no.	Bit
5	4
6	5
7	6

Light dimming

To control the light with dimming, use the LightOnOffDimming1Switch component available in the LightControl library.

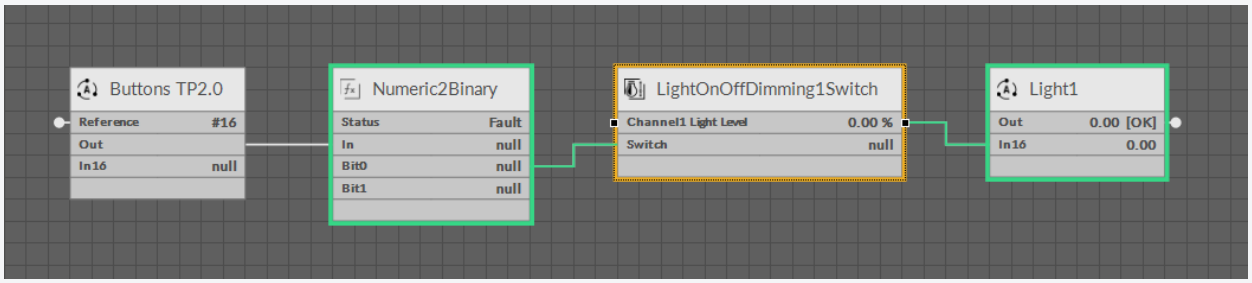


Figure 14. Light dimming with the LightOnOffDimming1Switch component

Add the LightOnOffDimming1Switch component to the application. Link the Bit slot from the Numeric2Binary component, corresponding to the source generic button, with the Switch slot of the LightOnOffDimming1Switch. Then, link the Channel1 Light Level slot of the LightOnOffDimming1Switch with the input slot of the AnalogDataPoint controlling the light.

Generic buttons distribution

Various types of panels can be equipped with 2 to 7 of generic buttons:

- Touch Point 4L1B 2.0: **7** generic buttons,
- Touch Point ONE 2.0: **6** generic buttons (nos. 2, 3, 4, 5, 6, 7)
- Touch Point 4L 2.0: **5** generic buttons (nos. 1, 2, 4, 5, 7),
- Touch Point ONE 2L/1B 2.0: **2** generic buttons (nos. 4, 7).

Regardless of the above configurations, generic buttons are always numbered the same for programming:

Figure 15. Generic buttons distribution

Generic buttons LEDs

The generic buttons LEDs can be controlled with the GENERIC_BUTTON_LED_MODES and GENERIC_BUTTON_LED_BMS_STATES variables. Find out more: User Interface Parameters.

3 Communication Parameters

Warning!
This section applies to all Touch Point 2.0 series: **Touch Point 2.0**, **Touch Point ONE 2.0**, **Touch Point VAV 2.0**, **Touch Point L&B 2.0, and Touch Point Network Sensor 2.0** series.

The Touch Point 2.0 panels are capable of simultaneously exchanging data on two buses, RS485 and USB.

3.1 RS485

There are 3 communication protocols that can be selected using the DIP switch 2 and PROTOCOL field:

	DIP Switch 2	PROTOCOL (23)
Modbus RTU	Off	0
Modbus ASCII	Off	1
BACnet MS/TP	On	N/A

The Modbus register reading the protocol set on the DIP switch is the following:

PROTOCOL_DIPSWITCH: reads the communication protocol set on the DIP switch;

- Modbus register: 30003;
- BACnet object: N/A.

3.1.1 Setting MAC Address

The device's MAC address can be set using one of the following methods:

- rotary switch: sets addresses from 1-9; if 0:
- ADDRESS (decimal address: 22).

The Modbus register reading the address set on the rotary switch is the following:

ADDRESS_ROTARY_SWITCH: reads the Modbus address set on the rotary switch (0 means the address is read from the ADDRESS register/object);

- Modbus register: 30002;
- BACnet object: N/A.

3.1.2 Setting Communication Parameters

BACNET_DEVICE_ID: sets the device's BACnet ID;

- Modbus register: 40015;
- BACnet object: DEVICE, property: Object Identifier;

BAUD_RATE: sets a baud rate of the panel. The baud rate is calculated according to the formula: baud rate = (register's value)·10. The default value is 11520 (115200 bps);

- Modbus register 40017;
- BACnet object: DEVICE, property: 3084.

Value	Baud rate (bps)
480	4800
960	9600
1920	19200
3840	38400
5760	57600
7680	76800
11520	115200 (default)

STOP_BITS: determines a number of stop bits in a Modbus frame according to the following table:

Value	No. of stop bits
1	1 (default)
2	2

- Modbus register 40018;
- BACnet object: N/A;

DATA_BITS: determines a number of data bits in a Modbus frame (the Modbus ASCII protocol requires 7 bits):

Value	No. of data bits
7	7
8	8 (default)

- Modbus register 40019;
- BACnet object: N/A;

PARITY_BIT: each byte of data being transferred may have an additional protection of a parity bit added before stop bit (bits). The 16-bit register determines a number of added parity bits according to the table below:

Value	No. of parity bits
0	None (default)

Value	No. of parity bits
1	Odd
2	Even

- Modbus register 40020;
- BACnet object: N/A;

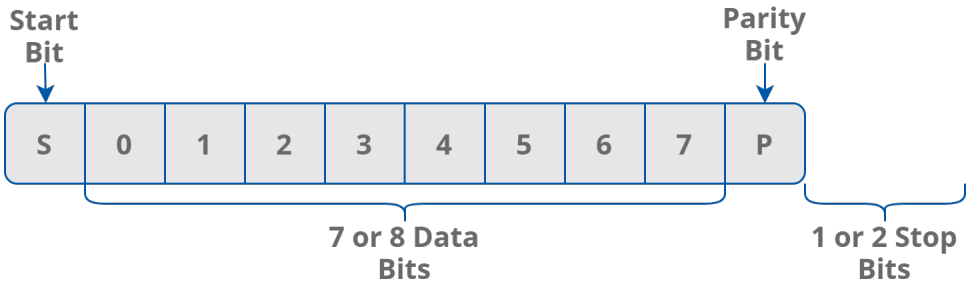


Figure 16. Modbus frame

Note: The BACnet protocol requires specific values of stop bits, data bits, and a parity bit of 1, 8, and none, respectively. Therefore, the user settings for these objects are not applicable.

REPLAY_DELAY: determines a number of milliseconds before the panel answers the request. This time is used to extend the interval between the request and response. The default value of 0 means no delay (the response is sent once during the 3.5 character required by the Modbus RTU protocol).

- Modbus register 40021;
- BACnet object: N/A.

Warning!
The above parameters are remembered, but NOT automatically set. In order to set these parameters to the panel, it is required to perform one of the following actions after entering required values:
- restart the panel;
- send a reload settings command (0: 0x2FF, DEVICE (property: 3030): 0x2FF), or in iSMA Configurator).

Incoming data frames are counted and presented through the following parameters:

RECEIVED_FRAMES: shows the number of received frames. The register's value is reset at the start of the panel and at the change of transmission parameters;

- Modbus register: 30004;
- BACnet object: DEVICE, property: 5101;

ERROR_FRAMES: shows the number of error messages (shorter than 3 or with incorrect CRC value) received by the panel from the time of the last power-up. The register's value is reset at the start of the panel and at the change of transmission parameters;

- Modbus register: 30006;
- BACnet object: DEVICE, property: 5103;

TRANSMITTED_FRAMES: shows the number of sent frames. The register's value is reset at the start of the panel and at the change of transmission parameters;

- Modbus register: 30008;
- BACnet object: DEVICE, property: 5104.

3.2 USB

A USB bus is accessible through the USB C port at the bottom of the device. Device identifies itself as a USB HID, and can be configured using the iSMA Configurator.

The USB port access can be switched on or off using the following parameter:

DEVICE_CONFIGURATION_2, bit 0: USB_ON_OFF

- Modbus register: 40206;
- BACnet object: BO74, property: Present Value.

4 User Interface Parameters

Direct interaction with the Touch Point 2.0 device is possible via user interface (buttons and display, if available) by default. The panel can be activated or inactivated using the following parameter or in the iSMA Configurator:

DEVICE_CONFIGURATION, bit 11: PANEL_OFF

- Modbus register: 40205;
- BACnet object: BO9, property: Present Value.

4.1 Display

Warning!
This section applies to the **Touch Point 2.0**, **Touch Point ONE 2.0**, and **Touch Point VAV 2.0** series. The Touch Point L&B 2.0 and Touch Point Network Sensor 2.0 series are **not equipped** with a display.

The display functions can be activated or inactivated using the following parameter or in the iSMA Configurator:

DEVICE_CONFIGURATION, bit 3: LCD_BACKLIGHT_ACTIVE

- Modbus register: 40205;
- BACnet object: BO3, property: Present Value.

During a normal operation, the display shows measured values for all sensors available in the panel and a temperature setpoint (if available), with parameter's shortcut name and a proper unit.

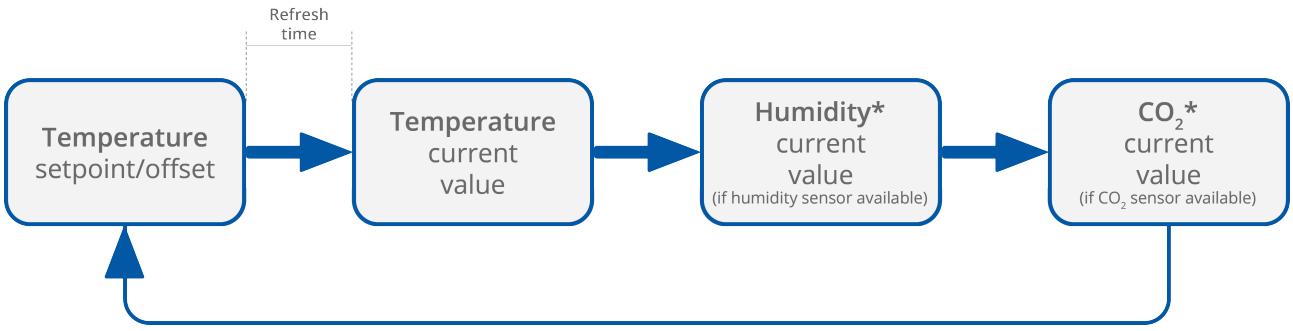


Figure 17. The display sequence

The display configuration parameters include the following (these functions can be edited directly in the parameters or in the iSMA Configurator):

REFRESH_TIME: sets the duration of the display time of particular parameters. When the refreshing time elapses, the next parameter is displayed according to the sequence of parameters display. The default value is 5 seconds (each parameter is displayed for 5 seconds). The maximum refreshing time is 60 seconds.

- Modbus register: 40217;
- BACnet object: AO13, property: Present Value;

TEMPERATURE_CONFIGURATION: allows to configure the temperature sensor with two bits:

- ACTIVE, bit 0: activates or deactivates the sensor;
  - Modbus register: 40316;
  - BACnet object: AI4, property: Out Of Service;
- THIRD_POINT_ACTIVE, bit 4: enables or disables decimal values in the sensor;
  - Modbus register: 40316;

- BACnet object: AI4, property: 4202;

Bit	Name	0	1
0	ACTIVE	Inactive	Active (default)
4	THIRD_POINT_ACTIVE	No decimal	Decimal (default)

HUMIDITY_CONFIGURATION: allows to configure the humidity sensor with two bits:

- ACTIVE, bit 0: activates or deactivates the sensor;
  - Modbus register: 40317;
  - BACnet object: AI5, property: Out Of Service;
- THIRD_POINT_ACTIVE, bit 4: enables or disables decimal values in the sensor;
  - Modbus register: 40317;
  - BACnet object: AI5, property: 4202;

Bit	Name	0	1
0	ACTIVE	Inactive	Active (default)
4	THIRD_POINT_ACTIVE	No decimal	Decimal (default)

CO2_CONFIGURATION: allows to activate or deactivate the CO2 sensor:

- ACTIVE, bit 0: activates or deactivates the sensor;
  - Modbus register: 40318;
  - BACnet object: AI6, property: Out Of Service;

Bit	Name	0	1
0	ACTIVE	Inactive	Active (default)

CO_2 sensors installed in Touch Point 2.0 panels are subject to an automatic sensor calibration system. Learn more: Touch Point 2.0 Hardware user manual.

SETPOINT_CONFIGURATION: allows to configure the temperature setpoint with five bits:

- VISIBLE, bit 0: enables or disables the temperature setpoint to be visible on the panel's display;
  - Modbus register: 41513;
  - BACnet object: AV56, property: Out Of Service;
- EDITABLE, bit 1: enables or disables editing of the temperature setpoint locally from the panel;
  - Modbus register: 41513;
  - BACnet object: AV56, property: 4200;
- OPERATING_MODE, bit 2: allows to set the operating mode of the temperature setpoint configuration;
  - Modbus register: 41513;
  - BACnet object: BO55, property: Out Of Service;
- SETPOINT_DISPLAY, bit 3: allows to configure the temperature setpoint display;
  - Modbus register: 41513;
  - BACnet object: BO56, property: Out Of Service;
- THIRD_POINT_ACTIVE, bit 4: enables or disables decimal values in the temperature setpoint;
  - Modbus register: 41513;

- BACnet object: AV56, property: 4202;

Bit	Name	0	1
0	Visible	Not visible	Visible (default)
1	Editable	Not editable	Editable (default)
2	Operating mode	Changing offset	Changing setpoint (default)
3	Setpoint display	Show/change offset (OFFSET_SETPOINT value)	Show/change effective setpoint (EFFECTIVE_SETPOINT value)
4	ThirdPointActive	No decimal	Decimal (default)

4.1.1 Display Brightness

Display brightness switches between three illumination modes in time:

- active mode;
- idle mode;
- standby mode.

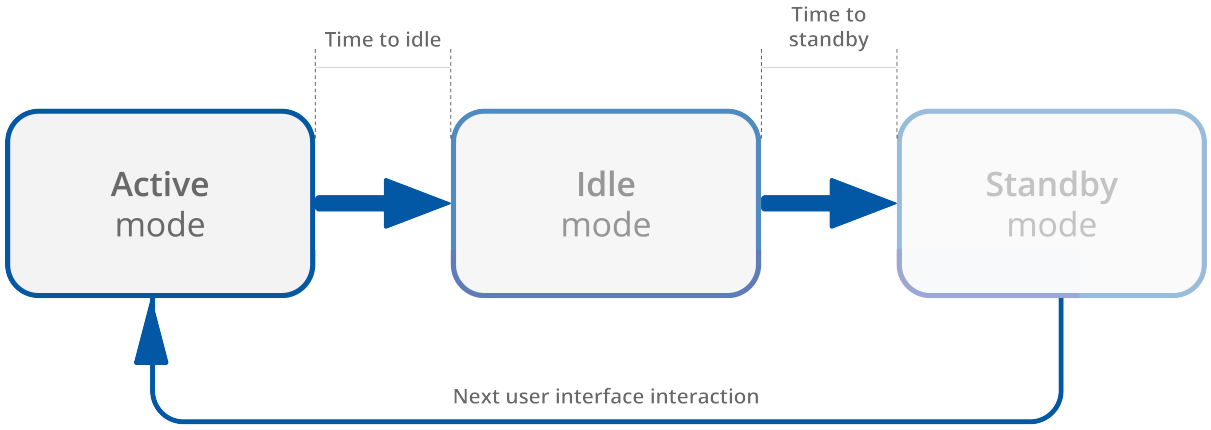


Figure 18. Brightness modes sequence

Active Mode Settings

BACKLIGHT_LCD_ACTIVE: contains a value of the LCD display brightness in the active mode (expressed in %). The default value is 60%.

- Modbus register: 40207;
- BACnet object: AO3, property: Present Value;

BACKLIGHT_LCD_TIME_TO_IDLE: allows to set the time, after which the LCD display goes from the active mode to idle (expressed in seconds). The default value is 10 seconds.

- Modbus register: 40210;
- BACnet object: AO6, property: Present Value;

Idle Mode Settings

BACKLIGHT_LCD_IDLE: contains a value of the LCD display brightness in the idle mode (expressed in %). The default value is 40%.

- Modbus register: 40208;
- BACnet object: AO4, property: Present Value.

BACKLIGHT_LCD_TIME_TO_STANDBY: allows to set the time, after which the LCD display goes from the idle mode to standby (expressed in seconds). The default value is 5 seconds.

- Modbus register: 40211;
- BACnet object: AO7, property: Present Value.

Standby Mode Settings

BACKLIGHT_LCD_STANDBY: contains a value of the LCD display brightness in the standby mode (expressed in %). The default value is 0%.

- Modbus register: 40209;
- BACnet object: AO5, property: Present Value.

The panel stays in the standby mode until next user interface interaction.

Current Display Brightness

BACKLIGHT_LCD: contains a current display illumination value.

- Modbus register: 30201;
- BACnet object: AI1, property: Present Value.

4.2 Keypad

Warning!
This section applies to the **Touch Point 2.0**, **Touch Point ONE 2.0**, **Touch Point VAV 2.0**, and **Touch Point L&B 2.0** series. The Touch Point Network Sensor 2.0 series is **not equipped** with a display or any control buttons.

A front panel of the panel is equipped with LEDs that illuminate buttons and other symbols available on the panel's keypad. The LEDs can be activated or inactivated using the following parameter or in the iSMA Configurator:

DEVICE_CONFIGURATION, bit 4: KEYPAD_BACKLIGHT_ACTIVE

- Modbus register: 40205;
- BACnet object: BO4, property: Present Value.

Keypad brightness switches between three illumination modes in time:

- active mode;
- idle mode;
- standby mode.

4.2.1 Keypad Brightness

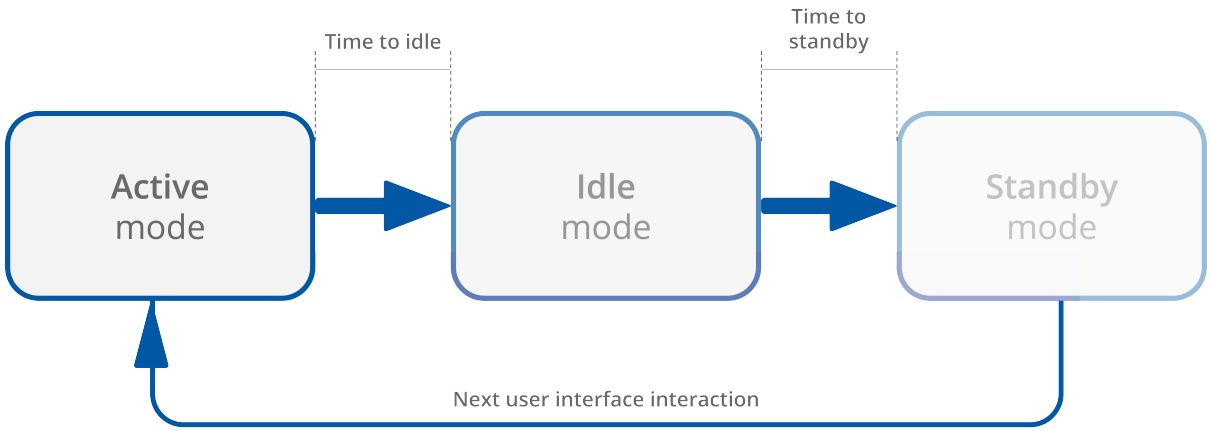


Figure 19. Brightness modes sequence

Active Mode Settings

BACKLIGHT_KEYPAD_ACTIVE: contains a value of the LCD display brightness in the active mode (expressed in %). The default value is 60%.

- Modbus register: 40212;
- BACnet object: AO8, property: Present Value;

BACKLIGHT_KEYPAD_TIME_TO_IDLE: allows to set the time, after which the LCD display goes from the active mode to idle (expressed in seconds). The default value is 10 seconds.

- Modbus register: 40215;
- BACnet object: AO11, property: Present Value;

Idle Mode Settings

BACKLIGHT_KEYPAD_IDLE: contains a value of the LCD display brightness in the idle mode (expressed in %). The default value is 40%.

- Modbus register: 40213;
- BACnet object: AO9, property: Present Value.

BACKLIGHT_KEYPAD_TIME_TO_STANDBY: allows to set the time, after which the LCD display goes from the idle mode to standby (expressed in seconds). The default value is 5 seconds.

- Modbus register: 40216;
- BACnet object: AO12, property: Present Value.

Standby Mode Settings

BACKLIGHT_KEYPAD_STANDBY: contains a value of the LCD display brightness in the standby mode (expressed in %). The default value is 0%.

- Modbus register: 40214;
- BACnet object: AO10, property: Present Value.

The panel stays in the standby mode until next user interface interaction.

Current Display Brightness

BACKLIGHT_KEYPAD: contains a current display illumination value.

- Modbus register: 30202;
- BACnet object: AI2, property: Present Value.

4.3 Touch Panel

The Touch Point 2.0 panels are equipped with a touch panel with various combinations of buttons for occupancy, temperature (+/-), fan (+/-) control, and generic buttons. The touch panel buttons can be activated or inactivated using the following parameter or in the iSMA Configurator:

DEVICE_CONFIGURATION, bit 12: KEYPAD_OFF

- Modbus register: 40205;
- BACnet object: BO10, property: Present Value.

Each available button operates in two modes:

- short press: minimal touch time: 70 ms, maximal touch time: 400 ms;
- long press: minimal touch time: 400 ms, maximal touch time: 11 s.

Functionality assigned to a given button can limit mentioned operation modes to any combination of the two.

4.3.1 Generic Buttons

The Touch Point ONE 2.0 and Touch Point Light&Blind 2.0 series are equipped with generic buttons, which do not have any default logic assigned to their operation—first, it is required to program them in the controller. The following parameters are applicable to generic buttons configuration.

Generic buttons distribution

Various types of panels can be equipped with 2 to 7 of generic buttons:

- Touch Point 4L1B 2.0: **7** generic buttons,
- Touch Point ONE 2.0: **6** generic buttons (nos. 2, 3, 4, 5, 6, 7)
- Touch Point 4L 2.0: **5** generic buttons (nos. 1, 2, 4, 5, 7),
- Touch Point ONE 2L/1B 2.0: **2** generic buttons (nos. 4, 7).

Regardless of the above configurations, generic buttons are always numbered the same for programming:

Figure 20. Generic buttons distribution

GENERIC_BUTTON_N_MODE: (N - a number of a generic button, 1-7) defines a generic button's behavior:

Value	Mode	Description
1	Disabled	Disables a generic button functionality (except for LED BMS control)
2	Blocked	Blocks a generic button control from a touch sensor input
3	Bistable	Generic button works as a standard bistable switch
4	Monostable - normally off	Generic button works as a standard monostable NO switch
5	Monostable - normally on	Generic button works as a standard monostable NC switch

- Modbus registers: 41342-41348;
- BACnet object: MSV21-27, property: Present Value.

GENERIC_BUTTON_STATES: receives a state (on/off) of 1-7 generic buttons:

Value	State	Description
0	Off	Low logic generic button state
1	On	High logic generic button state

- Modbus register: 41349, bits 0-6;
- BACnet object: BV56-62, property: Present Value.

GENERIC_BUTTON_LED_MODES: defines a behavior of a generic button LED, if assigned:

Value	State	Description
0	LED BMS mode	LED state follows the state set in LED BMS state parameter
1	LED local mode	LED state follows the button state

- Modbus register: 41350, bits 0-6;
- BACnet object: BV63-69, property: Present Value.

GENERIC_BUTTON_LED_BMS_STATES: receives a LED BMS state set on a generic button LED if LED mode is set to BMS mode:

Value	State	Description
0	Off	Additional LED is off
1	On	Additional LED is on

- Modbus registers: 41352, bits 0-6;
- BACnet object: BV70-76, property: Present Value.

4.4 Navigation LED

Warning!
This section applies to all Touch Point 2.0 series: **Touch Point 2.0**, **Touch Point ONE 2.0**, **Touch Point VAV 2.0**, **Touch Point L&B 2.0, and Touch Point Network Sensor 2.0** series.

The Touch Point 2.0 panels are equipped with a navigation LED, which allows to locate the panel in the dark. The navigation LED can be configured using the following parameters or in the iSMA Configurator:

NAVIGATIONAL_LED_MODE: allows to set a mode of the navigational LED according to the table below:

Modbus value	BACnet value	Mode if active
0	1	Off
1	2	On (default)
2	3	Active on idle and standby modes
3	4	Active on idle mode only
4	5	Active on standby mode only
5	6	BMS mode

- Modbus register: 30231;
- BACnet object: MSV18, property: Present Value;

NAVIGATIONAL_LED_BRIGHTNESS: allows to set the navigational LED brightness. In the range of 0-100%, the default value is 100%;

- Modbus register: 30232;
- BACnet object: AO39, property: Present Value;

NAVIGATIONAL_LED_RED: allows to set a red component intensity is the navigational LED. In the range of 0-100%, the default value is 100%;

- Modbus register: 30233;
- BACnet object: AO40, property: Present Value;

NAVIGATIONAL_LED_GREEN: allows to set a green component intensity is the navigational LED. In the range of 0-100%, the default value is 100%;

- Modbus register: 30234;
- BACnet object: AO41, property: Present Value;

NAVIGATIONAL_LED_BLUE: allows to set a blue component intensity is the navigational LED. In the range of 0-100%, the default value is 100%;

- Modbus register: 30235;
- BACnet object: AO42, property: Present Value.

4.5 Buzzer

The Touch Point 2.0 panels are equipped with a buzzer, which informs about a detected touch with a short sound. The buzzer also provides a CO_2 alarm function, which emits a sound once the CO_2 level exceeds a set alarm value. The alarm can be confirmed and muted by pressing any button. The buzzer can be activated or inactivated using the following parameter or in the iSMA Configurator:

DEVICE_CONFIGURATION, bit 0: BEEPER_ACTIVE

- Modbus register: 40205;
- BACnet object: BO0, property: Present Value.

The buzzer can be configured using the following parameters or in the iSMA Configurator:

BUZZER_VOLUME: allows to set a buzzer volume (expressed in %). The default value is 50%.

- Modbus register: 40323;
- BACnet object: AO43, property: Present Value;

BUZZER_TONE: allows to select a buzzer tone (discrete, loud, classic, retro).

- Modbus register: 40324;
- BACnet object: MSV20, property: Present Value.

5 Sensors Parameters

Warning!
This section applies to the **Touch Point 2.0**, **Touch Point ONE 2.0**, **Touch Point VAV 2.0**, and **Touch Point Network Sensor 2.0** series. The Touch Point L&B 2.0 series is **not equipped** with any sensors.

The Touch Point 2.0 panels support 3 types of sensors, all of which are equipped with configurable software filter and user offset. Values measured by sensors can be shown on the device's display (if available) or read through communication protocols.

Information about available sensors can be read from the following register or in the iSMA Configurator:

SENSORS: contains an information about the sensors built-in the panel according to the table below (if the bit is active, it means the sensor is built-in in the panel):

Bit	Built-in sensors
0	Humidity sensor
1	CO_2 sensor
2	NTC sensor
3	N/A

- Modbus register: 30029;
- BACnet object: MSI0, property: Present Value.

5.1 Temperature Sensor

A temperature sensor is a standard equipment in Touch Point 2.0 panels. The temperature sensor's configuration data is available in the following parameters or in the iSMA Configurator:

TEMPERATURE_SENSOR: indicates a current temperature value with offset;

- Modbus register: 30301;
- BACnet object: AI4, property: Present Value;

TEMPERATURE_SENSOR_OFFSET: allows to set an offset value for the temperature sensor (correction to the temperature sensor's value). The default value is 0;

- Modbus register: 40304;
- BACnet object: AI4, property: 4205;

TEMPERATURE_FILTER: allows to set a filtering value for the temperature sensor (expressed in seconds). The default value is 2 seconds;

- Modbus register: 40307;
- BACnet object: AI4, property: 4003.

5.2 Humidity Sensor (Optional)

A humidity sensor is an optional equipment in Touch Point 2.0 panels. It is marked with a letter H in a product code, for example: TP-H-2 (means the panel is equipped with a temperature sensor and humidity sensor). The humidity sensor's configuration data is available in the following parameters or in the iSMA Configurator:

HUMIDITY_SENSOR: indicates a current humidity value with offset;

- Modbus register: 30302;
- BACnet object: AI5, property: Present Value;

HUMIDITY_SENSOR_OFFSET: allows to set an offset value for the humidity sensor (correction to the humidity sensor's value). The default value is 0;

- Modbus register: 40305;
- BACnet object: AI5, property: 4205;

HUMIDITY_FILTER: allows to set a filtering value for the humidity sensor (expressed in seconds). The default value is 2 seconds.

- Modbus register: 40308;
- BACnet object: AI5, property: 4205.

5.3 CO2 Sensor (Optional)

A CO_2 sensor is an optional equipment in Touch Point 2.0 panels. It is marked with a letter C in a product code, for example: TP-C-2 (means the panel is equipped with a temperature sensor and CO_2 sensor). The CO_2 sensor's configuration data is available in the following parameters or in the iSMA Configurator:

CO2_SENSOR: indicates a current CO_2 value with offset;

- Modbus register: 30303;
- BACnet object: AI6, property: Present Value;

CO2_OFFSET: allows to set an offset value for the CO_2 sensor (correction to the CO_2 sensor's value). The default value is 0;

- Modbus register: 40306;
- BACnet object: AI6, property: 4205;

CO2_FILTER: allows to set a filtering value for the CO_2 sensor (expressed in seconds). The default value is 2 seconds;

- Modbus register: 40309;
- BACnet object: AI6, property: 4003.

5.4 Temperature Setpoint

Warning!
This section applies to the **Touch Point 2.0**, **Touch Point ONE 2L/1B 2.0**, **Touch Point VAV 2.0**, and **Touch Point Network Sensor 2.0** series. The Touch Point ONE 2.0 and Touch Point L&B 2.0 series are equipped with generic buttons, which operation is dependent upon programming.

The Touch Point 2.0 panels have a feature of setting a temperature setpoint and sending it through communication protocols to any temperature control device. The temperature setpoint value is configurable through the following parameters or in the iSMA Configurator:

EFFECTIVE_SETPOINT: indicates a sum of the temperature actual setpoint value and offset. The register contains a value multiplied by 10;

- Modbus register: 41502;
- BACnet object: AI3, property: Present Value;

SETPOINT_VALUE: allows to set an actual temperature setpoint value. After reset, the DEFAULT_SETPOINT register's value is set to the SETPOINT_VALUE register. The register contains a value multiplied by 10. The value range is 0-500 (0-50^{o}C);

- Modbus register: 41501;
- BACnet object: AV56, property: Present Value;

DEFAULT_SETPOINT: contains a temperature default setpoint value. The default setpoint is set as a setpoint value after the panel's restart or power supply reconnection (the value of the DEFAULT_SETPOINT register is written to the SETPOINT_VALUE register). The register contains a value multiplied by 10. In the range of 0-500 (0-50^{o}C), the default value is 210 (21^{o}C);

- Modbus register: 41503;
- BACnet object: AV57, property: Present Value;

OFFSET_SETPOINT: allows to set an offset value to the temperature setpoint (correction to the setpoint's value). The register contains a value multiplied by 10. The range of the OFFSET_SETPOINT variable is set against the OFFSET_RANGE value: if the OFFSET_RANGE value is set to X, the OFFSET_SETPOINT range is -X to X. The default value is 0 (0^{o}C);

- Modbus register: 41504;
- BACnet object: AV58, property: Present Value.

Above parameters are limited to certain values stored in the following parameters:

SETPOINT_LOW_LIMIT: allows to set a minimum temperature setpoint value, which can be set by user. The register contains a value multiplied by 10. The default value is 180 (18^{o}C);

- Modbus register: 41505;
- BACnet object: AV56, property: Low Limit;

SETPOINT_HIGH_LIMIT: allows to set a maximum temperature setpoint value, which can be set by user. The register contains a value multiplied by 10. The default value is 240 (24^{o}C);

- Modbus register: 41506;
- BACnet object: AV56, property: High Limit;

OFFSET_RANGE: allows to set a limit for temperature offset value. The register contains a value multiplied by 10. In the range of 0-100 (0-10^{o}C), the default value is 30 (3^{o}C);

- Modbus register: 41507;
- BACnet object: AV59, property: Present Value.

5.4.1 User Interface Parameters for Temperature Setpoint

In Touch Point 2.0 panels, the temperature setpoint can also be configured using a touch panel (see User Interface Guide). This way, it is possible to change either the SETPOINT_VALUE or OFFSET_SETPOINT depending on the configuration of bits 1 and 2 of the SETPOINT_CONFIGURATION and the SETPOINT_STEP and EXIT_EDIT_TIME parameters:

SETPOINT_CONFIGURATION, bit 1: EDITABLE: enables or disables editing of the temperature setpoint locally from the panel;

- Modbus register: 41513;
- BACnet object: AV56, property: 4200;

SETPOINT_CONFIGURATION, bit 2: OPERATING_MODE: allows to set the operating mode of the temperature setpoint configuration;

- Modbus register: 41513;

- BACnet object: BO55, property: Out Of Service;

Bit	Name	0	1
1	Editable	Not editable	Editable (default)
2	Operating mode	Changing offset	Changing setpoint (default)

For description of all bits of the SETPOINT_CONFIGURATION parameter see User Interface Guide.

SETPOINT_STEP: allows to set a temperature's setpoint step value. If the setpoint is changed locally from the panel (using -/+ buttons), a single press of a button causes a setpoint change with the step value stored in this register. The setpoint can be changed in the range determined by setpoint limits stored in the SETPOINT_LOW_LIMIT and SETPOINT_HIGH_LIMIT parameters.

The setpoint's step value is also automatically adjusted to the setpoint display precision. If the bit 4 of the SETPOINT_CONFIGURATION register is true, the setpoint value is displayed with one decimal place. In such a case, the setpoint's step value is also adjusted to one decimal place. The register contains a value multiplied by 10. The default value is 10 (1 ^{o}C);

- Modbus register: 41508;
- BACnet object: AV56, property: 1507;

EXIT_EDIT_TIME: allows to set the time after which edition of any editable parameter is finished. The parameter is set in seconds. The default value is set to 5 seconds;

- Modbus register: 40224;
- BACnet object: AO17, property: Present Value.

How to change the temperature setpoint on the touch panel?

- Short press + or - button to enter an edit mode (display should start blinking with a current value);
- Change the temperature setpoint value by steps set in the SETPOINT_STEP:
  - - button decreases the value (multiple times for long press);
  - + button increases the value (multiple times for long press).
- Reaching a limit value will be signaled with a double beep.
- Device will automatically exit the edit mode after the time set in the EXIT_EDIT_TIME expires from a last interaction.

LED Bar

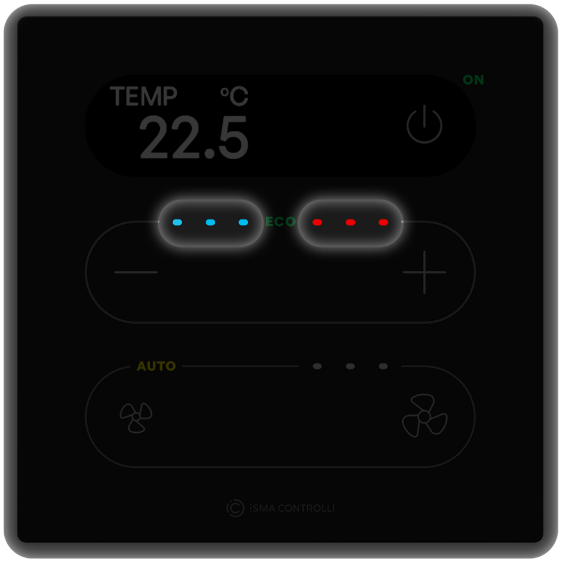


Figure 21. Temperature LED bar

The Touch Point 2.0 LED bar is comprised of three blue diodes and three red diodes. For every 0.5°C change of a selected value (depending on the LED bar mode), LED bar brightness changes by 50% of single LED point. Number and brightness of LEDs indicate exact difference of the values:

- every 0.5 degree of difference lights up a next LED half way up;
- every 1 degree of difference lights up a next LED to maximum;
- a difference greater than 3 degrees lights up all 3 LEDs and does not change further;
- changes are controlled with 0.2 degrees hysteresis to prevent LEDs flashing.

The value, which change will be illustrated on the LED bar display, is defined in the SETPOINT_LED_BAR_MODE and SETPOINT_LED_BAR_USER_VALUE variables.

SETPOINT_LED_BAR_MODE: allows to select a LED bar operation mode:

Value	LED mode	Description
1	Disabled	LED bar illumination is disabled
2	Show setpoint	LED bar shows a difference between an **effective setpoint** and **default setpoint**. There is no differential value hysteresis between changing LED brightness stages.
3	Regulation error	LED bar shows a difference between an **effective temperature** and **effective setpoint**. Differential value hysteresis between changing LED brightness stages is 0.2°C.
4	BMS	LED bar shows a value set in the SETPOINT_LED_BAR_USER_VALUE parameter. There is no differential value hysteresis between changing LED brightness stages.

- Modbus register: 41509;
- BACnet object: MSV32, property: Present Value.

SETPOINT_LED_BAR_USER_VALUE: allows to set a value represented on the LED bar (in the range -500 to 500) if the LED bar mode is set to BMS. The register contains a value multiplied by 10;

- Modbus register: 41510;
- BACnet object: AV67, property: Present Value.

5.5 CO2 Alarm

Devices equipped with the CO_2 sensor can monitor a CO_2 concentration and alarm the user in case of too high values. An alarm state is presented in the following parameter or in the iSMA Configurator:

ALARM_STATUS: indicates a current status of the CO_2 alarm;

- Modbus register: 30230;
- BACnet object: BI0, property: Present Value.

The CO_2 alarm can be configured using the following parameters:

CO2_SETPOINT_FOR_ALARM: allows to set a tipping point for CO_2 alarm. The default value is set to 1500 ppm;

- Modbus register: 40226;
- BACnet object: AO19, property: Present Value;

CO2_HYSTERESIS_FOR_ALARM: allows to set a hysteresis value for launching the CO_2 alarm. The default value is set to 100 ppm;

- Modbus register: 40227;
- BACnet object: AO20, property: Present Value.

Please note that in the Touch Point Network Sensor 2.0 series, the CO_2 alarm is not active by default.

5.5.1 User Interface Parameters for CO2 Alarm

Warning!
This section applies to the **Touch Point 2.0**, **Touch Point ONE 2.0**, and **Touch Point VAV 2.0** series. The Touch Point L&B 2.0 and Touch Point Network Sensor 2.0 series are **not equipped** with a display.

When the alarm triggers (the ALARM_STATUS register's value is 1), it can be confirmed by pressing any touch button. It stops a visualization of the alarm status, but does not affect the ALARM_STATUS parameter.

The alarm confirmation can be configured in the following parameter:

DEVICE_CONFIGURATION, bit 8: CO2_ALARM_CONFIRM: allows to enable confirmation of the CO_2 alarm with any button of the panel;

- Modbus register: 40205;
- BACnet object: BO63, property: Present Value.

After the CO2 alarm triggers, the feature takes control over the display and illumination and starts blinking. The control is returned to normal after the alarm is confirmed or after the CO_2 value decreases below the CO2_SETPOINT_FOR_ALARM level (taking the CO2_HYSTERESIS_FOR_ALARM value into account).

This feature is active by default and cannot by turned off. However, a user can decide if the alarm status should be visible through user interface:

DEVICE_CONFIGURATION, bit 5: CO2_ALARM_LCD: switches on the function of LCD background illumination flashing when the CO_2 alarm occurs. If the bit 5 is true, the CO_2 alarm is indicated by the LCD display flashing;

- Modbus register: 40205;
- BACnet object: BO5, property: Present Value;

DEVICE_CONFIGURATION, bit 6: CO2_ALARM_BUZZER: switches a buzzer on when the CO_2 alarm occurs. If the bit 6 is true, the CO_2 alarm is indicated by the buzzer, which emits sounds with 1 Hz frequency;

- Modbus register: 40205;
- BACnet object: BO6, property: Present Value.

6 Fan Control

Warning!
This section applies to the **Touch Point 2.0, Touch Point ONE 2L/1B 2.0**, and **- conditionally - Touch Point VAV 2.0** series. Fan control is not supported in the Touch Point VAV 2.0 series by default, however, it can be activated using Modbus registers/BACnet objects. Please note that the Touch Point VAV series is not equipped with fan control buttons on the front panel.
The Touch Point Network Sensor 2.0 series **does not support fan control**. The Touch Point ONE 2.0 and Touch Point L&B 2.0 series are equipped with generic buttons, which operation is dependent upon programming.

The fan control feature allows a user to control ventilation devices through the following parameters or in the iSMA Configurator:

FAN_MODE: allows to select a fan mode. There are up to 5 different fan modes, which can be selected locally from the panel.

Modbus value	BACnet value	Fan mode
0	1	Off (default)
1	2	Manual, speed 1
2	3	Manual, speed 2
3	4	Manual, speed 3
4	5	Auto

- Modbus register: 41602;
- BACnet object: MSV1, property: Present Value;

FAN_CURRENT_SPEED: allows to set the fan operating speed and mode according to the table below:

Modbus value	BACnet value	Fan mode	Description
0	1	Off (default)	Fan is off
1	2	Manual speed 1	Fan works in speed 1, manual mode
2	3	Manual speed 2	Fan works in speed 2, manual mode
3	4	Manual speed 3	Fan works in speed 3, manual mode
4	5	Auto speed 1	Fan works in speed 1, auto mode
5	6	Auto speed 2	Fan works in speed 2, auto mode
6	7	Auto speed 3	Fan works in speed 3, auto mode

- Modbus register: 41601;
- BACnet object: MSV0, property: Present Value.

This value can be updated in two ways depending on the FAN_CONFIG_LOCAL_MODE parameter:

FAN_CONFIGURATION, bit 6: FAN_CONFIG_LOCAL_MODE: allows to set the fan to work either in the local mode or BMS mode:

Local Mode: the panel's fan setting works in a local mode (the value of the FAN_CURRENT_SPEED register is determined by the value of the FAN_MODE register and so the value of the FAN_CURRENT_SPEED register cannot be overwritten by the higher level system);

BMS Mode: the panel's fan setting works in the BMS mode. The FAN_MODE register works separately from the FAN_CURRENT_STATUS register.

The default value is the BMS mode.

- Modbus register: 41614;
- BACnet object: BO60, property: Present Value.

6.1 User Interface Parameters for Fan Control

Warning!
This section applies to the **Touch Point 2.0** and **Touch Point ONE 2L/1B 2.0** series.
The Touch Point VAV 2.0 series is **not equipped** with fan control buttons. The Touch Point Network Sensor 2.0 series **does not support fan control**. The Touch Point ONE 2.0 and Touch Point L&B 2.0 series are equipped with generic buttons, which operation is dependent upon programming.

Fan control can also be performed using the touch panel (see User Interface Guide). It is possible to change the fan mode depending on the configurations:

FAN_CONFIGURATION, bit 1: EDITABLE: enables or disables the fan to be edited locally from the panel;

- Modbus register: 41614;
- BACnet object: MSV1, property: 4200;

FAN_CONFIGURATION, bit 2: FAN_PART_EDITABLE: allows to set the fan to be fully editable (all modes stored in the FAN_MODE register available) or partly editable (selection between the auto mode and off);

- Modbus register: 41614;
- BACnet object: BO58, property: Present Value.

FAN_TYPE: allows to select a fan type. The fan type selection determines, which fan modes are available in the FAN_MODE register.

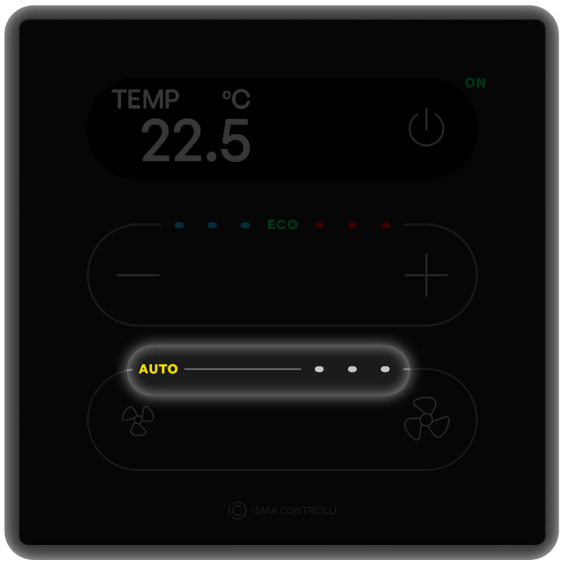
Modbus value	BACnet value	Fan type
0	1	0-10 V
1	2	1-speed fan
2	3	2-speed fan
3	4	3-speed fan
4	5	1-speed, no auto mode
5	6	2-speed, no auto mode

Modbus value	BACnet value	Fan type
6	7	3-speed, no auto mode

- Modbus register: 41603;
- BACnet object: MSV2, property: Present Value.

How to change the fan mode on the touch panel?
- Use a small fan button to decrease the value by one.
- Use a big fan button to increase the value by one.
- Reached limit is signalized by a double beep.
- A long press is not available for this feature.

6.1.1 LED Bar



Value of the FAN_CURRENT_SPEED parameter is presented on a LED bar as follows:

- fan speeds from 1 to 3 lights up a single led for each level (same for manual and auto);
- auto settings light up an Auto LED.

7 Occupancy Control

Warning!
This section applies to the **Touch Point 2.0, Touch Point ONE 2.0, Touch Point VAV 2.0**, and **Touch Point L&B 2.0** series.
The Touch Point Network Sensor 2.0 series **does not support occupancy control**.

The occupancy control feature allows a user to control occupancy through the following parameters or in the iSMA Configurator:

OCCUPANCY_MODE: allows to set an occupancy mode in the panel according to the table below:

Modbus value	BACnet value	Occupancy mode
0	1	Unoccupied
1	2	Occupied

- Modbus register: 41702;
- BACnet object: MSV4, property: Present Value;

OCCUPANCY_CURRENT_STATUS: allows to set a current occupancy status. The current occupancy status is displayed on the panel's top right corner icon (illuminated inside the circle – occupied, outside the circle – unoccupied);

Modbus value	BACnet value	Occupancy status
0	1	Unoccupied
1	2	Occupied
2	3	Standby
3	4	Forced occupied

- Modbus register: 41701;
- BACnet object: MSV3, property: Present Value.

This value can be updated in two ways depending on the OCCUPIED_CONFIG_LOCAL_MODE parameter:

OCCUPANCY_CONFIGURATION, bit 6: OCCUPIED_CONFIG_LOCAL_MODE: allows to set the occupancy to the local mode or BMS mode:

Local mode: the panel's occupancy setting is set to a local mode (the value of the OCCUPANCY_CURRENT_STATUS register is determined by the value of the OCCUPANCY_MODE register and so the value of the OCCUPANCY_CURRENT_STATUS register cannot be overwritten by the higher level system);

BMS mode: the panel's occupancy setting is set to the BMS mode. The OCCUPANCY_MODE register works separately from the OCCUPANCY_CURRENT_STATUS register.

The default value is the BMS mode.

- Modbus register: 41707;
- BACnet object: BO62, property: Present Value.

7.1 User Interface Parameters for Occupancy Control

Warning!
This section applies to the **Touch Point 2.0, Touch Point ONE 2.0, Touch Point VAV 2.0**, and series.
The Touch Point L&B 2.0 series **does not support occupancy button**.
The Touch Point Network Sensor 2.0 series **does not support occupancy control**.

Occupancy control can also be performed using the touch panel (see User Interface Guide). It is possible to change the occupancy mode depending on the configurations:

OCCUPANCY_CONFIGURATION, bit 1: EDITABLE: enables or disables the occupancy to be edited locally from the panel;

- Modbus register: 41707;
- BACnet object: MSV4, property: 4200.

How to change the occupancy on the touch panel?
- Use a power button to toggle between occupied and unoccupied statuses.
- A long press is not available for this feature.

7.1.1 LED Indicator

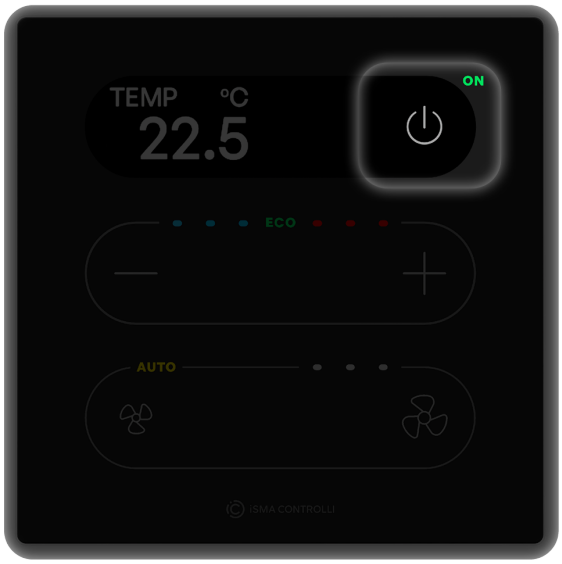


Figure 22. Occupancy LED

Value of the OCCUPANCY_CURRENT_STATUS parameter is presented on an ON icon as follows:

- value 0 (unoccupied): ON icon is off;
- value 1 (occupied): ON icon is on;
- value 2 (standby): power button is blinking, ON icon is off;
- value 3 (forced occupied): ON icon is blinking.

8 ECO

> Warning!
> This section applies to the **Touch Point 2.0, Touch Point ONE 2L/1B 2.0**, and **Touch Point VAV 2.0** series.
> The Touch Point Network Sensor 2.0, Touch Point ONE 2.0, and Touch Point L&B 2.0 series are not equipped with the ECO diode.

The ECO feature allows a user to light up an ECO LED on the Touch Point 2.0 panel (useful, for example, if the Touch Point 2.0 panel is connected to a controller with an eco application).

ICON DISPLAY, bit 8: ECO: allows to activate or inactivate an ECO icon (green LED);

- Modbus register: 40219;
- BACnet object: BO22, property: Present Value.

9 Other Parameters

Warning!
This section applies to all Touch Point 2.0 series: **Touch Point 2.0**, **Touch Point ONE 2.0**, **Touch Point VAV 2.0**, **Touch Point L&B 2.0, and Touch Point Network Sensor 2.0** series.

Other parameters of the Touch Point 2.0 panels can be retrieved from the following registers and objects, or in the iSMA Configurator:

LIVE_TIME: shows uptime of the device since the last reset;

- Modbus register: 30012;
- BACnet object: AI0, property: Present Value;

VERSION_TYPE: allows to read version and type of the panel and enable 1 of 4 available actions. The first byte of the register indicates a version of the device, and the second one–type of the device;

- Modbus register: 40001;
- BACnet object: DEVICE, property: 3030;

Value		Bits 0-7	Bits 8-15
Type	Panel's version		$112_{10}(0x70_{16})$
	Panel in bootloader		$239_{10}(0xEF_{16})$
Version	Firmware version multiplied by 10	$10_{10}(0x0A_{16})$ means 1.0 firmware version	

The VERSION_TYPE register also allows to enable 1 of 4 available actions: reset panel, reload settings, reset settings, enter bootloader. If the register receives one of the following values, it invokes a relevant action and resumes its regular values afterwards (type and version):

Decimal value	Hex value	Action
511	0x01FF	Reset panel
767	0x02FF	Reload settings
1023	0x03FF	Reset settings
1279	0x04FF	Enter bootloader

FLASH_DEVICE_TYPE: indicates the panel's version and type;

- Modbus register: 31301;
- BACnet object: N/A;

Bit	Name	Description
0-7	VERSION_TYPE	Copy of the 40001 register's value
8-15	DEVICE_TYPE	0: TP, 1: not available
31	LCD_PRESENT	0: with display, 1: without display

FLASH_HW_VERSION: indicates the panel's hardware version;

- Modbus register 31303;
- BACnet object: DEVICE, property: 3020;

FLASH_BOOT_VERSION: indicates the panel's bootloader version;

- Modbus register: 31304;
- BACnet object: N/A;

FW_VERSION: indicates the panel's firmware version separated from the VERSION_TYPE register's value;

- Modbus register: 31305;
- BACnet object: N/A;

FLASH_SERIAL_NUMBER: indicates the panel's serial number;

- Modbus registers 31306-31309;
- BACnet object: N/A;

DEVICE_MODEL_NAME: shows a string value of the device model name;

- Modbus registers: 31315-31330;
- BACnet object: DEVICE, property: Model Name.

10 List of Modbus Registers

Warning!
Please note that the following table contains registers for all series of the Touch Point 2.0 panels.
The Touch Point VAV 2.0 series by default has no fan control and registers referring to fan control are inapplicable. If the fan control is activated on the Touch Point VAV 2.0 series panel, the registers become applicable too.
Registers referring to the fan control, occupancy, and setpoints control are inapplicable to the Touch Point Network Sensor 2.0 series or Touch Point ONE 2.0 and Touch Point L&B 2.0 that are quipped with generic buttons, which operation is dependent upon programming.

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
40001	0	0x00	VERSION_TYPE	Read/ write			Shows a firmware version and type of the panel and enables 1 of 4 available actions (reset device, reload settings, reset settings, enter bootloader)
31315-31330	1314-1329	0x520-0x52F	DEVICE_MODEL_NAME	Read-only			Shows the device model
30002	1	0x01	ADDRESS_ROTARY_SWITCH	Read-only		0-9	Address set on a rotary switch
30003	2	0x02	PROTOCOL_DIPSWITCH	Read-only		0-1	Protocol set on a DIP switch
30004	3	0x03	RECEIVED_FRAMES_COUNTER	Read-only	0		The number of received Modbus frames reset at the start of the panel and at the change of transmission parameters
30006	5	0x05	ERROR_FRAMES_COUNTER	Read-only	0		The number of received error Modbus frames reset at the start of the panel and at the change of transmission parameters
30008	7	0x07	TRANSMITTED_FRAME_COUNTER	Read-only	0		The number of transmitted Modbus frames reset at the start of the panel and at the change of transmission parameters
30012	11	0x0B	LIVE_TIME	Read-only			Uptime of the panel in seconds
40015	14	0x0E	BACNET_DEVICE_ID	Read/ write	0xFFFFFFFF		Device's BACnet ID

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
40017	16	0x10	BAUD_RATE	Read/ write	11520		Sets the baud rate
40018	17	0x11	STOP_BITS	Read/ write	1	1-2	Sets the number of stop bits
40019	18	0x12	DATA_BITS	Read/ write	8	7-8	Sets the number of data bits (Modbus ASCII requires 7 bits)
40020	19	0x13	PARITY_BIT	Read/ write	0	0-2	Determines the parity bit
40021	20	0x14	REPLY_DELAY	Read/ write	0		Sets the delay time in ms before sending response
40023	22	0x16	ADDRESS	Read/ write	1		Modbus address of the device
40024	23	0x17	PROTOCOL	Read/ write	0	0-2	Sets the type of Modbus protocol (Modbus RTU (0), Modbus ASCII (1))
30029	28	0x1C	SENSORS	Read-only			Informs about built-in sensors
30201	200	0xC8	BACKLIGHT_LCD	Read-only			Actual display illumination value
30202	201	0xC9	BACKLIGHT_KEYPAD	Read-only			Actual keypad illumination value
40205	204	0xCC	DEVICE_CONFIGURATION	Read/ write	105		
Bit			**Name**	**0**		**1**	
0			BUZZER	Not active		Active (def)	Activates/inactivates a buzzer
3			BACKLIGHT_LCD	Not active		Active (def)	Switches on/off display's backlight
4			BACKLIGHT_KEYPAD	Not active		Active (def)	Switches on/off keypad's backlight
5			CO2_ALARM_LCD	Not active		Active	Shows CO2 alarm on a display
6			CO2_ALARM_BUZZER	Not active		Active	Switches on/off CO2 alarm's buzzer on alarm

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
8			CO2_ALARM_CONFIRM	Not active		Active (def)	Switches on/off CO2 alarm confirmation by any button
11			PANEL_OFF	Panel on (def)		Panel off	Switches on/off the panel
12			KEYPAD_OFF	Keypad on (def)		Keypad off	Switches on/off the keypad
40206	205	0xCD	DEVICE_CONFIGURATION_2	Read/ write	1		
Bit			**Name**	**0**		**1**	
0			USB_ON_OFF	USB off		USB on	Switches on/off the USB port
40207	206	0xCE	BACKLIGHT_LCD_ACTIVE	Read/ write	60		Contains a value of the LCD display illumination in the active mode (expressed in %)
40208	207	0xCF	BACKLIGHT_LCD_IDLE	Read/ write	40		Contains a value of the LCD display illumination in the idle mode (expressed in %)
40209	208	0xD0	BACKLIGHT_LCD_STANDBY	Read/ write	0		Contains a value of the LCD display illumination in the standby mode (expressed in %)
40210	209	0xD1	BACKLIGHT_LCD_TIME_TO_IDLE	Read/ write	10		Sets the time, after which the LCD display goes from the active mode to idle (expressed in seconds)
40211	210	0xD2	BACKLIGHT_LCD_TIME_TO_STANDBY	Read/ write	5		Sets the time, after which the LCD display goes from the idle mode to standby (expressed in seconds)
40212	211	0xD3	BACKLIGHT_KEYPAD_ACTIVE	Read/ write	10		Contains a value of the keypad illumination in the active mode (expressed in %)
40213	212	0xD4	BACKLIGHT_KEYPAD_IDLE	Read/ write	40		Contains a value of the keypad illumination in the idle mode (expressed in %)

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
40214	213	0xD5	BACKLIGHT_KEYPAD_STANDBY	Read/ write	60		Contains a value of the keypad illumination in the standby mode (expressed in %)
40215	214	0xD6	BACKLIGHT_KEYPAD_TIME_TO_IDLE	Read/ write	10		Sets the time, after which the keypad goes from the active mode to idle (expressed in seconds)
40216	215	0xD7	BACKLIGHT_KEYPAD_TIME_TO_STANDBY	Read/ write	5		Sets the time, after which the keypad goes from the idle mode to standby (expressed in seconds)
40217	216	0xD8	REFRESH_TIME		5	1-60	Sets the duration of the display time of particular parameters
40219	218	0xDA	ICON_DISPLAY	Read/ write			
Bit			Name	0		1	
8			ECO	Not active		Active	Switches on/off an ECO LED
40226	225	0xE1	CO2_SETPOINT_FOR_ALARM	Read/ write	1500		CO2 alarm setpoint
40227	226	0xE2	CO2_HYSTERESIS_FOR_ALARM	Read/ write	100		CO2 alarm hysteresis
30230	229	0xE5	ALARM_STATUS	Read-only			CO2 current alarm status
30231	230	0xE6	NAVIGATIONAL_LED_MODE	Read/ write	1	0-5	Sets a mode of the navigational LED
Bit			Name	0		1	
0			OFF	Not active		Active	
1			ON (default)	Not active		Active	
2			Active on IDLE and STANDBY	Not active		Active	
3			Active on IDLE only	Not active		Active	
4			Active on STANDBY only	Not active		Active	

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
5			BMS mode	Not active		Active	
30232	231	0xE7	NAVIGATIONAL_LED_BRIGHTNESS	Read/ write	100	0-100	Navigational LED brightness
30233	232	0xE8	NAVIGATIONAL_LED_RED	Read/ write	100	0-100	Navigational LED color - red component intensity
30234	233	0xE9	NAVIGATIONAL_LED_GREEN	Read/ write	100	0-100	Navigational LED color - green component intensity
30235	234	0xE10	NAVIGATIONAL_LED_BLUE	Read/ write	100	0-100	Navigational LED color - blue component intensity
30301	300	0x12C	TEMPERATURE_SENSOR	Read-only			Actual temperature sensor value with offset
30302	301	0x12D	HUMIDITY_SENSOR	Read-only			Actual humidity sensor value with offset
30303	302	0x12E	CO2_SENSOR	Read-only			Actual CO2 sensor value with offset
40304	303	0x12F	TEMPERATURE_SENSOR_OFFSET	Read/ write	0		Temperature sensor offset
40305	304	0x130	HUMIDITY_SENSOR_OFFSET	Read/ write	0		Humidity sensor offset
40306	305	0x131	CO2_SENSOR_OFFSET	Read/ write	0		CO2 sensor offset
40307	306	0x132	TEMPERATURE_FILTER	Read/ write	60		Filtering time for the temperature sensor (seconds)
40308	307	0x133	HUMIDITY_FILTER	Read/ write	60		Filtering time for the humidity sensor (seconds)
40309	308	0x134	CO2_FILTER	Read/ write	60		Filtering time for the CO2 sensor (seconds)
40316	315	0x13B	TEMPERATURE_CONFIGURATION	Read/ write	17		
Bit			**Name**	**0**		**1**	
0			ACTIVE	Not active		Active (def)	Activates/deactivates the sensor
4			THIRD_POINT-ACTIVE	No decimal		Decimal (def)	Sets decimal places

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
40317	316	0x13C	HUMIDITY_CONFIGURATION	Read/write	17		
Bit			**Name**	0		1	
0			ACTIVE	Not active		Active (def)	Activates/deactivates the sensor
4			THIRD_POINT-ACTIVE	No decimal		Decimal (def)	Sets decimal places
40318	317	0x13D	CO2_CONFIGURATION	Read/write	1		
Bit			**Name**	**0**		**1**	
0			ACTIVE	Not active		Active	Activates/deactivates the sensor
40323	322	0x142	BUZZER_VOLUME	Read/write	50	0-100	Buzzer volume (%)
40324	323	0x143	BUZZER_TONE	Read/write		1-4	Buzzer tone: discrete (1), loud (2), classic (3), retro (4)
40325	324	0x144	SCREEN_SELECT_MODE	Read/write			Screen mode in the Touch Point ONE 2.0 panel: standard display loop (1), fan 0 (2), fan 1 (3), fan 2 (4), fan 3 (5), fan auto (6), light 1 (7), light 2 (8), light 3 (9), light 4 (10), blind 1 (11), blind 2 (12), blind 3 (13), blind 4 (14), temperature setpoint (15)
31301	1300	0x514	FLASH_DEVICE_TYPE	Read-only			Version and type of device
31302	1301	0x515	FLASH_HW_VERSION	Read-only			HW version
31303	1302	0x516	FLASH_BOOT_VERSION	Read-only			Bootloader version
31304	1303	0x517	FW_VERSION	Read-only			FW version separated from the VERSION_TYPE register
31305	1304	0x518	FLASH_SERIAL_NUMBER_1	Read-only			Serial number

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
31306	1305	0x519	FLASH_SERIAL_NUMBER_2	Read-only			Serial number
31307	1306	0x51A	FLASH_SERIAL_NUMBER_3	Read-only			Serial number
31308	1307	0x51B	FLASH_SERIAL_NUMBER_4	Read-only			Serial number
41342	1341	0x53D	GENERIC_BUTTON_1_MODE	Read/write			Sets a mode of operation (1 - disabled/2 - blocked/3 - bistable/4 - monostable NO/5 - monostable NC) to a generic button 1
41343	1342	0x53E	GENERIC_BUTTON_2_MODE	Read/write			Sets a mode of operation (1 - disabled/2 - blocked/3 - bistable/4 - monostable NO/5 - monostable NC) to a generic button 2
41344	1343	0x53F	GENERIC_BUTTON_3_MODE	Read/write			Sets a mode of operation (1 - disabled/2 - blocked/3 - bistable/4 - monostable NO/5 - monostable NC) to a generic button 3
41345	1344	0x540	GENERIC_BUTTON_4_MODE	Read/write			Sets a mode of operation (1 - disabled/2 - blocked/3 - bistable/4 - monostable NO/5 - monostable NC) to a generic button 4
41346	1345	0x541	GENERIC_BUTTON_5_MODE	Read/write			Sets a mode of operation (1 - disabled/2 - blocked/3 - bistable/4 - monostable NO/5 - monostable NC) to a generic button 5
41347	1346	0x542	GENERIC_BUTTON_6_MODE	Read/write			Sets a mode of operation (1 - disabled/2 - blocked/3 - bistable/4 - monostable NO/5 - monostable NC) to a generic button 6
41348	1347	0x543	GENERIC_BUTTON_7_MODE	Read/write			Sets a mode of operation (1 - disabled/2 - blocked/3 - bistable/4 - monostable NO/5 - monostable NC) to a generic button 7
41349	1348	0x544	GENERIC_BUTTONS_STATES	Read/write			1-7 generic buttons state (on/off)

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
Bit				0		1	
0				Off		On	State of generic button 1
1				Off		On	State of generic button 2
2				Off		On	State of generic button 3
3				Off		On	State of generic button 4
4				Off		On	State of generic button 5
5				Off		On	State of generic button 6
6				Off		On	State of generic button 7
41350	1349	0x545	GENERIC_BUTTONS_LED_MODES	Read/ write			Behavior of a generic button additional LED (0- BMS, 1 - local)
41352	1351	0x547	GENERIC_BUTTON_LED_BMS_STATES	Read/ write			LED BMS state set on the additional LED if LED mode is set to BMS mode
41501	1500	0x5DC	SETPOINT_VALUE	Read/ write		0-500	Temperature setpoint value
41502	1501	0x5DD	EFFECTIVE_SETPOINT	Read-only			Sum of setpoint and offset values
41503	1502	0x5DE	DEFAULT_SETPOINT	Read/ write	210	0-500	Default temperature setpoint
41504	1503	0x5DF	OFFSET_SETPOINT	Read/ write	0	-OFFSET_RANGE value/ OFFSET_RANGE value	Temperature offset for setpoint
41505	1504	0x5E0	SETPOINT_LOW_LIMIT	Read/ write	180		Min. available setpoint value
41506	1505	0x5E1	SETPOINT_HIGH_LIMIT	Read/ write	240		Max. available setpoint value
41507	1506	0x5E2	OFFSET_RANGE	Read/ write	30	0-100	Limit offset value
41508	1507	0x5E3	SETPOINT_STEP	Read/ write	50	1-100	Setpoint step value (default value: 0.5° C)

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
41509	1508	0x5E4	SETPOINT_LED_BAR_MODE	Read/ write			LED bar operation mode
41510	1509	0x5E5	SETPOINT_LED_BAR_USER_VALUE	Read/ write		-500-500	Value represented on the LED bar if the LED bar mode is set to BMS
41513	1512	0x5E8	SETPOINT_CONFIGURATION	Read/ write	31		Setpoint configuration of parameters: Visible, Editable, Operating mode, Setpoint display, ThirdPointActive
Bit			**Name**	**0**		**1**	
0			VISIBLE	Not visible		Visible (def)	Switches on/off a temperature setpoint visibility on a display
1			EDITABLE	Not editable		Editable (def)	Activates/inactivates editing of a temperature setpoint locally on the panel
2			OPERATING_MODE	Changing offset		Changing setpoint (def)	Switches between changing offset or setpoint
3			SETPOINT_DISPLAY	Show/change offset		Show/ change effective setpoint (def)	Switches between changing offset or setpoint
4			THIRD_POINT_ACTIVE	No decimal		Decimal (def)	Activates/inactivates decimal points
41601	1600	0x640	FAN_CURRENT_SPEED	Read/ write	0		**Not available for the Touch Point VAV series.** Fan speed
41602	1601	0x641	FAN_MODE	Read/ write	1		**Not available for the Touch Point VAV series.** Fan mode
41603	1602	0x642	FAN_TYPE	Read/ write			**Not available for the Touch Point VAV series.** Fan type
41614	1613	0x64D	FAN_CONFIGURATION	Read/ write	2		**Not available for the Touch Point VAV series.**

Modbus address	Decimal address	Hex	Register name	Access	Default value	Value range	Description
Bit			Name	0		1	
1			EDITABLE	Not editable		Editable (def)	Switches on/off editing fan modes locally
2			PART_EDITABLE	Fully editable		Auto_Off_Mode	Switches editability of fan modes
6			FAN_CONFIG_LOCAL_MODE	BMS (def)		Local	Switches between BMS/ local modes
41701	1700	0x6A4	OCCUPANCY_CURRENT_STATUS	Read/ write			Occupancy status
41702	1701	0x6A5	OCCUPANCY_MODE	Read/ write			Occupancy mode
41707	1706	0x6AA	OCCUPANCY_CONFIGURATION	Read/ write	2		
Bit			Name	0		1	
1			EDITABLE	Not editable		Editable (def)	Switches on/off editing occupancy statues locally
6			OCCUPIED_CONFIG_LOCAL_MODE	BMS (def)		Local	Switches between BMS/ local modes

11 List of BACnet Objects

Warning!

Please note that the following table contains objects for all series of the Touch Point 2.0 panels.
The Touch Point VAV 2.0 series by default has no fan control and objects referring to fan control are inapplicable. If the fan control is activated on the Touch Point VAV 2.0 series panel, the objects become applicable too.
Objects referring to the fan control, occupancy, and setpoints control are inapplicable to the Touch Point Network Sensor 2.0 series or Touch Point ONE 2.0 and Touch Point L&B 2.0 that are quipped with generic buttons, which operation is dependent upon programming.

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
Device	3030	VERSION_TYPE	Read/write			Shows version and type of the panel and enables 1 of 4 available actions
Device	Model name	DEVICE_MODEL_NAME	Read-only			Shows the device model
Device	5101	RECEIVED_FRAMES_COUNTER	Read-only	0		The number of received Modbus frames reset at the start of the panel and at the change of transmission parameters
Device	5103	ERROR_FRAMES_COUNTER	Read-only	0		The number of received error Modbus frames reset at the start of the panel and at the change of transmission parameters
Device	5104	TRANSMITTED_FRAME_COUNTER	Read-only	0		The number of transmitted Modbus frames reset at the start of the panel and at the change of transmission parameters

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
AI0	Present Value	LIVE_TIME	Read-only			Uptime of the panel in seconds
Device	Object Identifier	BACNET_DEVICE_ID	Read/write	0xFFFFFFFF		Device's BACnet ID
Device	3084	BAUD_RATE	Read/write	11520		Sets the baud rate
MSI1	Present Value	SENSORS	Read-only			Informs about built-in sensors
AI1	Present Value	BACKLIGHT_LCD	Read-only			Actual display illumination value
AI2	Present Value	BACKLIGHT_KEYPAD	Read-only			Actual keypad illumination value
MSV19	Present value	SCREEN_SELECT_MODE	Read/write			Screen mode in the Touch Point ONE 2.0 panel: standard display loop (1), fan 0 (2), fan 1 (3), fan 2 (4), fan 3 (5), fan auto (6), light 1 (7), light 2 (8), light 3 (9), light 4 (10), blind 1 (11), blind 2 (12), blind 3 (13), blind 4 (14), temperature setpoint (15)
MSV21-27	Present value	GEN_BTN_1_MODE-GEN_BTN_7_MODE	Read/write			Sets a mode of operation (disabled/ blocked/ bistable/ monostable NO/ monostable NC) to a generic button 1-7

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
BV56-62	Present value	GEN_BTN_1_STATE-GEN_BTN_7_STATE	Read/write			1-7 generic buttons state (on/off)
BV63-69	Present value	GEN_BTN_1_LED_LOCAL_MODE-GEN_BTN_7_LED_LOCAL_MODE	Read/write			Behavior of a generic button 1-7 additional LED
BV70-76	Present value	GEN_BTN_1_LED_BMS_STATE-GEN_BTN_7_LED_BMS_STATE	Read/write			LED BMS state set on the additional LED of a generic button 1-7 if LED mode is set to BMS mode
		DEVICE_CONFIGURATION	Read/write			
BO0	Present Value	BUZZER_ACTIVE		1		Activates (1) or deactivates (0) a buzzer
BO3	Present Value	LCD_BACKLIGHT_ACTIVE		1		Switches the LCD background illumination on (1)
BO4	Present Value	KEYPAD_BACKLIGHT_ACTIVE		1		Switches the keypad background illumination on (1)
BO5	Present Value	CO2_ALARM_LCD				Switches on the function of LCD background illumination flashing when CO2 alarm occurs
BO6	Present Value	CO2_ALARM_BUZZER				Switches on a buzzer when the CO2 alarm occurs

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
BO63	Present Value	CO2_ALARM_CONFIRM		1		Allows to enable confirmation of the CO2 alarm with any button of the panel
BO11	Present Value	PANEL_OFF		0		Switches the panel off (1)
BO12	Present Value	KEYPAD_OFF		0		Switches the panel keypad off (1)
AO3	Present Value	BACKLIGHT_LCD_ACTIVE	Read/write	60		Contains a value of the LCD display illumination in the active mode (expressed in %)
AO4	Present Value	BACKLIGHT_LCD_IDLE	Read/write	40		Contains a value of the LCD display illumination in the idle mode (expressed in %)
AO5	Present Value	BACKLIGHT_LCD_STANDBY	Read/write	0		Contains a value of the LCD display illumination in the standby mode (expressed in %)
AO6	Present Value	BACKLIGHT_LCD_TIME_TO_IDLE	Read/write	10		Sets the time after which the LCD display goes from the active mode to idle (expressed in seconds)

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
AO7	Present Value	BACKLIGHT_LCD_TIME_TO_STANDBY	Read/write	5		Sets the time after which the LCD display goes from the idle mode to standby (expressed in seconds)
AO8	Present Value	BACKLIGHT_KEYPAD_ACTIVE	Read/write	10		Contains a value of the keypad illumination in the active mode (expressed in %)
AO9	Present Value	BACKLIGHT_KEYPAD_IDLE	Read/write	40		Contains a value of the keypad illumination in the idle mode (expressed in %)
AO10	Present Value	BACKLIGHT_KEYPAD_STANDBY	Read/write	60		Contains a value of the keypad illumination in the standby mode (expressed in %)
AO11	Present Value	BACKLIGHT_KEYPAD_TIME_TO_IDLE	Read/write	10		Sets the time after which the keypad goes from the active mode to idle (expressed in seconds)
AO12	Present Value	BACKLIGHT_KEYPAD_TIME_TO_STANDBY	Read/write	5		Sets the time after which the keypad goes from the idle mode to standby (expressed in seconds)

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
AO13	Present Value	REFRESH_TIME		5	1-60	Sets the duration of the display time of particular parameters
BO74	Present value	USB_ON_OFF	Read/write			Switches on/off the USB port
		ICON_DISPLAY	Read/write			
BO22	Present Value	ECO				Switches on an ECO LED
AO17	Present Value	EXIT_EDIT_TIME	Read/write			Sets the time after which edition of any editable parameter is finished
AO19	Present Value	CO2_SETPOINT_FOR_ALARM	Read/write	1500		CO2 alarm setpoint
AO20	Present Value	CO2_HYSTERESIS_FOR_ALARM	Read/write	100		CO2 alarm hysteresis
BI0	Present Value	ALARM_STATUS	Read-only			CO2 current alarm status
MSV5	Present Value	NAVIGATIONAL_LED_MODE	Read/write	1	1-6	Sets a mode of the navigational LED
AO22	Present Value	NAVIGATIONAL_LED_BRIGHTNESS	Read/write	100	0-100	Navigational LED brightness
AO23	Present Value	NAVIGATIONAL_LED_RED	Read/write	100	0-100	Navigational LED color - red component intensity
AO24	Present Value	NAVIGATIONAL_LED_GREEN	Read/write	100	0-100	Navigational LED color - green component intensity

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
AO25	Present Value	NAVIGATIONAL_LED_BLUE	Read/write	100	0-100	Navigational LED color - blue component intensity
AI4	Present Value	TEMPERATURE_SENSOR	Read-only			Actual temperature sensor value with offset
AI5	Present Value	HUMIDITY_SENSOR	Read-only			Actual humidity sensor value with offset
AI6	Present Value	CO2_SENSOR	Read-only			Actual CO2 sensor value with offset
AI4	4205	TEMPERATURE_SENSOR_OFFSET	Read/write	0		Temperature sensor offset
AI5	4205	HUMIDITY_SENSOR_OFFSET	Read/write	0		Humidity sensor offset
AI6	4205	CO2_SENSOR_OFFSET	Read/write	0		CO2 sensor offset
AI4	4003	TEMPERATURE_FILTER	Read/write	60		Filtering time for the temperature sensor (seconds)
AI5	4003	HUMIDITY_FILTER	Read/write	60		Filtering time for the humidity sensor (seconds)
AI6	4003	CO2_FILTER	Read/write	60		Filtering time for the CO2 sensor (seconds)
		TEMPERATURE_CONFIGURATION	Read/write			
AI4	Out Of Service	ACTIVE		1		Activates/ deactivates the sensor

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
AI4	4202	THIRD_POINT_ACTIVE				Sets decimal places
		HUMIDITY_CONFIGURATION	Read/write			
AI5	Out Of Service	ACTIVE		1		Activates/ deactivates the sensor
AI5	4202	THIRD_POINT_ACTIVE				Sets decimal places
		CO2_CONFIGURATION	Read/write			
AI6	Out Of Service	ACTIVE		1		Activates/ deactivates the sensor
AO27	Present Value	BUZZER_VOLUME	Read/write	50	0-100	Buzzer volume (%)
MSV20	Present Value	BUZZER_TONE	Read/write		1-4	Buzzer tone: discrete (1), loud (2), classic (3), retro (4)
Device	3020	FLASH_HW_VERSION	Read-only			HW version
AV56	Present Value	SETPOINT_VALUE	Read/write		0-500	Temperature setpoint value
AI3	Present Value	EFFECTIVE_SETPOINT	Read-only			Sum of setpoint and offset values
AV57	Present Value	DEFAULT_SETPOINT	Read/write	210	0-500	Default temperature setpoint
AV58	Present Value	OFFSET_SETPOINT	Read/write	0	0-500	Temperature offset for setpoint
AV56	Low Limit	SETPOINT_LOW_LIMIT	Read/write	180		Min. available setpoint value
AV56	High Limit	SETPOINT_HIGH_LIMIT	Read/write	240		Max. available setpoint value

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
AV59	Present Value	OFFSET_RANGE	Read/write	30	0-500	Limits offset value
AV56	4206	SETPOINT_STEP	Read/write	10		Setpoint step value
		SETPOINT_CONFIGURATION	Read/write			Setpoint configuration of parameters: Visible, Editable, Operating mode, Setpoint display, ThirdPointActive
AV56	Out Of Service	VISIBLE				Enables or disables the temperature setpoint to be visible on the panel's display
AV56	4200	EDITABLE				Enables or disables editing of the temperature setpoint locally from the panel
BO55	Present Value	OPERATING_MODE				Sets the operating mode of the temperature setpoint configuration
BO56	Present Value	SETPOINT_DISPLAY				Configures the temperature setpoint display
AV56	4202	THIRD_POINT_ACTIVE				Enables or disables decimal values in the temperature setpoint

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
MSV0	Present Value	FAN_CURRENT_SPEED	Read/write	0		**Not available for the Touch Point VAV series.** Fan speed
MSV1	Present Value	FAN_MODE	Read/write	1		**Not available for the Touch Point VAV series.** Fan mode
MSV2	Present Value	FAN_TYPE	Read/write			**Not available for the Touch Point VAV series.** Fan type
		FAN_CONFIGURATION	Read/write	2		**Not available for the Touch Point VAV series.**
MSV1	Editable	EDITABLE				**Not available for the Touch Point VAV series.** Activates or inactivated editing fan modes locally in the panel
BO58	Present Value	FAN_PART_EDITABLE				**Not available for the Touch Point VAV series.** Configures editing of fan modes
BO60	Present Value	FAN_CONFIG_LOCAL_MODE				**Not available for the Touch Point VAV series.** Local/BMS mode
MSV3	Present Value	OCCUPANCY_CURRENT_STATUS	Read/write			Occupancy status
MSV4	Present Value	OCCUPANCY_MODE	Read/write			Occupancy mode

BACnet type & ID	BACnet property	Object name	Access	Default value	Value range	Description
		OCCUPANCY_CONFIGURATION	Read/write	2		
MSV4	4200	EDITABLE				Activates or inactivated editing occupancy statutes locally in the panel
BO62	Present Value	OCCUPANCY_CONFIG_LOCAL_MODE				Local/BMS mode