ENGLISH

IN704DAL1280000 Configuration Guide

700 Series DALI

Version 1.0.5
Publication date 2025-11-19

Intesis MAPS

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1. Introduction to Intesis MAPS

Intesis MAPS© is a software tool for configuring and monitoring the Intesis® gateways. Intesis MAPS has been designed and developed in-house, assuring an up-to-date tool to get all the potential of Intesis gateways.

The design of this configuration tool focuses on four main pillars:

- A user-friendly interface.
- Multiple ways to create your project:
  - From scratch, using a template.
  - Importing data from your computer.
  - Downloading the settings from an already configured gateway.
- Full linkage between the control system and the device installation signals.
- Real-time monitoring of the device network.

2. Prerequisites

To configure the gateway, you need:

- The items supplied by HMS Networks:
  - Intesis IN704DAL1280000 gateway
  - Gateway documentation:
    - Installation guide
    - User manual
  - USB Mini-B type to USB A type cable to connect the gateway to the computer.

> **NOTICE**
> You can use an Ethernet cable instead (not included).

- A computer to run the configuration tool Intesis MAPS.

> **RECOMMENDED REQUIREMENTS:**
> - OS: Windows 11
> - Display resolution:
> - minimum supported: 1280×720 at 100% scaling (no scaling applied)
> - Recommended resolution: 1920×1080
> (Optimized for 100% scaling; higher scaling may cause layout issues)
> - Storage: Minimum 1 GB free space
> - RAM: 4 GB

3. Installation

Downloading the software

1. Enter the Intesis MAPS webpage.
2. Click the **Download now** button. The page will scroll down to the download form.
3. Fill out the form.

> **NOTICE**
> You can review the privacy policy section for more information about how HMS processes the form data.

4. Click the **Download** button.
5. A .zip file will be downloaded to your computer.

Installing the software

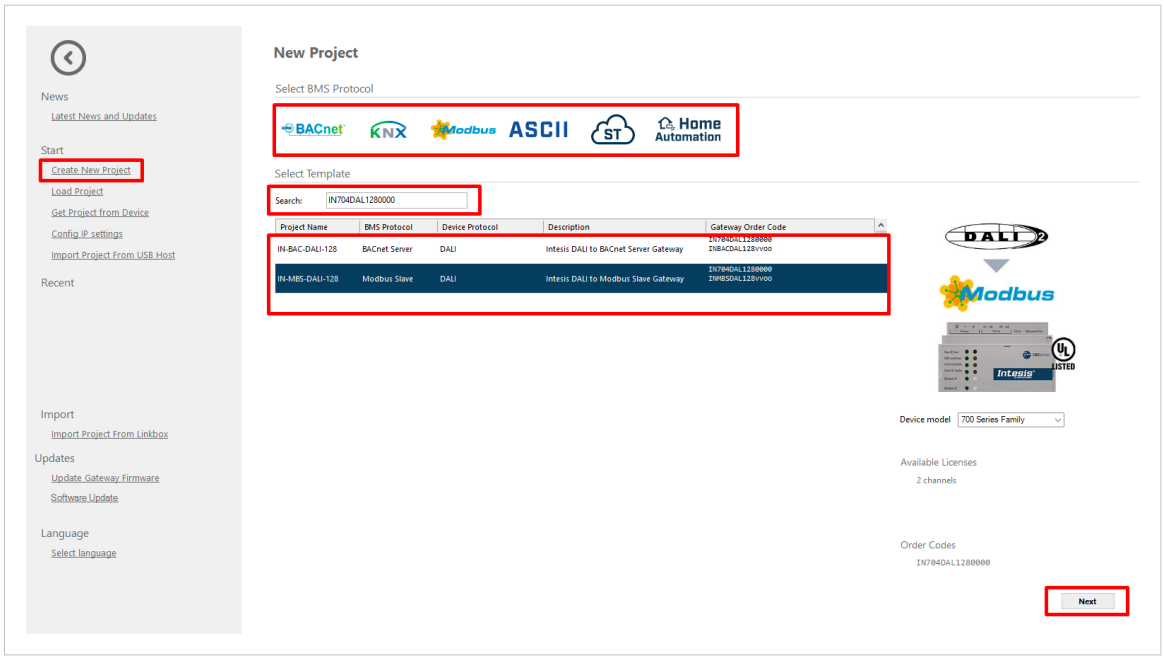
1. Click the .zip file to open it.
2. Double-click the EXE file.
3. The Intesis MAPS Setup Wizard will guide you through the steps required to install Intesis MAPS on your computer:
   a. Read the license agreement and select **I Agree**.
   b. Select the installation folder.
4. Once the installation is completed, click the **Close** button.

4. Create a New Project from a Template

1. Open Intesis MAPS.
2. Click **Create New Project** in the **Start** menu on the left.
   Create a new project using a template. To find the appropriate template, filter the search by:
   - Clicking on the protocol logos, depending on the desired application.
   - Typing the order code IN704DAL1280000 in the **Search** field.
     Besides the order code, you can also search by any value from the other columns: **Project Name**, **BMS Protocol**, **Device Protocol**, or **Description**.

     NOTE
     Selecting a **BMS protocol** will limit the search results to that protocol.

   - Looking for the **Project Name** on the list: IN-BAC-DALI-128 or IN-MBS-DALI-128.



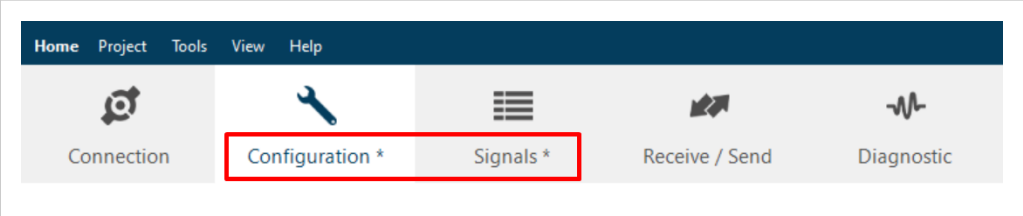
3. Select the desired template.
4. Click **Next** or **double-click the template** on the list.

NOTE
Templates are just a starting point for your integration. Depending on the type of integration, you may have to modify some parameters.

5. Saving, Opening, Importing, and Exporting the Project

NOTE
This topic describes processes regarding Intesis MAPS files and the Intesis MAPS software. Alternatively, it is also possible to load an Intesis MAPS project from a USB flash drive to the gateway or load the configuration of a gateway to a USB flash drive by configuring and using the gateway's buttons. For more information, see USB Host (page 15).

After editing any option from the **Configuration** and **Signals** tabs, an asterisk appears to indicate that you have made changes to the project but have not saved them or sent the project to the gateway yet:

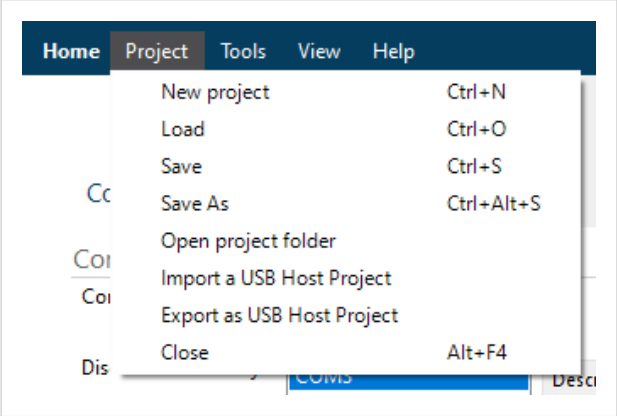


To know how to send your project to the gateway, see Receive/Send Tab (page 66).

- **SAVING YOUR INTESIS MAPS PROJECT**

IMPORTANT
Remember to save your project periodically to keep your changes.

1. Click **Project**.



2. Click **Save** or **Save As**.

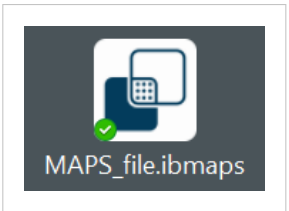
TIP
Instead, you can use the shortcut **Ctrl+S** (Save) or **Ctrl+Alt+S** (Save As).

3. On the **Save file** menu, type a **File name** and select where to save the file.
4. Click **Save**.

NOTE
The file extension when saving your Intesis MAPS project is .ibmaps. This .ibmaps file must be opened with Intesis MAPS; it cannot be loaded directly into the gateway.

- **OPENING AN INTESIS MAPS PROJECT FROM YOUR COMPUTER**

TIP
Double-click a .ibmaps file saved on your computer to automatically open it in Intesis MAPS.



1. Click **Project**.
2. Click **Load**.
3. On the emergent window, select the desired file from your computer.
4. Click **Open**.

- **EXPORTING YOUR INTESIS MAPS PROJECT TO A USB FLASH DRIVE**

NOTE
Save your project as explained in the Saving your Intesis MAPS (page 5) section above before exporting. Otherwise, you will be prompted to do so when beginning the export process.

1. Click **Project**.
2. Click **Export as USB Host Project**.
3. On the **Save file** dialog window, type a **File name** and select your USB flash drive.
4. Click **Save**.

NOTICE
When exporting your Intesis MAPS project to a USB flash drive, the file extension is .expmaps. This .expmaps file can be either opened with Intesis MAPS or loaded directly into the gateway.

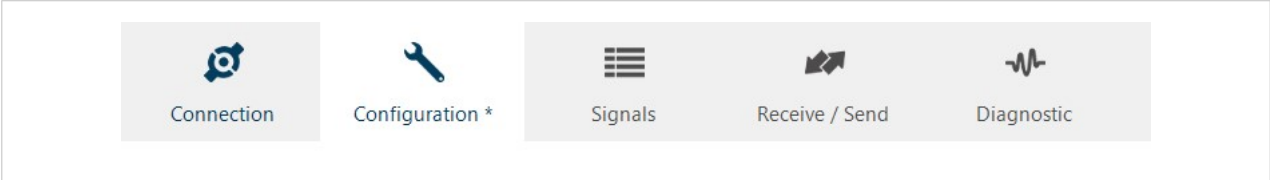
- **IMPORTING A USB HOST PROJECT FROM A USB FLASH DRIVE TO INTESIS MAPS**

1. Click **Project**.
2. Click **Import a USB Host Project**.
3. On the **Open file** dialog window, select the desired .expmaps file from your USB flash drive.
4. Click **Open**.
5. You will be prompted to save a .ibmaps file associated with the USB host project.

> **NOTE**
> This .ibmaps file contains the USB host project information. If a saved project is already open in MAPS, you will be prompted to save the .ibmaps project file associated with the imported USB host project as a new file, or to overwrite the currently open .ibmaps file instead.

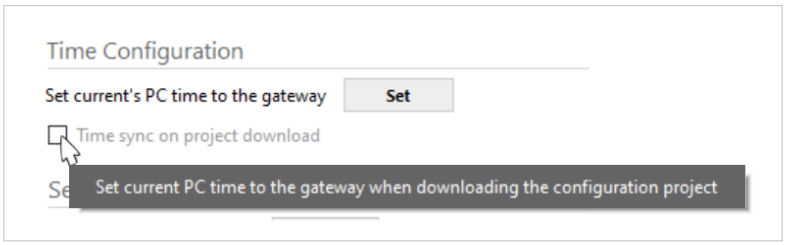
> **NOTICE**
> When using a USB device to export or import your project, take into consideration:
>
> - The gateway only supports USB flash drives. External HDDs are not supported.
> - The gateway supports USB flash drives with FAT32 and exFAT file systems.

6. Main Menu Overview

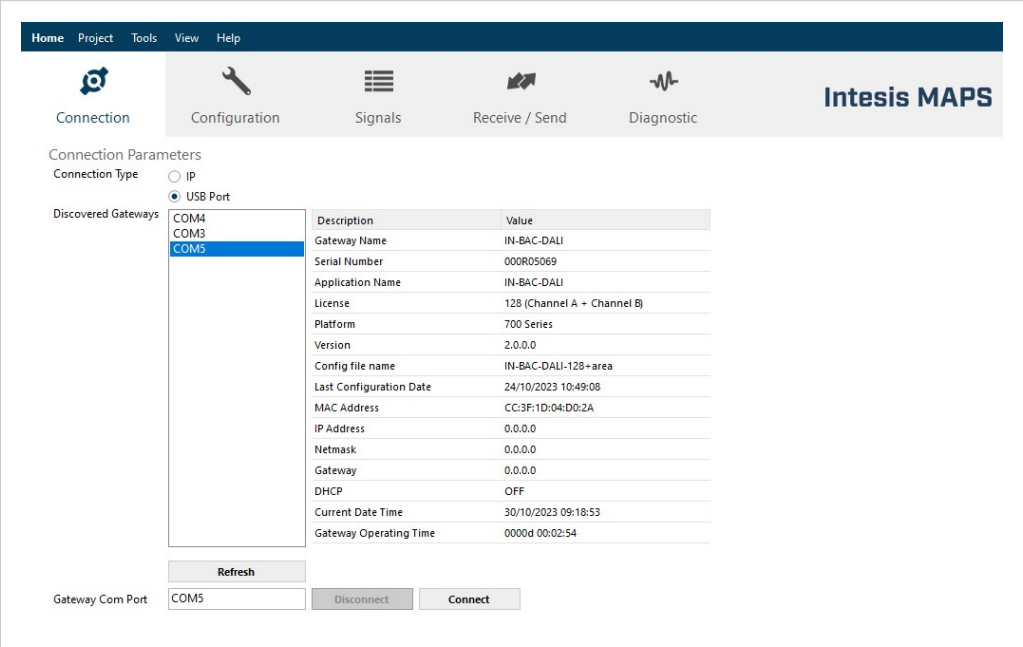


The following sections provide an overview of the five tabs that compose the Intesis MAPS main menu. Through these options, you will establish a connection between the gateway and the computer, set up your project through the **Configuration** and **Signals** tabs, send it to the gateway, and monitor that everything works fine using the **Diagnostic** tab.

TIP
Tooltip: Hover the cursor over a field, and a message will appear indicating the purpose of the parameter.



7. Connection Tab



1. Connect the gateway to your computer. Two possibilities are available:
   - Use the **Console** port and a USB Mini-B type cable.
   - Use the gateway's **Ethernet port**.
2. If the gateway is not powered on yet, turn it on.

IMPORTANT
Use an adequate power supply. Consult the gateway's User Manual or Installation Guide.

NOTICE
If the gateway still has its factory settings or has been factory reset, the LEDs will perform a down-and-up starting cycle for a few seconds. Once finished, only the Run LED (green) and the Ethernet link/speed LEDs (green and orange) will remain on, indicating that the gateway is ready.

3. On the **Connection Type** parameter, select the way you connected the gateway to your computer:
   - Select **IP** if you are using the gateway's **Ethernet port**.

NOTE

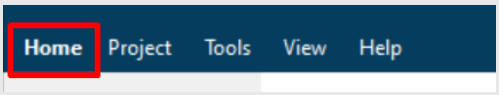
– The default password when connecting via IP is **admin**.

– When the gateway still has its factory settings or has been factory reset, it appears in the **Discovered Gateways** field as **Gateway (no config)**.

IMPORTANT

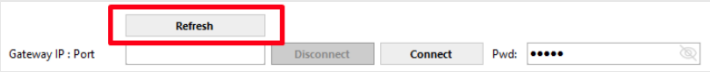
When using the IP connection, the gateway's name should appear in black. If it appears in red:

– The gateway is not compatible with the selected template. To solve the problem, click **Home** in the upper menu to go to the **New Project** page, and make sure you select the correct template, as explained in Create a New Project from a Template (page 4).



TIP

If no data appears in the **Discovered Gateways** window, click the **Refresh** button. Repeat this step until **Gateway (no config)** or the gateway's name appears.



TIP

On rare occasions, connecting the gateway through the Ethernet port while the Wi-Fi connection is activated in the computer causes the Windows system to bypass the Ethernet connector, preventing the computer from finding the gateway. Try to deactivate the Wi-Fi connection and check if the gateway appears in the **Discovered Gateways** window.

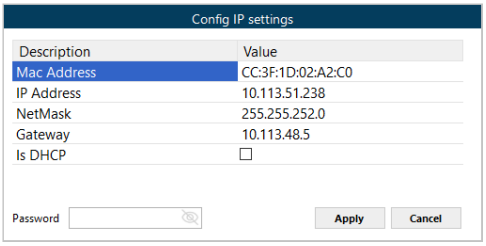
   - Select **USB Port** if you are using the **Console** port of the gateway.

NOTICE

No password is needed when connecting via USB.

When selecting IP as the connection type, two additional buttons will appear once the connection is established:

- **Identify**: Click the **Identify** button to make the gateway's LEDs blink for 10 seconds.
- **Edit**: Click the **Edit** button to open the **Config IP settings** window.

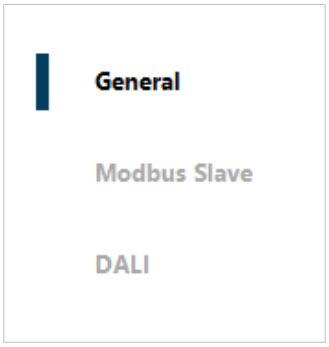


You can edit the **IP Address**, **NetMask**, and Default **Gateway** IP.

NOTICE
These parameters can also be edited in the **Configuration** tab. See Configuration Tab → Connection (page 13).

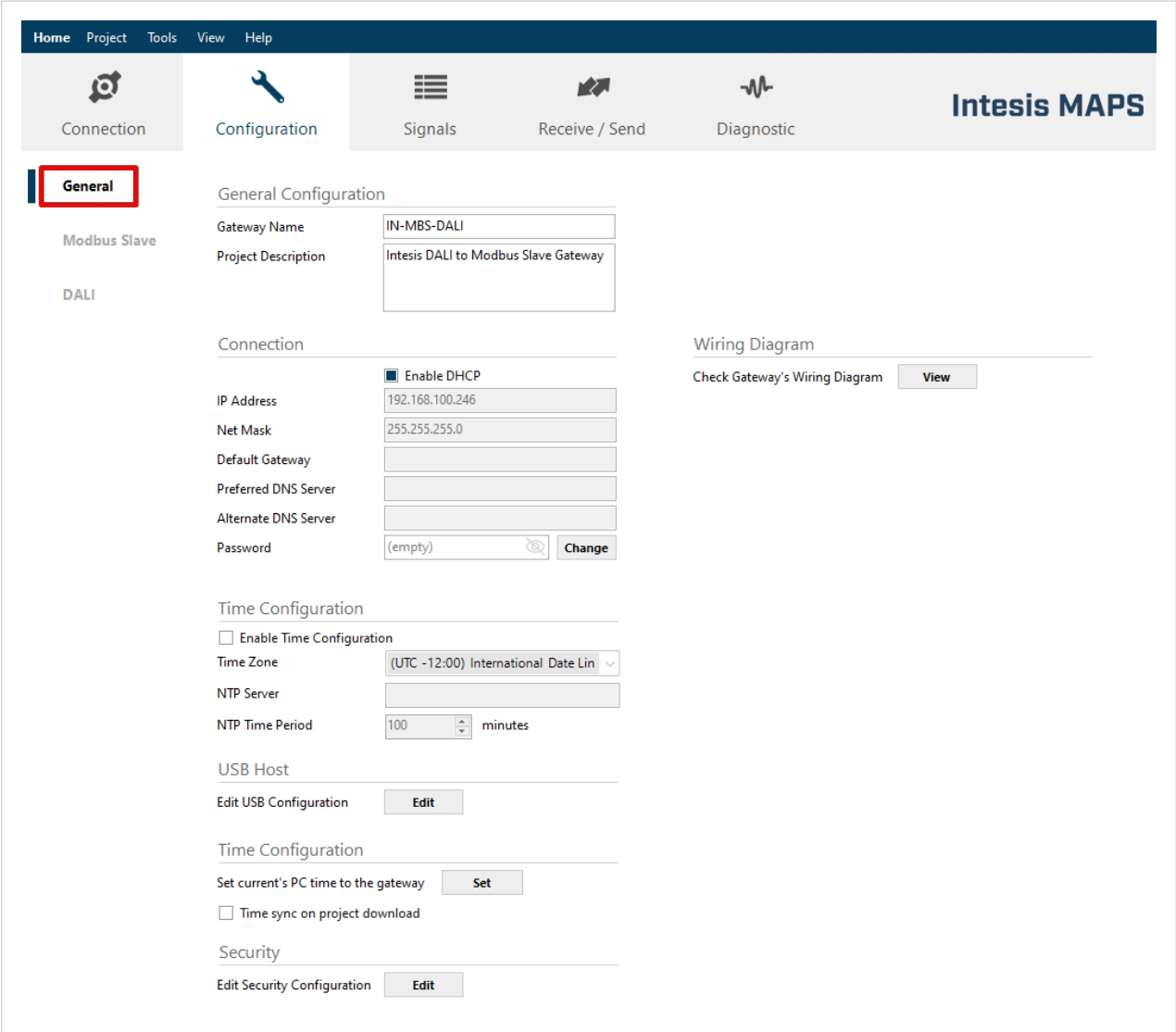
8. Configuration Tab

A menu with some options appears on the left side of the window:



- **General**: Configure the general parameters of the gateway.
- **Building management system (BMS) protocol**: Modbus or BACnet, depending on your project's current application. In the case of the image on the left, the control system is based on Modbus.
- **DALI**: Configure the parameters for DALI.

8.1. General Configuration Menu



Use this menu to configure some general parameters of the gateway.

8.1.1. General Configuration

- **Gateway Name**: Type a descriptive name for your gateway (max. 32 characters).
- **Project Description**: Type a short description of your project (max. 255 characters).

8.1.2. Connection

- **Enable DHCP (selected by default)**.
  When sending the project to the gateway, the status of this parameter determines how the IP address is assigned:
  - The parameter is selected: No IP address is assigned to the gateway, which will be permanently waiting for a DHCP server to assign an IP address.
  - The parameter is deselected: A static IP address must be assigned to the gateway through the following parameters:
    - **IP Address**: Set the static IP address (default value: **192.168.100.246**).

      IMPORTANT
      Change the gateway's default IP address before integrating it at the final installation site to prevent security issues and IP conflicts.

    - **Net Mask**: Set the subnet mask (default value: **255.255.255.0**).
    - **Default Gateway**: Type the access point/router IP address.

      NOTE
      The **Default Gateway** parameter is a networking concept that is not related to the Intesis gateway. It refers to the IP address of the device (usually a router) that serves as the access point for sending data from the local network to other networks, including the Internet. Therefore, this field only needs to be filled in if the Intesis gateway is connected outside the local network.

    - **Preferred DNS Server**: Type the DNS server IP address.
    - **Alternate DNS Server**: Type the IP address of an alternative DNS server.

      NOTE
      The gateway connects with this alternative DNS server if there is no communication with the **Preferred DNS Server**.

- **Password**. Use this option to visualize the gateway's password and set a new one.

> **IMPORTANT**
> Change the default password before sending the project to the gateway. Follow the instructions below.

1. Click the **Change** button.
2. Type a new password.
3. Go to the **Receive/Send** tab.
4. In the **Send** menu, click the **Send** button.
5. Go to the **Connection** tab.
6. Select the gateway from the **Discovered Gateways** window.
7. Click **Connect**.

8.1.3. Time Configuration (NTP)

This gateway supports Network Time Protocol (NTP) time servers. To define a time server, check the **Enable Time Configuration** checkbox and use the following parameters:

- **Time Zone**: Select the correct time zone for your project.
- **NTP Server**: You can define an NTP server using either an IPv4 address or a domain name.

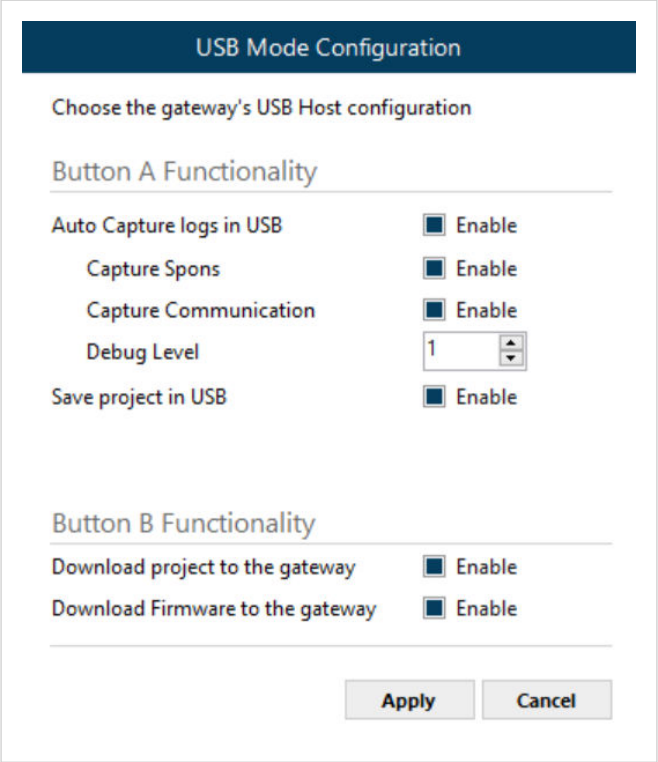
> **NOTICE**
> The domain name format requires an operative DNS server. This server must be defined manually when DHCP is disabled. See Connection (page 13).

- **NTP Time Period**: Select the interval, in minutes, at which the gateway synchronizes its internal clock with the NTP server. Valid range: 1 to 65535 minutes. Default value: **100 minutes**.

> **TIP**
> Having configured this section, synchronization with the NTP server can be triggered at any time through the **Console** viewer in the **Diagnostic** tab. To do so, enter **ntpsync** in the console. The possible responses are:
>
> - **NTP - SUCCESS [timestamp]**: Synchronization successful. Gateway time updated to *[timestamp]*.
> - **NTP - ERROR [error description]**: Synchronization failed. Reason: *[error description]*.
>
> For more information about the **Diagnostic** tab, see Diagnostic Tab (page 67).

8.1.4. USB Host

Click the **Edit** button to open the **USB Mode Configuration**.



Button A Functionality

- **Auto Capture logs in USB** (enabled by default): Save logs to a USB flash drive by pressing the gateway's button A.
  - **Capture Spons** (enabled by default): Spontaneous values are logged.
  - **Capture Communication** (enabled by default): Protocol communication is logged.
  - **Debug Level**: Choose the debug level (0 .. 255. Default value: **1**).

> **NOTE**
> Keep the **Debug Level** to 1. Higher levels are only used for technical support issues.

- **Save project in USB** (enabled by default): Save the project to a USB flash drive by pressing the gateway's button A.

Button B Functionality

- **Download project to the gateway** (enabled by default): Load a project from a USB flash drive to the gateway by pressing the gateway's button B.
- **Download Firmware to the gateway** (enabled by default): Load a firmware version from a USB flash drive to the gateway by pressing the gateway's button B.

Click **Apply** to save the changes.

NOTICE

- The gateway only supports USB flash drives. External HDD are not supported.
- The gateway supports USB flash drives with FAT32 and exFAT file systems.

NOTE
When using Button A and Button B functions related to a USB flash drive, track the process via the **Diagnostic** tab's **Console** viewer.

How to capture logs and save the gateway configuration to a USB flash drive

1. Connect the USB flash drive to the gateway through its USB port.

   NOTE
   The Console viewer message "USB: Storage Device Attached" informs that the USB device has been detected.

2. The LEDs next to the buttons start to blink alternatively for 15 seconds.

   NOTICE
   Button A will be active during these 15 seconds. Press it before the LEDs turn off.

   NOTE
   The Console viewer message "USB: [some specific USB device information] mounted" informs that the USB device is ready.

3. Press Button A once to save the current gateway's configuration to the USB flash drive and to start capturing logs.
   The LED of Button A blinks while data is being loaded from the gateway to the USB device.

   NOTE
   The Console viewer message "USB: Project written successfully to USB" informs that the project has been downloaded to the USB device.

   NOTE
   The Console viewer message "USB: Writing logs started" informs that logs are being downloaded to the USB device.

4. Press and hold Button A for five seconds to stop capturing logs.

   NOTE
   The Console viewer message "USB: USB logging canceled by user" informs that logs are no longer being downloaded to the USB device.

5. Disconnect the USB flash drive from the gateway.

   NOTE
   The Console viewer message "USB: Storage Device Detached" informs that the USB device has been disconnected.

How to load an Intesis MAPS project and a firmware version from the USB flash drive to the gateway

1. Connect the USB flash drive to the gateway through its USB port.

   NOTE
   The Console viewer message "USB: Storage Device Attached" informs that the USB device has been detected.

2. The LEDs next to the buttons start to blink alternatively for 15 seconds.

   NOTICE
   Button B will be active during these 15 seconds. Press it before the LEDs turn off.

   NOTE
   The Console viewer message "USB: [some specific USB device information] mounted" informs that the USB device is ready.

3. Press Button B once to load the Intesis MAPS project and the firmware version stored on the USB flash drive to the gateway.
   The LED of Button B blinks while data is being loaded from the USB device to the gateway.

   NOTICE
   If more than one project is stored in the USB device, the gateway will load the last saved project. The project/firmware must be located in the pen drive root directory, not inside a folder.

   NOTE
   The Console viewer message "USB: Saving project from the storage device" informs that the project has been uploaded to the gateway.

   NOTE
   The Console viewer message "FWUPDATE: DONE" informs that the firmware update process has been successful.

4. Disconnect the USB flash drive from the gateway.

   NOTE
   The Console viewer message "USB: Storage Device Detached" informs that the USB device has been disconnected.

8.1.5. Time Configuration

- **Set current PC time to the gateway**: Connect the gateway to your computer and click the **Set** button to set the gateway's time to your computer's current time.
- **Time sync on project download** (disabled by default): The gateway's time is set to your computer's time when downloading the project to the gateway.

8.1.6. Security

- **Edit Security Configuration**: Click the **Edit** button to open the **Security Configuration** window.

> **IMPORTANT**
> We recommend keeping the predetermined configuration.

  - **Disable UPD Discover Service** (disabled by default): If selected, the gateway is not discoverable through UDP communication.
  - **Disable TCP Console Service** (disabled by default): If selected, the gateway stops communicating with the configuration and diagnostic software through TCP. This only applies to gateways supporting connection to the computer via both Ethernet and console ports.
  - **Use custom UDP/TCP port** (disabled by default): Enable to set the UDP/TCP port manually.
  - **Disable HTTPS Certificates Auto Update** (enabled by default): If selected, automatic updates for HTTPS certificates are not allowed. If deselected, you can set the update time period using the parameter below.

Click **Save** to save the changes.

8.1.7. Secondary BMS Protocol

> **IMPORTANT**
> This function applies to BACnet to DALI applications only.

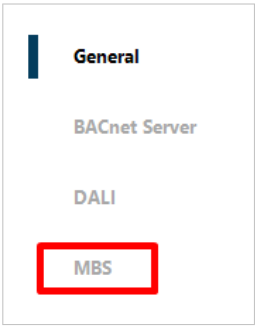
1. Click the **Edit** button to add a secondary BMS protocol based on Modbus.
2. On the **Secondary BMS Protocol Management** window, select **Modbus Slave**.
3. Click **Apply** to save the changes.

The new option **Secondary BMS Protocol MAP** appears.

- Click the **View** button on this second option to view the **Extra protocol Map Summary** window.
  The table lists the signals for the BMS, the secondary BMS, and the device protocols.
- **View Internal Columns** (enabled by default): Hide/show the BACnet Server column.
- **View External Columns** (enabled by default): Hide/show the DALI column.
- **View Secondary BMS Protocol Columns** (enabled by default): Hide/show the Modbus Master column.

> **NOTE**
> Click the **Export** button to save an Excel copy of the table on your computer.

The menu on the left now shows Modbus Slave **(MBS)**:



Configuration parameters for the secondary BMS:

Modbus Configuration

- **Type: TCP** (RTU option is not allowed).
- **Byte Order 32 bits registers**. Choose between:
  - **Big Endian** (default value)
  - **Little Endian**
  - **Word Inv BE** (word inverted Big Endian)
  - **Word Inv LE** (word inverted Little Endian)
- **Notification on MB Write**. Select when the Modbus write notification will be sent to the device protocol:
  - **Always**
  - **On Change of Value** (default value)
- **Select Modbus register base**. Choose between:
  - **0 based** (default value)
  - **1 based**

TCP Configuration

- **Port**: Set the port for communication between the gateway and the Modbus TCP system.

  NOTE
  The default port is 502.

- **Keep Alive**: Set the time in minutes before sending a keep-alive message (1 to 1440. Default value: **10 minutes**).

  NOTE
  Set the parameter to 0 to disable this function.

- **Slave Number**: Set the Modbus Slave Address (1 to 255. Default value: **1**).

MBS Summary

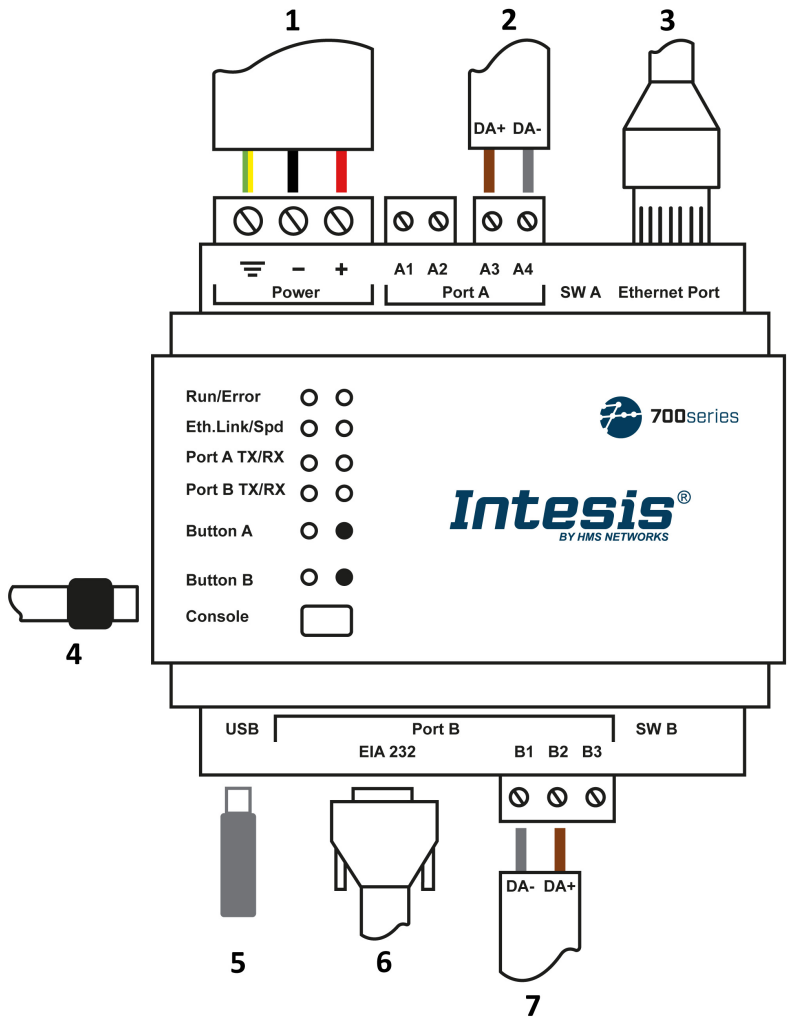
- **View MBS Extra Protocol Summary**: Click the **View** button to open the **Extra protocol Map Summary** window.

  NOTE
  See above for details.

- **Select registers format**. Choose between:
  - **16 bits unsigned** (default value)
  - **32 bits float**

8.1.8. Wiring Diagram

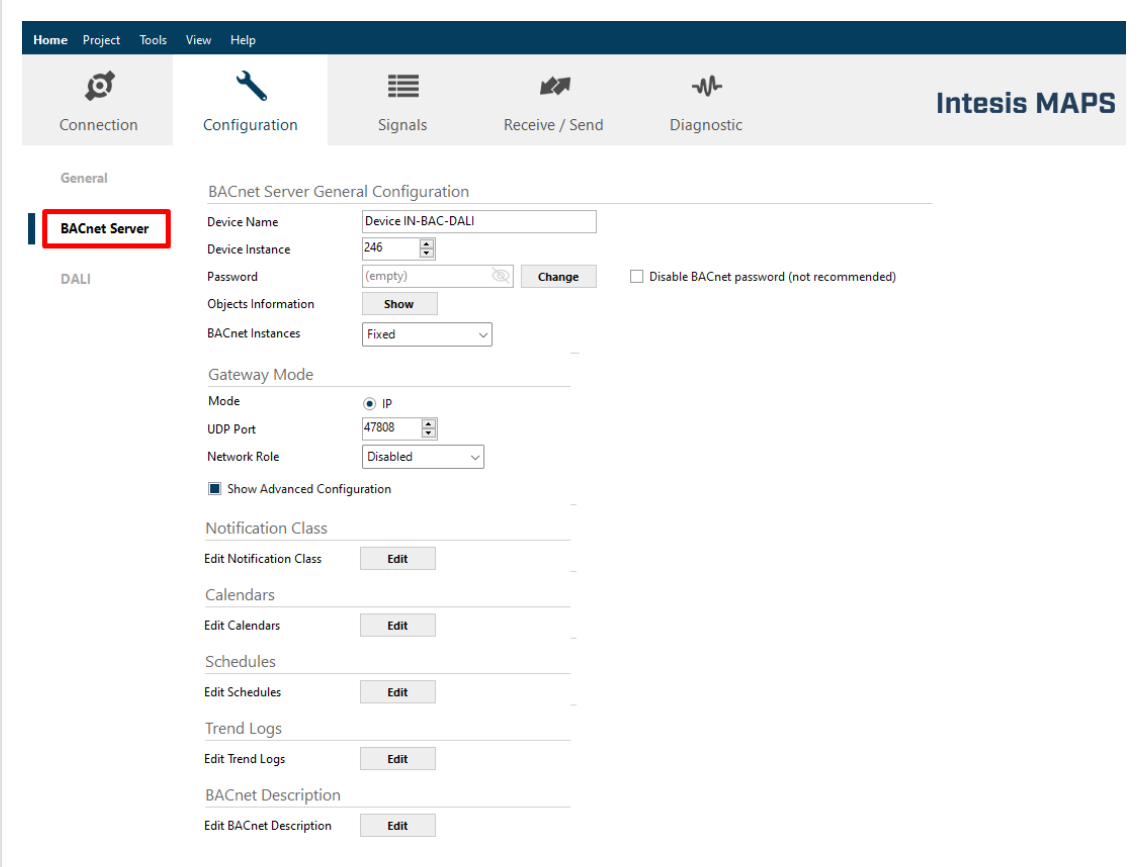
- **Check Gateway's Wiring Diagram**: Click the **View** button to open the schematic image showing how to wire the gateway.



1. **Power Supply** (24 VDC / 12 W)
2. **DALI Channel A**
3. **Ethernet**
4. **Console Port**
   USB Mini-B type
5. **USB storage**
6. **Port B EIA-232**
   Not used
7. **DALI Channel B**

8.2. BMS Protocol: BACnet

For this protocol combination, the gateway acts like a BACnet server device.



8.2.1. BACnet Server General Configuration

- **Device Name**: Type a descriptive name for your gateway.
- **Device Instance**: Set the BACnet device object instance property. This is a unique identifier for the gateway inside a single BACnet network segment (0..4194302. Default value: **246**).
- **Password**: Click the **Change** button and follow the instructions to set a password for the gateway.
- **Objects Information**: Click **Show** to see a table with the type of objects available.
- **BACnet Instances:** Define the type of BACnet instances.
  - **Fixed:** Instances cannot be modified.
  - **Custom**: The BACnet instances list can be edited.
- **Disable BACnet password (not recommended)** (parameter disabled by default): Disable the BACnet password.

> **IMPORTANT**
> Keep the BACnet password enabled to ensure the security of the gateway and the installation.

8.2.2. Gateway Mode

- **Mode**: **IP** mode is selected by default.
- **UDP Port**: Select the UDP port for the BACnet/IP communication (1..65535).

> **NOTE**
> The UDP port is set to 47808 (BAC0 in hexadecimal) by default.

- **Network Role**: Define the gateway behavior regarding other network elements.

> **IMPORTANT**
> If you are unfamiliar with these options, please leave the parameter as **Disabled** to avoid issues with the BACnet communication/configuration.

  - **Disabled**: The gateway provides no special service regarding network communication or settings.
  - **Foreign Device**: The gateway acts as a foreign device from the BACnet network point of view.
  - **BBMD**: The gateway acts as a BBMD in the BACnet network.

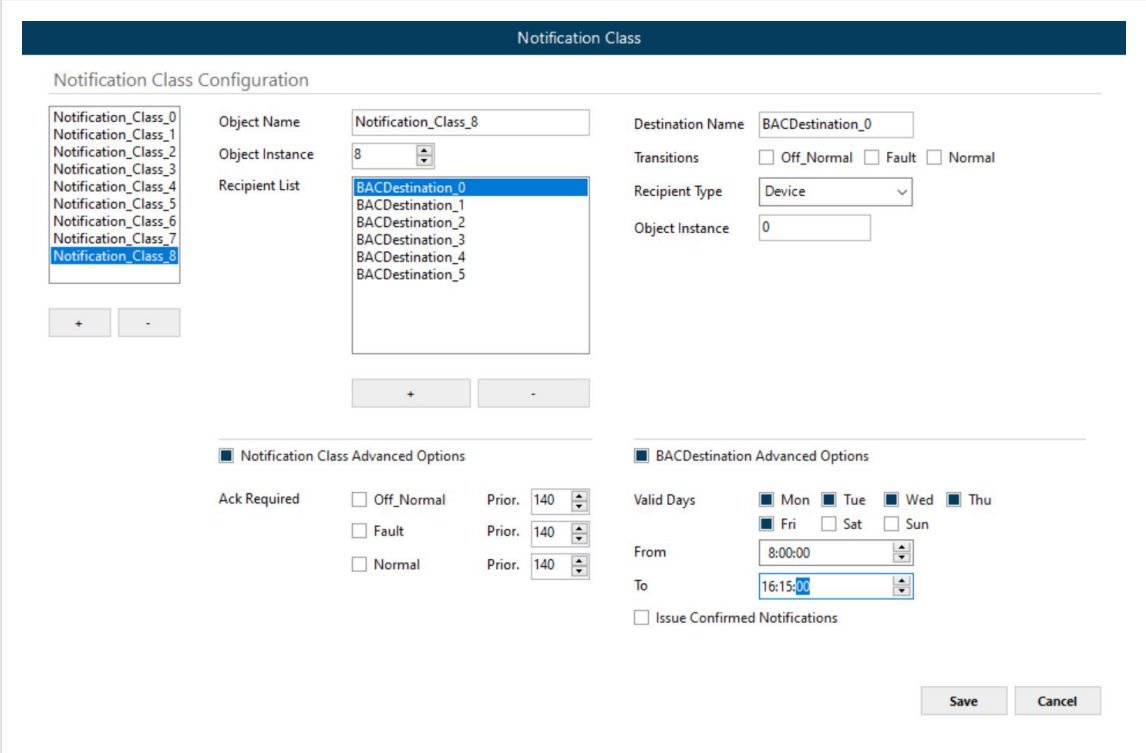
8.2.3. BACnet Advanced Configuration

Show Advanced Configuration: Open advanced configuration parameters (disabled by default).

> **IMPORTANT**
> These menus provide advanced functionalities intended for expert users.
>
> We recommend keeping these options set to their default values.

8.2.3.1. Notification Class

Click **Edit** to open the **Notification Class Configuration** parameters.



Click the + button to create up to ten Notification_Class objects. For each one, you can set:

- **Object Name**: Type a name for the Notification_Class.
- **Object Instance**: Set the BACnet object instance for the Notification_Class.
- **Recipient List**: Click the + button to create up to eight different BACnet destinations. For each one, you can set:
  - **Destination Name**: Type a descriptive name for the BACnet destination.
  - **Transitions**: Select which transitions will force this Notification_Class to be active:
    - **Off_Normal** (disabled by default): When the status changes from off to normal.
    - **Fault** (disabled by default): When the status changes to fault.
    - **Normal** (disabled by default): When the status changes from fault to normal.

- **Recipient Type**: Select the type of destination:
  - **Device** (default value): The recipient is a device.
    - **Object Instance**: Select the device instance number for this device.
  - **Address (IP)**: The recipient is set using the specific address on BACnet/IP. Specify:
    - **Network Number** (0 .. 65535. Default value: **0**).
    - **IP** address (192.168.100.10 by default) and **Port** (47808 by default) for the destination.
    - Set the destination as a **Global Broadcast** (disabled by default).
    - Set the destination as a **Broadcast** (disabled by default).
  - **Address (MS/TP)**: The recipient is set using the specific address on BACnet MS/TP. You'll have to specify:
    - **Network Number** (0..65535. Default value: **0**).
    - **MS/TP MAC Address** (0..255. Default value: **0**).
    - Set the destination as a **Global Broadcast** (disabled by default).
    - Set the destination as a **Broadcast** (disabled by default).
  - **Address (Other):** The recipient is set using another type of address. You'll have to specify:
    - **Network Number** (0..65535. Default value: **0**).
    - **Other Address** (HEX string. Default value: **ff**).
    - Set the destination as a **Global Broadcast** (disabled by default).
    - Set the destination as a **Broadcast** (disabled by default).

- **BACDestination Advanced Options** (disabled by default): Check this option to show some advanced options.
  - **Valid days:** Sets the days for receiving the notification.
  - **From**: Sets the starting point for the valid period.
  - **To**: Sets the ending point for the valid period.
  - **Issue Confirmed Notifications** (disabled by default): Determines if notification events are sent as Confirmed or Unconfirmed to the BACnet destination.

    IMPORTANT
    Sending them as Confirmed requires Ack.

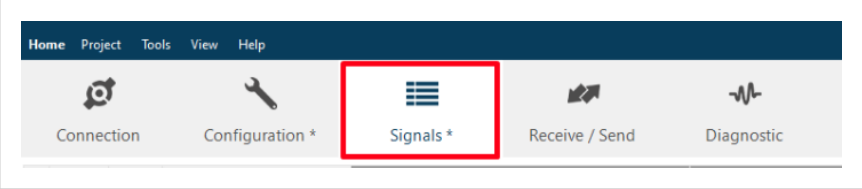
- **Notification Class Advanced Options** (disabled by default): Check this option to show the **Ack Required** options.
  - **Off_Normal** (disabled by default): Enable the acknowledgment for the TO_OFF_NORMAL event.
  - **Fault** (disabled by default): Enable the acknowledgment for the TO_FAULT event.
  - **Normal** (disabled by default): Enable the acknowledgment for the TO_NORMAL event.

NOTE
Set the priority for each parameter (0..255. Default value: **140**).

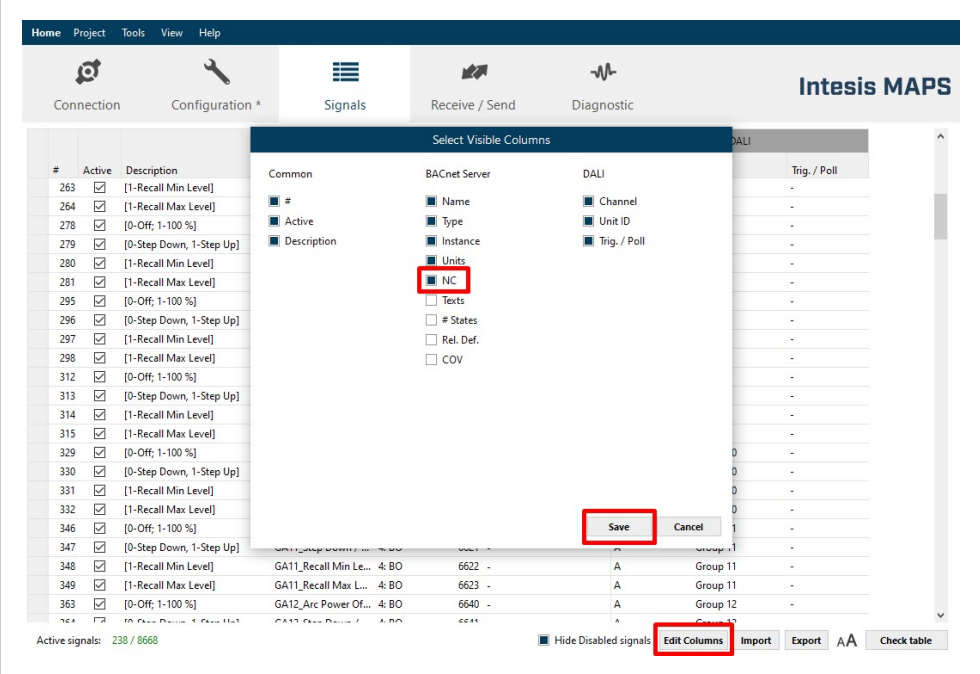
After creating and configuring the needed Notification_Class objects, the next step is to assign them to signals:

NOTICE
To better understand the assignment of Notification_Class objects to signals, we are moving from the **Configuration** tab to the **Signals** tab.

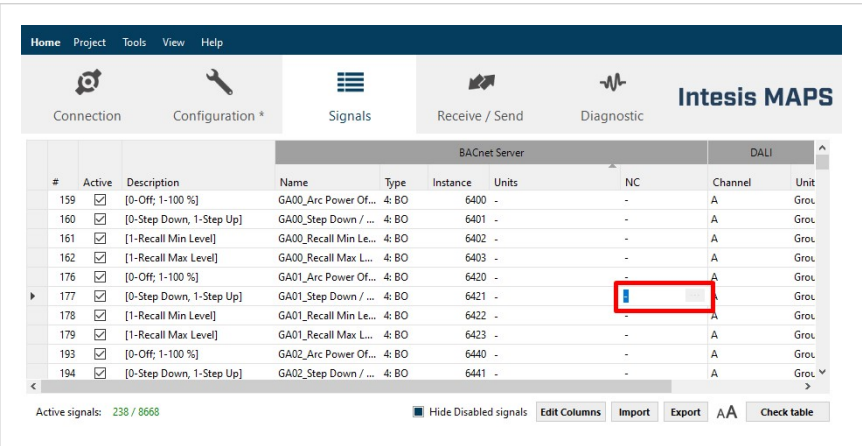
1. Go to the **Signals** tab.



2. Click the **Edit Columns** button from the bottom menu.

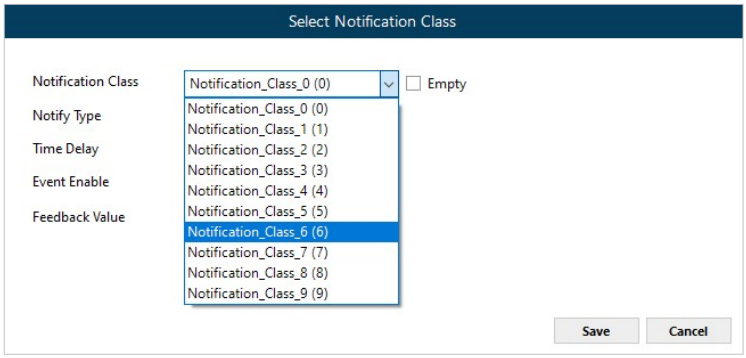


3. In the **Select Visible Columns** window, select **NC**.
4. Click **Save**.
   A new column named **NC** is now visible.
5. Look for the signal to which you want to assign the Notification_Class object and click the corresponding cell in the NC column.



6. Click the ... button.
7. In the **Select Notification Class** window, uncheck the **Empty** parameter.

8. Use the dropdown menu to select the Notification_Class object.



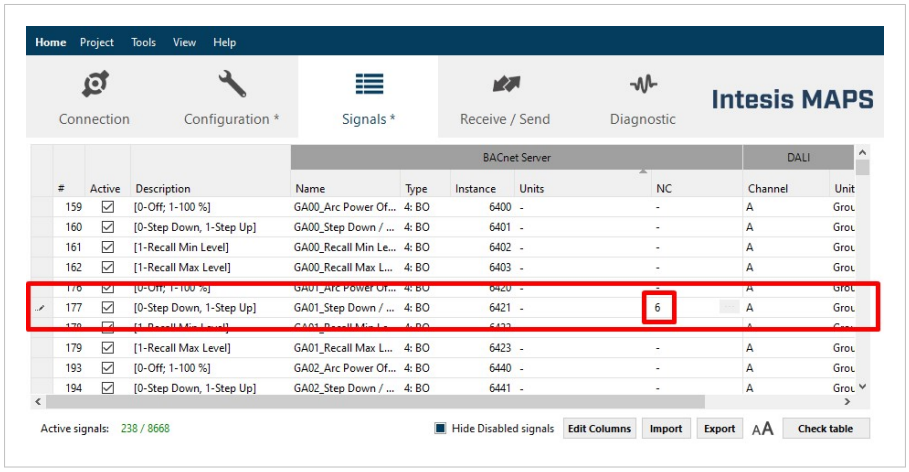
9. Set the rest of the parameters:

> **NOTE**
> These parameters vary depending on the signal type.

- **Notify Type**: Choose if the notification is sent as an **Alarm** (default) or an **Event**.
- **Time Delay**: Set the time in seconds before the notification launch (0 .. 65535. Default value: **0 seconds**).
- **Event Enable**: Click in the field to enable/disable the following options:
  - **TO_OFF_NORMAL** (enabled by default): Enable/disable the TO_OFF_NORMAL event.
  - **TO_FAULT** (enabled by default): Enable/disable the TO_FAULT event.
  - **TO_NORMAL** (enabled by default): Enable/disable the TO_NORMAL event.
- **High Limit** (Disabled by default): Enable this parameter to set the high limit for the notification.
- **Low Limit** (Disabled by default): Enable this parameter to set the low limit for the notification (0.00..999.00).
- **Deadband**: Set the deadband for the notification.

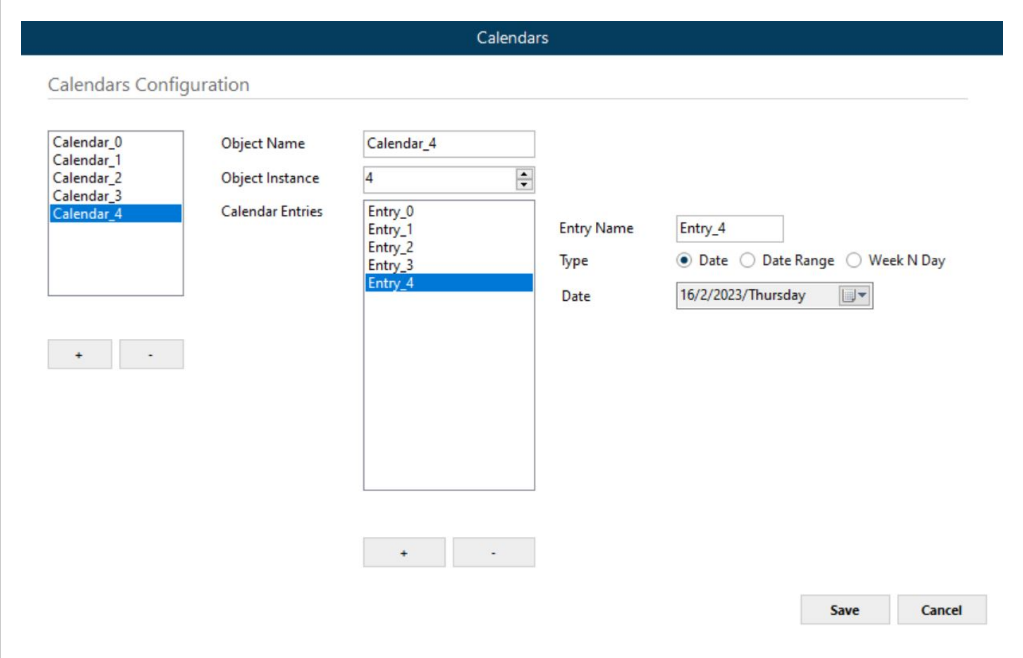
10. Click **Save** to save the changes.

Once assigned, the instance number of the Notification_Class object appears in the **NC** column.



8.2.3.2. Calendars

Click **Edit** to open the **Calendars Configuration** parameters.



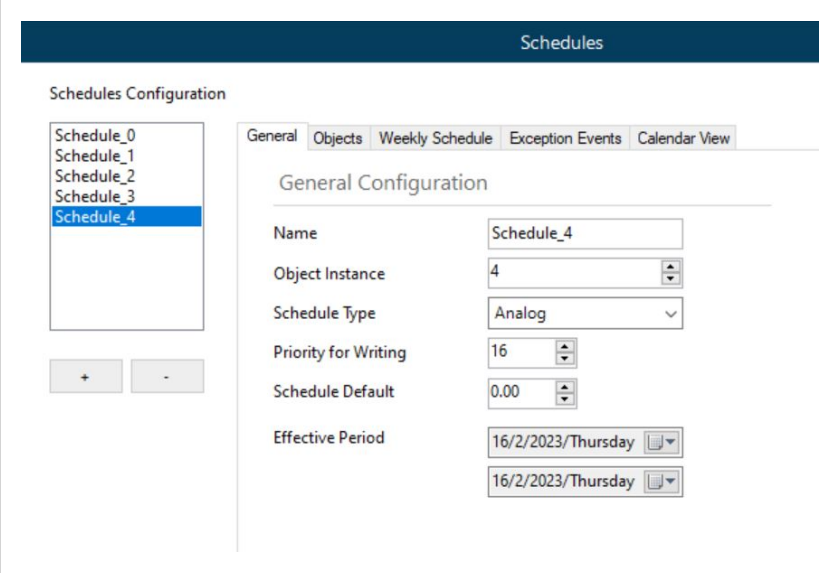
Click the + button to create up to 10 calendars. For each one, you can set:

- **Object Name**: Type a name for this calendar.
- **Object Instance**: Set the BACnet object instance for the calendar (0..4194303. Default value: **0**).
- **Calendar Entries**: Click the + button to determine the number of calendar entries (patterns). Create up to 32 different entries per calendar. For each entry, you can set:
  - **Entry Name**: Type the name for that pattern.
  - **Type**: Set the date type for that pattern:
    - **Date** (default value): The pattern applies to a specific day.
    - **Date Range**: The pattern applies within a date range. Set the starting day (**From**) and the ending day (**To**).
    - **Week N Day**: The pattern applies to a specific **Month**, **Week of the Month**, and/or **Day of the Week**.

> **NOTE**
> Select an asterisk (*) to apply the rule to all cases, i.e., an asterisk in the **Month** option will make the pattern apply to every month.

8.2.3.3. Schedules

Click **Edit** to open the **Schedules Configuration** parameters.



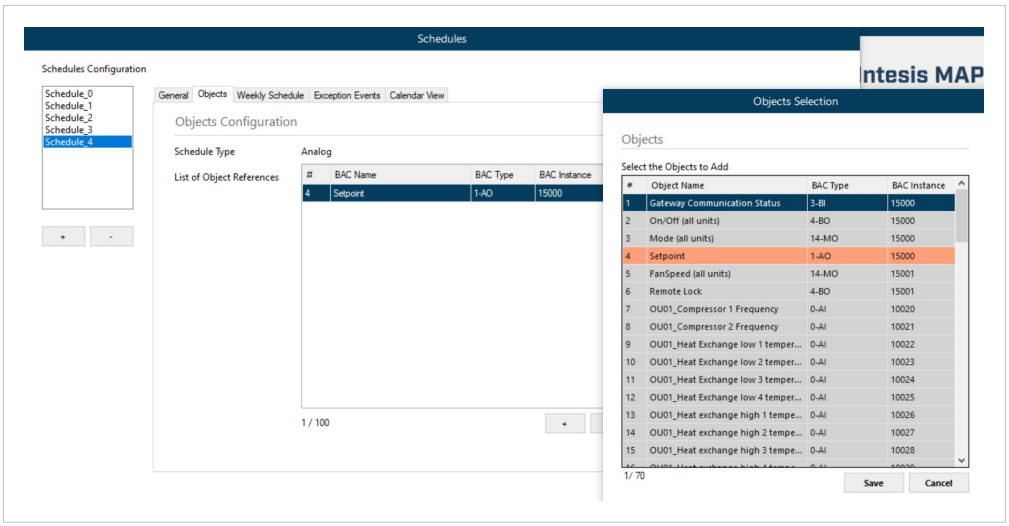
Click the + button to create up to ten schedules. For each one, you can set:

- **General Configuration**:
  - **Name**: Type a name for this schedule.
  - **Object Instance**: Set the BACnet object instance for the schedule (0 .. 4194303. Default value: **0**).
  - **Priority for Writing**: Select the writing priority of the schedule value (1..16. Default value: **16**).
  - **Schedule Default**: Set the default value for the schedule.

> **NOTICE**
> The range of values allowed depends on the type of object previously selected:
>
> - **Analog**: 0.00..65535.00
> - **Binary**: 0, 1
> - **Multistate**: 0..65535

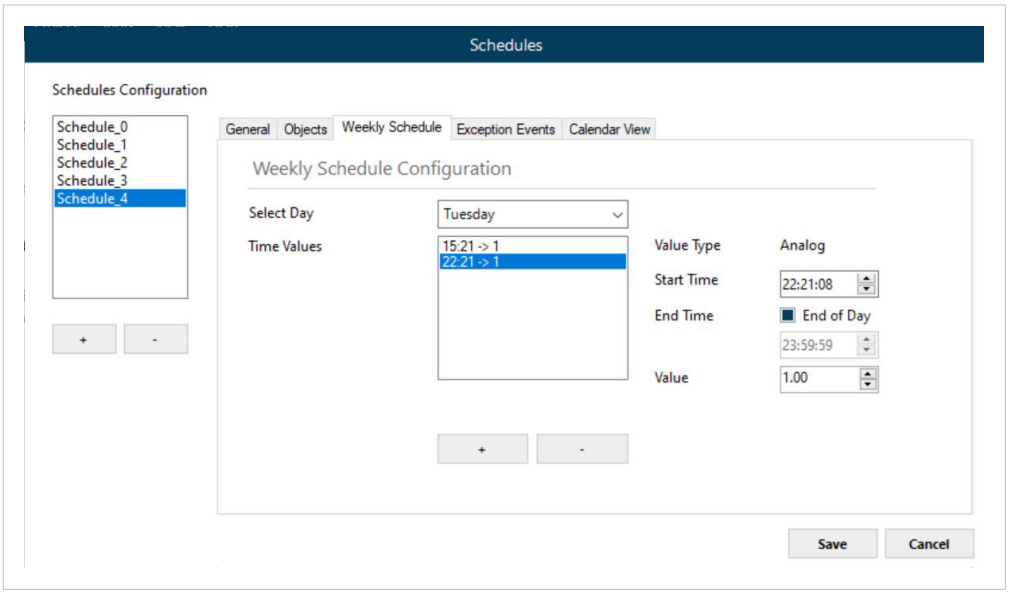
  - **Effective Period**: Set the starting and ending date. The schedule will be in effect during this period.

- **Objects Configuration**: Include BACnet objects in a specific schedule.



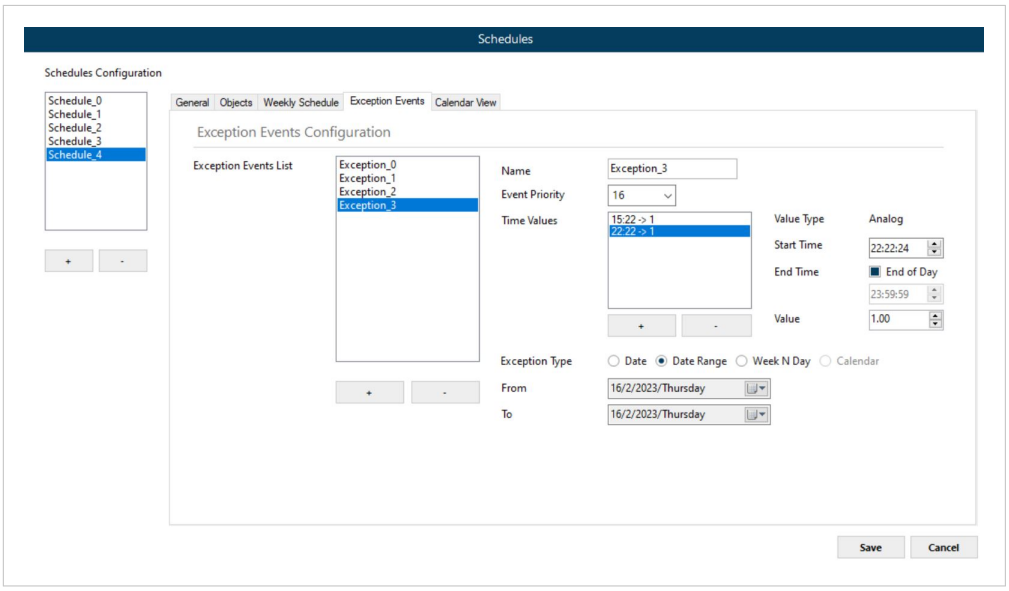
  - **List of Object References**: Click the + button to open the **Objects Selection** dialog. The background color of each object indicates its status as follows:
    - **Grey**: Not allowed. This object type does not match the **Schedule Type** you previously selected.
    - **Yellow**: Allowed.
    - **Orange**: Already applied.

- **Weekly Schedule Configuration:**



  - **Select Day**: Select which day of the week the schedule applies.
  - **Time Values**: Click the + button to create up to six time periods. For each one, set the **Start Time**, the **End Time**, and the **Value**.

- **Exception Events Configuration**: Create exceptions to the schedules.



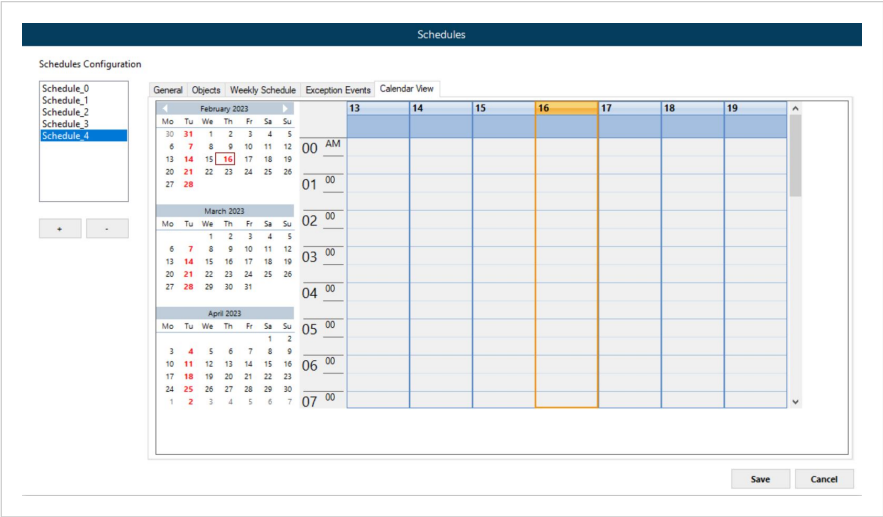
- **Exception Events List**: Click the + button to create up to 16 different exceptions. For each one, you can set:
  - **Name**: Type a name for the exception.
  - **Event Priority**: Set a priority for the exception (1 [maximum priority] .. 16 [minimum priority]. Default value: **16**).
  - **Time Values**: Click the + button to create up to six time periods. For each one, set the **Starting Time**, the **End Time**, and the **Value**.
  - **Exception Type**: Set the type of date for the exception:
    - **Date** (default): Select a single day.
    - **Date Range**: Select a date range. Set the starting day (**From**) and the ending day (**To**). The exception will be in effect during this period.
    - **Week N Day**: Set the date by selecting a **Month**, a **Week of the Month**, and/or a **Day of the Week**.

      NOTE
      Select an asterisk (*) to apply the rule to all cases.

    - **Calendar**: Select a Calendar to apply its values to the exception event.

      NOTE
      This option is only enabled when at least one Calendar has been previously created. See Calendars (page 27).

- **Calendar View**: Display a calendar to consult all the configured schedules.

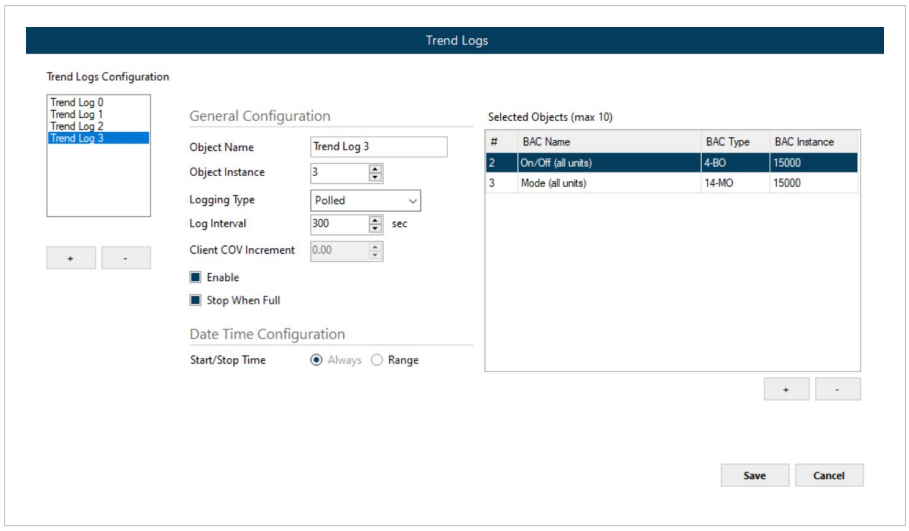


You can also create and modify **Weekly** and **Exception** schedules from this menu:

1. Use the calendar miniatures on the left to select the desired week.
2. Use the schedule view on the right to select the desired day and hour.
3. Right-click to open the settings menu. From this menu, the following options are available:
   - **Create Weekly Schedule**: Create a new weekly schedule.
   - **Create Exception Schedule**: Create a new exception event.
   - **Settings**: Edit an already created weekly schedule or exception event.
   - **Delete Event**: Delete the selected weekly schedule or exception event.

8.2.3.4. Trend Logs

Click **Edit** to open the **Trend Logs** parameters.



Click the + button to create up to five trend logs. For each one, you can set:

- **Object Name**: Type a name for the trend log.
- **Object Instance**: Set the BACnet object instance for the trend log (0..4194303. Default value: **0**).
- **Logging Type**: Select the trend log type:
  - **Polled** (default value): The trend log is triggered when polling.
    Use the **Log Interval** parameter to set the poll cadence in seconds (1..65535. Default value: **300 sec**).
  - **COV**: The trend log is triggered when there is a change of value.
    Use the **Client COV Increment** parameter to set (0.00..100000.00. Default value: **0.00**).
  - **Triggered**: The trend log is triggered by the BACnet system.
- **Enable** (enabled by default): Enable/disable the specific trend log even if the trend log is in the valid time range.
- **Stop When Full** (enabled by default):
  - If **enabled**, it will stop the trend log when the buffer is full.
  - If **disabled**, it will keep the last 2880 valid values.
- **Date Time Configuration**: Set the period when trend logs are active.
  - **Always** (default value).
  - **Range**: Use the **Start Time** and **End Time** parameters to set a time range.
- **Selected Objects (max 10)**: Click the + button to include up to ten BACnet objects in a trend log. To remove previously added objects, use the − button.

NOTE
To select multiple items in both the **Selected Objects** and the **Objects Selection** tables, press and hold the **Shift** key when clicking for consecutive objects or the **Control** key for non-consecutive objects. Objects that have already been added are displayed with an orange background.

8.2.3.5. BACnet Description

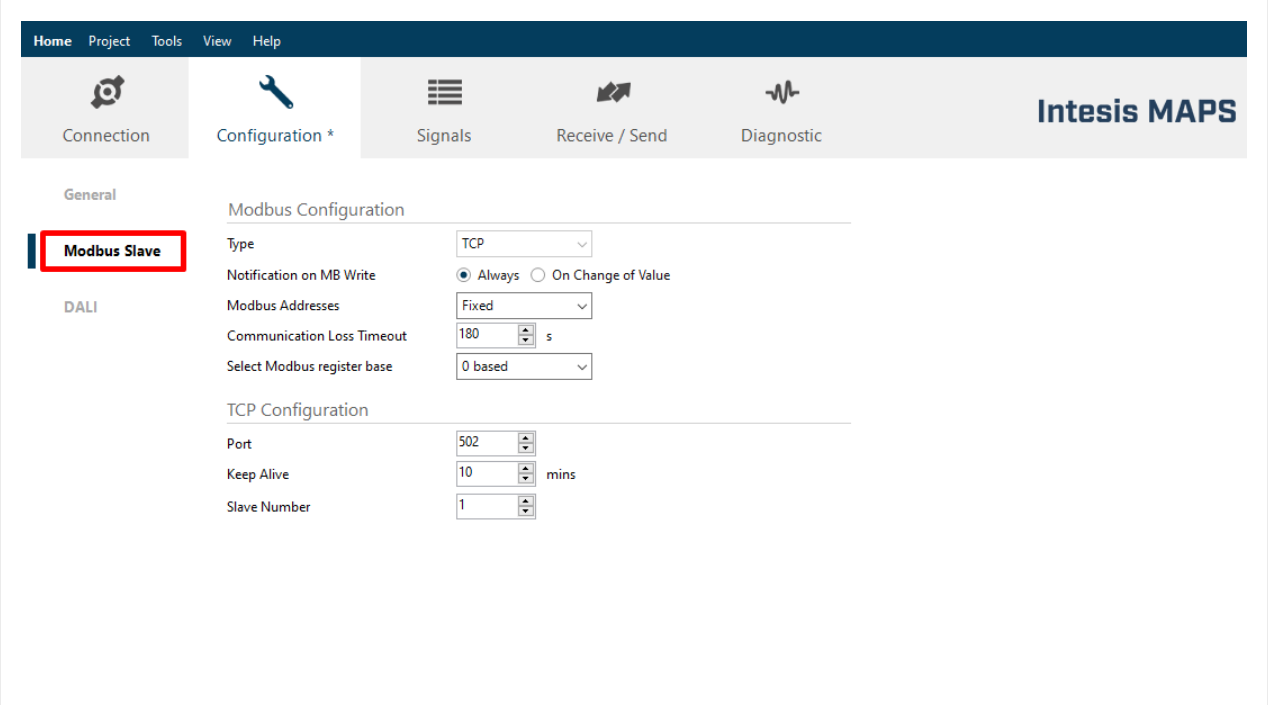
Click **Edit** to open the **BACnet Description** window. You can add an editable **Description** column in the **Signals** tab table.

- **Disabled (By default)**: The Description column is not added.
- **Enable BACnet Description (96 bytes)**: The Description column is added, allowing a description up to 96 characters long.
- **Enable BACnet Description 255 bytes (only for licenses up to 1200 points)**: The Description column is added, allowing a description up to 255 characters long.

NOTE
Some special characters may use three bytes each.

8.3. BMS Protocol: Modbus

For this protocol combination, the gateway acts like a Modbus server device.



8.3.1. Modbus Configuration

- **Type**: TCP is selected by default.
- **Notification on MB Write**: Select when to send Modbus writing notifications to the device protocol.
  - **Always** (default value)
  - **On Change of Value**
- **Modbus Addresses:** Define the type of Modbus register list.
  - **Fixed** (default value): Addresses cannot be modified.
  - **Custom**: The Modbus register list can be freely edited.
  - **V4 compatibility**: Only Modbus addresses compatible with V4 gateways[1] are active. Addresses cannot be modified.
- **Communication Loss Timeout**: Set the inactivity time in seconds on the Modbus side before setting ballasts in falsesafe level (5 .. 2600. Default value: **180 sec**).
- **Select Modbus register base**: Select the Modbus addressing type.
  - **0 based** (default value)
  - **1 based**

[1]V4 refers to old models of gateways.

8.3.2. TCP Configuration

- **Port**: Set the port for communication between the gateway and the Modbus TCP system (1..65535).

> **NOTE**
> The default port is 502.

- **Keep Alive**: Set the time in minutes before sending a keep-alive message (1..1440. Default value: **10 minutes**).

> **NOTE**
> Set the parameter to 0 to disable this function.

- **Slave Number**: Set the server address (1..255. Default value: **1**).

8.4. DALI Protocol Configuration

8.4.1. DALI Configuration

Create your project either offline or in situ.

Offline

You can add and configure DALI devices without the need to scan the bus. This allows you to save time creating your project before having actual access to the installation.

NOTE
The following sections provide all the information on how to create your project offline, add ECGs and input devices, and configure them.

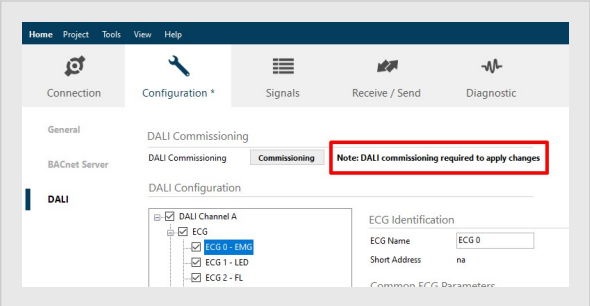
IMPORTANT

- Once you have created your project offline, adding and editing the needed devices, you still need to assign the actual devices of the installation to the devices you have created in your project. Use the commissioning process to do so. See DALI Commissioning (page 60).
- During the commissioning process, the values you set when creating your project offline may be overwritten by the values of the real devices.
  For example, when creating your project offline, you set a tuneable white color device to power on at 500°K. Still, the real device of the installation has a temperature range going from 800°K to 6000°K, so the value you set in the **Power ON Colour** parameter (500°K) will be overwritten to 800°K, which is the minimum temperature value for that device.

In situ

The other option is to create the project where the installation is actually placed by scanning the installation's DALI bus, discovering all the devices connected to the bus, getting their parameters, and adding to your project the needed devices. To know more, see DALI Commissioning (page 60).

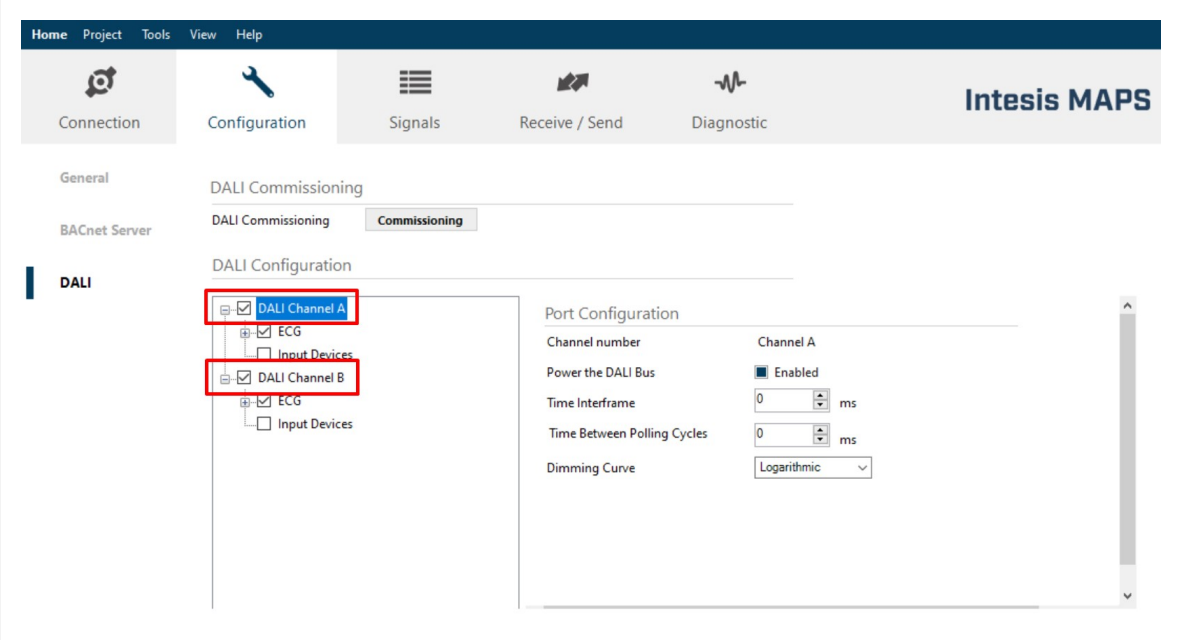
IMPORTANT
When changing a parameter of a DALI device, the message **Note: DALI commissioning required to apply changes** appears next to the **Commissioning** button.



This is a reminder that to apply the changes done in a DALI device's parameter, you must click the **Commissioning** button and then the **Set all** option, which you must do in situ.

8.4.1.1. DALI Channel

Figure 1. DALI Channel root in the tree view



Click the **DALI Channel A** or **DALI Channel B** level in the tree view to open the **Port Configuration**.

- **Channel number**: shows the selected DALI channel.
- **Power the DALI Bus** (enabled by default): Enable/disable the gateway's power supply.

> **IMPORTANT**
> The gateway's power supply is disabled by default to prevent the risk of having two power supplies at the same time in the DALI bus.
>
> If you are powering the bus with an external power supply, ensure to comply with the following:
>
> – It is a DALI-2 standard power supply certified under the DiiA guidelines.
>
> – Polarity in the DALI bus is the same for both the gateway and the external power supply.
>
> – Be sure you are following the standard DALI guidelines for bus powering.
>
> If the DALI bus is not powered, there will be no communication and an error will appear when testing the hardware.

> **NOTE**
> If you change the status of the **Power the DALI Bus** parameter, send the project to the gateway through the **Receive/Send** tab to apply the new status.

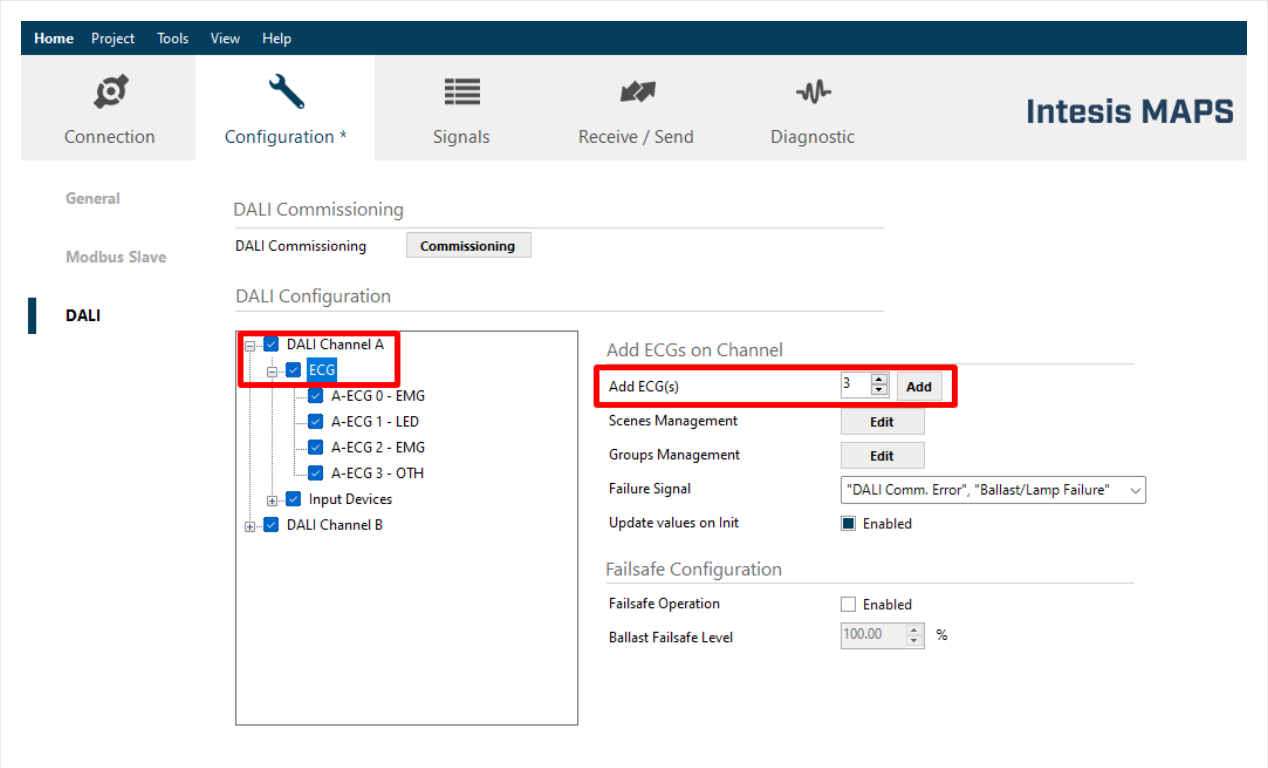
- **Time Interframe**: Select the minimum time between received and sent frames (0..2000. Default value: **0 ms**),
- **Time Between Polling Cycles**: Set the time between two consecutive polling cycles (0..10000. Default value: **0 ms**).
- **Dimming Curve**: Choose the dimming curve type.
  - **Logarithmic** (default)
  - **Linear**

8.4.1.2. ECGs

ECG stands for electronic control gear, which is how DALI names devices such as ballasts for fluorescent lighting, LED drivers, etc.

8.4.1.2.1. Add ECGs on Channel

Figure 2. Add new devices to your project

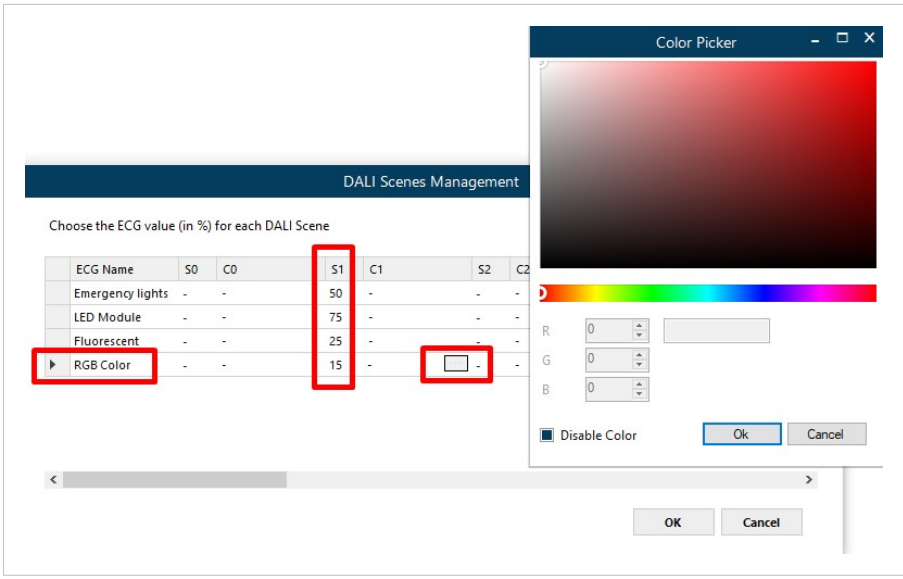


1. Expand the tree view to see all its elements.
2. Select the **ECG** level to open its configuration parameters.
3. Use the **Add ECG(s)** field to type the number of devices to add, or use the up and down arrows to set the number.
4. Click **Add**.

The new ECGs appear under the default ones named **ECG x - OTH**.

Scenes Management:

Click **Edit** to open the **Scenes Management** tool.



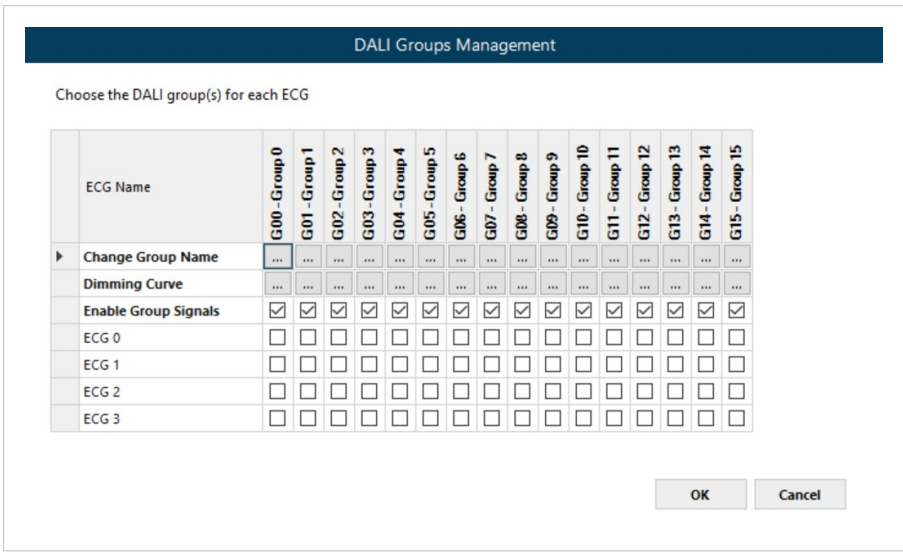
Up to 16 scenes can be set (**S0..S15**).

Set the ECG value (in %) for each ECG in the DALI channel.

For Colour ECGs (either tuneable white, RGB, or RGBW), click the button in the **C**x column to open the color parameters. These parameters are explained in ECG Identification (page 39).

Groups Management:

Click **Edit** to open the **Groups Management** tool.



Use the checkboxes to group ECGs.

Up to 16 groups can be edited (**G00-Group0..G15-Group15**).

Click the button to **Change Group Name**.

Click the button to set the **Dimming Curve** type:

- **Logarithmic** (default)

- **Linear**

Failure Signal: Choose the signal(s) to use when there is a failure in an ECG.

- **DALI Comm. Error** and **Ballast/Lamp Failure** (default)
- Only **DALI Comm. Error**

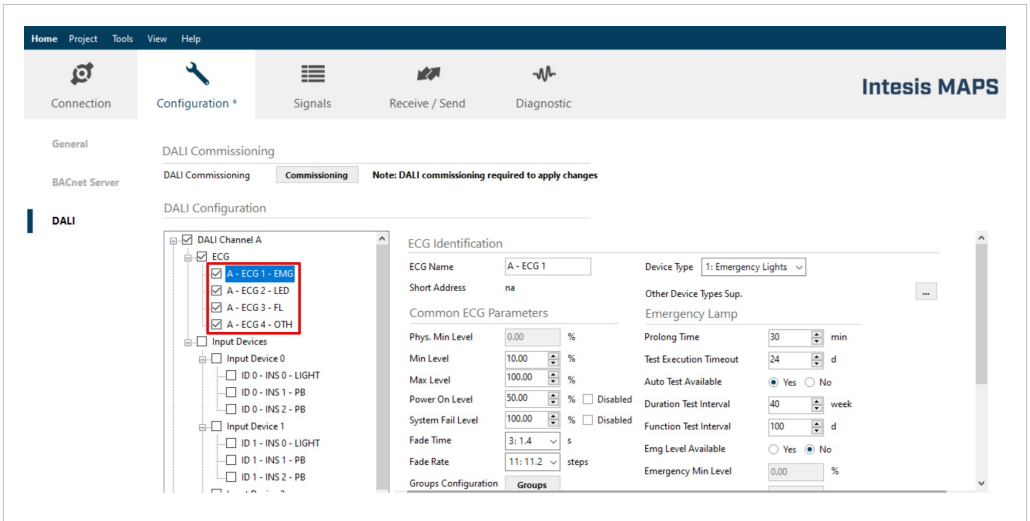
Update values on Init (Enabled by default): Enable or disable the updating of values when the gateway initializes.

8.4.1.2.2. Failsafe Configuration

NOTE
This parameter is for the DALI-2 to Modbus server application only.

- **Failsafe Operation** (disabled by default): Set the ballast to the level chosen in the **Ballast Failsafe Level** parameter.
- **Ballast Failsafe Level**: Set the level for this ballast if a loss of communication with the Modbus system is detected (0.00..100.00%. Default value: **100.00%**).

8.4.1.2.3. ECG Identification



Select the ECG you want to configure.

- **ECG Name**: Type a name for the ECG.
- **Short Address**: It shows the ECG's short address (see Discovered Devices Identification and Address Association (page 62)).
- **Device Type**: Choose the device type.
  - **0: Fluorescent Lights**
  - **1: Emergency Lights**

NOTE
See the setup parameters for **Emergency Lights** devices below.

- **6: LED Modules**
- **8: Colour**
  When selecting this device, the new parameter **Color** appears:
  - **Tuneable white**
  - **RGB**
  - **RGBW**

  NOTE
  See the setup parameters for **Colour** devices below.

- **Other**: For devices that do not match with the previous device types.

IMPORTANT
Make sure you select the appropriate device type since the configuration parameters differ for each type.

For each device type, click the ... button in the **Other Device Types Sup.** parameter to select additional supported devices. Apart from fluorescent lights, emergency lights, LED modules, and color control devices, you can select:

- **51: Energy data**: Check this option for devices that support energy data reporting.
- **52: Diagnostic data**: Check this option for devices that support diagnostic data reporting.

Setup parameters for **Emergency Lights** devices:

- **Prolong Time**: Extended time for the emergency mode before switching to normal mode, after the restoration of the normal energy supply (0 .. 127.5).
- **Test Execution Timeout**: Number of days before notifying that a function or duration test has been delayed excessively (0 .. 255).
- **Auto Test Available**:
  - **Yes** (default)
    - **Duration Test Interval**: Interval in weeks between duration tests (1..97).
    - **Function Test Interval**: Interval in days between function tests (0..255).
  - **No**
- **Emg Level Available**:
  - **Yes**
    - **Emergency Min Level**: After scanning the bus, you can get this value from the ECG and set the minimum level of intensity for this device when it is in emergency mode.

      NOTE
      This parameter is only editable in situ.

    - **Emergency Max Level**: After scanning the bus, you can get this value from the ECG and set the maximum level of intensity for this device when it is in emergency mode.

      NOTE
      This parameter is only editable in situ.

- **Emergency Level**: Set the level of intensity when the device is in emergency mode. Set a value between the minimum and the maximum level (0..100%).

– **No** (default)

Setup parameters for **Colour: Tuneable White** devices:

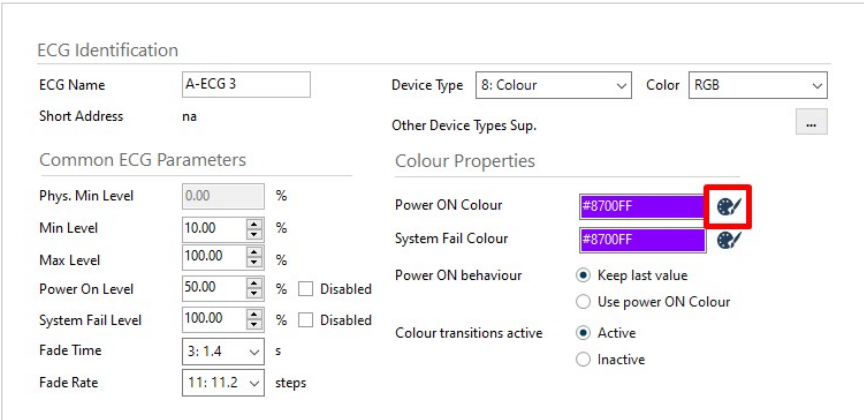
- **Power ON Colour**: Set the color temperature when this device powers on (0..10000. Default value: **3000°K**).
- **System Fail Colour**: Set the color temperature for this device when the system fails (0..10000. Default value: **3000°K**).
- **Min colour range**: Set the minimum color temperature for this device (0..10000. Default value: **2000°K**).
- **Max colour range**: Set the maximum color temperature for this device (0..10000. Default value: **4500°K**).
- **Power ON behavior**: Set the value to use when the device powers on.
  – **Keep last value** (default)
  – **Use Power ON Colour**
- **Colour transitions active**: Activate/deactivate color transitions to include a gradual change of color between different states, like transitions between scenes.
  – **Active** (default)
  – **Inactive**

Setup parameters for **Colour: RGB** devices:

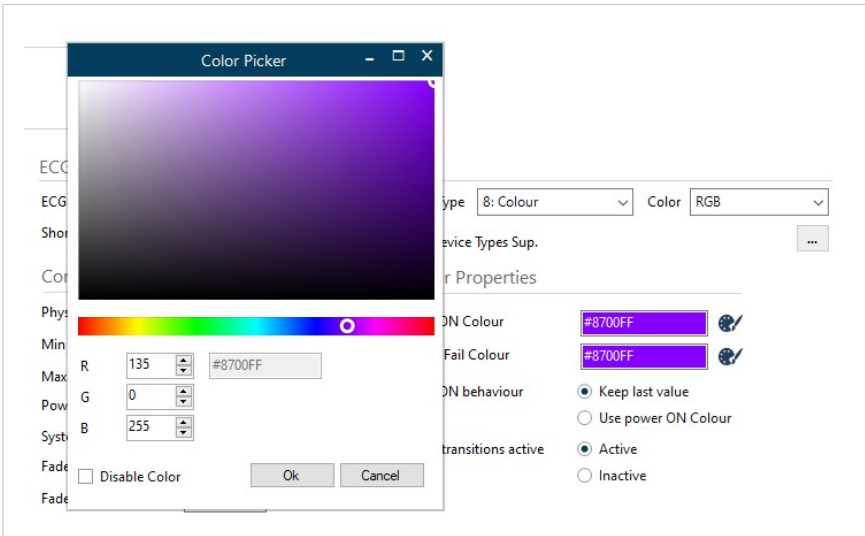
- **Power ON Colour**: Set the color when this device powers on.
- **System Fail Colour**: Set the color for this device when the system fails.

To set the power on and the system fail color, proceed as follows:

1. Click the icon to open the **Color Picker**:



2. Choose the desired color:



   a. Use the color slider to choose the color range.

   b. Click and drag the cursor on the color picker.

   a. Type a value in the **R, G,** and **B** parameters.

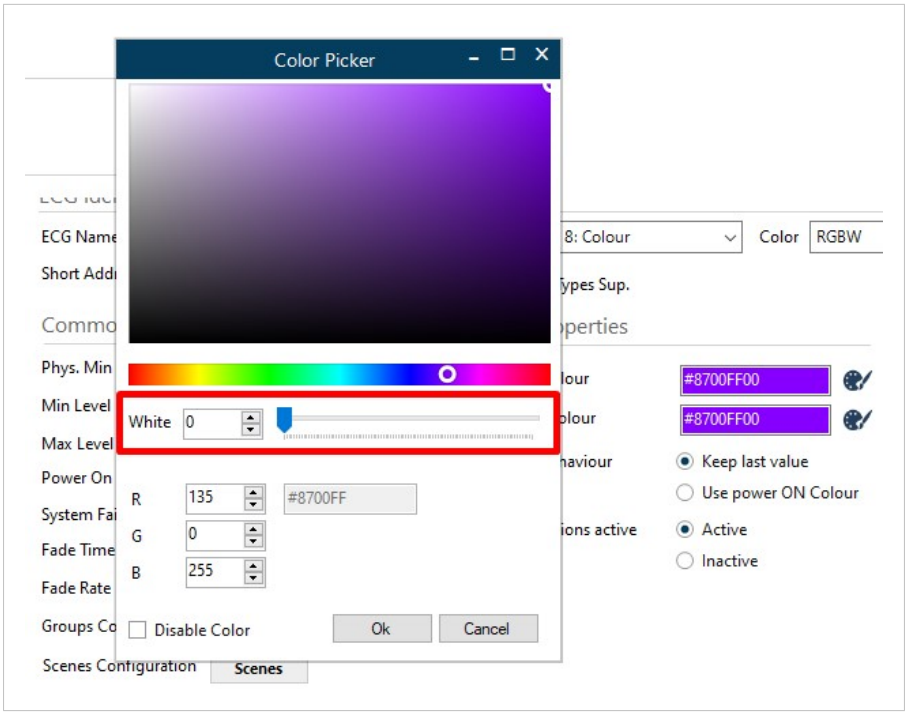
   b. Use the up and down arrows to set the value, instead.

3. Click **OK**.

- **Power ON behavior**: Set the value to use when the device powers on.
  - **Keep last value** (default)
  - **Use Power ON Colour**
- **Colour transitions active**: Activate/deactivate color transitions to include a gradual change of color between different states, like transitions between scenes.
  - **Active** (default)
  - **Inactive**

Setup parameters for **Colour: RGBW** devices:

NOTE
The parameters for **Colour RGBW** devices are the same as those for **Colour RGB** devices, except that you can choose the intensity value for the white, as shown in the picture below.



8.4.1.2.4. Common ECG Parameters

- **Phys. Min Level**: After scanning the bus, you can get this value from the ECG and set the physical minimum level of intensity for this device.

> **NOTE**
> This parameter is only editable in situ.

- **Min Level**: Set the minimum level of intensity for this device (0..100%. Default value: **10%**).
- **Max Level**: Set the maximum level of intensity for this device (0..100%. Default value: **100%**).

> **IMPORTANT**
> When setting the **Min Level** and the **Max Level** of intensity, take into consideration the value set in the **Phys. Min Level** since it establishes the lowest possible value.

- **Power On Level**: Set the level of intensity for this device when it powers on (0..100%. Default value: **100%**).
- **System Fail Level**: Set the level of intensity for this device when the system fails (0..100%. Default value: **100%**).
- **Fade Time**: Set the time in seconds for the device to change from the current light level to the requested one (0: Extended..15: 81.5. Default value: **0: Extended**). Setting the value to 0, the fade time will be the time set in the **Extended Fade Time** register.
- **Fade Rate**: Specifies the rate in steps per second at which changes are made in the lamp's power value (1 [fastest]: 358..15 [slowest]: 2.8. Default value: **7: 44.7 steps per second**).
- **Groups Configuration**:

  1. Click the **Groups** button.
  2. In the **Manage Groups in ECG** window, select the parent groups for this ECG.

- **Scenes Configuration**:
  1. Click the **Scenes** button.
  2. In the **Manage Scenes in ECG** window, select the scenes of this ECG.
  3. Type the percent value for each scene, or use the up and down arrows to set the value.

8.4.1.2.5. Delete and Clone ECGs

Delete ECG(s):

1. Select the ECG(s) you want to delete.
2. Click the **Delete ECG** button.

Clone ECG

When cloning an ECG, one or more ECG(s) with the same configuration are created.

1. Select the ECG you want to clone.
2. Click the **Clone** button.
3. In the emergent window, set the number of **ECGs to Add** (1..64).
4. Click **Apply**.

8.4.1.3. Input Devices

8.4.1.3.1. Add Input Device on Channel

Instance update value mode: Set the update method on the DALI bus.

- **Instance Event** (default): Enable events in the devices so they can notify of a change of value.

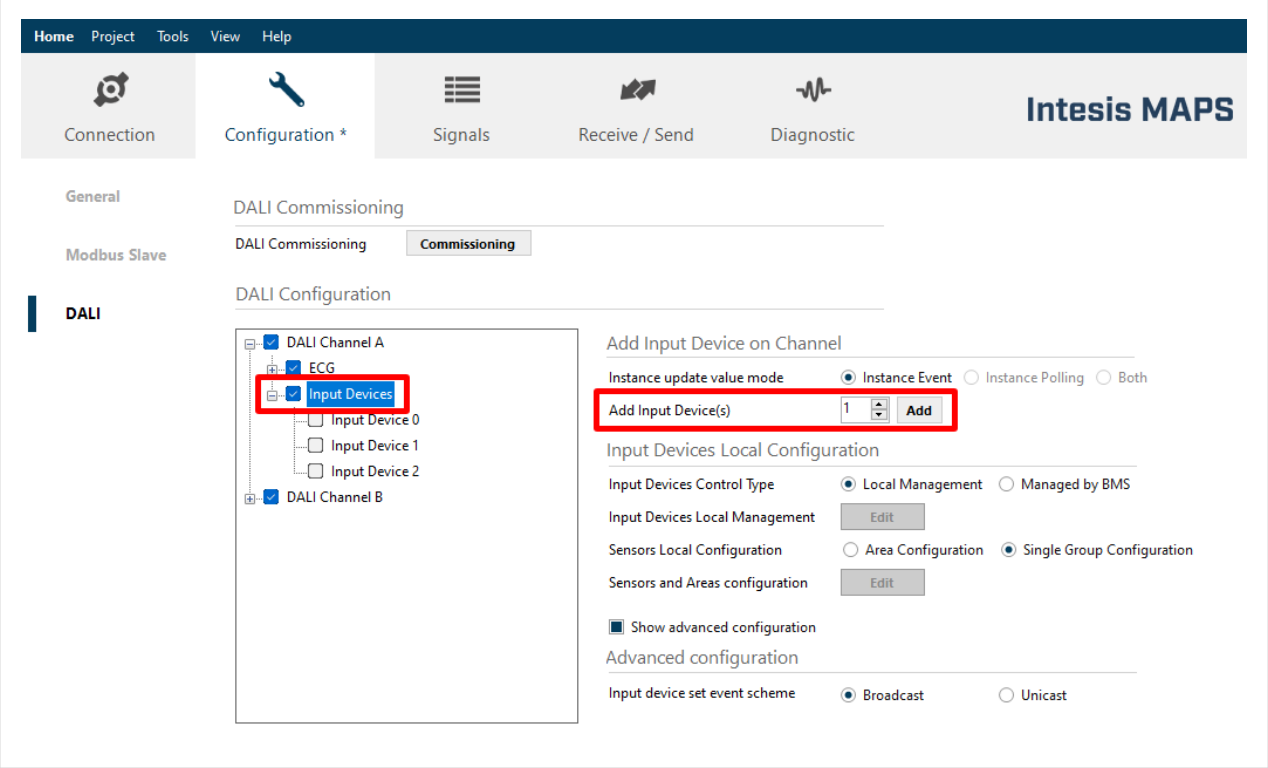
> **NOTE**
> **Instance Event** is the more efficient way to communicate with the input devices and is recommended, especially when the DALI bus is heavily loaded with devices.

> **IMPORTANT**
> Setting the **Instance update value mode** in **Instance Event** is mandatory to use the **Input Devices Local Management** feature. See Input Devices Local Configuration (page 46).

- **Instance Polling**: The gateway is continuously polling the bus to get its info.
- **Both**

> **IMPORTANT**
> Activating **Instance Polling** or **Both** may excessively increase bus traffic and is not recommended, especially when the DALI bus is heavily loaded with devices.

Figure 3. Add new input devices to your project



1. Select the **Input Devices** level in the tree view to open its configuration parameters.
2. Use the **Add Input Device(s)** field to type the number of input devices to add, or use the up and down arrows to set the number.
3. Click **Add**.

The new input devices appear named **Input Device x**.

8.4.1.3.2. Delete, Clone, and Copy Input Devices

Delete Input Device(s)

1. Select the input devices you want to delete.
2. Click the **Delete** button.

Clone Input Device

When cloning an input device, one or more input devices with the same configuration are created.

1. Select the input device you want to clone.
2. Click the **Clone** button.
3. In the emergent window, set the number of **Input Devices to Add** (1..64).
4. Click **Apply**.

Copy Input Device

When copying an input device, one or more existing input devices are automatically configured with that same configuration.

1. Select the device you want to copy.
2. Click the **Copy** button.
3. In the emergent window, select the input device(s) to which you want to paste the configuration.
4. Click **OK**.

IMPORTANT
This action will overwrite the configuration of all the instances of the target input devices.

NOTE
All input devices must have the same number and type of instances.

8.4.1.3.3. Input Devices Local Configuration

The Intesis IN704DAL1280000 gateway offers two control options to manage DALI ECGs:

The first option is to allow the gateway to act over the DALI ECGs directly. This feature is useful for those input devices requiring a quicker reaction time. This is the default behavior of the gateway.

In the other option, the DALI devices are controlled by the BMS, that is, the gateway sends the status of the DALI devices to the BMS and sends the BMS commands to the DALI bus.

Figure 4. Input device local management

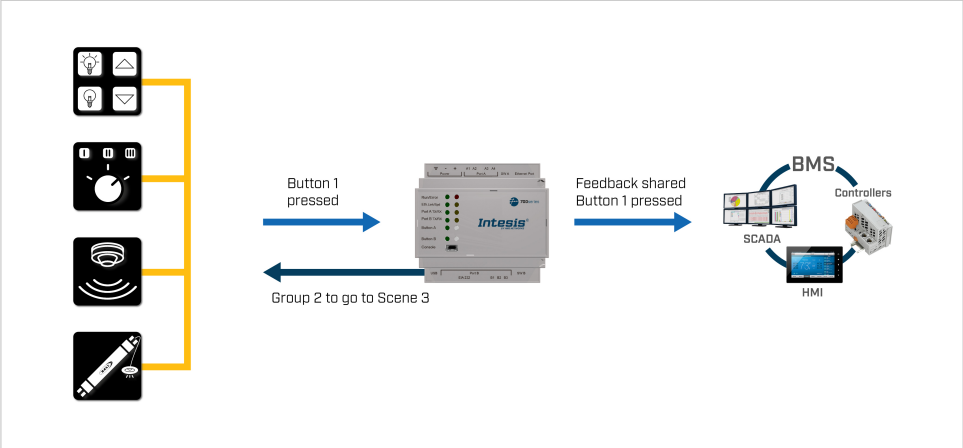
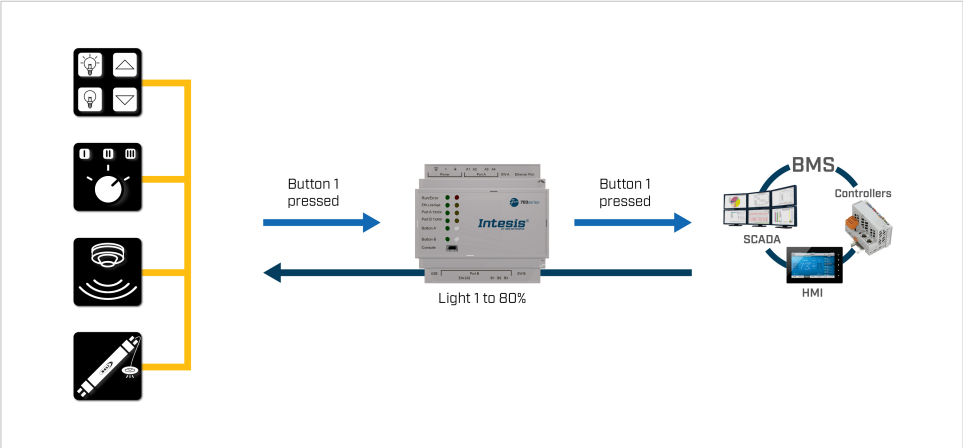
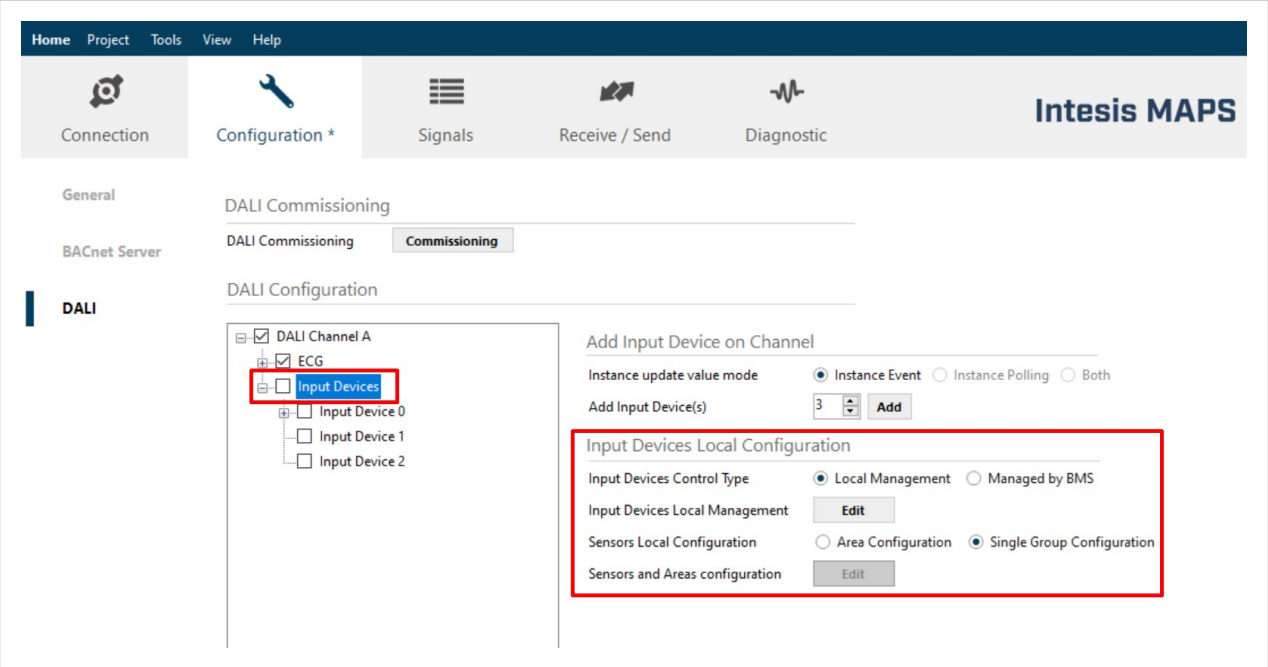


Figure 5. Input devices managed by the BMS



Input Devices Control Type:

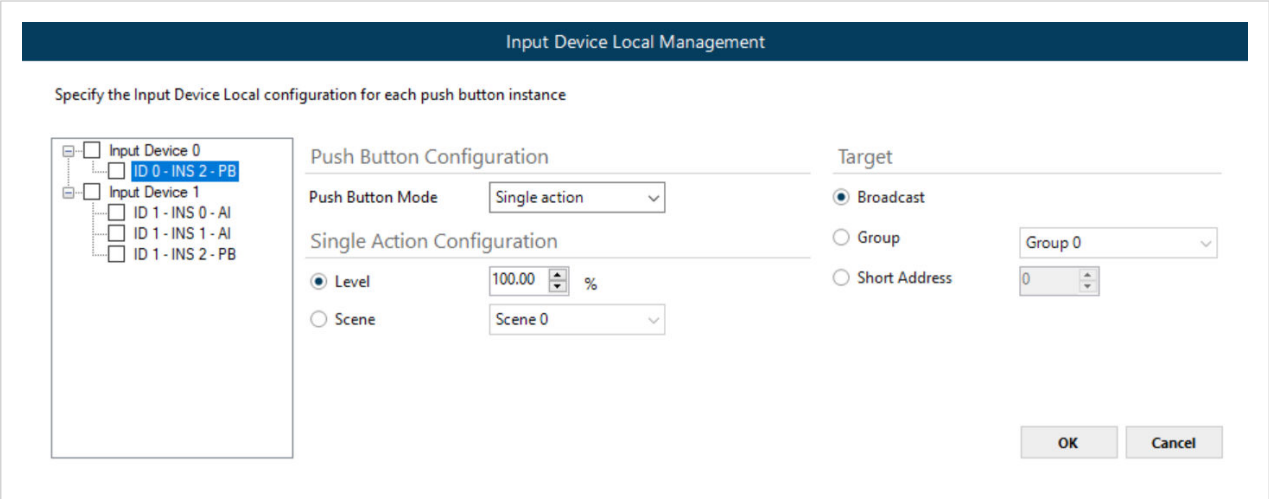
Figure 6. Parameters for input devices local control



- **Local Management** (default): The device is controlled from the gateway.
  When this option is selected, the **Edit** button in the **Input Devices Local Management** parameter is enabled.
- **Managed by BMS**

Click the **Edit** button in the **Input Devices Local Management** parameter.

Figure 7. Input Device Local Management window



Parameters for the push button configuration.

NOTE
The displayed configuration parameters vary for each instance type.

NOTE
Before using the **Input Devices Local Management** function, you must add the needed input devices and add and configure their instances. See Instance Configuration (page 56).

IMPORTANT
To use the **Input Devices Local Management** feature, you need to set the input devices and its instances to work on events. See Add Input Device on Channel (page 44) and Instance Configuration (page 56).

Push Button Configuration

- **Push Button Mode:**
  - **Single action**: Offers simpler programming that fits well in a commercial application where the operation of the push buttons needs to be intuitive. The only event type required for this option is a short press.
    - **Single Action Configuration**.
      - **Level**: Set the arc power level when the push button is short-pressed (0..100%. Default value: **100%**).
      - **Scene**: Select the scene to be executed when the push button is short-pressed (Scene 0 .. Scene 15).
  - **Dimmer**: Regulate the light level of the selected target up or down (see **Target** below).
    - **Dimmer Configuration**.
      - **Up/Down** (default): The push button dims the lights up or down using the fade rate.
      - **Step Up/Down**: The push button dims the lights up or down using the **Step Time**.

        NOTE
        These steps are different depending on whether the DALI dimming curve is defined as linear or logarithmic.

      - **Step Time**: Time in milliseconds between one step and the next. This time is the same as the long press repeat (100 .. 2000. Default value: **160 ms**).

    IMPORTANT
    When selecting **Dimmer**, make sure that the **Long press repeat Event Enabled** is set to **Yes** in the **Push Button Instance Parameters**. See Instance Type: Push Button (page 56).

  - **Toggle**: Assign two actions to a single button.
    - **Toggle Configuration**.
      - **ON/OFF** (default): Toggle between the maximum level and off.
      - **Commands (on single press)**: Use the parameters below to choose each state's action type.
        - **State 1**: Choose the action type (**Level, Scene, Go to Max, Go to Min, Off, No Action**), and give it a value (0 .. 100%. Default value: **100%**).
        - **State 2**: Choose the action type (**Level, Scene, Go to Max, Go to Min, Off, No Action**), and give it a value (0 .. 100%. Default value: **0%**).
  - **Multi Action**: Assign several actions to a single button depending on the type of press.
    - **Multi Action Configuration**.
      - **Short Press**: Choose the action type (**Level, Scene** (default), **Go to Max, Go to Min, Off, No Action**).
      - **Long Press**: Choose the action type (**Level**, **Scene**, **Dimmer** (default), **Go to Max**, **Go to Min**, **Off**, **No Action**).

  - **Double Press**: Choose the action type (**Level, Scene, Go to Max, Go to Min, Off, No Action** (default)).
    - For the **Level** type, give a value to the action (0 .. 100%. Default value: **100%**).
    - For the **Scene** type, select the scene to be executed.

> **IMPORTANT**
> Make sure that the type of action (short press, long press, double press, and long press repeat if using dimmer) is set to **Yes** in the **Push Button Instance Parameters**. See Instance Type: Push Button (page 56).

- **Target**: Select what the action targets.
  - **Broadcast** (default): It targets the entire channel.
  - **Group**: It targets a single group.
  - **Short Address**: It targets a single short address.

Absolute Input Configuration

- **Absolute Input Mode:**
  - **Slider**

> **NOTE**
> This parameter includes various devices acting as a slider, like rotary knobs.

- **Target**: Select what the action targets.
  - **Broadcast** (default): It targets the entire channel.
  - **Group**: It targets a single group.
  - **Short Address**: It targets a single short address.

Occupancy Sensor Configuration

- **Occupancy Mode:**
  - **Vacancy** (default): Lights will automatically turn off after the hold timer ends and no movement is detected. You must only configure the parameters for when the room is vacant.
    Vacant
    - **Level** (default): Set the level intensity of lights when there's no one in the room (0..100%. Default value: **0%**).
    - **Scene**: Select the scene to be executed when there's no one in the room (Scene 0..Scene 15).
  - **Occupancy**: Lights will automatically turn on when movement is detected and will automatically turn off after the hold timer ends and no movement is detected. You must configure the parameters both for when the room is vacant and when it's occupied.
    Vacant
    - **Level** (default): Set the level intensity of lights when there's no one in the room (0..100%. Default value: **0%**).
    - **Scene**: Select the scene to be executed when there's no one in the room (Scene 0..Scene 15).

    Occupied
    - **Level** (default): Set the level intensity of lights when there's someone in the room (0..100%. Default value: **75%**).

    - **Scene**: Select the scene to be executed when there's someone in the room (Scene 0..Scene 15).

  - **Staircase**: Lights will automatically turn on when movement is detected and will gradually dim to off after the hold timer ends and no movement is detected. During this dimming transition period, the lights will turn on again if movement is detected. You must configure the parameters for when the room is vacant, for when it's occupied, and for the dimming transition period.

    Vacant

    - **Level** (default): Set the level intensity of lights when there's no one in the room (0..100%. Default value: **0%**).
    - **Scene**: Select the scene to be executed when there's no one in the room (Scene 0..Scene 15).

    Occupied

    - **Level** (default): Set the level intensity of lights when there's someone in the room (0..100%. Default value: **75%**).
    - **Scene**: Select the scene to be executed when there's someone in the room (Scene 0..Scene 15).

    Transition

    - **Level** (default): Set the level intensity of lights before achieving the vacant level when there's no one in the room (0..100%. Default value: **10%**).
    - **Scene**: Select the scene to be executed before executing the vacant scene when there's no one in the room (Scene 0..Scene 15).

- **Target**: Select what the action targets.

  NOTE
  You can combine several sensors and groups together. See **Sensors Local Configuration** below.

  - **Broadcast** (default): It targets the entire channel.
  - **Group**: It targets a single group.

Light Sensor Configuration

- **Target Lux level:** Set the reference level in luxes for the light sensor. If the light level is too high or too low, the light sensor sends a command to the application controller to adjust it to this targeted lux level (0..1023. Default value: **400 luxes**).
- **Power up behavior**:
  - **Continue if active** (default): The light sensor keeps the last state saved before the gateway turned off.
  - **Wait for re-activation**: The light sensor waits for a new event.
- **Target**: Select what the action targets.

  NOTE
  You can combine several sensors and groups together. See **Sensors Local Configuration** below.

  - **Group**: Select the targeted group (Default value: **Group 0**).
  - **Scene**: Select the targeted scene (Default value: **Scene 0**).
  - **Start level**: (0..100%. Default value: **75%**).

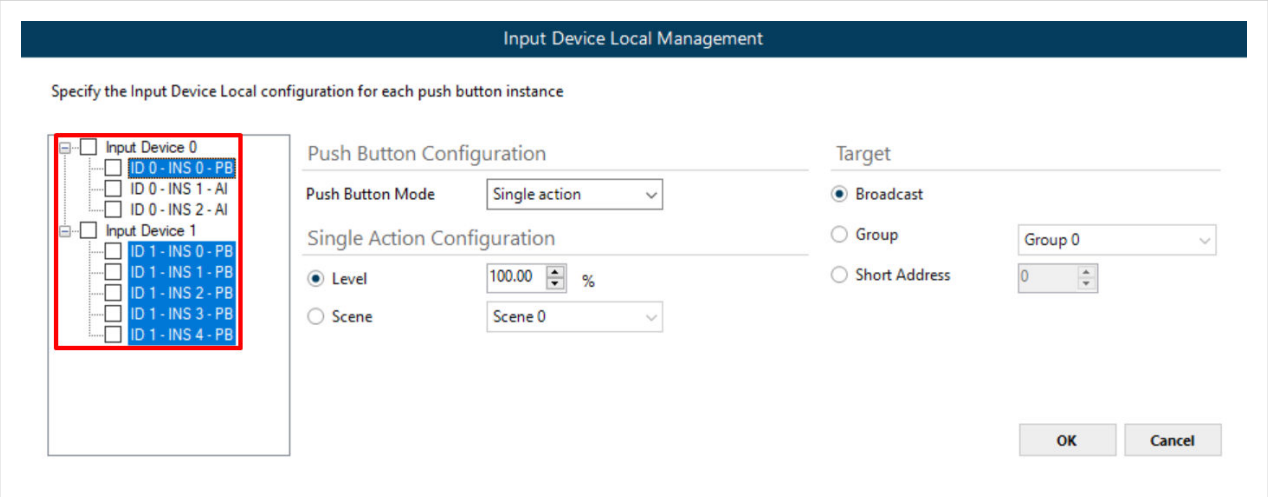
Configure several instances at once

NOTE
This procedure is only possible when all instances are of the same type. Keep in mind that all the selected instances will have the same configuration.

To speed up the commissioning, you can select several instances and configure them at once, even if the instances are from different input devices.

To select multiple instances at a time, click the instances while holding the shift key.

Figure 8. Selecting several instances



Sensors Local Configuration

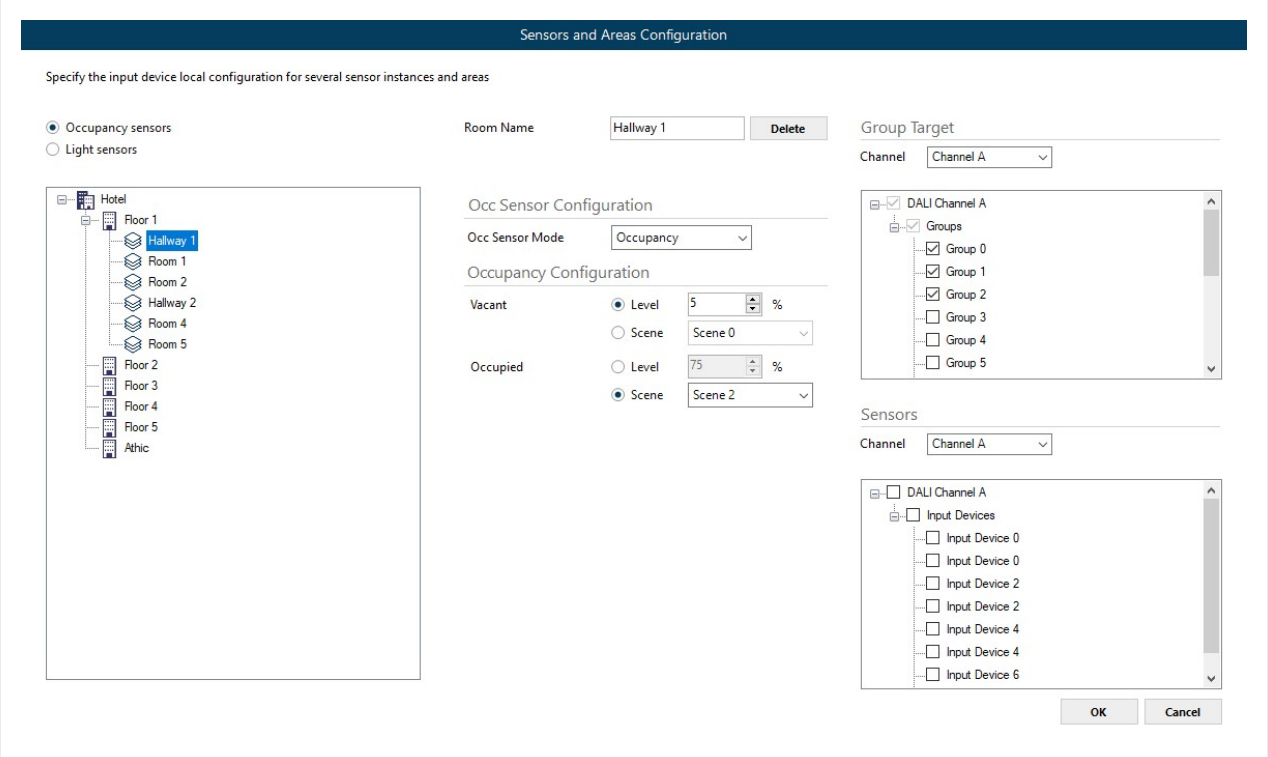
- **Area Configuration**: Configure and group occupancy and light sensors to operate together, and distribute them in a three-level hierarchy based on building, floors, and rooms.
  Select this option to enable the **Edit** button in the **Sensors and Areas configuration** parameter.
- **Single Group Configuration** (default): Associate one sensor to a group or channel so the targeted group or channel will receive the selected commands from this sensor.

> **NOTE**
> The target and the sensor can be in different channels.

> **NOTE**
> To enable the **Area Configuration** and the **Single Group Configuration** options, set the **Input Devices Control Type** in **Local Management**.

Click the **Edit** button in the **Sensors and Areas configuration** parameter.

Figure 9. Sensors and Areas Configuration window



Use this menu to establish the areas of the building and its hierarchy:

- **Building**:
  - **Building Name**: Type a name for the building.
  - **Add Floor(s)**: Type the number of floors to add, or use the up and down arrows to set the number (1..32).
- **Floor**:
  - **Floor Name**: Type a name for the floor.
  - **Add Room(s)**: Type the number of rooms to add, or use the up and down arrows to set the number (1..32).
- **Room**:
  - **Room Name**: Type a name for the room.

At the room level of the hierarchy, you can configure occupancy and light sensors:

Occupancy sensors

Check the **Occupancy sensors** parameter placed at the top left side of the window.

Occ Sensor Configuration:

- **Occ Sensor Mode:**
  - **Occ Sensor Mode: Vacancy**: Lights will automatically turn off after the hold timer ends and no movement is detected. You must only configure the parameters for when the room is vacant.
    Occupancy Configuration: Vacant
    - **Level** (default): Set the level intensity of lights when there's no one in the room (0..100%. Default value: **0%**).

- **Scene**: Select the scene to be executed when there's no one in the room (Scene 0..Scene 15).

– **Occ Sensor Mode: Occupancy**: Lights will automatically turn on when movement is detected and will automatically turn off after the hold timer ends and no movement is detected. You must configure the parameters both for when the room is vacant and when it's occupied.

Occupancy Configuration: Vacant

- **Level** (default): Set the level intensity of lights when there's no one in the room (0..100%. Default value: **0%**).
- **Scene**: Select the scene to be executed when there's no one in the room (Scene 0..Scene 15).

Occupancy Configuration: Occupied

- **Level** (default): Set the level intensity of lights when there's someone in the room (0..100%. Default value: **75%**).
- **Scene**: Select the scene to be executed when there's someone in the room (Scene 0..Scene 15).

– **Occ Sensor Mode: Staircase**: Lights will automatically turn on when movement is detected and will gradually dim to off after the hold timer ends and no movement is detected. During this dimming transition period, the lights will turn on again if movement is detected. You must configure the parameters for when the room is vacant, for when it's occupied, and for the dimming transition period.

Occupancy Configuration: Vacant

- **Level** (default): Set the level intensity of lights when there's no one in the room (0..100%. Default value: **0%**).
- **Scene**: Select the scene to be executed when there's no one in the room (Scene 0..Scene 15).

Occupancy Configuration: Occupied

- **Level** (default): Set the level intensity of lights when there's someone in the room (0..100%. Default value: **75%**).
- **Scene**: Select the scene to be executed when there's someone in the room (Scene 0..Scene 15).

Occupancy Configuration: Transition

- **Level** (default): Set the level intensity of lights before achieving the vacant level when there's no one in the room (0..100%. Default value: **10%**).
- **Scene**: Select the scene to be executed before executing the vacant scene when there's no one in the room (Scene 0..Scene 15).

Group Target:

- **Channel**: Select the channel where the **Group** to target is.
- Use the tree view to select the **Group(s)** to target.

Sensors:

- **Channel**: Select the channel where the sensor is.
- Use the tree view to select the sensor instance.

Click **OK** to save the changes.

Light Sensors

Check the **Light sensors** parameter placed at the top left side of the window.

Light Sensors Configuration:

- **Target Lux level**: Set the reference level in luxes for the light sensor. If the light level is too high or too low, the light sensor sends a command to the application controller to adjust it to this targeted lux level (0..1023. Default value: **400**).
- **Scene**: (Scene 0..Scene 15).
- **Start level**: (0..100%. Default value: **75%**).
- **Power up behavior**:
  - **continue if active** (default): The light sensor keeps the last state saved before the gateway turned off.
  - **wait for re-activation**: The light sensor waits for a new event.

Group Target: Use this view to select the group to target.

- **Channel**: Select the channel where the **Group** to target is.
- Use the tree view to select the **Group(s)** to target.

Sensors:

- **Channel**: Select the channel where the sensor is.
- Use the tree view to select the sensor instance.

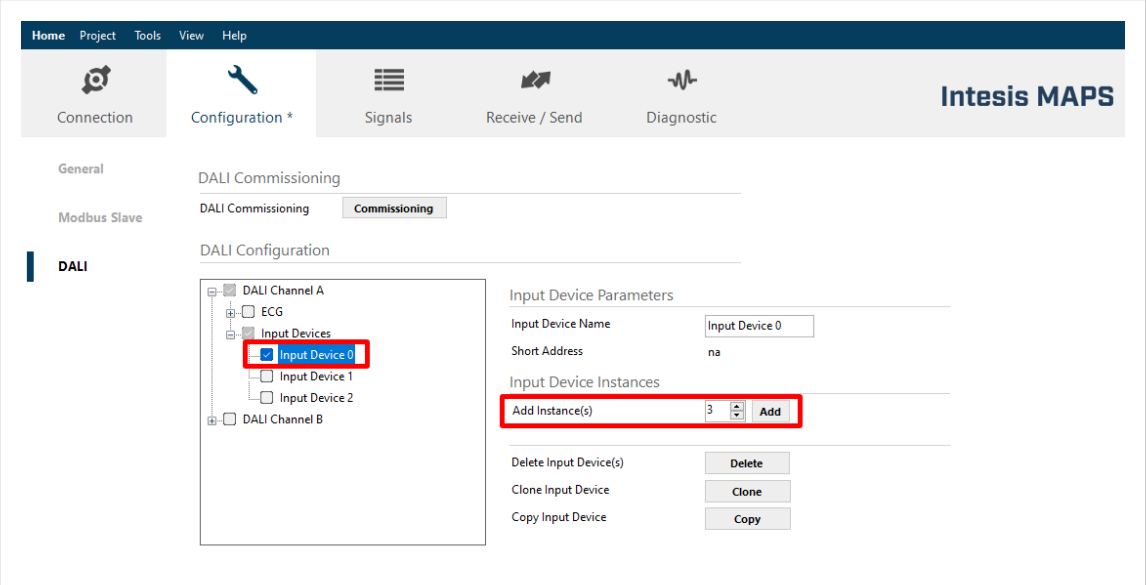
Click **OK** to save the changes.

8.4.1.3.4. Input Device Parameters

- **Input Device Name**: Type a name for the input device.
- **Short Address**: It shows the device's short address (see Discovered Devices Identification and Address Association (page 62)).

8.4.1.4. Input Device Instances

Figure 10. Add instances to a device



1. In the tree view, select the **Input Device** to which you want to add the instances.
2. Use the **Add Instance(s)** field to type the number of instances to add, or use the up and down arrows to set the number.
3. Click **Add**.

The new instances appear named **ID x - INS y - PB**, where:

- **ID x**: Number of the input device.
- **INS y**: Number of the instance.
- **PB**: Push Button.

> **NOTE**
> **Push Button** is the instance type by default. You can edit each instance later. See Instance Configuration (page 56).

8.4.1.4.1. Delete, Clone, and Copy Instances

Delete Instance(s)

1. Select the instance(s) you want to delete.
2. Click the **Delete** button.

Clone Instance

When cloning an instance, one or more instances of the same type and with the same configuration are added to the input device.

1. Select the instance you want to clone.
2. Click the **Clone** button.
3. In the emergent window, set the number of **Instances to Add** (1..10).
4. Click **Apply**.

Copy Instance

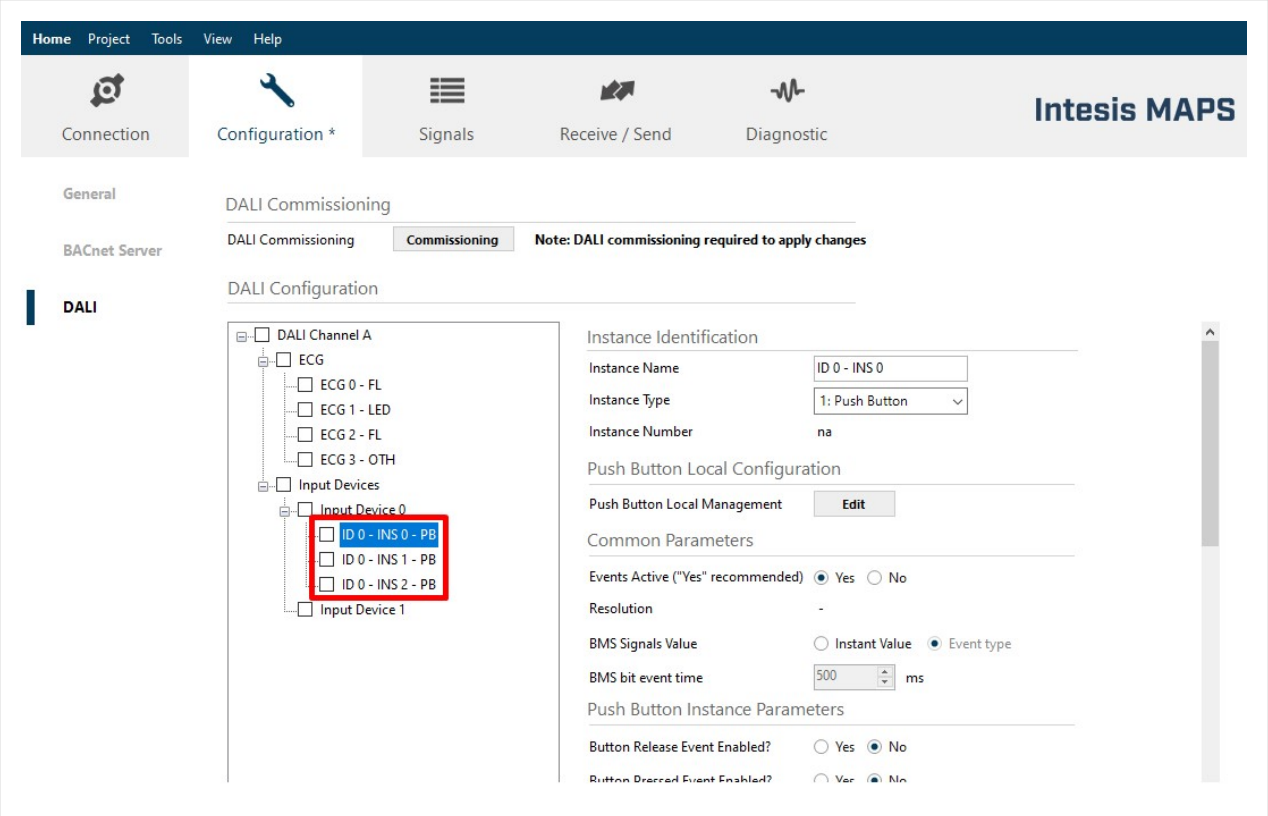
When copying an instance, one or more existing instances are automatically configured with that same configuration.

1. Select the instance you want to copy.
2. Click the **Copy** button.
3. In the emergent window, select the instances to which you want to paste the configuration.
4. Click **OK**.

> **IMPORTANT**
> This action will overwrite the configuration of the target instances.

> **NOTE**
> All instances must be of the same type.

8.4.1.4.2. Instance Configuration



In the tree view, select the instance you want to configure.

Instance Identification

- **Instance Name**: Type a name for the instance.
- **Instance Type**: Select the type for this instance.
  - **Push Button**
  - **Absolute Input**
  - **Occupancy Sensor**
  - **Light Sensor**
- **Instance Number**: This parameter shows the short address for the instance. See Discovered Devices Identification and Address Association (page 62).

8.4.1.4.2.1. Instance Type: Push Button

Push Button Local Configuration

> **NOTE**
> This topic is explained in Input Devices Local Configuration (page 46).

Common Parameters

- **Events Active ("Yes recommended). Yes/No** (default: **Yes**): Enable/disable the report of events from this instance.

> **NOTE**
> We recommend keeping this parameter set to **Yes**.

> **IMPORTANT**
> Setting **Events Active** to **Yes** is mandatory to use the **Input Devices Local Management** feature. See Input Devices Local Configuration (page 46).

- **BMS Signals Value**:
  - **Instant Value**: Present value of the button (released/pressed).
  - **Event type** (default): Activates the bitfield values of the event on the button. For example, double, long, or short press.

> **IMPORTANT**
> If you select **Event type** make sure the **Instance update event mode** is set in **Intance Event** in the **Input Devices** level of the tree view.

- **BMS bit event time**: Time in milliseconds the event field holds its activation value for the event type (10..10000. Default value: **500 ms**).

Push Button Instance Parameters

- **Button Release Event Enabled? Yes/No** (default: **Yes**): Activate/deactivate the button release event.
- **Button Pressed Event Enabled? Yes/No** (default: **Yes**): Activate/deactivate the button pressed event.
- **Short Press Event Enabled? Yes/No** (default: **Yes**): Activate/deactivate the button short press event.
- **Double Press Event Enabled? Yes/No** (default: **No**): Activate/deactivate the button double press event.
- **Long Press Start Event Enabled? Yes/No** (default: **Yes**): Activate/deactivate the button long press start event.
- **Long Press Repeat Event Enabled? Yes/No** (default: **Yes**): Activate/deactivate the button long press repeat event.
- **Long Press Stop Event Enabled? Yes/No** (default: **No**): Activate/deactivate the button long press stop event.
- **Button Stuck/Free Event Enabled? Yes/No** (default: **Yes**): Activate/deactivate the button long press start event.
- **Short Time**: Minimum time in milliseconds for a press to be considered as a short press (200..5100. Default value: **500 ms**).
- **Double Time**: Minimum time in milliseconds between two short presses to be considered as a double press (0..200. Default value: **0 ms**).
- **Repeat Time**: Minimum time in milliseconds to consider a long press is still active (100..2000. Default value: **160 ms**).
- **Stuck Time**: Minimum time in seconds to consider the button is stuck (5..255. Default value: **20 sec**).

8.4.1.4.2.2. Instance Type: Absolute Input

Absolute Input Local Configuration

> **NOTE**
> This topic is explained in Input Devices Local Configuration (page 46).

Common Parameters

- **Events Active ("Yes recommended). Yes/No** (default: **Yes**): Enable/disable the report of events from this instance.

  > **NOTE**
  > We recommend keeping this parameter set to **Yes**.

  > **IMPORTANT**
  > Setting **Events Active** to **Yes** is mandatory to use the **Input Devices Local Management** feature. See Input Devices Local Configuration (page 46).

- **BMS Signals Value**:
  - **Percentage** (default): Return values in percentages (0..100%).
  - **Absolute value**: Return values in integer numbers (0..(2^ Resolution) - 1).

Absolute Input Instance Parameters

- **Position Event Enabled? Yes/No** (default: **Yes**): Enable/disable the report of the slider's position.
- **Report Time**: Frequency in seconds of the reporting position event (0..255. Default value: **2 sec**).
- **Dead Time**: Time in milliseconds before the instance sends an event (0..12750. Default value: **0 ms**).

8.4.1.4.2.3. Instance Type: Occupancy Sensor

Occupancy Sensor Local Configuration

> **NOTE**
> This topic is explained in Input Devices Local Configuration (page 46).

Common Parameters

- **Events Active ("Yes recommended). Yes/No** (default: **Yes**): Enable/disable the events reporting for this instance.

  > **NOTE**
  > We recommend keeping this parameter set to **Yes**.

  > **IMPORTANT**
  > Setting **Events Active** to **Yes** is mandatory to use the **Input Devices Local Management** feature. See Input Devices Local Configuration (page 46).

Occupancy Parameters

- **Occupied Event Enabled? Yes/No** (default: **Yes**): Enable/disable the occupied event reporting in this instance.
- **Vacant Event Enabled? Yes/No** (default: **Yes**): Enable/disable the vacant event reporting in this instance.
- **Repeat Event Enabled? Yes/No** (default: **No**): Enable/disable the repeat event reporting in this instance.
- **Movement Event Enabled? Yes/No** (default: **No**): Enable/disable the movement event reporting in this instance.
- **No Movement Event Enabled? Yes/No** (default: **No**): Enable/disable the no movement event reporting in this instance.
- **Hold Time** (enabled by default): Set the time in seconds before the sensor sends a new room status (1..2540. Default value: **900 sec**). Check **Disabled** to disable this parameter.
- **Report Time** (enabled by default): Set the time in seconds before the sensor reports the room status to the system (1..255. Default value: **20 sec**). Check **Disabled** to disable this parameter.
- **Dead Time**: Set the time in milliseconds before the sensor sends an event (0..12750. Default value: **0 ms**).
- **Transition Time**: Set the time in seconds before the sensor switches to the vacant mode (1..255. Default value: **30 sec**).

8.4.1.4.2.4. Instance Type: Light Sensor

Light Sensor Local Configuration

NOTE
This topic is explained in Input Devices Local Configuration (page 46).

Common Parameters

- **Events Active ("Yes recommended). Yes/No** (default: **Yes**): Enable/disable the events reporting for this instance.

  NOTE
  We recommend keeping this parameter set to **Yes**.

  IMPORTANT
  Setting **Events Active** to **Yes** is mandatory to use the **Input Devices Local Management** feature. See Input Devices Local Configuration (page 46).

Light Sensor Parameters

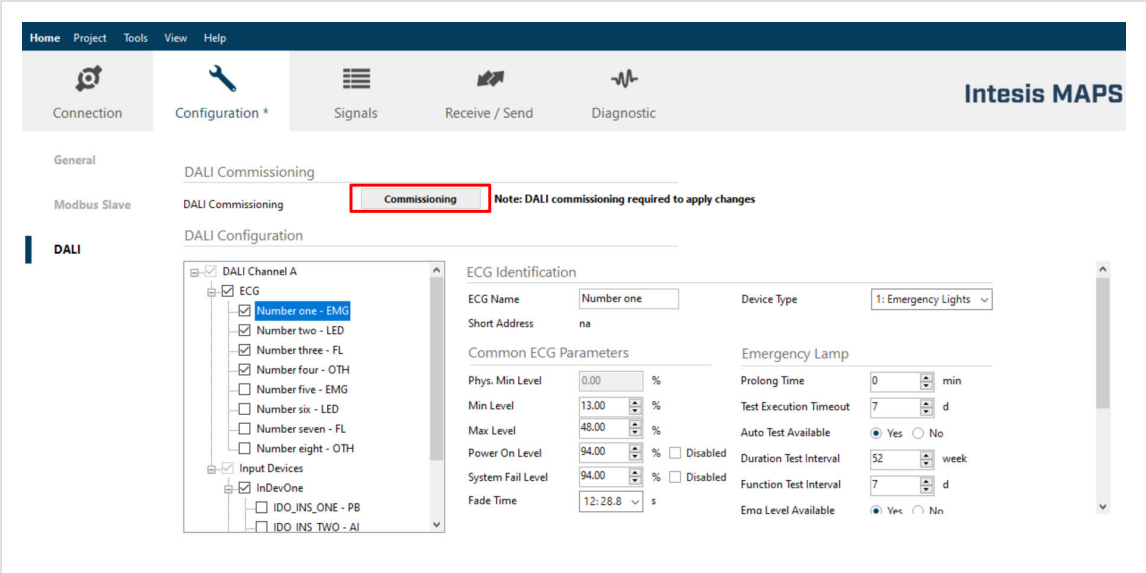
- **Illuminance Level Event Enabled? Yes/No** (default: **Yes**): Enable/disable the illuminance level event.
- **Report Time** (enabled by default): Set the time in seconds before the sensor reports the room status to the system (1..255. Default value: **30 sec**). Check **Disabled** to disable this parameter.
- **Dead Time**: Set the time in milliseconds before the sensor sends an event (0..10000. Default value: **0 ms**).
- **Hysteresis Min**: Set the minimum level of input value for hysteresis (0..255. Default value: **1**).
- **Hysteresis**: Set the percentage of the current level to be changed in order to update input (0..25. Default value: **5%**).
- **Check Calibration**: Click the **View** button to open the **DALI Light Sensor Calibration** window. Here, you can see the **Measured Lux** and the **Sensor Raw Value**.

NOTE
The calibration process is performed in the commissioning.

8.4.2. DALI Commissioning

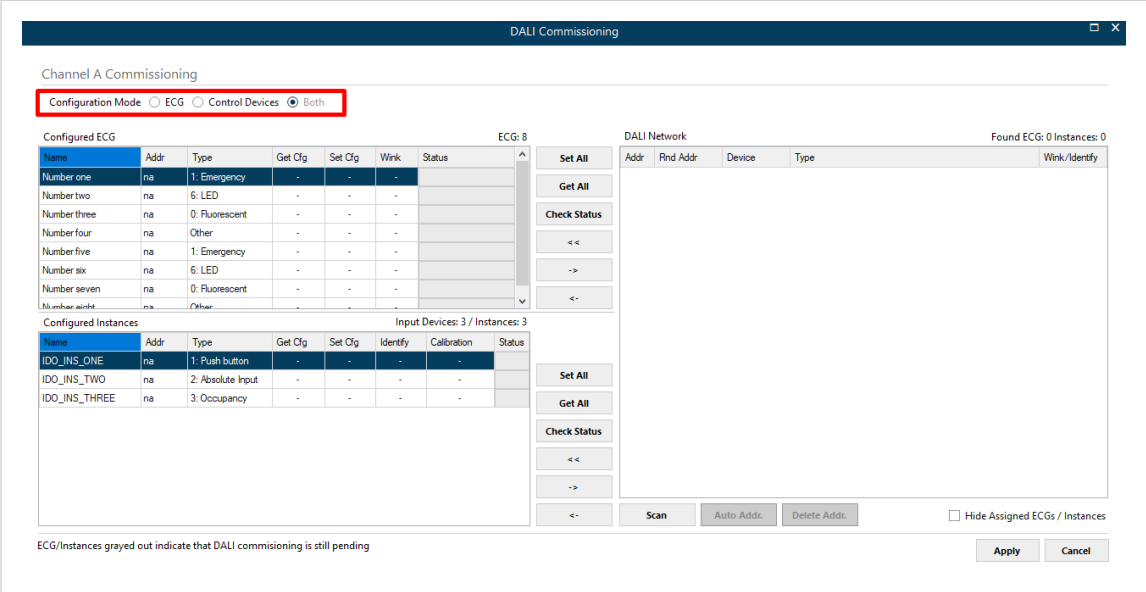
IMPORTANT
You must connect the gateway to Intesis MAPS before proceeding with the commissioning process. See Connection Tab (page 9).

Figure 11. Starting the commissioning process



Click the **Commissioning** button to open the **DALI Commissioning** window.

Figure 12. DALI Commissioning window



Configuration Mode: Set the views for this window:

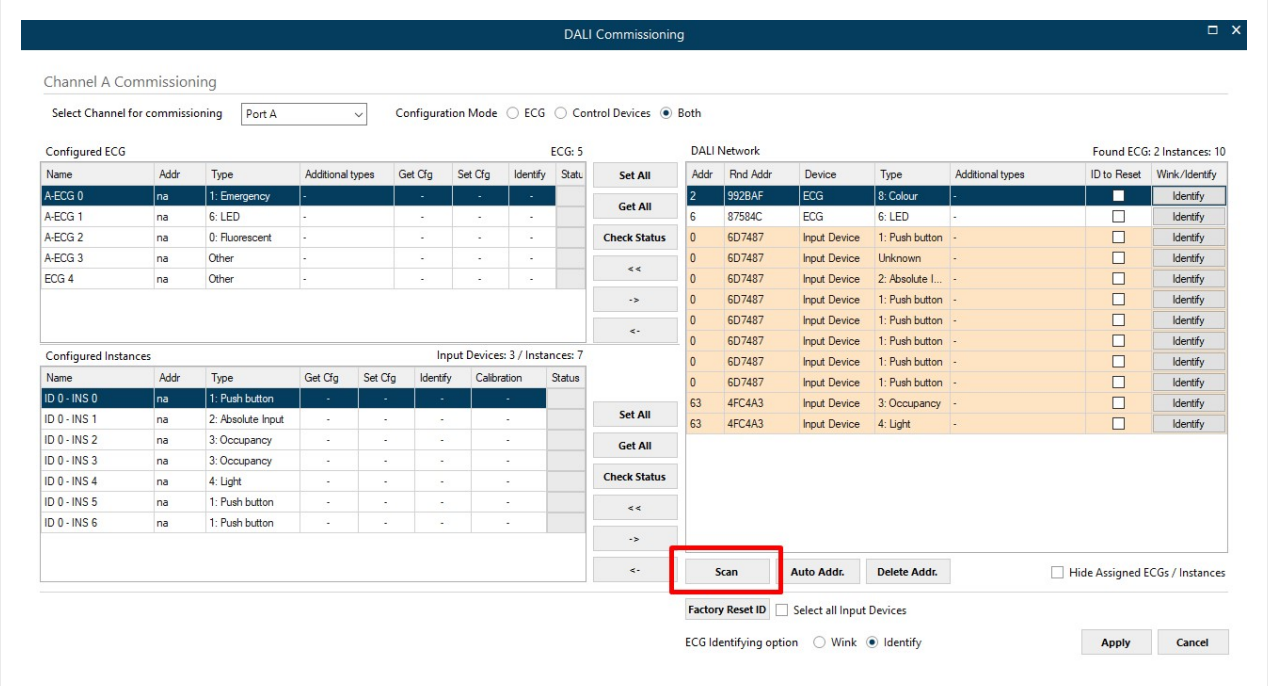
- **ECG:** The left side of the window displays the **Configured ECG** view only.
- **Control Devices**: The left side of the window displays the **Configured Instances** view only.
- **Both**: The left side of the window displays the **Configured ECG** view (top) and the **Configured Instances** view at the same time (default).

DALI Network: The right side of the window displays this area that will show the DALI bus scan results.

8.4.2.1. DALI Bus Scanning

IMPORTANT
Before scanning the bus, make sure the DALI bus is powered.

Figure 13. Starting the scanning process



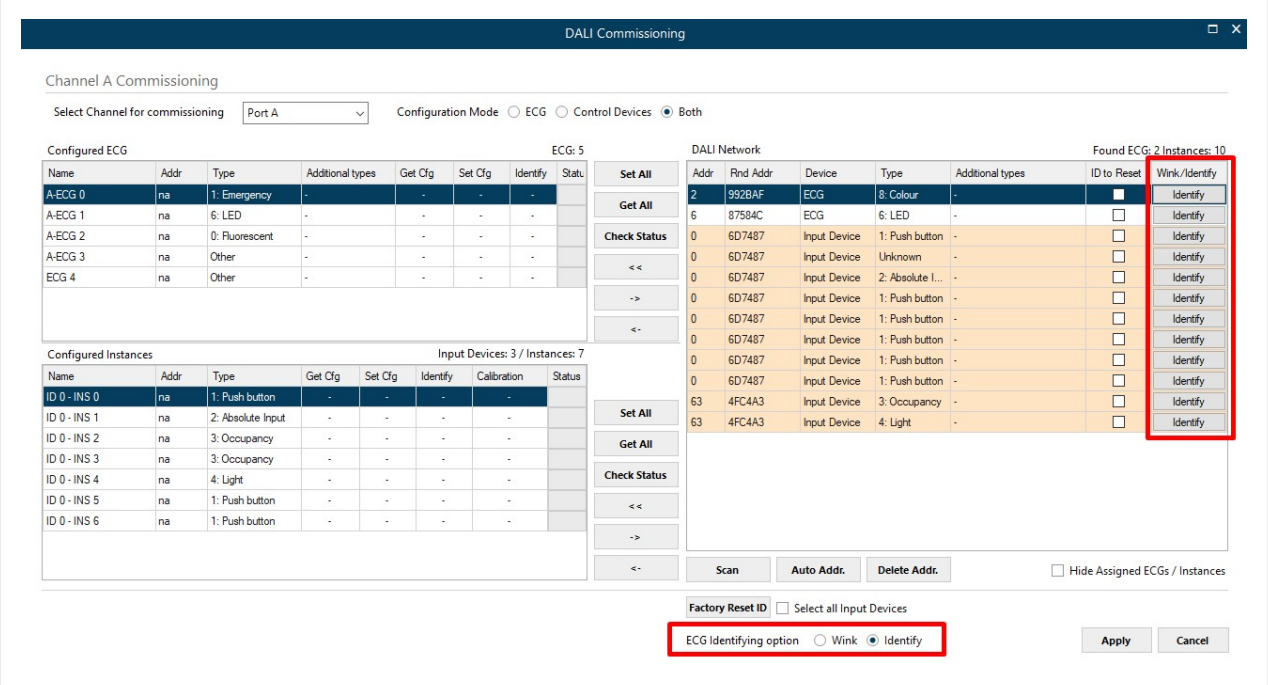
After clicking the **Scan** button, the discovered devices appear in the **DALI Network** view.

NOTICE
Depending on the number of devices in the network, the scan process may take from a few seconds to several minutes.

NOTE
The **Addr** field shows the device's short address (0 .. 63) or **na** when the discovered device has no associated group address yet. This may happen for new devices with the factory settings.

8.4.2.2. Discovered Devices Identification and Address Association

Figure 14. Identify a device



Follow this procedure to identify where in the installation is each device discovered after the scanning:

1. Use the **ECG Identifying option** at the bottom side to choose:
   - **Wink**: The device's light will go from the maximum to the minimum level of brightness.
   - **Identify** (default): The device's behavior depends on each manufacturer; some have a beep or LED that blinks, but some may not have any means of feedback.

   > **NOTE**
   > Even if choosing **Wink**, the device will show **Identify** when it lacks some kind of light to discover its position.

2. Click the **Wink/Identify** button from the device.
3. Once you know which real device corresponds to each device listed in the table, you may want to change their addresses:
4. Double-click the **Addr** field of the device.
5. Type a short address for this device (0..63).

> **NOTE**
> Click the **Auto Addr.** button to assign a correlative address to each device instead.

8.4.2.3. Add Discovered Devices to the Project

After giving them an address number, add the discovered devices to your project.

Adding discovered devices as new devices:

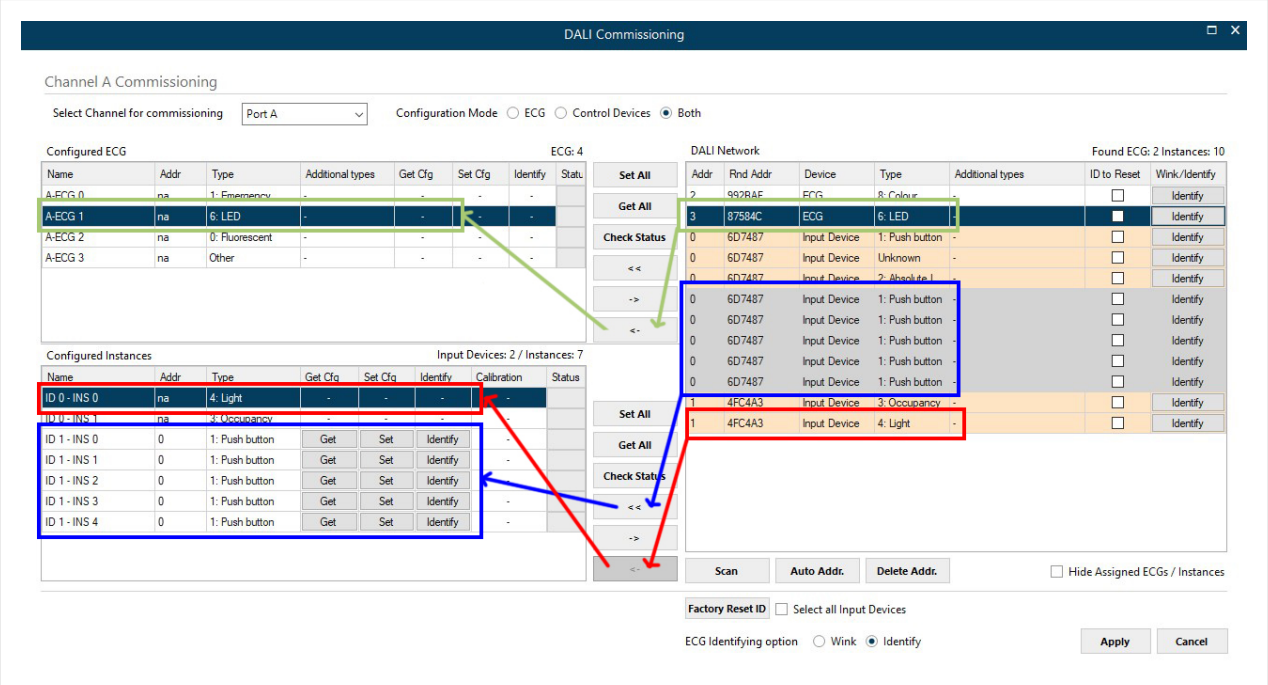
1. Select the device(s) from the **DALI Network** view.
2. Click the **<<** button from the **Configured ECG** table if the device is an ECG or from the **Configured Instances** it is an instance.

The selected devices will appear in the **Configured ECG** view.

Associating discovered devices with existing devices.

1. Select the device(s) from the **DALI Network** view.
2. If you have created the project offline, select the device to which you are associating the real device from the **Configured ECG** or **Configured Instances** table.
3. Click the **<-** button.

Figure 15. Adding discovered devices



According to the figure above:

- The LED squared in green with the short address 3 is associated with the existing device named **A-ECG 1** by clicking the **<-** button.
- The five push buttons squared in blue with the short address 0 are added as instances of a new input device by clicking the **<<** button.

> **IMPORTANT**
> Make sure you select all needed instances. Bringing more instances or devices to the project is not a problem since you can disable them later.

- The light sensor squared in red with the short address 1 is associated with the existing instance named **ID 0 - INS 0** by clicking the **<-** button.

> **IMPORTANT**
> You cannot have instances of the same real device associated with several different devices of your project. In the previous example, the five push buttons from the device with the short address 0 and the **Rnd Addr 6D7487** must be added to one single device.

After this process, the **Configured ECG** and the **Configured Instances** contain actual ballasts and their input device instances from the installation, each with its own short address.

Other actions

- **Remove the ballast or input device** from the configuration. Select them and click the **->** button to move them back to the **DALI Network** area.
- **Get the ballast or input device configuration parameters**. Click the **Get** button of each ECG or input device, or click the **Get All** button from the center of the window.

> **IMPORTANT**
> Getting the configuration of an ECG or Input device will overwrite all parameters previously configured in Intesis MAPS: pre-set levels, group addressing, scenes, times, input device local management, etc.

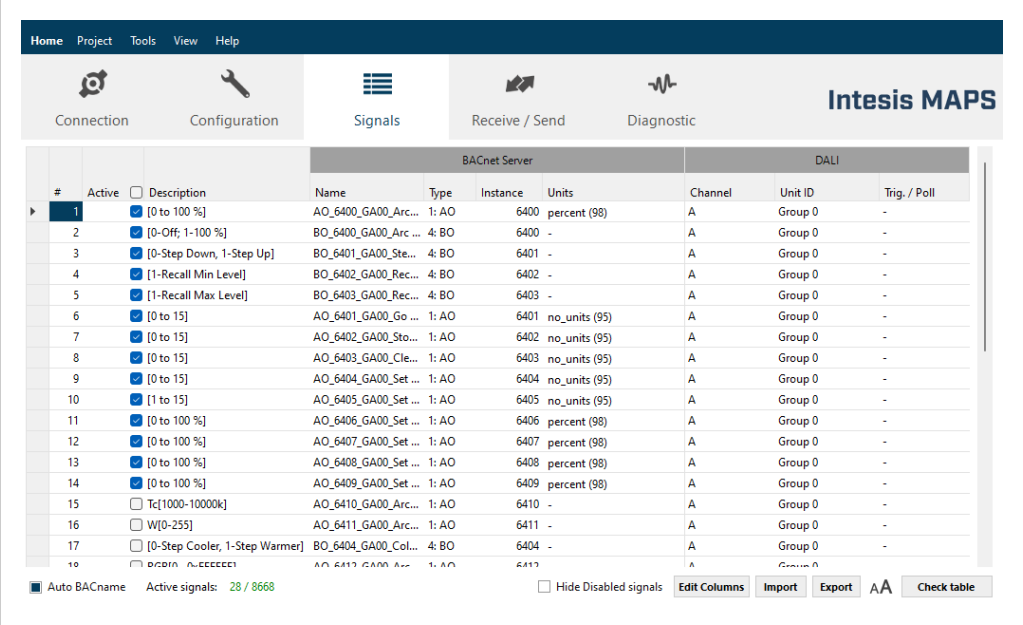
- **Set the ballast or input device configuration parameters**. Click the **Set** button of each ECG or Input device, or click the **Set All** button from the center of the window.

Finishing the process

Click the **Apply** button to save all the changes.

9. Signals Tab

Figure 16. Signals tab for the BACnet protocol combination



Below the list of signals, these options are available:

- **Auto BACname (BACnet server only)**: Check this option to automatically add the BACnet type and BACnet instance as a prefix to the current name field.
- **Active signals**: Number of active signals / total number of signals.
- **Hide Disabled signals (disabled by default)**: Show/hide all disabled signals from the list.
- **Edit Columns**: Click this button to hide/show any column of the table.
- **Import**: Click this button to import an XLSX file with the signals' configuration. You can either add the new signals from the imported file to the existing ones in your project or use the new signals to replace the current ones.
- **Export**: Click this button to export the current signals' configuration to an XLSX file for later import, helping to reduce commissioning time.

> **TIP**
> The **Import** and **Export** options can help you reduce commissioning time. However, you can also export and import the whole project's configuration, including the signal's settings, as explained in Saving, Opening, Importing, and Exporting the Project (page 5).

- **AA**: Increases or decreases the font size.
- Click the **Check table** button to review the signals' configuration.

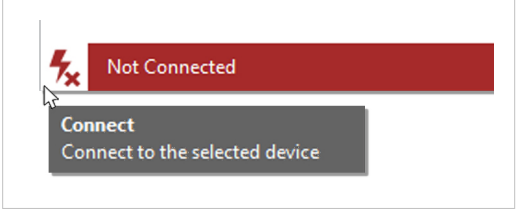
> **NOTE**
> If any signal parameter is incorrect, a message will pop up with specific error information.

10. Receive/Send Tab

SEND

NOTE
Once you have finished setting all the necessary parameters for your Intesis MAPS project, you must load the project onto the gateway to configure it. The gateway will not be configured until the Intesis MAPS project is sent to it.

1. Click the **Send** button.
   a. If the gateway is still factory-set, you will be prompted to save the project on your PC. Once saved, the configuration is automatically sent to the gateway.
   b. If you have already saved the project, the configuration is automatically sent to the gateway.
2. Connect again with the gateway after sending the file.



NOTICE
The gateway reboots automatically once the new configuration is loaded. This process may take a few seconds.

Once the configuration is completed and sent, the gateway is already operative. Even so, you should review that everything works correctly by entering the **Diagnostic** tab.

RECEIVE

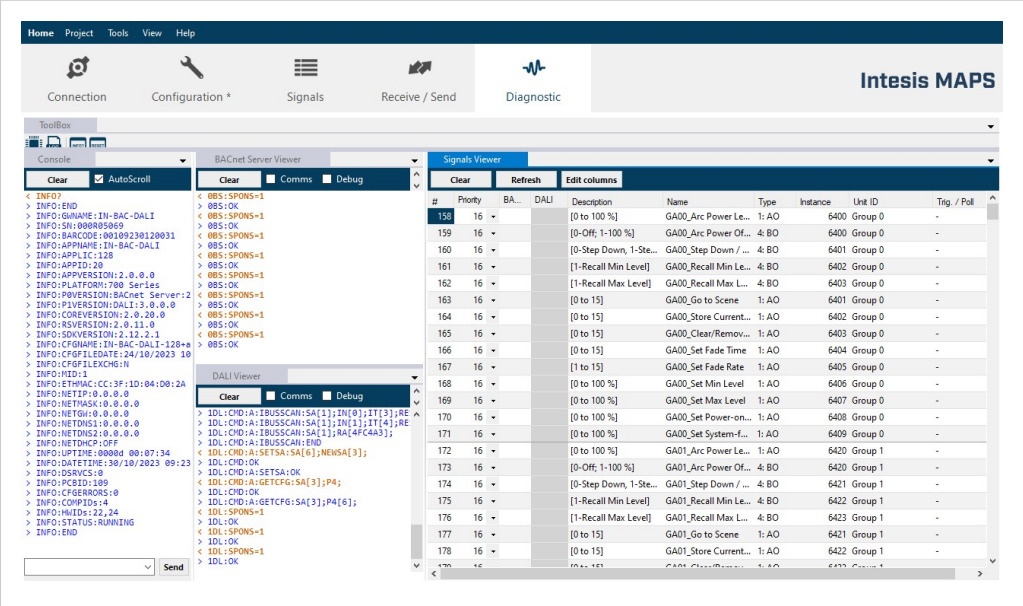
Use this function to load the configuration of a gateway to Intesis MAPS.

TIP
This function may be helpful when you need to change some parameters of an already configured gateway or to clone the project loaded in a gateway.

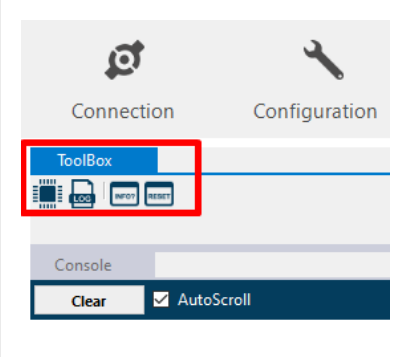
11. Diagnostic Tab

IMPORTANT
Connection with the gateway is required to use the diagnostic tools.

Figure 17. Diagnostic tab window. Find the ToolBox between the upper tabs bar and the Console view. Below it, from left to right: Console viewer, Protocol viewers (one above the other), and the Signals viewer



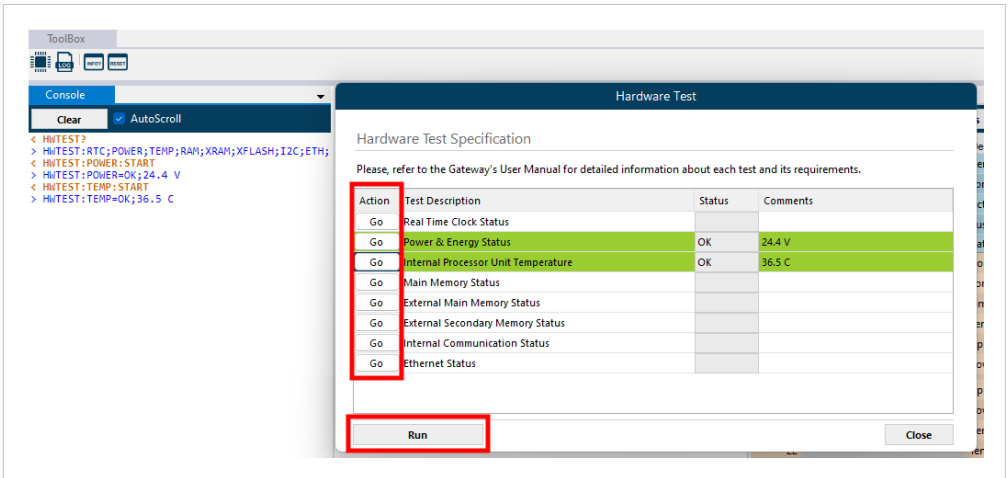
TOOLBOX



NOTE
Depending on your screen resolution, the **ToolBox** icons may appear partially hidden behind the **Viewers** window.

Options in the **ToolBox** menu, from left to right:

- **Microprocessor icon**: Run a hardware test for each component of the gateway.



  - Use the **Go** buttons to run a test for each specific element.
  - Use the **Run** button to run a test for all hardware elements.

> **NOTICE**
> The information will be displayed in both the **Hardware Test** dialog and the **Console** viewer.

- **LOG**: Set Intesis MAPS in logging mode to record all the information present in the viewers and save it in a .zip file.

> **NOTICE**
> - Once the recording starts, the **LOG** icon turns red.
> - You can stop the recording at any moment by clicking the **LOG** icon.
> - When the recording stops, a dialog appears allowing you to run a hardware test and include it in the log file.

- **INFO?**: This option shows the gateway information in the **Console** viewer.
- **RESET**: Reset the gateway.

VIEWERS

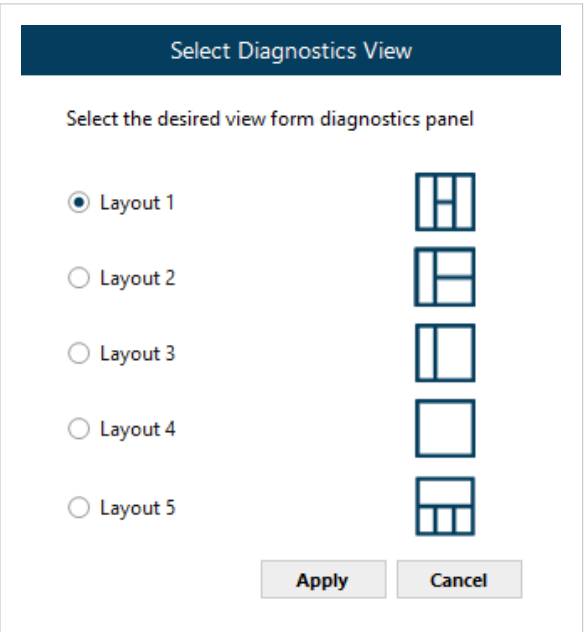
Intesis MAPS provides several viewers:

- A generic console viewer for general information about communications and the gateway status.
- A viewer for both protocols to check their current status.
- A signals viewers to simulate the BMS behavior or check the system's current values.

> **NOTE**
> Use the refresh button to get updated values on the signals viewer.

The layout of these viewers can be modified:

- Using the **Select Diagnostics View** option from the **View** menu:



NOTE
Layouts 3 and 4 offer two different tabbed options:

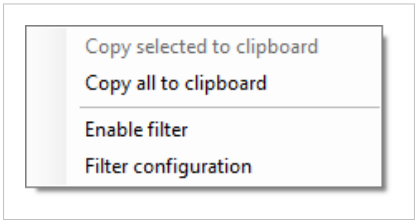
- Fixed console to the left and tabbed browser for the other viewers
- Full tabbed browser

- Clicking and dragging the border of a viewer. To do so, place the cursor over the edge of a viewer. On the vertical edges, the cursor changes to ↔ to adjust the width, and on the horizontal edges, the cursor changes to ↕ to adjust the height.

Viewers can also be arranged manually by clicking and dragging them from their title bar, to use them as independent windows or to position them in relation to other viewers.

FILTERING

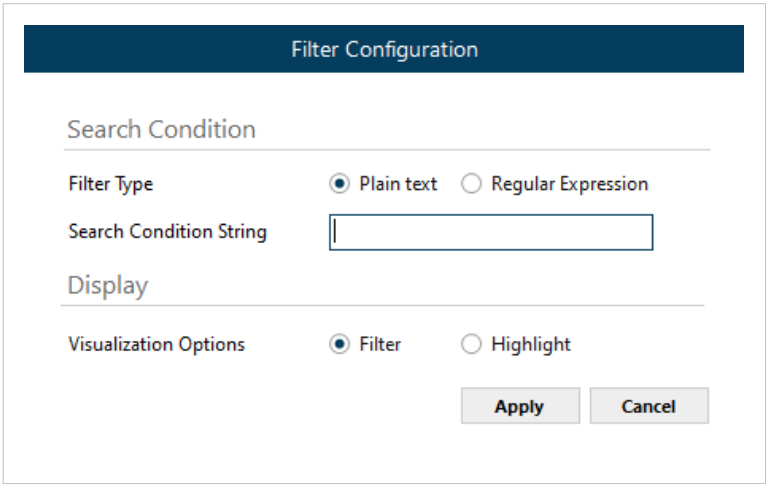
A filtering tool is available for the console and the bus viewers to find the desired information more efficiently. To use this tool, right-click on the viewer.



The options available for this tool are:

- **Copy selected to clipboard**: It copies the selected text into the clipboard. If no text is selected, this option is disabled.
- **Copy all to clipboard**: It copies all the information from the viewer to the clipboard.

- **Enable filter**: This option enables or disables the configured filter. To use this option, a filter must be defined beforehand under Filter configuration.



- **Filter configuration**: The filter itself is defined here, using some additional options:
  - **Search Condition**:
    - **Filter Type**:
      - **Plain text**: It searches all the communication frames that include the text specified in the **Search Condition String** below.
      - **Regular Expression**: It searches all the communication frames that match the regular expression specified in the **Search Condition String** below.

> **NOTE**
> A regular expression is a sequence of characters that specifies a match pattern in text. If you are not familiar with regular expressions, use the **Plain text** option instead.

  - **Display**:
    - **Visualization Options**:
      - **Filter**: It removes all the communication frames that do not fulfill the filter condition specified in the **Search Condition String**.
      - **Highlight**: It highlights the communication frames that fulfill the filter condition specified in the **Search Condition String**.