

Intesis MAPS

Configuration & Monitoring software of Intesis Modbus series

USER'S MANUAL

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HMS Industrial Networks S.L.U

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7. 7. 7. 7. 7.	1 Edit Columns 2 1.2 Import 2 1.3 Export 2 1.4 Font size AA 1.5 Move Up/Down 1 1 1 1	23 23 23 23 23 24
7. 7. 7. 7. 7. 7.	1 Edit Columns 1.2 Import 1.3 Export 1.4 Font size 1.4 Font size 1.5 Move Up/Down 1 1 1.6 Add Multiple Rows + (N) 1 1.7 Delete Rows	23 23 23 23 23 24 24
7. 7. 7. 7. 7. 7. 7.	1 Edit Columns 1.2 Import 1.3 Export 1.3 Export 1.4 Font size 1.5 Move Up/Down 1 1 1.6 Add Multiple Rows + (N) 1 1.7 Delete Rows 1.8 Check Table	23 23 23 23 23 24 24 24
7. 7. 7. 7. 7. 7. 7. 7.2	1 Edit Columns 2 1.2 Import 2 1.3 Export 2 1.4 Font size AA 1.5 Move Up/Down 1 1.6 Add Multiple Rows + (N) 1.7 Delete Rows - 1.8 Check Table 2 1.8 Check Table 2 Signals configuration 2	23 23 23 23 24 24 24 24
7. 7. 7. 7. 7. 7. 7. 7.2 7.3	1 Edit Columns 2 1.2 Import 2 1.3 Export 2 1.3 Export 2 1.4 Font size AA 1.5 Move Up/Down 1 1.6 Add Multiple Rows + (N) 1.7 Delete Rows - 2	23 23 23 23 24 24 24 24 24 24
7. 7. 7. 7. 7. 7. 7. 7.2 7.3 7.	1 Edit Columns 1.2 Import 1.3 Export 1.3 Export 1.4 Font size 1.5 Move Up/Down 1 1 1.6 Add Multiple Rows 1.7 Delete Rows 1.7 Delete Rows 1.8 Check Table Signals configuration Tips and tricks 3.1	23 23 23 23 24 24 24 24 24 26 26
7. 7. 7. 7. 7. 7. 7. 7.2 7.3 7. 7. 7.	1 Edit Columns 1.2 Import 1.3 Export 1.3 Export 1.4 Font size 1.5 Move Up/Down 1 1 1.6 Add Multiple Rows 1 1 1.7 Delete Rows 1 1 1.8 Check Table 2 Signals configuration 1 Text Edit 3.1 Text Edit 3.2 Multiple Values selection	23 23 23 23 24 24 24 24 24 26 26 26
7. 7. 7. 7. 7. 7. 7.2 7.3 7.3 7. 7. 7.	1 Edit Columns 2 1.2 Import 2 1.3 Export 2 1.3 Export 2 1.4 Font size AA 1.5 Move Up/Down 1 1.6 Add Multiple Rows + (N) 1.6 Add Multiple Rows - 1.7 Delete Rows - 2.8 Check Table 2 3.8 Check Table 2 3.1 Text Edit 2 3.2 Multiple Values selection 2 3.3 Auto numeration 2	23 23 23 23 24 24 24 24 26 26 26 26
7. 7. 7. 7. 7. 7. 7. 7. 7.3 7.3 7. 7. 8.	1 Edit Columns 1.2 Import 1.3 Export 1.3 Export 1.4 Font size 1.5 Move Up/Down 1 1 1.6 Add Multiple Rows 1 1 1.7 Delete Rows 1.8 Check Table 2 Signals configuration Tips and tricks 3.1 Text Edit 3.2 Multiple Values selection 3.3 Auto numeration	23 23 23 24 24 24 24 24 26 26 26 26 28
7. 7. 7. 7. 7. 7. 7. 7. 7.3 7.3 7. 7. 8. 8.	1 Edit Columns 2 1.2 Import 2 1.3 Export 2 1.4 Font size AA 1.5 Move Up/Down 1 1.6 Add Multiple Rows + (N) 1 + (N) 1 1.6 Add Multiple Rows + (N) 1.7 Delete Rows - 2.8 Check table 2 1.8 Check table 2 Signals configuration 2 3.1 Text Edit 2 3.2 Multiple Values selection 2 3.3 Auto numeration 2 Send/Receive 2 2	23 23 23 24 24 24 24 26 26 26 28 28
7. 7. 7. 7. 7. 7. 7. 7. 7.3 7. 7. 7. 8. 8. 8.1 8.2	1 Edit Columns 2 .2 Import 2 .3 Export 2 .4 Font size AA .5 Move Up/Down 1 1.6 Add Multiple Rows + (N) 1.6 Add Multiple Rows + (N) 1.7 Delete Rows - 2	23 23 23 24 24 24 24 26 26 26 28 28 28
7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 8. 8. 8.1 8.2 9.	1 Edit Columns .2 Import .3 Export .3 Export .4 Font size .4 Font size .5 Move Up/Down 1 1 .6 Add Multiple Rows + (N) 1 1 2 .6 Add Multiple Rows + (N) 1 2	23 23 23 24 24 24 24 26 26 26 28 28 28 28 29
7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 8. 8. 8.1 8.2 9. 9.3	1 Edit Columns 2 1.2 Import 2 1.3 Export 2 1.4 Font size AA 1.5 Move Up/Down 1 1.6 Add Multiple Rows + (N) 1 + (N) 1 1.7 Delete Rows - 2 Check table 2 1.8 Check table 2 1.8 Check table 2 1.8 Check table 2 3.1 Text Edit 2 3.2 Multiple Values selection 2 3.3 Auto numeration 2 Send/Receive 2 2 Diagnostic 2 2 Tools 2 3	23 23 23 24 24 24 24 26 26 26 28 28 29 29
7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 8. 8. 8.1 8.2 9.3 9.3 9.3 9.	1 Edit Columns .2 Import .3 Export .3 Export .4 Font size .4 Font size .5 Move Up/Down 1 1 .6 Add Multiple Rows + (N) 1 1 2 .6 Add Multiple Rows + (N) 1 2	23 23 23 24 24 24 24 26 26 28 28 29 30



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1. Introduction

Intesis MAPS is a Windows compatible software tool developed specifically to monitor and configure the Intesis Modbus Server series (Intesis Modbus Server integrating an *External Protocol*). In this document, its use and how to configure the Intesis is explained.

Following nomenclatures are used in this document:

- *External Protocol:* Protocol that the Intesis integrates besides Modbus. i.e: if using the INMBSKNX***0000, KNX would be the *External Protocol*.
- Intesis or gateway: the words "gateway" or "Intesis" are used instead of the full product name (Intesis BACnet/IP Server integrating an *External Protocol*). Any other use of the word "gateway" not meaning that will be specifically indicated.
- Configuration Tool: Intesis MAPS

2. Installation

The tool is supplied in the shape of a self-extracting setup utility. Supported operating systems are Windows 7 and onwards versions of the Windows OS.

The configuration tool can be downloaded from:

https://www.intesis.com/docs/software/intesis-maps-installer

The web browser will ask for saving the file. Select Save File and wait for the file to download.

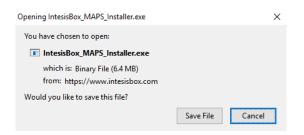


Figure 2.1 Downloading Intesis MAPS

Once downloaded, double click on the *Intesis_maps_installer.exe* file and follow instructions provided by the installation wizard.



3. Welcome page

After starting the Intesis MAPS, by clicking its program entry under Windows Start menu (or any other established link), the welcome page will prompt.

This window is used to show general information, latest news and the project management and creation. All these parts are explained in the detail in the following sections.

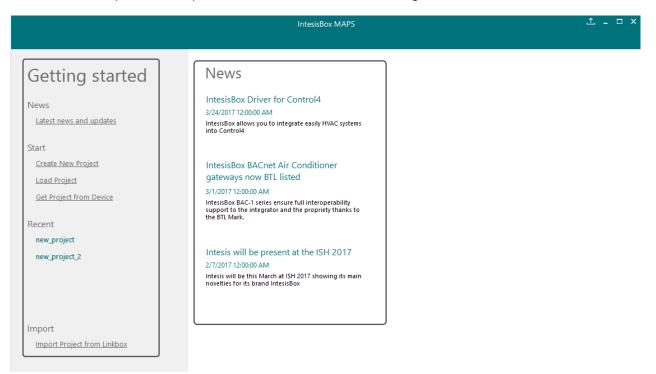


Figure 3.1 Welcome page

3.1 News

This link provides access to the welcome page to check the latest news related to the Intesis gateways and MAPS configuration tool.

Use this section to get the latest information related with our products.

3.2 Create New Project

Create a new project from an existing template. In order to start a specific integration project, simply select one of the available templates from the list.

Note: The template is an example of an integration and may be used under this scope. Depending on the type of integration, some parameters may not be left as by default and shall be modified. Please check your Intesis gateway user manual for more information on some of the specific parameters configuration.

Click on the Modbus logo to list all available project templates for the Modbus Server gateway series.



Make sure that you select the right template according to the external protocol of the gateway.

		IntesisBox MAPS			1 - C
Getting started	New Projec	t			
News Latest News and Updates	Select BMS Protocol	XX 🚧	lbus		
Start					
Create New Project					
Load Project	Select Template				
Get Project from Device	Name	BMS Protocol	Device Protocol	Description	Gateway Order Code
	IBOX-MBS-KNX-Template	Modbus Slave	KNX	IntesisBox KNX to Modbus Slave Gateway	IBMBSKNXcccvvoo
Recent	IBOX-MBS-MBUS-Template	Modbus Slave	M-Bus	IntesisBox M-Bus to Modbus Slave Gatew	IBBACMEBcccwoo
Import Import Project from Linkbox					
					Next

Figure 3.2 Project template selection

3.3 Load Project

Load an already existing project to the configuration tool. In order to import an existing project already programmed, use the *Load Project* option and select the project from the PC or external storage device where the project is stored.

				IntesisBox	MAPS		1 - C
	🔛 Select a Inte	sisBox MAPS Project					×
- ···	Look in:	IntesisBox MAPS	~ (G 🦸 📂 🗔	-		
Getting s News <u>News</u> Start <u>Create New Project</u>	Quick access Desktop Libraries	Name en es templates	Date modifi 2/16/2017 1 2/16/2017 1 2/16/2017 1	File folder	Size	Project Name: Modified: Sent to Device: Device Order Code: Internal Protocol: External Protocol: Description:	
<u>Load Project</u> <u>Get Project from De</u> Recent	This PC						der Code ccwoo
	Network	File name: Files of type: Project F	ies (".ibmaps)	~	Open Cancel		1cccwoo cccwoo

Figure 3.3 Project selection window

After selection, the project will be loaded and configuration can be started as if using a brand-new project, but with all previous work in the project present.



3.4 Get Project from Device

Use this function to download the current configuration running in the gateway and to import it to the configuration tool. Notice that connection from the configuration tool to the gateway is required.

Depending on your firewall configuration, a warning message like the one below may appear:

Indows Security Alert						
💮 Windo	ws Firewal	I has blocked some features of this app				
Windows Firewall had domain networks.	as blocked som	e features of IntesisBox MAPS on all public, private and				
le l	Name:	IntesisBox MAPS				
MAPS	Publisher:	Intesis Software				
	Path:	C:\program files (x86)\intesis software\intesisbox maps \intesisboxmaps.exe				
Allow IntesisBox MA	APS to communi	cate on these networks:				
🗹 Domain netw	orks, such as a	workplace network				
Private netw	orks, such as n	ny home or work network				
		ose in airports and coffee shops (not recommended ten have little or no security)				
What are the risks	of allowing an a	upp through a firewall?				
		SAllow access Cance	ł			

Figure 3.4 Firewall warning message

After that, the tool will ask you where do you want to download the project. Please select the location and press the save button.

3.5 Recent

In this section, the last edited projects in this installation will be shown. It can be used for fast checking of the last projects updated.

3.6 Import Project from LinkBox

This special function allows the use of old LinkBox projects on the configuration tool. To import the project, simply select the folder and click on the "Select Folder" button.



4. Navigation

To work with the configuration tool, the menu and the tool bar (Figure 4.1) need to be used. In the following lines, a brief explanation and links to the corresponding sections can be found.

Home Project Tools Help Image: Connection Configuration Signals Receive / Send Diagnostic			new_project.ib	± _ □ ×		
	Home Project Tools	Help				
	ø	*			-M-	
	Connection	Configuration	Signals	Receive / Send	Diagnostic	MAPS

Figure 4.1 Menu and Tool Bar

4.1 Home

This option brings you back to the Welcome page. Check section 3 for more information.

4.2 Project

This option let the user apply basic functions to the project, such as create new projects, load an already existing project, save the project and close the configuration tool.

	Desirat	T1	- 11-1-	
Home	Project	1001	s Heip	
	Nev	v proje	ect	
	Loa	d	Ctrl+0	
_	Save	e	Ctrl+S	
Cc	Sav	e As	Ctrl+Alt+S	
	Clos	se	Alt+F4	

Figure 4.2 Project options

- New project: Moves back to the Welcome page and let you select a new project.
- Load: Opens a selection window to pick up the project you wanted to load.
- **Save:** Saves the current project changes in the same file. If it is the first time, it will ask for the project location. Otherwise, it will automatically update the current project file.
- **Save As:** Saves the current project into a different location or with a different name from the current one.
- **Close:** Closes the configuration tool.



4.3 Tools

This option provides access to language settings and Gateway firmware update.





• **Language**: This option allows the user to select one of the available languages. Once the language is selected, you need to reboot the software for the new language configuration to be applied.

Tools	Help				
La	inguage	•	✓	English	
Fi	rmware			Español	
	Car	0.0		中国	
1	Con	ngu		Русский	
				Français	
n Mode			Deutsch		
Mode		● IF		Polski	

Figure 4.4 Language selection

• **Firmware**: By default, information shown is only the one coming from the current gateway status. In case the user is interested in checking for new firmware updates, the "Check for Update" button needs to be pressed.

In case there is any update available, a summary for the new update information will be shown in the "Firmware Update Information" side of the window. If the user is interested, the "send" button should be pressed to update the box.

IMPORTANT: Please notice that the firmware update process shall not be interrupted. Make sure that you go for the update process while in a safe location (no risk of power blackouts or similar).

NOTE: If the Gateway is already working as expected, the update may not be advisable. Please, make sure that you update the gateway only when required.



	Fir	mware Manager			
Update from File	Check for Update				
Gateway Curren (Before the Upda		Firmware Updat	e Informatio	n	
Device Name:	-	Filename:	-		
Gateway Model:	-	Gateway Model:	-		
License Type:	-	License Type:	-		
Firmware Version:	-	Firmware Version:	-		
				Send	Close

Figure 4.5 Firmware Manager view

4.4 Help

Extra information about the software is shown in this section.

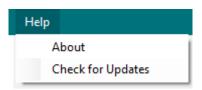


Figure 4.6 Help menu

• About:

It prompts information about the current configuration tool version.





• Check for Updates

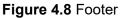
Periodically, new free versions of Configuration Tool are released. Those new releases include improvements, fixes, support for new firmware versions of Intesis or support for newer Intesis products.

This option automatically checks if there is any newer version and in case it exists, it offers the possibility to download and update the software. Notice that this requires Internet connection.

4.5 Footer

In the footer, relevant information about the connection status and protocols used can be found.





• **Connection Status:** It indicates if the Configuration Tool is connected or not with the Gateway.



Figure 4.9 Connection status options

It can also be used to connect or disconnect clicking directly on the icons 🔽 📀

- Internal Protocol: It indicates the current Internal Protocol (Modbus in this case).
- **External Protocol:** It indicates the current External Protocol (it will depend on the specific Gateway model.
- **Date**: Current time and date.

NOTE: Footer color may change from red to any other when there is connection between the gateway and the configuration tool.



5. Connection

In this section, it is detailed how to set the communication and monitor the Intesis.

Home Project Tools	Help			
ø	*	=		
Connection	Configuration	Signals	Receive / Send	Diagnostic



There are two different ways of communicating the Configuration Tool with the Intesis (check the Connection section in your Intesis User Manual): using the USB port or the Ethernet network. In the following lines, the configuration of both is explained as well as the functionalities of the Configuration Tool when connected or not.

When there is no connection with the Intesis, Intesis MAPS allows the creation and edition of configuration projects. That includes setting the linked signals, protocol parameters ...

When the Configuration Tool is connected to the Intesis, it can perform other functionalities such as monitoring the communication and sending the configuration files to the device (sections 9.4 and 8.1 respectively).

5.1 IP connection

If connection with the Gateway shall be done by Ethernet IP network, select IP as the *connection mode*. The software will automatically scan the current network where the PC is connected looking for Intesis gateways.

Ø	*				-M-	IntesisBox
Connection	Configuration	Signals	Receive / Se	end	Diagnostic	MAPS
Connection Mode						
Connection Mode	• IP					
	O USB Port					
Discovered Gateways	IBOX-MBS-KNX	Description		Value		
	IBOX-ME-AC-KNX IBOX-ME-AC-MBS	Gateway Name		IBOX-MBS-KND	(
	SM-ACN-BAC	Serial Number		000K2998 / 000	060161120020	
	SM-ACN-BAC	Application Name		IBOX-MBS-KND	<	
		License		250		
		License Comments		Max GA=250 / Max Associations=500		
		Version		1.0.0.0		
		Last Configuration Date		07/09/2017 12:44:43		
		MAC Address		CC:3F:1D:01:08		
		IP Address		192.168.100.15	1	
		Netmask		255.255.255.0		
		Gateway		192.168.100.9		
		DHCP		ON		
		Current Date Time		07/09/2017 12:		
	Refresh	Gateway Operation	ng Time	0000d 00:00:28	5	
Selected Device	192.168.100.151	Pw	d: *****	Disconnect	Connect	

Figure 5.2 IP connection



In the *Discovered Devices* list, all gateways found will be listed. In black, gateways that match the current project selected. In red, gateways that do not match the current project selected.

If no gateways are shown, please check your network connection parameters and make sure that the gateway is powered and connected.

Notice that relevant information can be checked by clicking on each gateway (Figure 5.3).

Once the device is selected, connection will be started by pressing the connect button $\frac{1}{2}$, on the bottom left corner, or clicking on the *Connect* button.

ome Project Tools	Hele	new_proje	ct.ibmaps - IntesisBo:	« MAPS	1 - D)
	×		1		IntesisBox 🗐
Connection	Configuration	Signals	Receive / Send	Diagnostic	MAPS
Connection Mode	2				
Connection Mode	IP USB Port				
Discovered Gateways	IBOX-MBS-KNX	Description	Value		
biscoreica outenujs	IBOX-ME-AC-KNX	Gateway Name	IBOX-MI	BS-KNX	
	IBOX-ME-AC-MBS SM-ACN-BAC	Serial Number		8 / 00060161120020	
	SM-ACN-BAC	Application Name	IBOX-MI	BS-KNX	
		License	250		
		License Comments	Max GA:	= 250 / Max Associations = 500	
		Version	1.0.0.0		
		Last Configuration Da	te 07/09/20	017 12:44:43	
		MAC Address	CC:3F:10	0:01:08:37	
		IP Address	192.168.	100.151	
		Netmask	255.255.	255.0	
		Gateway	192.168.	100.9	
		DHCP	ON		
		Current Date Time	07/09/20	017 12:48:06	
	Refresh	Gateway Operating Ti	me 0000d 0	0:01:18	
Selected Device	192.168.100.151	Pwd:	Disc	Connect	
Connected to: 192.168	1.100.151			BMS Protocol: Modbus Slave 🔳 🛙	Device Protocol: KNX ∎ 9/7/2017 12:46:28 F

Figure 5.3 IP connection

If connection has been successful, the footer will turn from red to any other color prompting the current IP of the gateway where the configuration tool is connected to.

To disconnect, simply click on the connect button again.

IMPORTANT: Notice that if connecting through IP, a password is required. By default, the password is "admin". Find more information on how to change the password on section 6.

NOTE: By default, the gateway is offered with DHCP enabled. If you want to change this setting, please check section 6.



5.2 USB connection

If Ethernet IP connection is not possible or if USB is preferred, select USB port in the *Connection Mode*. A list of available COM ports on the PC will be listed. Select the COM port where the USB cable is connected.

Home Project Tools	Help	new_p	roject.ibmaps - IntesisBo:	1 - C X	
ø	*		127	-M-	IntesisBox 🗐
Connection	Configuration	Signals	Receive / Send	Diagnostic	MAPS
Connection Mode	e				
Connection Mode	IP USB Port				
Discovered Gateways	COM3	Description	Value		
,	COM6	Gateway Name	IBOX-MI	BS-KNX	
		Serial Number	000K299	8 / 00060161120020	
		Application Name	IBOX-MI	BS-KNX	
		License	250		
		License Comment	Max GA:	=250 / Max Associations=500	
		Version	1.0.0.0		
		Last Configuration	n Date 07/09/20	017 12:44:43	
		MAC Address	CC:3F:10	0:01:08:37	
		IP Address	192.168.	100.151	
		Netmask	255.255.	255.0	
		Gateway	192.168.	100.9	
		DHCP	ON		
		Current Date Time	07/09/20	017 12:49:32	
	Refresh	Gateway Operatin	ng Time 0000d 0	0:02:43	
Selected Device	COM6		Disco	Connect	
Not Connected				BMS Protocol: Modbus Slave	Device Protocol: KNX 🔳 9/7/2017 12:48:16 PM

Figure 5.4 USB connection

If the device does not appear or if the COM port list is empty, please check the USB connection on both sides (gateway and PC) and check the Windows Device Manager to check if there is any issue regarding COM ports.

To disconnect simply click on the *Connect* button again.



6. Configuration

In this section, main configuration parameters for the gateway and both, internal and external protocols, can be modified to match the project requirements.

Home Project Tools	Help			
ø	*	=		
Connection	Configuration	Signals	Receive / Send	Diagnostic

Figure 6.1 Configuration

6.1 General

In the general section, all options related to generic gateway parameters can be defined.

ø		=	100		IntesisBox
Connection	Configuration	Signals	Receive / Send	Diagnostic	
General	General Configurat	ion			
Modbus Slave	Gateway Name	IBOX-MBS-KNX			
	Project Description	IntesisBox KNX to Gateway	Modbus Slave		
KNX		Gateway			
	Connection				
		Enable DHCP			
	IP Address	192.168.100.246			
	Netmask	255.255.255.0			
	Default Gateway				
	Password	admin			
	Conversions				
	Edit Conversions	Edit			

Figure 6.2 General configuration

1. Gateway name

Name of device. It can be modified by the user to simplify its identification inside the project. This name is not related to neither the external or internal protocol.

2. Project description

Short description of the project. It can be modified by the user to simplify its identification inside the project. This name is not related to neither the external or internal protocol.



3. IP Address ¹

IP address associated to the gateway. It can be modified by the user to match the project requirements. This IP will be the same one to be used on the Modbus/IP side in case of using Modbus/IP communication.

4. Netmask ¹

Network mask to be applied on the IP communication. It can be modified by the user to match the project requirements. This netmask will be the same one to be used on the Modbus/IP side in case of using Modbus/IP communication.

5. Gateway¹

Default gateway to be applied on the IP communication. It can be modified by the user to match the project requirements. This default gateway will be the same one to be used on the Modbus/IP side in case of using Modbus/IP communication.

6. Password

This is the password to allow connection to the Gateway when using IP connection (see section 5.1). By default, the password is set as "admin", but can be modified by the user at any time.

In order to change the password, simply set the desired password in this field and download the configuration to the Gateway. You can find more information on how to download the configuration in section 8.1.

IMPORTANT: Please, in case of changing the default password, please keep it posted or noted in a safe place to be used in the future.

7. Conversions

In this section, different conversions can be defined on the MAPS so values from the Internal to the External protocol or vice versa can be modified to help the integrator matching the project requirements.

		Conversions Manager
Filters Limit to 0-100 Limit to 0-255 Is not 0	Operation Name	Limit to 0-100
Is higher than 100 Only positive values	Type Comp. type	Limited Filter InRange 0 ≤ x ≤ 100
+		
Fahrenheit to Celsius x10	Filter Name Type	Celsius to Fahrenheit
/10 x100	Definition	$y = x^* B^* (10^A) + C$
/100 ×1000 /1000	Values	A -1 B 18
0-100 to 0-255 0-255 to 0-100		C 32
+ -		Save Cancel

Figure 6.3 Conversions



¹ This setting does not apply if the "Enable DHCP" option is selected. In that case, this parameter will be automatically set by the DHCP server.

AU 🛙 20

6.2 Modbus Slave

In the Modbus Server section, all parameters related to the Modbus side can be configured.

6.2.1 Modbus Configuration

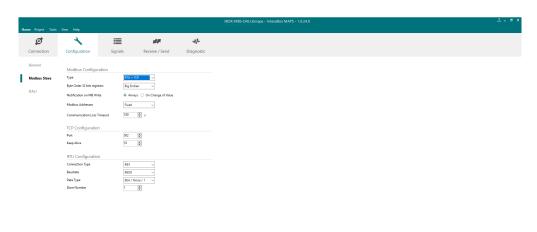


Figure 6.4 Menu and button Bar

1. Byte Order 32 bits registers

Defines the Modbus 32 bits registers byte order. Available options are:

- Big Endian (MSB..LSB)
- Little Endian (LSB..MSB)
- Word Inv BE
- Word Inv LE

Example:

Byte order type	HEX raw value	Decimal value
Big Endian	0x00112233	1122867
Little Endian	0x33221100	857870592
Word Inv BE	0x22330011	573767697
Word Inv LE	0x11003322	285225762



2. Type ²

Defines the Modbus interfaces available. Available options are:

• RTU

If this option is selected, the Modbus interface of the gateway will work in Modbus RTU mode (RS232 or RS485 connection, gateway's PortB).

• TCP

If this option is selected, the Modbus interface of the gateway will work in Modbus TCP mode (Ethernet connection)

RTU + TCP

If this option is selected, the Modbus interface of the gateway will work in Modbus TCP and Modbus RTU modes simultaneously.

3. Notification on MB Write

This option regulates the gateway's behavior with respect the writes on the Modbus side from the Modbus master.

Always

Every time a Modbus write is received, its value is sent to the External protocol.

• On change of value

Values received from the Modbus side, will be only sent to the External protocol if they change.

4. Modbus Addresses (If available)

Defines type of Modbus register list. Available options are:

• Fixed

The Modbus addresses has been calculated with a formula explained on the user manual of the specific gateway. Addresses cannot be modified.

• Custom

The Modbus register list can be freely edited.

• V4 compatibility

Only Modbus addresses compatible with V4 gateways will be active. Addresses cannot be modified.

NOTE: Custom configuration takes initial parameters of the previous configuration.

5. Communication Loss Timeout

Defines the time without Modbus messages (read or write messages) to detect a communication lost.



² RTU connection is not available for the INMBSDAL1280000

6.2.2 Modbus Configuration

1. Modbus RTU

This will apply only if Modbus RTU is selected.

RTU Configuration	
Connection Type	485 🗸
Baudrate	9600 🗸
Data Type	8bit / None / 1 🔍
Slave Number	1

a. Connection type

Select the physical connection type.

i. 485

Physical connection with the Modbus Master is done through standard RS485 connection on PortB

ii. 232

Physical connection with the Modbus Master is done through standard RS485 connection on PortB.

b. Baud rate

Select the Modbus MSTP communication speed. Possible values are:

1200 | 2400 | 4800 | 9600 |19200 | 38400 | 57600 | 115200

c. Data type

Select the corresponding data type. Possible values are:

Option	Data bits	Parity	Stop bits
8 bit/ None/1	8	None	1
8 bit/ Even/1	8	Even	1
8 bit/ Odd/1	8	Odd	1
8 bit/ None/2	8	None	2

d. Slave number

Select the corresponding Modbus slave address to be applied to the gateway. Possible values are 1 to 255.



2. Modbus TCP

This will apply only if Modbus TCP is selected.

TCP Configuration		
Port	502	•
Keep Alive	10	* *

a. Port

Select the TCP port to be used for the Modbus TCP communication. By default, it is set to 502.

b. Keep Alive

Select the time of inactivity before sending a keep alive message. Possible values are 1 to 1440, expressing minutes. If '0' value is set, the keep alive function will be disabled for the Modbus TCP communication.

6.3 External protocol

Please, check the Annex section and your Gateway User Manual for more information on the specific configuration of the external protocol parameters.



7. Signals

In this section, the main configuration for the signals on both external and internal protocols will be set.

Ø	*					-W-		Inte	sis	Bo	X PS	ſ
nectio	on Configuration	Signals		Receive / Send		Diagnostic	2					
				Modbus Slave				KNX				
Active	Description	# Bits	Format	Address	Bit	Read / Write	DPT	Sending	U	T Ri	W	1
\checkmark	OnOff_Read	1	-	0	-	0: Read	1.001: switch	0/0/1	U		W	1
\checkmark	OnOff_Write	1	-	1	-	1: Write	1.001: switch	0/0/2		Т		
\checkmark	OnOff_ReadWrite	1	-			2: Read / Write	1.001: switch	0/0/3	U	т	W	1
\checkmark	Counter_Read	16	0: Unsigned	3	-	0: Read	5.010: counter pulses (0255)	0/0/4	U		W	ſ.
\checkmark	Counter_Write	16	0: Unsigned	4	-	1: Write	5.010: counter pulses (0255)	0/0/5		Т		
\checkmark	Counter_ReadWrite	16	0: Unsigned	5		2: Read / Write	5.010: counter pulses (0255)	0/0/6	U	т	W	t.
\checkmark	BitField_0	16	4: BitFields	6	0	2: Read / Write	1.002: boolean	0/0/7	U	Т	W	l.
\checkmark	BitField_1	16	4: BitFields	6	1	2: Read / Write	1.002: boolean	0/0/8	U	Т	W	t.
\checkmark	BitField_2	16	4: BitFields	6	2	2: Read / Write	1.002: boolean	0/0/9	U	т	W	r.
\checkmark	Temperature_Read	32	3: Float	7	-	0: Read	9.001: temperature (C)	0/0/10	U		W	l.
\checkmark	Temperature_Write	32	3: Float	9		1: Write	9.001: temperature (C)	0/0/11		Т		
\checkmark	Temperature_ReadWrite	32	3: Float	11	-	2: Read / Write	9.001: temperature (C)	0/0/12	U	Т	W	ŗ
gnals:	12 / -			Edit	t Colur	nns Import I	xport AA ↑ ↓ + (N) 1 🗘		Che	k tab	ble
	active	Active Description Image: Configuration Image: Configuration Image: Configuration Image: Config	Active Description # Bits Image: Control of the second	ection Configuration Signals f ctive Description #Bits Format OnOff_Read 1 - OnOff_Read 1 - OnOff_Read 1 - OnOff_Read 16 0: Unsigned Counter_Read 16 0: Unsigned Counter_Read 16 0: Unsigned Counter_ReadWrite 16 0: Unsigned Counter_ReadWrite 16 0: Unsigned BitField_0 16 4: BitFields BitField_2 16 4: BitFields BitField_2 16 4: BitFields Temperature_Read 22 3: Float Temperature_ReadWrite 32 3: Float	Number of the second	Number of the second	Nection Configuration Signals Receive / Send Diagnostic ctive Description # Bits Format Address Bit Read / Write Image: OnOff, Read 1 - 0 - 0. Read Image: OnOff, Read 1 - 0 - 0. Read Image: OnOff, ReadWrite 1 - 1 - 1. Write Image: Onoff, ReadWrite 16 0. Unsigned 3 - 0. Read Image: Ocurreter, Read 16 0. Unsigned 4 - 1. Write Image: Ocurreter, ReadWrite 16 0. Unsigned 4 - 1. Write Image: Ocurreter, ReadWrite 16 0. Unsigned 5 - 2. Read / Write Image: Bitfried, 1 16 4. BitFrieds 6 1 2. Read / Write Image: Bitfried, 2 16 4. BitFrieds 6 2 2. Read / Write Image: Temperature_Read 32 3. Float 7 - 0. Read Image: Temperature_ReadWrite 32 3. Float 11 - 2. Read / Write Image: Temperature_ReadWrite 32 3. Float 11 - 2. Read / Write	Active Configuration Signals Receive / Send Diagnostic ctive Description # Bits Format Address Bit Read / Write DPT Image: Configuration # Bits Format Address Bit Read / Write DPT Image: Configuration # Bits Format Address Bit Read / Write DPT Image: Configuration 1 - 0 - 0:Read 1.001:switch Image: Configuration 1 - 2 - 2:Read / Write 1.001:switch Image: Configuration 16 0:Unsigned 3 - 0:Read 5.010:counter pulses (0.255) Image: Counter, Read 16 0:Unsigned 4 - 1:Write 5.010:counter pulses (0.255) Image: Counter, Read/Write 16 0:Unsigned 4 - 1:Write 5.010:counter pulses (0.255) Image: Stiffield_1 16 4:Bitfields 6 1 2:Read / Write 1.002:boolean Image: Stiffield_2 16 4:Bitfields 6 1 2:Read / Write 1.002:boolean Image: Stiffield_2 16 4:Bitfields 6 2 2:Read / Write 9.001: temperature (C)	Nection Configuration Signals Receive / Send Diagnostic ctive Description # Bits Formet Address Bit Read / Write DPT Sending Image: Configuration # Bits Formet Address Bit Read / Write DPT Sending Image: Configuration # Bits Formet Address Bit Read / Write DV1 Ov01 Image: Configuration 1 - 0 0 0. Read 1001: switch 0/0/01 Image: Conter_Read 1 - 2 2. Read / Write 1001: switch 0/0/03 Image: Conter_Read 16 0: Unsigned 3 -0. Read 5010: counter pulses (0.255) 0/0/4 Image: Counter_ReadWrite 16 0: Unsigned 4 -1: Write 5010: counter pulses (0.255) 0/0/7 Image: BitField_1 16 4: Unsigned 5 2: Read / Write 1002: boolean 0/0/9 Image: BitField_1 16 4: BitFields 6 2: Read / Write 1002: boolean 0/0/9 Image: BitField_2 16<	Notes Signals Receive / Send Diagnostic ctive Description # Bits Format Address Bit Reed / Write DPT Sending U Image: Configuration # Bits Format Address Bit Reed / Write DPT Sending U Image: Configuration # Bits Format Address Bit Reed / Write DPT Sending U Image: Configuration # Bits Format Address Bits Reed / Write DPT Sending U Image: Configuration 1 - 0 0 Reed / Write DPT Sending U Image: Configuration 1 - 2 2 Reed / Write DPT Sending U Image: Configuration 16 0: Unsigned 3 - 0: Reed Solt0: counter pulses (0.255) 0/0/6 U Image: Sending U 16 0: Unsigned 5 - 2: Reed / Write Solt0: counter pulses (0.255) 0/0/6 U Image: Bitield_1 16 4: BitFields 6 2 : Reed / Write 1002: boolean 0/0/7 U	Image: Signals Receive / Send Diagnostic Configuration Signals Receive / Send Diagnostic Convertion # Bits Format Address Bit Read / Write DPT Sending U N Conoff, Read 1 - 0 - 0. Read 1.001: switch 0/0/1 U OnOff, ReadWrite 1 - 0 - 0. Read 1.001: switch 0/0/2 T OnOff, ReadWrite 1 - 2 2.2 Read / Write 1.001: switch 0/0/3 U T Counter, Read 16 0: Unsigned 4 - 1: Write 5.010: counter pulses (0.255) 0/0/6 U T Counter, ReadWrite 16 0: Unsigned 4 - 1: Write 5.010: counter pulses (0.255) 0/0/7 U T Gentrified_1 16 4: Buffields 6 12: Read / Write 1.002: boolean 0/0/7 U T BitFried_1 16 4: Buffields 6 12: Read / Write 1.002: boolean 0/0/8 U	Number of the second

Figure 7.1 Default view

7.1 Extra functions

Find below a list of extra functions or tools available in the Signals view.

7.1.1 Edit Columns

It shows/hides columns on the Signal table to help the integration tasks.

	Select Visible Columns								
Common	Modbus Slave	KNX							
 # Active Description Conversions 	 # Bits Format Address Bit Read / Write 	# Data Type DPT Sending Listening							
		U T Ri W R R							
		Priority Save Cancel							

Figure 7.2 Edit Columns view



Import 7.1.2 Import

Import previous exported Excel files to the project. This can be useful in case you want to manage some special configuration on Excel to speed up the signals list creation. Notice that this will need to be used in very few scenarios as the Configuration Tool already offers lots of options and tips to create the signal's table in a fast and easy way.

			Import		
Excel	Filename:			Browse	2
			 Replace signals 	Add signals	Import Cano

Notice that there are two Import options: Replace and Add Signals.

- Replace: This will replace (overwrite) current signals in the Signal table.
- Add Signals: This will add the imported signals to the Signal table without replacing the current ones.

Export 7.1.3 Export

This function will allow configuration exportations into an *Excel* file.

• Excel: This will export the Signal table into Excel format to allow extra manipulation or consultation from Excel. This may be helpful to share integration information with other integrators that do not have the Configuration Tool.

7.1.4 Font size AA

It changes the font size to help on the visualization. It is a toggle function: on each click it will change from big to small and vice versa.

7.1.5 Move Up/Down



It moves one row Up or Down the selected signal inside the Signal table on each click.



7.1.6 Add Multiple Rows 1

It adds new signals to the Signal table. The number of new signals can be selected in the text box.

+

7.1.7 Delete Rows



It deletes the selected rows. If it is required to erase more than one signal (row), select them previously and then press the **Delet Rows** button to erase all selected rows.

7.1.8 Check Table

Check table

This option verifies that the current configuration in the Signal Table is OK from a theoretical point of view. That means that this check will not include integration issues related to bad addresses, mistakes or confusions of the integrators information. It will only check that the standard defined conditions and properties are fulfilled.

7.2 Signals configuration

Next, there is the description for common and Modbus specific parameters to be configured on each signal.

Ноп	ne	Project	Tools Help	new	_project.ibmaps	- IntesisBox MAPS		± _ □ ×
	Cor	o nectic	on Configuration	Sigr	nals	Receive / Send	-V Diagn	
						Mo	dbus Slave	
	#	Active	Description	# Bits	Format	Address	Bit	Read / Write
۲.	1	\checkmark	OnOff_Read	1	-	C	-	0: Read
	2	\checkmark	OnOff_Write	1	-	1	-	1: Write
	3	\checkmark	OnOff_ReadWrite	1	-	2	-	2: Read / Write
	4	\checkmark	Counter_Read	16	0: Unsigned	3	-	0: Read
	5	\checkmark	Counter_Write	16	0: Unsigned	4		1: Write
	6	\checkmark	Counter_ReadWrite	16	0: Unsigned	5	-	2: Read / Write
	7	\checkmark	BitField_0	16	4: BitFields	6	i 0	2: Read / Write
	8	\checkmark	BitField_1	16	4: BitFields	6	i 1	2: Read / Write
	9	\checkmark	BitField_2	16	4: BitFields	6	2	2: Read / Write
	10	\checkmark	Temperature_Read	32	3: Float	7	-	0: Read
	11	\checkmark	Temperature_Write	32	3: Float	g	-	1: Write
	12	\checkmark	Temperature_ReadWrite	32	3: Float	11	-	2: Read / Write

<		>
Active signals: 12 / -	Edit Columns Import Export A	A ↑ ↓ + (N) 1 • Check table
K Not Connected	BMS Protocol: Mod	abus Slave 📕 Device Protocol: KNX 📕 10/6/2017 12:08:02 PM

1. Active

If selected, the signal will be considered in the configuration and will be downloaded to the Gateway as active.

2. Description

Signal description to easily identify the Modbus register to communicate with.



3. #Bits

It indicates the signal size expressed in bits.

4. Format

It indicates the register information format. Unsigned, Signed C2, Signed C1, Float and Bit Fields.

5. Address

It indicates the register signal starting address.

6. Bit

If using multiple bit (bit fields), it indicates the bit you want to read.

7. Read/Write

It indicates if the Modbus function is used to read (Modbus functions 1, 2, 3 and 4 supported), if the Modbus function is used to write (Modbus functions 5, 6, 15 and 16 supported) or both.

8. Conversion

It is used to define the conversion that you want to apply. This conversion can be checked or selected as stated in section 6.1.



7.3 Tips and tricks

7.3.1 Text Edit

On editable cells, click on the cell. The text is going to be highlighted and it can then be modified.

7.3.2 Multiple Values selection

- 1. Select using the left mouse button (clicking and dragging), the field of all the rows in the list which you want to change the values (must be consecutive rows). In case you want to use non-consecutive rows, use the CTRL+click option.
- 2. Click in the cell options icon.
- 3. A contextual menu with the possible values will show up.
- 4. Select the desired value.
- 5. All the selected cells are going to be changed to the chosen value

-	16	0: Unsigned	0: Big En 0
6: Write 1 analog register	16	1: Signed (C2)	0: Big En 1
6: Write 1 analog register	16	1: Signed (C2)	0: Big En 0
6: Write 1 analog register	16	1: Signed (C2)	0: Big En 0
6: Write 1 analog register	16	1: Signed (C2)	0: Big En 2
16: Write multiple analo	32	1: Signed (C2) 🔻	0: Big En 4
		- 0: Unsigned 1: Signed (C2) 2: Signed (C1) 3: Float 4: BitFields	

Figure 7.3 Multiple value selection

7.3.3 Auto numeration

In some cells values, can be either modified one by one or auto numerated. To do so follow the steps below:

- 1. Select using the left mouse button (clicking and dragging), the field of all the rows in the list which you want to automatically assign values (must be consecutive rows). In case you want to use non-consecutive rows, use the CTRL+click option.
- 2. Click right mouse button over the selected fields and select *Auto Enumeration* option from the pop-up menu that will appear.



	1	99; EILO	comm	-	-	-
	16	0: Unsig	ned	0: Big En	. 0	-
analog register	16	1: Signe	d (C2)	0: Big En	. 1	-
analog register	16	1: Signe	d (C2)	0: Big En	. 0	-
analog register	16	1: Signe	d (C2)	0: Big En	. 0	-
analog register	16	1: Signe	d (C2)	0: Big En	. 2	-
nultiple analo	32	1: Signe	d (C2)	0: Big En	. 4	-
	Auto E	inumeratio	n Paran	neters		
	Start V	alue	0			
	Increm	nent	þ	•		
	[ок	Ca	ncel		
				_		

Figure 7.4 Auto numeration selection

- 3. Enter the Start Value.
- 4. Enter the increment between consecutive assignments.

For example selecting 100 for the first value and an increment of 1, the values generated will be 100, 101, 102, 103, 104... and so on. To assign the same value to all the rows (useful to assign the same Device number in the column *Dev* for some consecutive rows) just select the desired value and an increment of 0.

5. The values are changed accordingly.

19	o, onsigned	or organin	•	
16	1: Signed (C2)	0: Big En	100	-
16	1: Signed (C2)	0: Big En	101	-
16	1: Signed (C2)	0: Big En	102	-
16	1: Signed (C2)	0: Big En	103	-
32	1: Signed (C2)	0: Big En	104	-



8. Send/Receive

8.1 Send

This option will send the current configuration to the Gateway.

If the project was not saved, it will ask you first to save the changes and afterwards starts the download.

		new_project.ibm	naps - IntesisBox MAPS		± - □ ×
Home Project Tools	Help				
O	~			-M-	IntesisBox 🖬
Connection	Configuration	Signals	Receive / Send	Diagnostic	MAPS
Send	Send Configuratio	n			
Receive	your Gateway.	guration project on the Co configuration tool and the eeding.	2		
		-	Send		

Figure 8.1 Button Bar

8.2 Receive

This option will download the current configuration from the Gateway to be stored in the PC.

		new_project.ibn	naps - IntesisBox MAPS		±_□×
Home Project Tools	Help				
Ø	*	=		-M-	IntesisBox 🗐
Connection	Configuration	Signals	Receive / Send	Diagnostic	MAPS
Send	Receive Configura	ition			
Receive	Configuration Tool.	nfiguration project in your Configuration Tool and th ceeding.	-		

Figure 8.2 Button Bar



9. Diagnostic

To help integrators in the commissioning tasks and troubleshooting, the Configuration Tool offers some specific tools and viewers.

In order to start using the diagnostic tools, connection with the Gateway is required.

The Diagnostic section is composed by two main parts: Tools and Viewer.

ø							IntesisBo	×°-
Connection	Configuration	Signals	Receive / Send	Diagnostic			Intesisbo	PS PS
4 Console		 BACnet Serve 	r Viewer	 Signals Viewer 				
Clear Er	nabled 🔲 AutoScroll	Clear 🗌 Enal	oled 🔲 AutoScroll	Clear Values		Signals Viewer		
1				# Name	Type Instanc	e Device	Read Func	Write
-				1 Comm Error Device 0) 3: BI	0 RTU_Device 0		-
.] *				2 Comm Error Device 1	3: BI	1 RTU_Device 1	-	-
j] -				3 Comm Error Device 2	2 3: BI	2 RTU_Device 2		-
				4 Analog Input	0: AI	0 RTU_Device 0	3: Read analog registers	-
				5 Analog Output	1: AO	0 RTU_Device 0		6: W
				6 Analog Value	2: AV	0 RTU_Device 0	3: Read analog registers	6: W
				7 Binary Input	3: BI	3 RTU_Device 1	1: Read digital outputs	-
				8 Binary Output	4: BO	0 RTU_Device 1		5: W
				9 Binary Value	5: BV	0 RTU_Device 1	1: Read digital outputs	5: Wr
		ModBus Mast	er Viewer	 10 Multistate Input 	13: MI	0 RTU_Device 2	3: Read analog registers	-
		Clear 🗌 Enal	oled 🔲 AutoScroll	11 Multistate Output	14: MO	0 RTU_Device 2		16: W
				12 Multistate Value	19: MV	0 RTU_Device 2	3: Read analog registers	16: W

Figure 9.1 Diagnostic

9.3 Tools

The tool bar located in the left side of the window.

Tool	џ
▶	
- 11	

Figure 9.2 Tool bar

It offers 4 main tools:



9.3.1 Hardware Test

It initiates a hardware test on the gateway to identify possible hardware issues. During the hardware test, standard communications with external and internal protocols will stop.

9.3.2 Log

It sets the Configuration Tool into *logging mode*. This will record all information present in all viewers and zip it in a compressed file. This file can be then sent to the support team to help in any issue you may have.

9.3.3 Commands

It is used to send specific commands to the Gateway, such as:

- INFO?: Requests general information from the Gateway
- RESET: Resets the Gateway
- Enable COMMS: Enable communications in all viewers
- Disable COMMS: Disables communications in all viewers

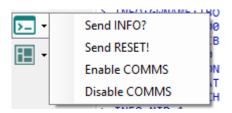


Figure 9.3 Available commands

9.3.4 View preferences

It offers several viewers layouts to help the integrator checking the required information on each moment.



Figure 9.4 View selection

Notice that apart from the predefined options, the user will be able to place the different viewers according to its own needs manually.

9.4 Viewers



The Configuration Tool offers 3 different viewers to monitor communications: **Console, Internal Protocol (Modbus Server)** and **External Protocol**.

On each viewer, there are some common options:

• Clear

It clears all information in the viewer.

• Enable

It enables/disables the information to be shown in the viewer. It may be helpful if information from a specific viewer is not required and communication payload is required to be reduced to improve the other viewers' performance.

Autoscroll

It enables/disables auto scroll on the specific viewer so when new information is received the viewer automatically will scroll down to allow last information to be visible.

9.4.1 Console

It is used to display general information of the gateway not related to specific Internal or External protocol communication. Remember that the Gateway

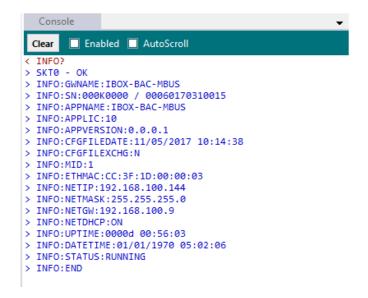


Figure 9.5 Console View

9.4.2 Modbus Server Viewer

To monitor the Modbus bus, the software needs to be connected to the Gateway. It shows frames related to the Modbus communication.





Figure 9.6 Console View

9.4.3 External Protocol Viewer

To monitor the External protocol bus, the software needs to be connected to the Gateway. It shoes frames related to the External protocol communication.

9.4.4 Signals Viewer

To supervise the configured signals, either being connected to the Gateway or not, check the Signals Viewer window. This window shows all active signals within the gateway with its main configuration parameters and its real-time value (if connected to the Gateway).

Si	gnals Viewer									
Clea	r Values 🛛 🧲				Signals Viewer					
#	Name	Туре	Instance	Device	Read Func	Write Func	Address	Priority	BACnet Serve	ModBus Mast
1	Comm Error Device 0	3: BI		0 RTU_Device 0	-	-	-			
2	Comm Error Device 1	3: BI		1 RTU_Device 1	-	-	-			
3	Comm Error Device 2	3: BI		2 RTU_Device 2	-	-	-			
4	Analog Input	0: AI		0 RTU_Device 0	3: Read analog registers	-	0			
5	Analog Output	1: AO		0 RTU_Device 0	-	6: Write 1 analog register	1	16 -		
6	Analog Value	2: AV		0 RTU_Device 0	3: Read analog registers	6: Write 1 analog register	2			
7	Binary Input	3: BI		3 RTU_Device 1	1: Read digital outputs	-	0			
8	Binary Output	4: BO		0 RTU_Device 1	-	5: Write 1 digital output	1	16 -		
9	Binary Value	5: BV		0 RTU_Device 1	1: Read digital outputs	5: Write 1 digital output	2			
10	Multistate Input	13: MI		0 RTU_Device 2	3: Read analog registers	-	0			
11	Multistate Output	14: MO		0 RTU_Device 2	-	16: Write multiple analo	2	16 -		
12	Multistate Value	19: MV		0 RTU_Device 2	3: Read analog registers	16: Write multiple analo	4			



If you connect to the Intesis when it's been running for a certain time, you should press the *Refresh* button to get updated values.

In order to force a specific value to a signal, double-click its *Value* field. This will display a dialog in which the desired value can be entered. This change will be transferred to the internal and External Protocol depending on their configurations (more information in the signals configuration of the User Manual of the Used Intesis.



9.4.5 Filtering

To improve the visualization in the diagnostic section, a filtering mode is available. This filtering mode is selectable right clicking on the bus viewer.

Console	•
Clear 🗹 AutoScroll	
<pre>< INFO? > SKT1 - OK > INFO:GWNAME:IBOX-N > INFO:SN:999K0020 > INFO:BARCODE:00060 > INFO:APPNAME:IBOX- > INFO:APPVERSION:1. > INFO:CFGFILEDA > INFO:CFGFILEDA > INFO:CFGFILEDA > INFO:CFGFILEXC > INFO:ETHMAC:CC > INFO:NETIP:192 > INFO:NETMASK:2</pre>	MBS-DALI
> INFO:NETGW:0.0 > INFO:NETDHCP:Gr	Filter configuration
<pre>> INFO:UPTIME:0000d > INFO:DATETIME:15/0 > INFO:COMPID:11 > INFO:PCBID:60 > INFO:STATUS:RUNNIM > INFO:END</pre>	02/1970 23:19:36

Figure 9.8 Filter contextual menu

• **Copy selected to clipboard** It copies to clipboard the selected information.

> INFO:APPVERSION:1.0.2		
> INFO:CFGFILEDATE:12/0	3/2019 12:13:24	
<pre>> INFO:CFGFILEXCHG:" > INFO:MID:1</pre>	Copy selected to clipboard	
<pre>> INFO:ETHMAC:CC:3F > INFO:NETIP:192.16</pre>	Copy all to clipboard	
<pre>> INFO:NETMASK:255. > INFO:NETGW:0.0.0.</pre>	Enable filter	
<pre>> INFO:NETDHCP:OFF > INFO:UPTIME:0000d</pre>	Filter configuration	
> TNFO:DATETTMF:15/02/1	970 23:19:36	

Figure 9.9 Copy selected to clipboard

If no lines are selected, the option Copy selected to clipboard is grayed out.

• Copy all to clipboard It copies all information in the bus viewer to the clipboard.



• Enable filter

It enables/disables the configured filters. Click on the *Filter configuration* option to properly configure the filter.

Filter Configuration						
Search Condition						
Filter Type Search Condition String Display	Plain text	Regular Expression				
Visualization Options	• Filter	 Highlight Apply Cancel 				

• Search condition

The software offers two different types of filter:

a) Plain Text

It searches all communication frames including the plain text introduced in the *Search Condition String*.

b) Regular expressions

It searches all communication frames fulfilling the regular expression in the *Search Condition String*. If you are not familiar with regular expressions, we recommend the use of the Plain Text option.

• Display

There are two options regarding on how to show the filtered frames:

a) Filter

It removes all communication frames that do not fulfills the filter condition selected in the *Search Condition*.

b) Highlight

It only highlights the communication frames that fulfils the filter condition selected in the *Search Condition*.



10. External protocols

10.1 KNX

10.1.1 Standard configuration

Home Project Tools	Help	± _ □ >			
Connection	Configuration	Signals	Receive / Send	- M - Diagnostic	
General	Device Configura	-		Shighoshi	
BACnet Server	Physical Address Extended Addresses	15.15.255			

Figure 10.1 KNX configuration

1. Physical Address

This parameter is used to set the KNX Physical Address (Individual Address) to set to the gateway. This is a unique identifier for the gateway inside a single KNX TP-1 segment. Max value is 15.15.255.

2. Extended Addresses

This parameter is used to enable the use of KNX Extended Addresses. By enabling this setting, the range of KNX group addresses available increases from the standard 15/7/255 to 31/7/255.

IMPORTANT: Please, do not enable this feature unless required or under clear control of the integrator.

10.1.2 Signals configuration

Next, there is the description for common and KNX specific parameters to be configured on each signal.

*						-M-			Int	
figuration Signals		Receive / Send				Diagnostic				
			KNX							
Data Ty		DPT	Sending	Listening	U	т	Ri	w	R	Priority
0	1.005: ala	irm	0/0/100			т			R	3: Low
0	1.005: ala	irm	0/0/101			т			R	3: Low
0	1.005: ala	irm	0/0/102			т			R	3: Low
0	1.001: sw	itch	0/0/1			т			R	3: Low
0	1.001: sw	itch	0/0/2		U			W		3: Low
0	1.001: sw	itch	0/0/3		U	т		W	R	3: Low
8	9.001: ter	mperature (C)	0/0/4			т			R	3: Low
8	9.001: ter	mperature (C)	0/0/5		U			W		3: Low
8	9.001: ter	mperature (C)	0/0/6		U	т		W	R	3: Low
7	5.010: co	unter pulses (0255)	0/0/7			т			R	3: Low
7	5.010: co	unter pulses (0255)	0/0/8		U			W		3: Low
7	5.010: co	unter pulses (0255)	0/0/9		U	т		W	R	3: Low

Figure 10.2 KNX signals



1. Data Type

EIS data type corresponding to the selected DPT column. Not editable, just for information.

2. DPT

Select the KNX Data Point Type (DPT) to be used for each signal or KNX communication object.

3. Sending

KNX sending group address associated to the communication object. 2 (P/S) and 3 (P/I/S) level format is supported.

4. Listening

KNX listening group address associated to the communication object. 2 (P/S) and 3 (P/I/S) level format is supported. More than one group address can be used, comma separated.

5. U

If selected, the KNX Communication Object will be updated after a KNX bus failure.

6. T

If selected, the KNX Communication Object will be updated when a transmit telegrams are sent from KNX.

7. Ri

If selected, the KNX Communication Object will be updated on initialization.

8. W

If selected, the KNX Communication Object is ready to be written from KNX.

9. R

If selected, the KNX Communication Object is ready to be read from KNX.

10. Priority

Define the KNX priority for each KNX Communication Object. Values go from 0 to 3, being the '0' the one with the highest priority and 3 the one with the lowest priority.



10.2 M-Bus

10.2.1 Standard configuration

		new_project.ibr	naps - IntesisBox MAPS		± - = ×
Home Project Tools	Help				
Connection	Configuration	Signals	Receive / Send	- M - Diagnostic	
General BACnet Server M-Bus	Gateway Configurati Baudrate Continuous Polling Read on Start	on 9600 Enal Enal			
	Devices Configuration	Scar ID Devi Adre Addu Iden Man	0 ce Name Meter 1 ssing Mode Primu- ress 1 tifier 0000000 ufacturer ID ABC vare Version 1	ny O Secondary	
		Add Add Delete			

Figure 10.3 M-Bus configuration

1. Gateway configuration

Select the type of M-Bus communication required with the M-Bus meter:

A. Baud rate

Determines the baud rate connection for the M-Bus gateway. Values may be set to:

- 300 bps
- 600 bps
- 1200 bps
- 2400 bps
- 4800 bps
- 9600 bps

B. Continuous Polling

Enables/Disables continuous polling from the gateway to the connected M-Bus meters and or devices.

C. Read on Start

If enabled, it forces the meter to update its M-Bus register to the last valid value on each reading from the gateway.



2. Devices configuration

A. Scan M-Bus Network

This option forces the box to scan the M-Bus network, searching for devices.

Scan Configuration						
M-Bus Scan Mode	Primary Address	O Secondary Address	O Single Devic	e		
Primary Address Config	Start Address 0	Lind Address 143	•			
Baudrates	300 bps 600	bps [] 1200 bps [] 2		0 bps 🔳 9600 b	ps	
Advanced Configuration	Advanced					
Scan Status						
scan Status						
	Scan Stop					
Scan Results						
Meters Newly Detected						
Device 0	Address	143	Version 2			
Device 1	Identifier	68614143	Medium	22		
	Manufacturer ID	KAM	Export to File	Export		
	Available Baudrate	s 9600	•			
		5000				
	Available Registers					
	Add Descriptio	n Scale	Unit		Reg	1
	VOLUME	-3	m3		0	
		-3	m3		1	
	ON TIME	0	h		2	
		LOW -3	m3/h		3	
	VOLUME F					

Figure 10.4 M-Bus scan options

- Scan configuration:
 - M-Bus Scan Mode:

1. Primary Address

If this option is selected, the scan will be done using primary address. *Start Address* and the *End Address* can be adjusted to minimize the scan period. Value ranges may vary from 0 to 254.

2. Secondary Address

If this option is selected, the scan will be done using the secondary address.

3. Single Device

If this option is selected, the scan will be done using a broadcast message sent to the M-Bus bus. If this option is used, only one single M-Bus device must be connected to the bus.

- Primary Address Config:
 - a) Start Address Indicates the M-Bus meter starting address for the Scan process.
 - b) End Address Indicates the M-Bus meter ending address for the Scan process.
- Baud rates:

It is used to select the different baud rates to be used during the scan process of the M-Bus bus. Multiple selection can be used.

Advanced Configuration:

Time Interframe	0	•
Specify the timeor Baudrate. This tim used once the bau selected	eout will b	e
300 bps	10500	-
600 bps	5500	
1200 bps	3000	^
	1500	
2400 bps		
2400 bps 4800 bps	1000	+

Figure 10.5 M-Bus advanced scan options

Select a general Time Interframe and a specific timeout for each individual baud rate. The Time Interframe is

NOTE: If not sure about these parameters, please let them as by default.

- Scan status:
 - Start scan:
 - a) Start

It initiates the scan process for the M-Bus network.

 b) Stop It stops the scan process in case it has not finished yet and the user needs to stop it.



• Scan results:

• Meters newly detected

List of the new meters found after the scan process is finished or stopped by the user.

Address

It shows the current M-Bus address of the selected device.

• Version

It shows the current M-Bus program version of the selected device.

• Identifier

It shows the current M-Bus identifier of the selected device.

Medium

It shows the current M-Bus medium used by the selected device.

Manufacturer ID

It shows the current M-Bus Manufacturer ID of the selected device.

• Export to file

This option exports the M-Bus information from the meter in a file with a pre-defined template format. This file can be imported to add new devices in the configuration easily.

• Available Registers

List of all the available registers for each M-Bus meter.

• Replace Meters/Signals

If this option is active, the current meters and signals (registers) present in the configuration will erased and imports the meters and signals (registers) selected in the Scan Results section.

• Replace Meters

If this option is active, the current meters present in the configuration will erased and imports the meters and signals (registers) selected in the Scan Results section. The current meters signals will be kept in the configuration.

• Add Meters

If this option is active, the current meters and signals (registers) present in the configuration will be kept and imports the meters and signals (registers) selected in the Scan Results section.

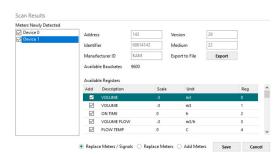


Figure 10.6 Scan Results information



10.2.2 Advanced configuration

Show Advanced Configuration						
Advanced Configuration						
Manage Timeouts	Advanced					
Reset Values on Start	Enabled					
Inter-Polling Gap	2 🌲 s					

Figure 10.7 Scan Results information

• Manage Timeouts

This section allows specific configurations for each baud rate during standard communication.

If you are not familiar with these values, please left it as default.

Time Interfra	ime 0	ms	
	imeout for each Bau once the baudrate i		eout
	Timeout Reset Response (ms)	User Data Response	(ms)
300 bps	10500	10500	•
600 bps	5500 🜩	5500	•
1200 bps	3000	3000	-
2400 bps	1500	1500	-
4800 bps	1000	1000	-
9600 bps	500 🗘	500	-

Figure 10.8 Scan Results information

• Reset Values on read

If active, before reading any M-Bus register, the gateway will force the meter to update the register value to its last valid known value. This ensures updated values on the BACnet side.

• Inter-Polling Gap

This parameter is used to determine the time left between the two consecutive polling cycles.



10.2.3 Signals configuration

			M-Bus	
#	Device	N	/I-Bus Code	Register
1	-	0	Comm Error	
2	-	1:	Force bus reading	
3	-	2	Continuous Polling	
4	-	3:	Bus Activity	-
5	Meter 1	0	Comm Error	
6	Meter 2	0	Comm Error	-
7	Meter 3	0	Comm Error	-
8	Meter 1	4	Force Device reading	-
9	Meter 2	4	Force Device reading	
10	Meter 3	4	Force Device reading	
11	Meter 1	5:	M-BUS Status	
12	Meter 2	5:	M-BUS Status	
13	Meter 3	5:	M-BUS Status	-
14	Meter 1	6	Measure	0
15	Meter 1	6	Measure	1
16	Meter 1	6	Measure	2
17	Meter 2	6	Measure	0
18	Meter 2	6	Measure	1
19	Meter 2	6	Measure	2
20	Meter 3	6	Measure	0
21	Meter 3	6	Measure	1
22	Meter 3	6	Measure	2
Edit Co	olumns	Import Export	AA 1	+ (N) 1 🔹 - (
		BMS Protocol: B	ACnet Server 📱 Devi	ce Protocol: M-Bus 📱 10/6/2

Figure 10.9 Scan Results information

1. Device

Indicates the M-Bus meter or device the signal is referred to.

2. M-Bus Code

Indicates the M-Bus type of signal:

• 0: Com Error

This type only applies for the virtual signal used to indicate a communication error. It may apply to communication errors between the gateway and the M-BUS installation or devices or between the gateway and the BACnet installation.

• 1: Force bus reading

This type indicates that this signal can only be applied to force a bus reading in a single moment.

• 2: Continuous Polling

This type indicates that this signal is used to activate the M-Bus continuous polling. That means that the gateway will poll continuously the M-Bus devices.

NOTE: Keep in mind that some meters use batteries, so continuous polling may reduce the battery life significantly.

• 3: Bus Activity

This type indicates that this signal is used to show the M-Bus activity.



• 4: Force Device reading

This type indicates that this signal is used to force a device reading in a certain moment.

• 5: M-BUS Status

This type indicates that this signal is used to show the current status of the M-Bus device.

• 6: Measure

This type indicates that this signal is used to show measures provided by the M-Bus meter or device.

3. Register

Indicates the corresponding register address of the value that's going to be red from the meter.



10.3 DALI

10.3.1 Standard configuration

In this section, all DALI parameters can be set, stored and sent to the specific ECG included in the project.

The DALI commissioning can be done in this same section as well.

Figure 10.10 DALI configuration

1. DALI Commissioning

This option is used to proceed with the configuration of the DALI ECGs.

DALI Comissioning		
Dali Comissioning	Comissioning	Note: DALI comissioning required to apply changes

Figure 10.11 **DALI configuration**

Link or unlink configured ECG with the ones found in the DALI bus.

Keep in mind that configuration for the ballast is not only stored in the Gateway but needs to be sent to each ECG as well.

Remember to push the "Apply" button to finish the commissioning accordingly.



						DALI Commission	ng					
Commissior	ning Configu	uration										
ink / Unlink Co	onfigured ECG v	with the ones found	d on the DALL	Network, In	order to	apply changes, please, clic	k on "Apply" t	outton.				
	for commission			7								
elect Channel 1	for commission	Ing Port A	~									
Channel A C	Commission	ing										
onfigured ECG						Count ECG: 4		DALI Ne	twork			Count Scan:
Name	Addr	Туре	Get Cfg	Set Cfg	Wink	Status		Addr	Rnd Addr	Туре	Wink	
ECG 0	na	0: Fluorescent	-	-	-							
CG 1	na	1: Emergency	-									
ECG 2	na	6: LED	-	•	-							
ECG 3	na	Other	-	-	-							
							<<					
							->					
							<-					
Check Status	Get All	Set All						Scan	Auto Addr.	Delete Addr.		
								🗌 Hide	Assigned ECGs			
											Appl	v Cance

Figure 10.12 DALI commissioning

Select Channel for commissioning

This dropdown menu it is used to select between Channel A (port A) or Channel B (Port B). This list is only available for the *INMBSDAL1280000* version of the Gateway.

Configured ECG

Displays information of each ballast currently present in the configuration.

- **Name:** Descriptive name for the ECG. It can be modified in the general DALI configuration menu.
- Addr: Stands for the short address of the ECG.
- **Type:** Corresponds with the type of ECG. It can be modified in the general DALI configuration menu.
- **Get Cfg:** Downloads the current configuration stored in the ECG.
- Set Cfg: Uploads the current configuration stored in MAPS to the ECG.
- Wink: Activates the ECG to help identify it during commissioning.
- Status: Indicates the status of the ECG. Possible values may be:
 - Not present
 - Active
- **Check Status:** Checks the status of all ECGs present in the *Configured ECG* table.
- **Get All:** Downloads the current configuration stored in all the ECGs present in the *Configured ECG* table.
- **Set All:** Uploads the current configuration stored in MAPS to all the ECGs present in the *Configured ECG* table.



DALI Network

Displays information of the ECG discovered in the line connected to the gateway and currently scanned.

- Addr: Stands for the short address of the ECG.
- **Rnd Addr:** Random address set used to communicate with each ECG individually in case the short address is not known.
- **Type:** Corresponds with the type of ECG. It can be modified in the general DALI configuration menu.
- **Wink:** Activates the ECG to help identify it during commissioning.
- **Scan:** Scans and lists all the elements present in the DALI bus.
- Auto Addr.: Sets an automatic short address for the selected ECGs.
- **Delete Addr.:** Deletes the current short address for the selected ECGs.
- **Hide assigned ECGs:** Hides the ECG scanned that are already present in the configuration (*Configured ECG table*).

• Link/Unlink and Add/Replace ECGs

In order to decide which ECGs will be part of the integration project, arrows in between the to main tables (*Configured ECG and DALI network*) will be used.

- Add/Replace ECGs: The selected ECGs from the DALI Network list will be added to the Configured ECGs list or will replace them (in required)
- **Unlink ECGs**: Remove the selected ECG from the *Configured ECGs* not to apply in the current integration project.
- **Link ECGs**: Add the selected ECGs from the *DALI Network* to the *Configured ECGs* list to be part of the current integration project.

1.

More information and some examples on how to proceed with the commissioning can be found in the user's manual.



2. DALI Configuration

In this part of the configuration, all parameters related to ECG and their DALI configuration be set here.

DALI Configuration		
DALI Channel A	Port Configuration	
A-ECG 0 - EMG	Channel number	Channel A
A-ECG 1 - LED	Scenes Management	Edit
A-ECG 3 - OTH	Groups Management	Edit
DALI Channel B	Update values on Init	Enabled
B-ECG 0 - EMG	Power the DALI Bus	Enabled
	Add ECGs on Channel	
	Add ECG(s)	1 🗘 Add
	Failsafe Configuration	
	Failsafe Operation	Enabled
	Ballast Failsafe Level	100.00 * %

Figure 10.13 DALI configuration window

A. Channel parameters

Configure each channel's scenes, groups and other features.

Port Configuration					
Channel number	Channel A				
Scenes Management	Edit				
Groups Management	Edit				
Update values on Init	Enabled				
Power the DALI Bus	Enabled				
Add ECGs on Channel					
Add ECG(s)	1 🛉 Add				
Failsafe Configuration					
Failsafe Operation	Enabled				
Ballast Failsafe Level	100.00 🔹 %				

Figure 10.14 Channel parameters



Channel number

Indicates the current channel being configured. Channel B is only available for *INMBSDAL1280000*

Scenes management

Introduce the values for the ECG to be set on each scene. Up to 16 different scenes can be configured. Valid values from 0 to 100 (expressed in %).

DALI Scenes Management

	ECG Name	S0	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15
•	ECG 0	100	0	50	25	-	80	-	25	-	-	50	-	42	15	-	-
	ECG 1	100	0	50	-	-	-	-	50	-	10	50	-	42	15	23	-
	ECG 2	100	0	50	25	-	80	-	50	-	10	50	75	-	15	23	-
	ECG 3	100	0	50	-	25	-	80	25	-	-	50	75	-	15	-	-

Figure 10.15 DALI Scenes Management

Groups management Change Group Name

Define the DALI group name. Up to 8 characters can be used for each name.

• Enable Group Signals

If the checkbox is active, specific signals for DALI groups will be shown in the *Signals* tab of the configuration software.



ECG Name	G01 -Laundry	G02-Swimming	G03-Garage	G04-Group 4	G05-Group 5	G06-Group 6	G07 - Group 7	GD8 - Group 8	G09 - Group 9	G10 - Group 10	G11 - Group 11	G12- Group 12	G13- Group 13	G14- Group 14	G15- Group 15	G16- Group 16
Change Group Name																
Enable Group Signals	\checkmark															
ECG 0	\checkmark															
ECG 1			\checkmark													
ECG 2			\checkmark													
ECG 3		$\mathbf{\nabla}$														

Figure 10.16 DALI Groups Management

OK

Cancel

• Update values on init

If enabled, when the gateway initializes it updates the status values from the DALI bus.

• Add ECG

Use this option to introduce manually new ECGs in the configuration.

• Failsafe Configuration (Only available for Modbus Slave protocol)

If failsafe operation is enabled, when communication lost is detected on the Modbus protocol side (timeout is configured on the Modbus Slave tab), all DALI devices in that channel will set to configured Ballast Failsafe Level.

B. Common ECG Parameters

Include all common parameters for the different ECG.

Common ECG Para	ameters			
ECG Name	ECG 0	Device Type	0: Fluorescent Light	\sim
Short Address	na			

Figure 10.17 Common ECG Parameters

• ECG Name Descriptive name for the ECG.

• Short Address

It is the Individual address, which stands for an address for individual control.



- Device type
 - Select for each ECG the proper type:
 - 0: Fluorescent Light
 - 1: Emergency Light
 - 6: LED module
 - Other

C. Committable ECG Parameters

Commitable ECG F	arameters	
Phys. Min Level	0.00	%
Min Level	10.00	%
Max Level	100.00	%
Power On Level	50.00	% 🗌 Disabled
System Fail Level	100.00	% 🗌 Disabled
Fade Time	3: 1.4 ~	s
Fade Rate	11: 11.2 🗸	steps
Groups Configuration	Groups	
Scenes Configuration	Scenes	
Delete ECG(s)	Delete ECG	

Figure 10.18 Committable ECG parameters

a) Physical Min Level

Minimum physical brightness value accepted for the ECG to by applied according to the manufacturer specs. This is a read only value as it is defined by the ballast at factory.

b) Min level

Minimum brightness level to be set from the DALI control. Please consider the Physical Min level provided by the ECG manufacturer.

c) Max Level

Maximum brightness level to be set from the DALI control. Please consider the Physical Min level provided by the ECG manufacturer.

d) Power On Level

It determines the brightness level of the ECG when the power supply is switched on. This parameter can be disabled using the checkbox next to it.

e) System Fail Level

It determines the brightness value to which the DALI ballast switches when the power supply is switched on level of the ECG when a system Fail is detected. This parameter can be disabled using the checkbox next to it.



f) Fade Time

Time in seconds for fading from the current brightness value to the new brightness value (for DAP commands and scene calls).

g) Fade Rate

Fade steps per second that are performed in response to an indirect fade command (Up and Down commands).

h) Groups Configuration

Select the parent groups where the ECG is included.

Manage Groups in ECG
Select parent groups of this ECG
Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
Group 7
Group 8
Group 9
Group 10
Group 11
Group 12
Group 13
Group 14
Group 15
Group 16
OK Cancel

Figure 10.19 DALI Groups Configuration

i) Scenes Configuration

Select the scenes for the current ECG. A percent value (%) needs to be set in case the ECG is included in a specific Scene.

	Manage So	enes in ECG	5
Select scene scene	s of this ECG	. Set percent	value for each
S0		S8	
S1	44 📮	S9	
S2		S10	
S3		S11	55 🜲
S4		S12	
S5		S13	
S6		S14	
S7		S15	
		ок	Cancel

Figure 10.20 DALI Scenes Configuration

j) Delete ECG(s)

It deletes the current ECGs selected from the list.



D. Specific Emergency Light parameters.

For the Emergency Light type, there are some extra parameters that can be configured on the DALI side.

Emergency Lamp	
Prolong Time	0 🌲 min
Test Execution Timeout	7 📮 d
Auto Test Available	● Yes 🔾 No
Duration Test Interval	52 🔹 week
Function Test Interval	7 🗘 d
Emg Level Available	● Yes 🔾 No
Emergency Min Level	0.00 %
Emergency Max Level	100.00 %
Emergency Level	100.00 🜩 %

Figure 10.21 Emergency Light parameters

a) Prolong Time

Valid values from 0 to 127,5 minutes.

b) Test Execution Timeout

Valid values from 0 to 255 days.

c) Auto Test Available

It determines if Auto Test is available or not for this ballast.

d) Duration Test Interval

Valid values from 1 to 97 weeks.

e) Function Test Interval

Valid values from 0 to 255 days.

f) Emg Level Available

It determines if the Emergency Level is adjustable or not for this ECG.

g) Emergency Min Level

It shows the minimum level of brightness for this ECG.

h) Emergency Max Level

It shows the maximum level of brightness for this ECG.

i) Emergency Level

It determines the current emergency level for the ECG. Keep in mind that this value must be enclosed between the Emergency Min Level and the Emergency Max Level. Valid values from 0 to 100 %.



E. Specific LED Light parameters.

For the LED Light type, there are some extra parameters that can be configured on the DALI side.

Logarithmic ~
1
0 ms



a) Dimming Curve

It determines the desired curve to be applied on the ECG when dimming is performed. Possible options are *Linear* and *Logarithmic*.

b) Fast Fade Time Range

It determines the Fast Fade Time for the ECG. Valid vales from 0 to 27, please check the table below for more information:

#	Fade Time	#	Fade Time	#	Fade Time	#	Fade Time
0	<25 msec	7	175 msec	14	350 msec	21	525 msec
1	25 msec	8	200 msec	15	375 msec	22	550 msec
2	50 msec	9	225 msec	16	400 msec	23	575 msec
3	75 msec	10	250 msec	17	425 msec	24	600 msec
4	100 msec	11	275 msec	18	450 msec	25	625 msec
5	125 msec	12	300 msec	19	475 msec	26	650 msec
6	150 msec	13	325 msec	20	500 msec	27	675 msec

c) Min Fast Fade Time

It indicates the minimum Fast Fade Time the ballast can offer.



10.3.2 Signals configuration

		DALI	
ŧ	Channel	Unit ID	Trig. / Poll
1	А	ECG 0	T/P
2	A	ECG 0	-
3	A	ECG 0	T/P
4	A	ECG 0	T/P
5	А	ECG 0	т
6	A	ECG 0	Т
7	A	ECG 0	т
8	A	ECG 0	Т
9	A	ECG 0	Т
10	A	ECG 0	т
11	A	ECG 0	т
12	A	ECG 0	т
13	A	ECG 0	-
14	А	ECG 0	-
15	A	ECG 0	-
16	A	ECG 0	-
17	A	ECG 0	-
18	A	ECG 0	-
19	A	ECG 0	-

Figure 10.23 Signal's list

1.

It indicates the signal index. This is just for reference during project definition. It has no effect on the configuration.

2. Channel

Indicates whether the signal is from the A or B channel. Notice that B channel will be only available for the *INMBSDAL1280000* version of the Gateway.

3. Unit ID

It indicates the unit index according to the DALI configuration tab information.

4. Trig. / Poll

It defines the mode for the signal to be polled or triggered. Possible values are T (for Trigger) and P (for Polling).



10.4 BACnet

10.4.1 General configuration

Configure general BACnet parameters regarding the Intesis BACnet Client point of view.

Home Project Tools	Help		IBOX-MBS-BAC.ibmaps - Ir	ntesisBox MAPS	±_ □ ×
ø	*			-M-	IntesisBox 🖬
Connection	Configuration	Signals	Receive / Send	Diagnostic	mAT 9
General	General Configur Device Name	ation Device IBOX-MBS-	PAC		î
Modbus Slave	Device Instance	246	bRC		
BACnet Client	Password	admin			
· · · · ·	Enable sequential of				
	Devices Configur Scan BACnet Network	scar (No device - Click or a device - Click or	n Les created) A Add for adding manually SCAN to explore et Network		
	Delete Device(s) Gateway Mode Mode UDP Port Network Role	IP OMSTP Arrow MSTP Arrow MSTP Disabled	×		v

Figure 10.24 BACnet Client configuration

A. Device Name

BACnet Object corresponding with the Device Name Instance for the Intesis.

B. Device Instance

Definition of the Device Object Instance. Valid values from 1 to 4194302.

C. Password

Corresponds to the BACnet password to interconnect other devices in the same BACnet installation and prevent non-desired access to configuration and special parameters.

D. Enable sequential comms

If active, communications from the BACnet IP side are sequential. This is specially recommended to be used when there is communicating with MSTP devices and router/devices.



10.4.2 Devices configuration

A. Scan BACnet Network

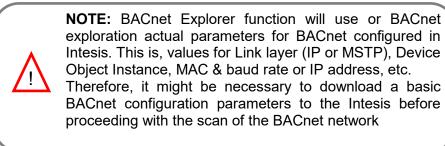
This option forces the box to scan the BACnet network, searching for devices in the same way as a BACnet explorer.

	BACnet Explorer	
BACnet Explorer Config	juration	
xplore Mode	IP	
dvanced Configuration	Config	
tart BACnet Explorer	Stop Exploring	
Explorer Results		
ACnet Devices		
	Device Name # Description Instance	Туре
	Device Instance	
	Network Number	
	Vendor	
	Discover Objects Discover	
Discover Selected Devie	Replace Devices Add Devices Apply	Cance

Figure 10.25 BACnet interface configuration options

- BACnet Explorer configuration:
 - Explore Mode

It can be either IP or MSTP, depending on last configuration downloaded to Intesis.



• Advanced Configuration

In this section the way the scan is performed is configured. Following parameters can be setup:

1. **Start and End Instance**: Search will be based on Device object instance number of present devices in the network. Search can be done on all possible Instances (0 to 4194302) or narrowed down (until even a single device) if the Device instance is known a priori, or within a certain range. Narrowing the value between start and end instance will speed up the search for BACnet devices



- 2. Step: Number of BACnet devices queried at once.
- 3. **Scan timeout**: Timeout that will wait for answer after request from a BACnet device.
- 4. **Discover MSTP slaves** (only when Explore Mode is MSTP): Will enable scan of MSTP slave nodes (by default, only MSTP master nodes will be discovered). If enabled, **Start MAC**, **End MAC** and **Timeout** (in ms) for the scan can be adjusted.
- 5. **MSTP Slaves through IP** (only when Explore Mode is IP): In case that BACnet IP to MSTP routers are present in the BACnet/IP network, will enable scan of MSTP slaves through the corresponding BACnet/IP router (note that MSTP master nodes under a BACnet/IP router will always be scanned). If enabled, **Net Number**, **Start MAC**, **End MAC** and **Timeout** (in ms) for the scan can be adjusted.

• Start BACnet Explorer

Exploration of the BACnet network will start once the window **BACnet Explorer** itself is open. You can Stop and restart it (button **Stop** becomes **Start**), in order to stop scanning traffic in the BACnet network. BACnet devices found in the network will appear in **Explorer Results** section as they respond.

• Explorer Results:

BACnet Devices

List of available BACnet devices found during the scan.

• Device Name

Device Name Instance of the selected device in the BACnet devices results.

Device instance

Device Instance of the selected device in the BACnet devices results.

Network Number

Network number of the selected device in the BACnet devices results.

Vendor

Vendor Id of the selected device in the BACnet devices results.

• Discover Objects

This button is used to obtain the list of objects hosted in selected device. Objects will appear in the objects list, at the right-hand side of the explore results.

• Discover checked devices

Reads the list of objects hosted in all checked devices. This must be used with care when many devices are checked at once. Resulting scan time can become very large.



• Apply

Adds to the project all checked devices and objects and close scan window.

• Cancel Closes scan window.

B. BACnet Devices List

This option forces the box to scan the BACnet network, searching for devices in the same way as a BACnet explorer.

Devices Config	uration				
Scan BACnet Netwo	rk	Scan			
BACnet Devices		Device Name Recipient Type Object Instance Reading Type	nt Type Device Instance 0 g Type Polling		~
		Write priority Time Interframe	(none) 0	•	~
Add Device(s)	1 🛉 Add				
Delete Device(s)	Use template				

Figure 10.26 BACnet interface configuration options

Device Name

Device identifier within MAPS. It will be used to reference the device from the signals table

• Recipient type

Select the type of recipient from:

- Device: The recipient is a device. The Device Instance Number for this device needs to be selected in the *Object Instance* text box.
- **Address (IP):** The recipient is set using the specific address on BACnet/IP.
- **Address (MSTP):** The recipient is set using the specific address on BACnet MSTP.
- Address (Other): The recipient is set using the specific address (in HEX) with length from 1 to 6 bytes.

• Object Instance

This stands for the BACnet Device Object Instance property related to this specific device



• Reading Type

Select the reading mode for this device from:

- **Polling:** Gateway will poll continuously the device to get point values.
- **COV:** Gateway will subscribe to point values of the device. Then the device will notify change of values to gateway.
- COV-unconf: Gateway will subscribe to point values of the device. Then the device will notify change of values to gateway. COV notifications won't need acknowledge message.
- **Polling Multiple:** Gateway will poll continuously the device asking for multiple objects in each poll, using *read property multiple* service.

• Write priority

Defines the priority to be used in this device on write commands. Default is (none) (no priority), can be chosen from 1 (highest) to 16 (lowest) and none.

• Time Interframe:

Time that gateway will wait before sending a new request, after last response has been received, while polling the same slave.

C. Add Device(s)

Adds as many devices as the ones set in the combo box. With "Use template" checkbox active, selecting a template, this will add in signals table all signals specified in template for each device added.

D. Delete Device(s)

Deletes the selected devices.

10.4.3 Gateway Mode

In the Gateway Mode section, all parameters related to the BACnet Client interface can be configured.

Gateway Mode		
Mode		ТР
UDP Port	47808	
Network Role	Disabled	~

Figure 10.27 Gateway Mode section

Mode

Select the type of BACnet communication to be used: BACnet/IP or BACnet MSTP.

BACnet/IP

o UDP Port

Select the UDP port for the BACnet/IP communications. By default, it is set to 47808 (BAC in HEX notation).

o Network Role

Define how the gateway will act regarding network elements.



- **Disabled:** The gateway will not provide any special service regarding network communications or settings.
- **Foreign Device:** The gateway will act as a foreign device from the BACnet network point of view.

Network Role	Foreign Device 🗸 🗸
BBMD IP	192.168.100.247
TTL Registration	300

Figure 10.28 Foreign Device configuration

• **BBMD:** The gateway will act as a BBMD in the BACnet network.

Network	Role	BBMD	~	
Enable	IP	Port	Network Mask	Description
	192.168.100.246	47808	255.255.255.255	BBMD-1
		47808	255.255.255.255	BBMD-2
		47808	255.255.255.255	BBMD-3
		47808	255.255.255.255	BBMD-4
		47808	255.255.255.255	BBMD-5
		47808	255.255.255.255	BBMD-6
		47808	255.255.255.255	BBMD-7
		47808	255.255.255.255	BBMD-8

Figure 10.29 BBMD configuration

IMPORTANT: If not familiar with these options, please left the parameter as **Disabled** to avoid issues on the BACnet communication.

BACnet MSTP

• Max. Masters

Define the maximum number of BACnet MSTP masters supported.

• Max. Info Frames

Define the maximum number of Info frames.

o Baud Rate

Select the BACnet MSTP communication speed. Possible values are:

Auto | 9600 | 19200 | 38400 | 57600 | 76800 | 115200

• MAC address

Define the gateway MAC address for BACnet MSTP communication.



10.4.4 Signals configuration

BACnet Client		
Device Name	Туре	Instance
Device 0	3: BI	-
Device 1	3: BI	-
Device 2	3: BI	-
Device 0	0: AI	0
Device 0	0: AI	1
Device 0	0: AI	2
Device 0	0: AI	3
Device 0	0: AI	4
Device 1	0: AI	10
Device 1	0: AI	11
Device 1	0: AI	12
Device 1	0: AI	13
Device 1	0: AI	14
Device 2	0: AI	20
Device 2	0: AI	21
Device 2	0: AI	22
Device 2	0: AI	23
Device 2	0: AI	24

Figure 10.30 Signals' list

1. Device Name

Indicates the device the signal is referred to.

2. Type

Indicates the BACnet object type of signal. Following BACnet object types are available:

1.	AI
2.	AO
3.	AV
4.	BI
5.	BO
6.	BV
7.	MI
8.	MO
9.	MV
10.	LOOP
11.	ACCUM

3. Instance

Indicates the object instance of the signal.

