

User Manual

Revision 1.002
English

DALI / KNX - Converter

(Order Code: HD67822-KNX-B2-Y, HD67822-KNX-B2-N)

for Website information:

www.adfweb.com?Product=HD67822

for Price information:

www.adfweb.com?Price=HD67822-KNX-B2

Benefits and Main Features:

- ⊕ Very easy to configure
- ⊕ Electrical isolation
- ⊕ Temperature range: -40°C/85°C (-40°F/185°F)



For others DALI products, see also the following links:

Converter DALI to

- www.adfweb.com?Product=HD67831
- www.adfweb.com?Product=HD67832
- www.adfweb.com?Product=HD67833
- www.adfweb.com?Product=HD67834
- www.adfweb.com?Product=HD67835
- www.adfweb.com?Product=HD67836
- www.adfweb.com?Product=HD67837
- www.adfweb.com?Product=HD67838
- www.adfweb.com?Product=HD67839
- www.adfweb.com?Product=HD67840
- www.adfweb.com?Product=HD67842
- www.adfweb.com?Product=HD67843
- www.adfweb.com?Product=HD67844
- www.adfweb.com?Product=HD67845
- www.adfweb.com?Product=HD67848
- www.adfweb.com?Product=HD67849
- www.adfweb.com?Product=HD67850

- (RS485)**
- (BACnet/IP Master)**
- (BACnet/IP Slave)**
- (CAN)**
- (CANopen)**
- (DeviceNet Master)**
- (DeviceNet Slave)**
- (DMX)**
- (Ethernet)**
- (EtherNet/IP)**
- (Modbus Master)**
- (Modbus Slave)**
- (Modbus TCP Master)**
- (Modbus TCP Slave)**
- (PROFINET)**
- (SNMP Manager)**
- (SNMP Agent)**

Do you have an your customer protocol?

www.adfweb.com?Product=HD67003

Do you need to choose a device? do you want help?

www.adfweb.com?Cmd=helpme



User Manual

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UPDATED DOCUMENTATION:

Dear customer, we thank you for your attention and we remind you that you need to check that the following document is:

- ✚ Updated
- ✚ Related to the product you own

To obtain the most recently updated document, note the “document code” that appears at the top right-hand corner of each page of this document.

With this “Document Code” go to web page www.adfweb.com/download/ and search for the corresponding code on the page. Click on the proper “Document Code” and download the updates.

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.000	15/06/2016	Ff	All	First Release
1.001	27/07/2017	Ff	All	Revision
1.002	28/08/2017	Ff	All	Revision

WARNING:

ADFweb.com reserves the right to change information in this manual about our product without warning.
ADFweb.com is not responsible for any error this manual may contain.

TRADEMARKS:

All trademarks mentioned in this document belong to their respective owners.

SECURITY ALERT:**GENERAL INFORMATION**

To ensure safe operation, the device must be operated according to the instructions in the manual. When using the device, legal and safety regulation are required for each individual application. The same applies also when using accessories.

INTENDED USE

Machines and systems must be designed so the faulty conditions do not lead to a dangerous situation for the operator (i.e. independent limit switches, mechanical interlocks, etc.).

QUALIFIED PERSONNEL

The device can be used only by qualified personnel, strictly in accordance with the specifications.

Qualified personnel are persons who are familiar with the installation, assembly, commissioning and operation of this equipment and who have appropriate qualifications for their job.

RESIDUAL RISKS

The device is state-of-the-art and is safe. The instruments can represent a potential hazard if they are inappropriately installed and operated by untrained personnel. These instructions refer to residual risks with the following symbol:

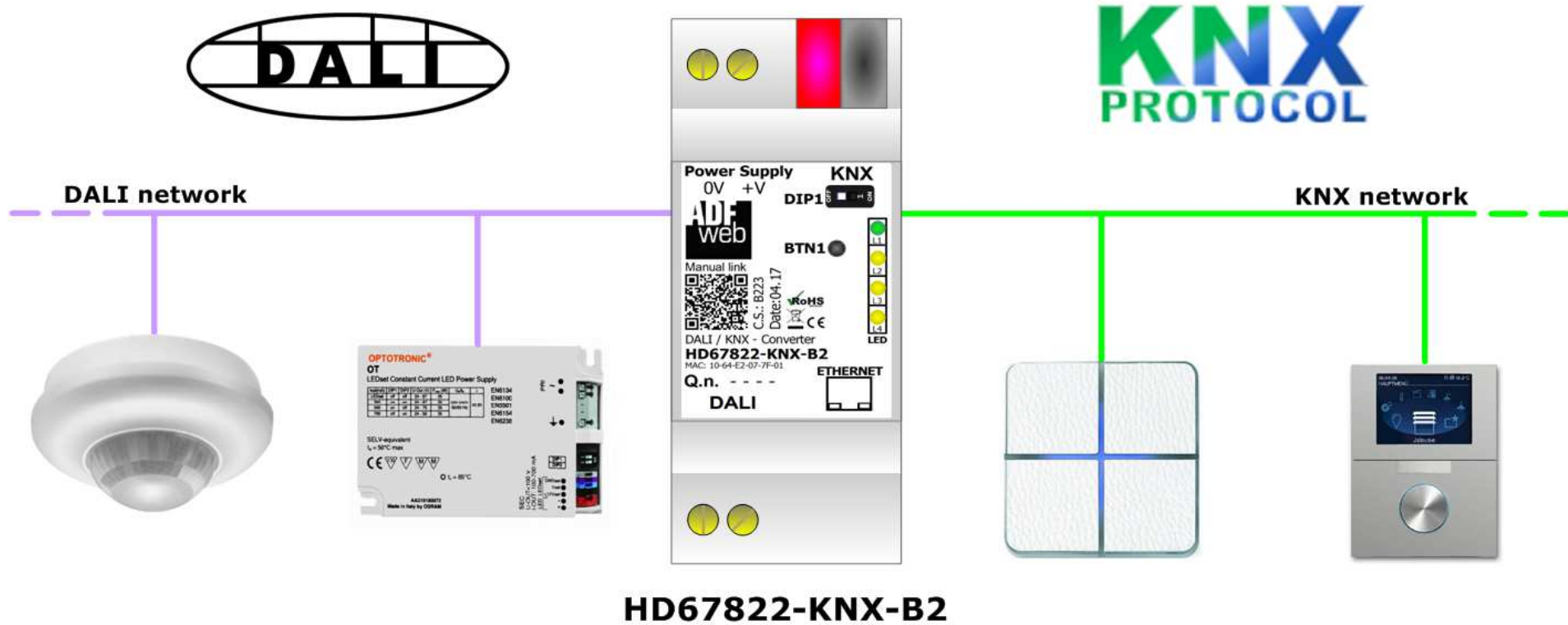


This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

CE CONFORMITY

The declaration is made by our company. You can send an email to support@adfweb.com or give us a call if you need it.

EXAMPLE OF CONNECTION:



ADFweb.com srl
 tel. +39 - 0438.30.91.31
www.adfweb.com
info@adfweb.com

CONNECTION SCHEME:

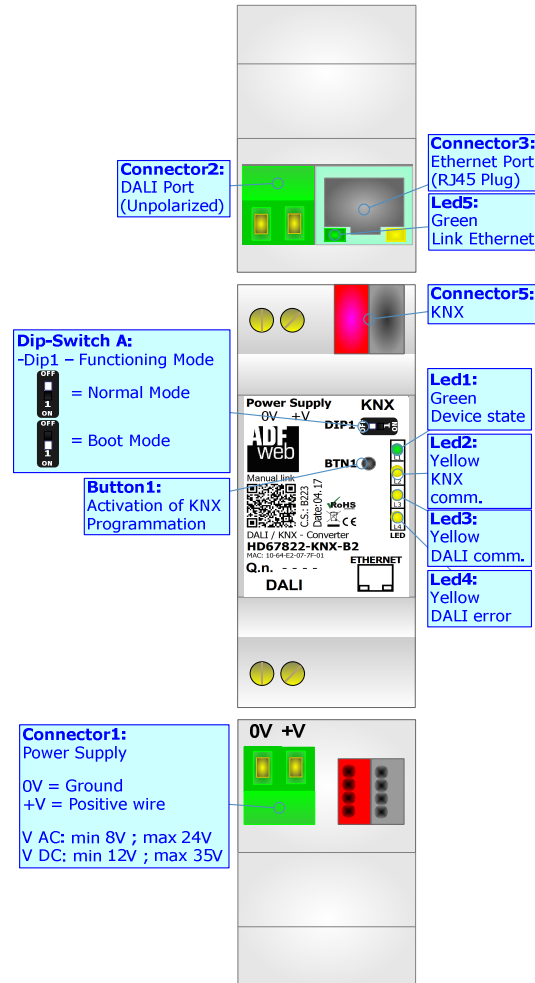


Figure 1: Connection scheme for HD67822-KNX-B2

CHARACTERISTICS:

The HD67822 is a KNX / DALI - Converter.

It has the following characteristics:

- Up to 64 devices on DALI bus;
- Configurator for DALI network/devices;
- Isolation between DALI – KNX, Power Supply - KNX. Additional isolation Power Supply – DALI for HD67822-KNX-B2-N version;
- Two-directional information between DALI bus and KNX bus;
- Mountable on 35mm Rail DIN;
- Wide power supply input range: 8...24V AC or 12...35V DC;
- Wide temperature range: -40°C / 85°C [-40°F / +185°F].

CONFIGURATION:

You need “DALI Console” software on your PC in order to perform the following:



- Configure the DALI network;
- Setup the DALI devices (groups, scenes, IDs, ...);
- Test DALI communication.

You need Compositor SW67822 software on your PC in order to perform the following:

- Define the parameter of KNX line;
- Define the parameter of DALI line;
- Update the device.

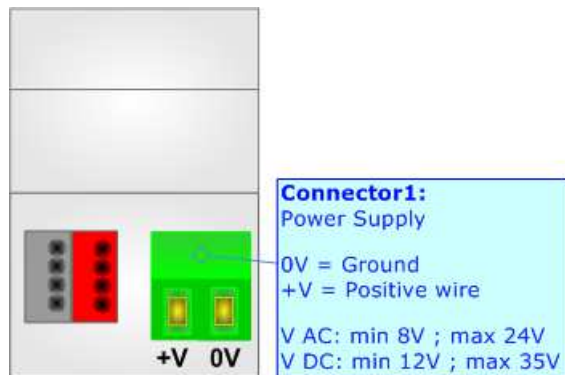
POWER SUPPLY:

The devices can be powered at 8...24V AC and 12...35V DC. For more details see the two tables below.

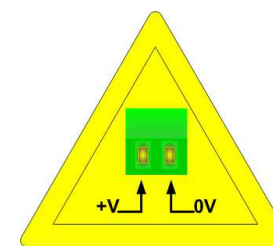
VAC 		VDC 	
Vmin	Vmax	Vmin	Vmax
8V	24V	12V	35V

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67822-KNX-B2	3.5



Caution: Not reverse the polarity power



HD67822-KNX-B2

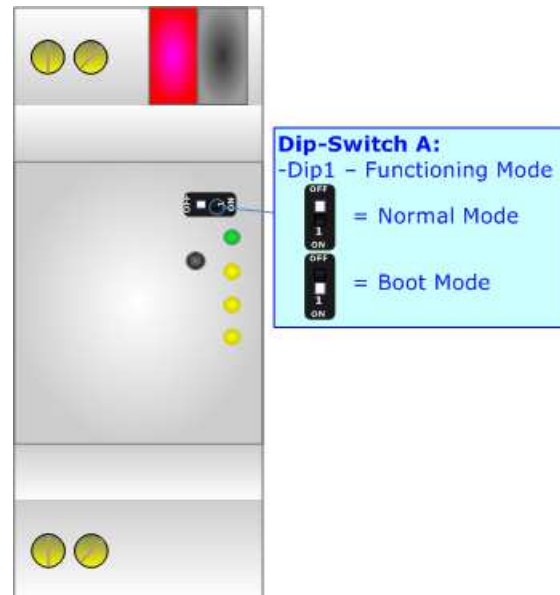
FUNCTION MODES:

The device has got two functions mode depending of the position of the 'Dip1 of Dip-Switch A':

- The first, with 'Dip1 of Dip-Switch A' at "OFF" position, is used for the normal working of the device.
- The second, with 'Dip1 of Dip-Switch A' at "ON" position, is used for upload the Project and/or Firmware.

For the operations to follow for the updating, see 'UPDATE DEVICE' section.

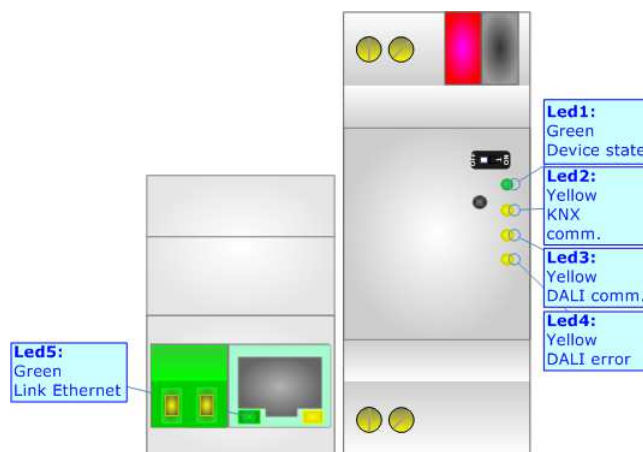
According to the functioning mode, the LEDs will have specifics functions, see 'LEDS' section.



LEDS:

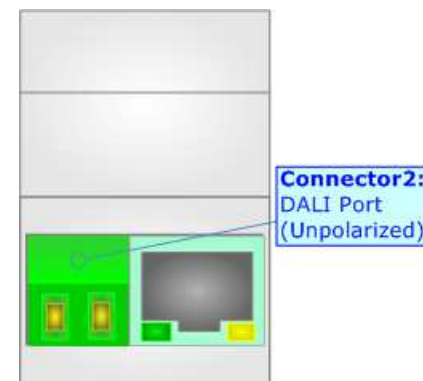
The device has got five LEDs that are used to give information of the functioning status.
The various meanings of the LEDs are described in the table below.

LED	Normal Mode	Boot Mode
1: Device State (green)	Blinks slowly (~1Hz)	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
2: KNX communication (yellow)	Blinks when KNX communication is running	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
3: DALI communication (yellow)	Blinks when DALI communication is running	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
4: DALI error (yellow)	Turns ON when the DALI device is not present	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
5: Ethernet Link (green)	ON: Ethernet cable connected OFF: Ethernet cable disconnected	ON: Ethernet cable connected OFF: Ethernet cable disconnected



DALI:

DALI stands for “Digital Addressable Lighting Interface” and it is an interface protocol for digital communication between electronic lighting equipment (electronic ballasts, transformers, etc.). With the right choice of individual DALI components an extremely wide range of requirements can be met, from operating the lighting system from a simple light switch to lighting management systems for entire office complexes with thousands of light sources. Using ADFweb.com’s DALI converters, any light source, including incandescent lamps, fluorescent lamps, high-intensity discharge lamps and even LEDs, can be controlled irrespective of whether they are installed in an office, a restaurant or a street light.

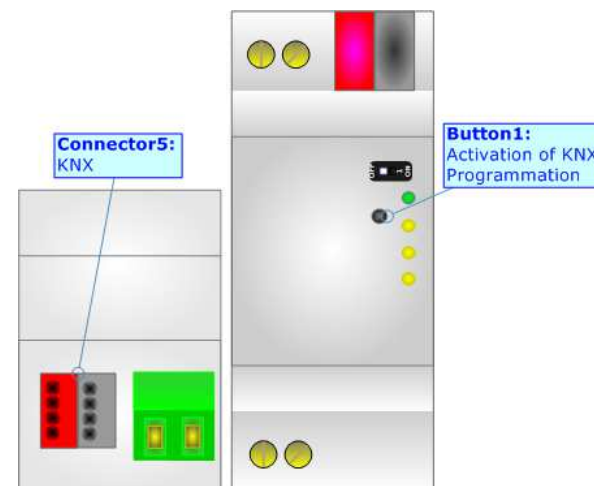


Characteristics	Description
Medium	Shielded Twisted Pair
Topology	Linear, Star or mixed
Device power consumption	Max 250 mA
DALI voltage	9.5 V – 22.5 V (typical 16 V)
Maximum cable length	300 m (1.5 mm ² wire)
Maximum number of DALI devices	64
Baud rate	1200 bps
Maximum number of DALI groups	16
Maximum number of DALI scenes	16

KNX:

KNX is the standard that allows the automated and decentralized management of the technologic plans of a big typology of structures: commercial buildings, factories, houses, public locals, schools and so on.

KNX can be used in all the applications and functions for the building automations: from lighting to control dampers, to the security, to the heating monitoring, to the conditioning, to the hydric control and alarms, to energy management and so on.



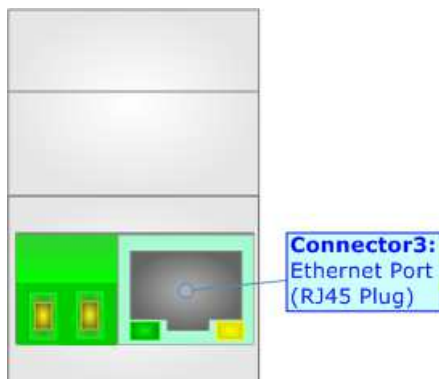
Characteristics	Description TP1-256
Medium	Shielded Twisted Pair
Topology	Linear, Star, Tree or mixed
Baudrate	9600 bps
Device supplying	Normal: bus powered devices Optional: remote powered devices
Device power consumption	3 mA- 12 mA
Power Supply Unit (PSU)	DC 30 V
Number of PSU's per physical Segment	Max. 2
Number of connectable devices per physical Segment	Max. 256
Number of addressable devices per physical Segment	Max. 255
Total cable length per physical Segment	Max. 1000 m
Distance between two devices	Max. 700 m

(*) Taken from KNX specifications

ETHERNET:

The Ethernet port is used for programming DALI network and for programming the device.

The Ethernet connection must be made using Connector2 of HD67822-KNX-B2 with at least a Category 5E cable. The maximum length of the cable should not exceed 100m. The cable has to conform to the T568 norms relative to connections in cat.5 up to 100 Mbps. To connect the device to an Hub/Switch is recommended the use of a straight cable, to connect the device to a PC is recommended the use of a cross cable.



USE OF COMPOSITOR SW67822:

To configure the Converter, use the available software that runs with Windows called SW67822. It is downloadable on the site www.adfweb.com and its operation is described in this document. (*This manual is referenced to the last version of the software present on our web site*). The software works with MSWindows (XP, Vista, Seven, 8, 10; 32/64bit).

When launching the SW67822, the window below appears (Fig. 2).



Note:

It is necessary to have installed .Net Framework 4.

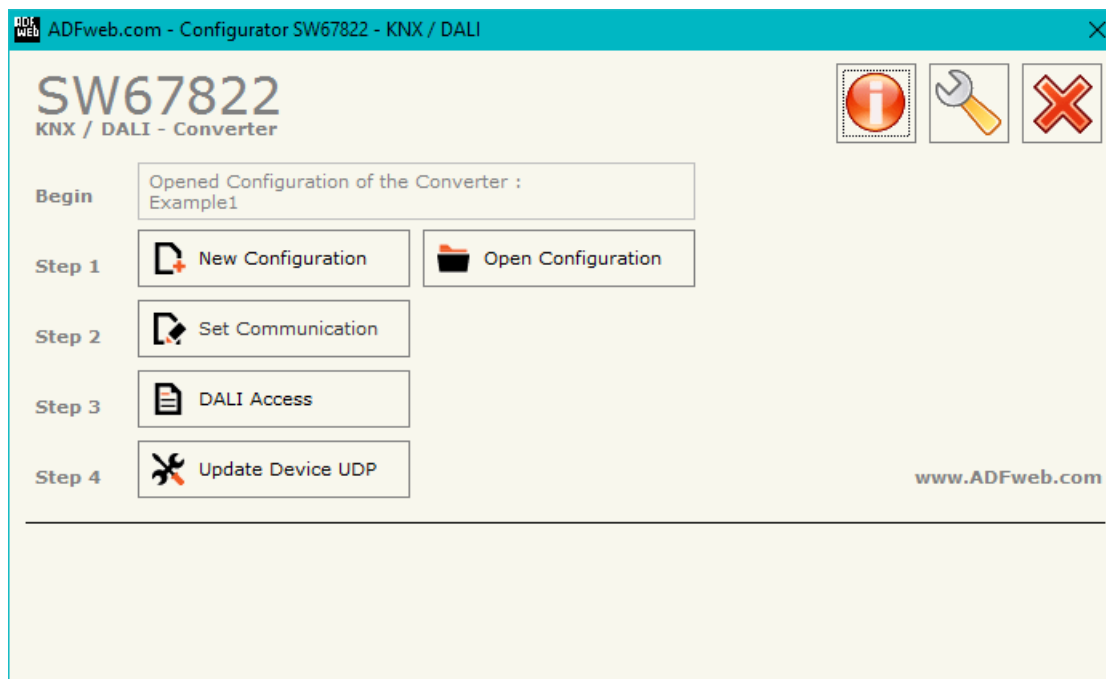
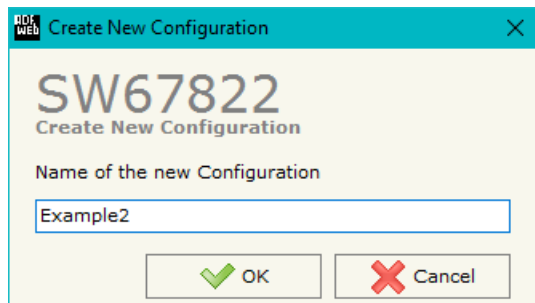


Figure 2: Main window for SW67822

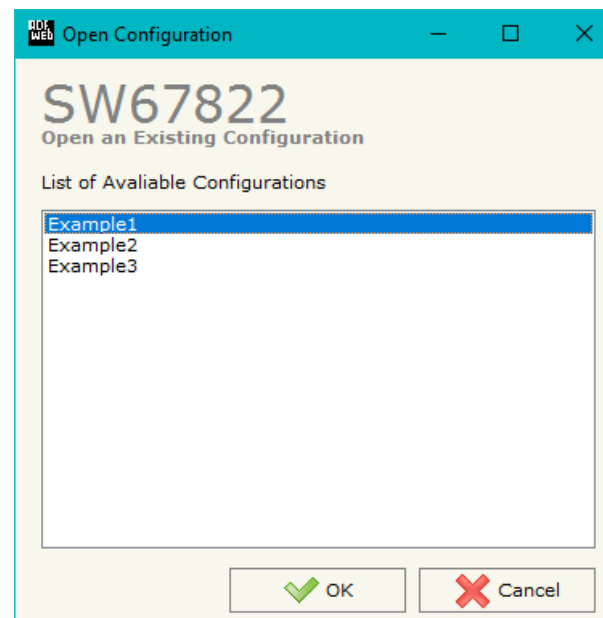
NEW CONFIGURATION / OPEN CONFIGURATION:

The “**New Configuration**” button creates the folder which contains the entire device’s configuration.




A device’s configuration can also be imported or exported:

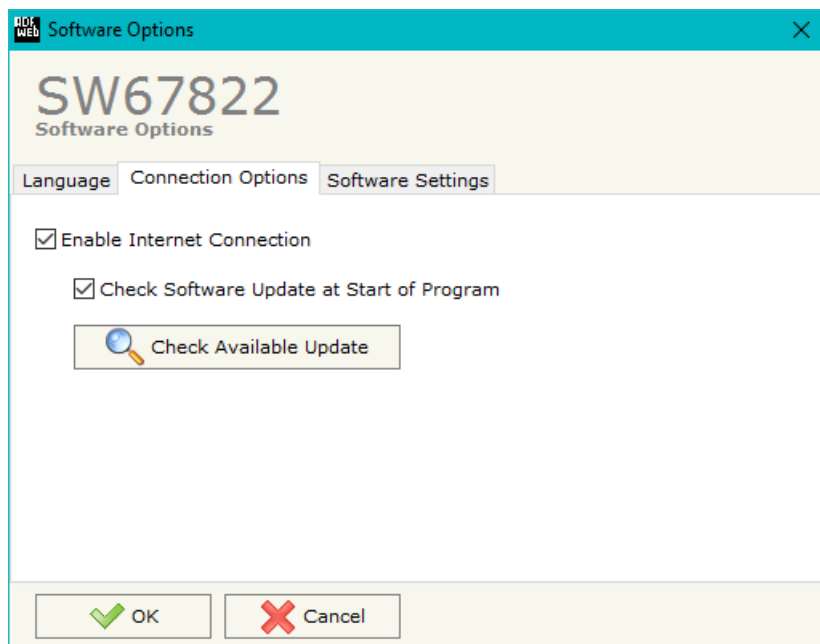
- To clone the configurations of a Programmable “KNX / DALI - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient to duplicate the project folder with another name and open the new folder with the button “**Open Configuration**”.



SOFTWARE OPTIONS:

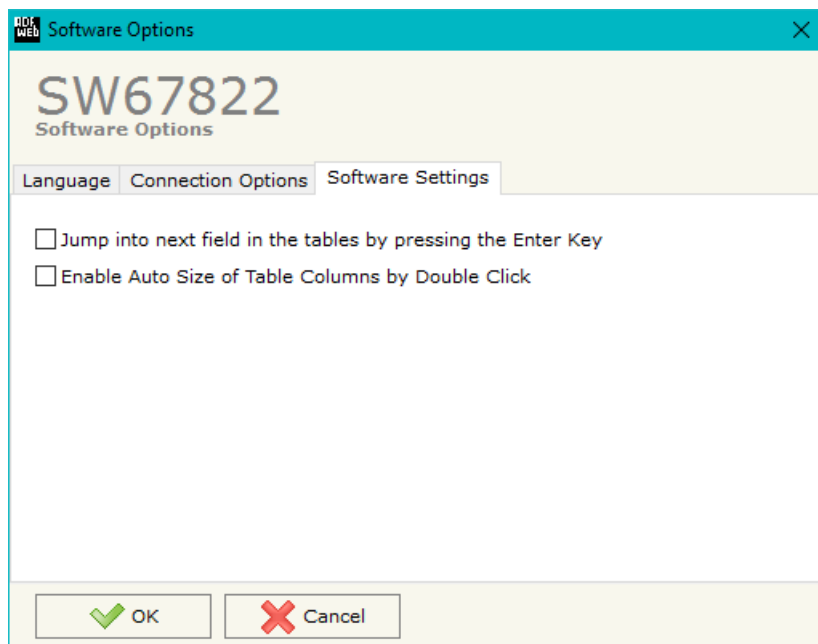
By pressing the “**Settings**” () button there is the possibility to change the language of the software and check the updatings for the compositor.

In the section “Language” it is possible to change the language of the software.



In the section “Connection Options”, it is possible to check if there are some updatings of the software compositor in ADFweb.com website.

Checking the option “**Check Software Update at Start of Program**”, the SW67822 check automatically if there are updatings when it is launched.



In the section "Software Settings", it is possible to enable/disable some keyboard's commands for an easier navigation inside the tables contained in the different sections of the software.

SET COMMUNICATION:

This section define the fundamental communication parameters of KNX and DALI bus.

By Pressing the **"Set Communication"** button from the main window for SW67822 (Fig. 2) the window "Set Communication" appears (Fig. 3).

The means of the fields for the "KNX" section are:

- In the field **"Type"** the type of KNX is defined (fixed to 'KNX TP');
- In the field **"ID Device"** the ID of the KNX side of the converter is defined;
- In the field **"ID Tunnel"** the ID for the tunneling is defined;
- In the field **"ID Management"** the ID for the Management is defined;
- In the field **"Control Port"** the port for the control is defined;
- In the field **"Tunnel Port"** the port for the tunneling is defined;
- In the field **"Management Port"** the port for the management is defined.

The means of the fields for the "DALI" section are:

- In the field **"DALI Console Port"** the port for the Ethernet communication with the DALI Console software is defined;
- In the field **"DALI Data Point ADV"** the starting Data Point of KNX side used to set the specific ADV into the DALI devices is defined (see page 29 for more info);
- In the field **"DALI Data Point SW"** the starting Data Point of KNX side used to turn ON and OFF the DALI devices is defined (see page 29 for more info);
- In the field **"DALI Data Point DIM"** the starting Data Point of KNX side used to dim the DALI devices is defined (see page 29 for more info);
- In the field **"Dimming Mode"** the DALI dimming modality is defined:
 - Normal: DALI lights are dimmed up or down for a single step at the reception of a KNX command;
 - Start-Break: DALI lights are dimmed up or down at the reception of a KNX command until the reception of a break command.

SW67822
Set Communication Setting

KNX

Type: KNX TP

ID Device: 1.1.200

ID Tunnel: 1.1.201

ID Management: 1.1.202

Control Port: 50000

Tunnel Port: 50001

Management Port: 50002

DALI

DALI Console Port: 10001

DALI Data Point ADV: 3/3/0

DALI Data Point SW: 3/4/0

DALI Data Point DIM: 3/5/0

Dimming Mode: Normal

Ethernet

IP ADDRESS: 192.168.0.10

SUBNET Mask: 255.255.255.0

GATEWAY: 192.168.0.1

OK Cancel

Figure 3: "Set Communication" window

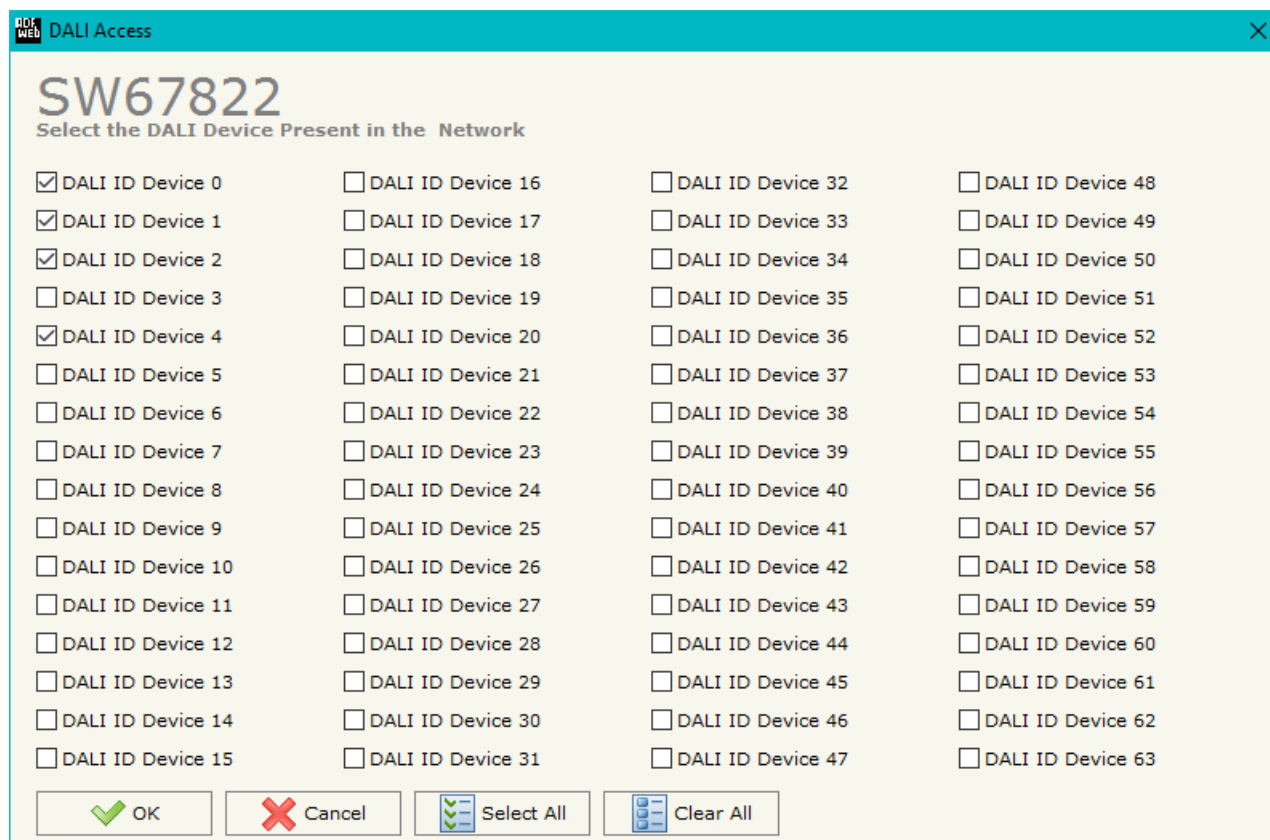
The means of the fields for the "Ethernet" section are:

- In the field "**IP ADDRESS**" the IP address of the converter is defined;
- In the field "**SUBNET Mask**" the SubNet Mask is defined;
- In the field "**GATEWAY**" the default gateway of the Ethernet network is defined. This feature can be enabled or disabled pressing the Check Box field. This feature is used for going out of the net.

DALI ACCESS:

By pressing the “**DALI Access**” button from the main window for SW67822 (Fig. 2) the window “Select the DALI Device Present in the Network” appears (Fig. 4).

This section is used to define the DALI devices connected to the converter. It is enough to check/uncheck the connected/unconnected DALI devices.



SW67822			
Select the DALI Device Present in the Network			
<input checked="" type="checkbox"/> DALI ID Device 0	<input type="checkbox"/> DALI ID Device 16	<input type="checkbox"/> DALI ID Device 32	<input type="checkbox"/> DALI ID Device 48
<input checked="" type="checkbox"/> DALI ID Device 1	<input type="checkbox"/> DALI ID Device 17	<input type="checkbox"/> DALI ID Device 33	<input type="checkbox"/> DALI ID Device 49
<input checked="" type="checkbox"/> DALI ID Device 2	<input type="checkbox"/> DALI ID Device 18	<input type="checkbox"/> DALI ID Device 34	<input type="checkbox"/> DALI ID Device 50
<input type="checkbox"/> DALI ID Device 3	<input type="checkbox"/> DALI ID Device 19	<input type="checkbox"/> DALI ID Device 35	<input type="checkbox"/> DALI ID Device 51
<input checked="" type="checkbox"/> DALI ID Device 4	<input type="checkbox"/> DALI ID Device 20	<input type="checkbox"/> DALI ID Device 36	<input type="checkbox"/> DALI ID Device 52
<input type="checkbox"/> DALI ID Device 5	<input type="checkbox"/> DALI ID Device 21	<input type="checkbox"/> DALI ID Device 37	<input type="checkbox"/> DALI ID Device 53
<input type="checkbox"/> DALI ID Device 6	<input type="checkbox"/> DALI ID Device 22	<input type="checkbox"/> DALI ID Device 38	<input type="checkbox"/> DALI ID Device 54
<input type="checkbox"/> DALI ID Device 7	<input type="checkbox"/> DALI ID Device 23	<input type="checkbox"/> DALI ID Device 39	<input type="checkbox"/> DALI ID Device 55
<input type="checkbox"/> DALI ID Device 8	<input type="checkbox"/> DALI ID Device 24	<input type="checkbox"/> DALI ID Device 40	<input type="checkbox"/> DALI ID Device 56
<input type="checkbox"/> DALI ID Device 9	<input type="checkbox"/> DALI ID Device 25	<input type="checkbox"/> DALI ID Device 41	<input type="checkbox"/> DALI ID Device 57
<input type="checkbox"/> DALI ID Device 10	<input type="checkbox"/> DALI ID Device 26	<input type="checkbox"/> DALI ID Device 42	<input type="checkbox"/> DALI ID Device 58
<input type="checkbox"/> DALI ID Device 11	<input type="checkbox"/> DALI ID Device 27	<input type="checkbox"/> DALI ID Device 43	<input type="checkbox"/> DALI ID Device 59
<input type="checkbox"/> DALI ID Device 12	<input type="checkbox"/> DALI ID Device 28	<input type="checkbox"/> DALI ID Device 44	<input type="checkbox"/> DALI ID Device 60
<input type="checkbox"/> DALI ID Device 13	<input type="checkbox"/> DALI ID Device 29	<input type="checkbox"/> DALI ID Device 45	<input type="checkbox"/> DALI ID Device 61
<input type="checkbox"/> DALI ID Device 14	<input type="checkbox"/> DALI ID Device 30	<input type="checkbox"/> DALI ID Device 46	<input type="checkbox"/> DALI ID Device 62
<input type="checkbox"/> DALI ID Device 15	<input type="checkbox"/> DALI ID Device 31	<input type="checkbox"/> DALI ID Device 47	<input type="checkbox"/> DALI ID Device 63

Buttons:

Figure 4: “DALI Access” window

UPDATE DEVICE:

By pressing the **"Update Device"** button, it is possible to load the created Configuration into the device; and also the Firmware, if necessary.

If you don't know the actual IP address of the device you have to use this procedure:

- Turn OFF the Device;
- Put Dip1 of 'Dip-Switch A' in ON position;
- Turn ON the device
- Connect the Ethernet cable;
- Insert the IP **"192.168.2.205"**;
- Select which operations you want to do;
- Press the **"Execute update firmware"** button to start the upload;
- When all the operations are "OK" turn OFF the Device;
- Put Dip1 of 'Dip-Switch A' at OFF position;
- Turn ON the device.

If you know the actual IP address of the device, you have to use this procedure:

- Turn on the Device with the Ethernet cable inserted;
- Insert the actual IP of the Converter;
- Select which operations you want to do;
- Press the **"Execute update firmware"** button to start the upload;
- When all the operations are "OK" the device automatically goes at Normal Mode.

At this point the configuration/firmware on the device is correctly update.

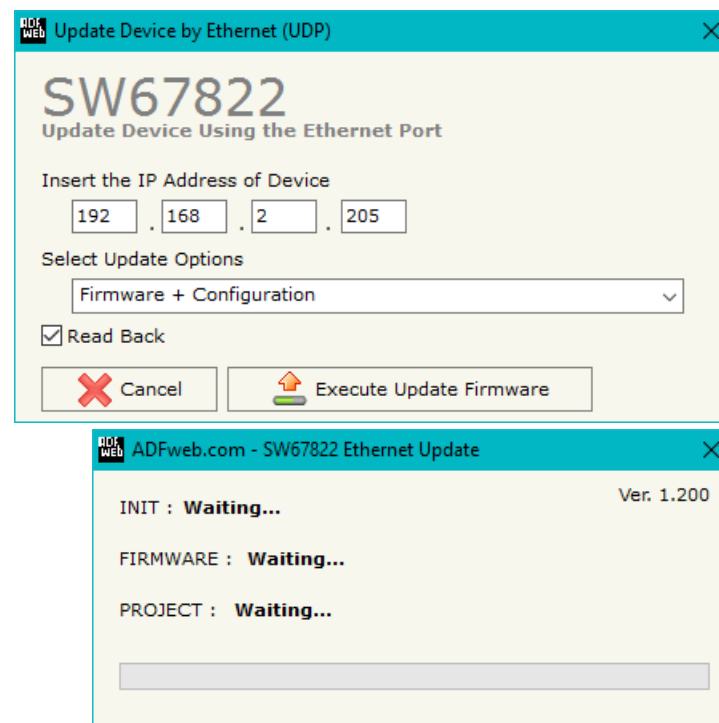





Figure 5: "Update device" windows

 **Note:**
When you install a new version of the software, if it is the first time it is better you do the update of the Firmware in the HD67822 device.

 **Note:**
When you receive the device, for the first time, you also have to update the Firmware in the HD67822 device.

 **Warning:**
If Fig. 6 appears when you try to do the Update try these points before seeking assistance:

- Try to repeat the operations for the updating;
- Try with another PC;
- Try to restart the PC;
- Check the LAN settings;
- Check the Wi-Fi settings;
- If you are using the program inside a Virtual Machine, try to use in the main Operating System;
- If you are using Windows Seven, Vista, 8 or 10 make sure that you have the administrator privileges;
- In case you have to program more than one device, using the "UDP Update", you have to cancel the ARP table every time you connect a new device on Ethernet. For do this you have to launch the "Command Prompt" and write the command "arp -d". Pay attention that with Windows Vista, Seven, 8, 10 you have to launch the "Command Prompt" with Administrator Rights;
- Pay attention at Firewall lock.

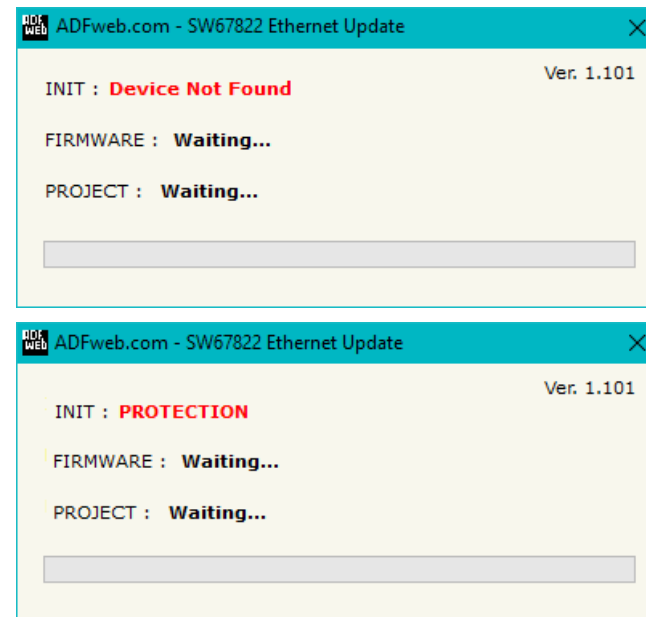



Figure 6: "Protection" window

 In the case of HD67822 you have to use the software "SW67822": www.adfweb.com/download/filefold/SW67822.zip.

USE OF DALI CONSOLE SOFTWARE:

To configure DALI network and test the communication, it is possible to use the available software that runs with Windows called "DALI Console". It is downloadable on the site www.adfweb.com and its operation is described in this document. *(This manual is referenced to the last version of the software present on our web site).* The software works with MSWindows (XP, Vista, Seven, 8, 10; 32/64bit).

When launching the DALI Console, the window below appears (Fig. 7).

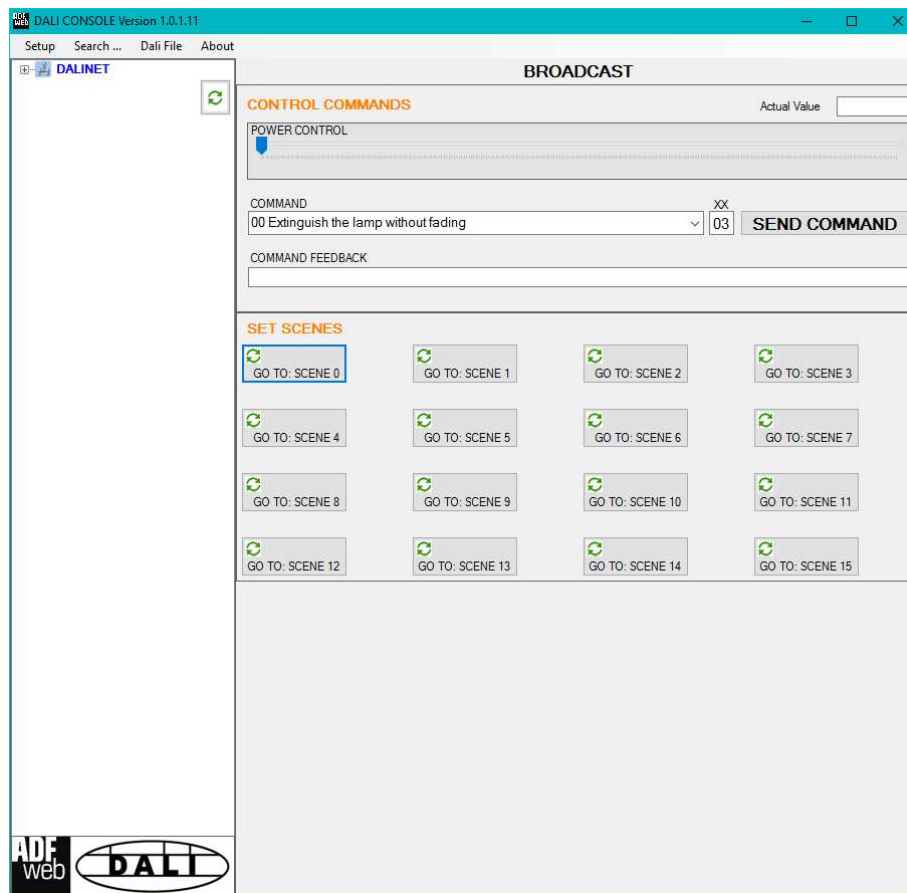
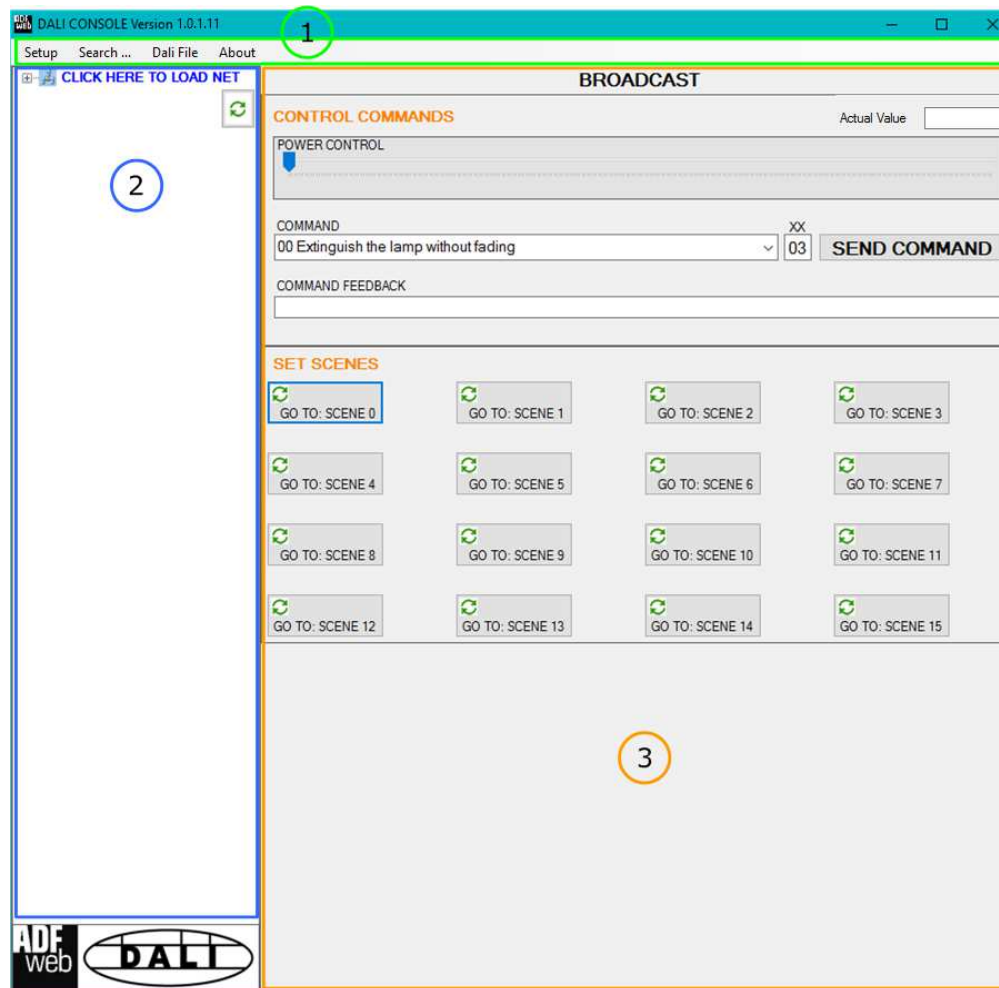


Figure 7: Main window for DALI Console

STRUCTURE OF THE SOFTWARE:

The software layout is very simple and it is structured in this way:

- **"Menu bar"** (Fig. 8, Point 1): it is possible to open the setup window ("Setup" menu), scan the DALI network and program automatically the IDs ("Search..." menu), export/import the results of the communication ("Dali File" menu) and see the informations about the DALI Console software ("About" menu).
- **"Network view"** (Fig. 8, Point 2): it is possible to see all the DALI devices connected to the HD67822 converter, the groups and the scenes set;
- **"Settings / commands view"** (Fig. 8, Point 3): it is possible to set and manage the parameters to the single DALI device, to the groups or for the full network.



(1) Menu bar

(2) Network view

(3) Settings / commands view

Figure 8: Structure of DALI Console software

SETUP:

This section defines the connection's parameters to the Ethernet side of the HD67822 converter.

By Pressing the "Setup" button from the menu bar of the DALI Console software, the "SETUP" window appears (Fig. 9).

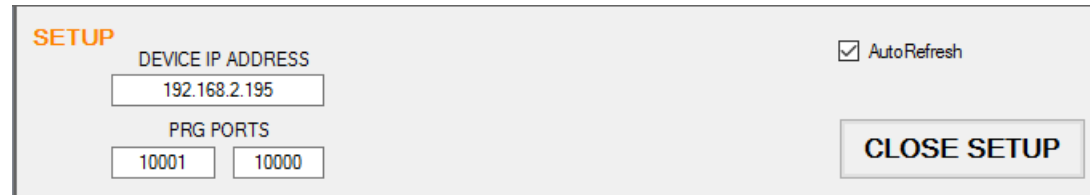


Figure 9: "Setup" window

The means of the fields for the "SETUP" window are:

- In the field "**DEVICE IP ADDRESS**" the IP address set inside the converter is defined;
- In the field "**PRG PORT**" the communication ports used for the Ethernet communication with the converter is defined: the one on the left must be equal to the DALI Port programmed with SW67822, the one on the right must be fixed to '10000'.

NETWORK SETTING:

By pressing the button in the Network view, it is possible to scan the full DALI network and find all the DALI devices, the groups set and the scenes configured.

By selecting the single DALI devices found, the single groups, the single scene or the entire DALI network, it is possible to manage and test the functioning of the network.

DEVICES:

The means of the fields for "DEVICE INFO" are:

- In the field "**Device Type**" the type of DALI device is printed;
- In the field "**Software version**" the software version of the DALI device is printed;
- In the fields "**Power Range**" Min value, Actual value, Max value, System Fail value, Power On value, Fade Time and Fade Rate of the DALI device is defined. It is possible to read the actual value and set a new value;
- In the fields "**DEVICE STATUS**" the actual status of the DALI device is printed;
- In the field "**SET NEW ADDRESS**" it is possible to program a new ID to the DALI node;
- In the field "**REMOVE ADDRESS**" it is possible to delete the ID from the DALI node.

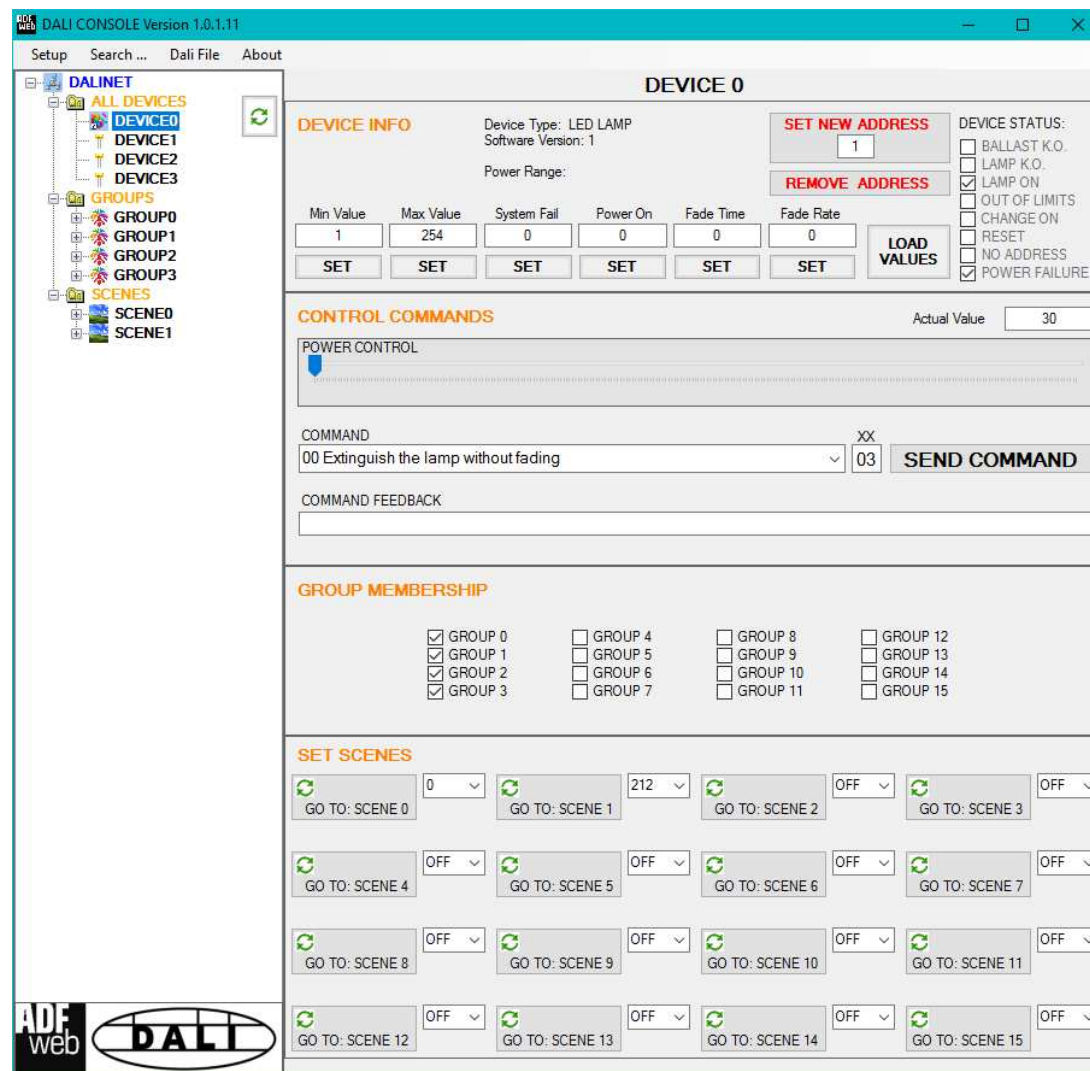


Figure 10: "Device settings" window

The means of the fields for the "CONTROL COMMANDS" section are:

- In the "**POWER CONTROL**" bar it is possible to change the actual ADV of the selected DALI device;
- In the field "**COMMAND**" it is possible to select a DALI command to send to the selected DALI device. For set commands, it is possible to insert the value to set in the field "**xx**". As soon as the command to send is selected, the command is sent: in order to send the same command more times, it is possible to press the "**SEND COMMAND**" button;
- In the field "**COMMAND FEEDBACK**" the response from the DALI device is printed.



Note:

This section is used to test the functioning of the DALI device in the network and to set specific parameters if needed (like new Minimum or Maximum ADV value).

In the "GROUP MEMBERSHIP" section it is possible to see the Groups which the selected DALI device is in. The checked checkboxes mean that the device is in the correspondent groups, the unchecked checkboxes mean that the device is not included in the correspondent groups. It is possible to change the group settings for the selected DALI device by checking/unchecking the correspondent checkboxes.


In the "SET SCENES" section it is possible to see the programmed scenes of the selected DALI device, program new ones and activate them:

- By pressing the buttons "**GO TO: SCENE X**" it is possible to activate the correspondent scene inside the selected DALI device; the programmed ADV for the selected scene is defined in the drop-down list on the right;
- By selecting a value into the drop-down lists next to the "GO TO: SCENE x" buttons, it is possible to set the ADV associated to the correspondent scene. It is possible to select:
 - Value between 0 and 255: the scene will have the defined value of ADV;
 - ACT: the scene will take the programmed ADV value into the "POWER CONTROL" bar;
 - OFF: the scene is disabled.

GROUPS:

The means of the fields for the "CONTROL COMMANDS" section are:

- In the "POWER CONTROL" bar it is possible to change the actual ADV of the selected DALI group;
- In the field "COMMAND" it is possible to select a DALI command to send to the selected DALI group. For set commands, it is possible to insert the value to set in the field "xx". As soon as the command to send is selected, the command is sent: in order to send the same command more times, it is possible to press the "SEND COMMAND" button;
- In the field "COMMAND FEEDBACK" the response from the DALI group is printed.

 **Note:** This section is used to test the functioning of the DALI groups in the network.

In the "SET SCENES" section it is possible to activate the programmed scenes to the selected group:

- By pressing the buttons "GO TO: SCENE X" it is possible to activate the correspondent scene inside the selected DALI group.

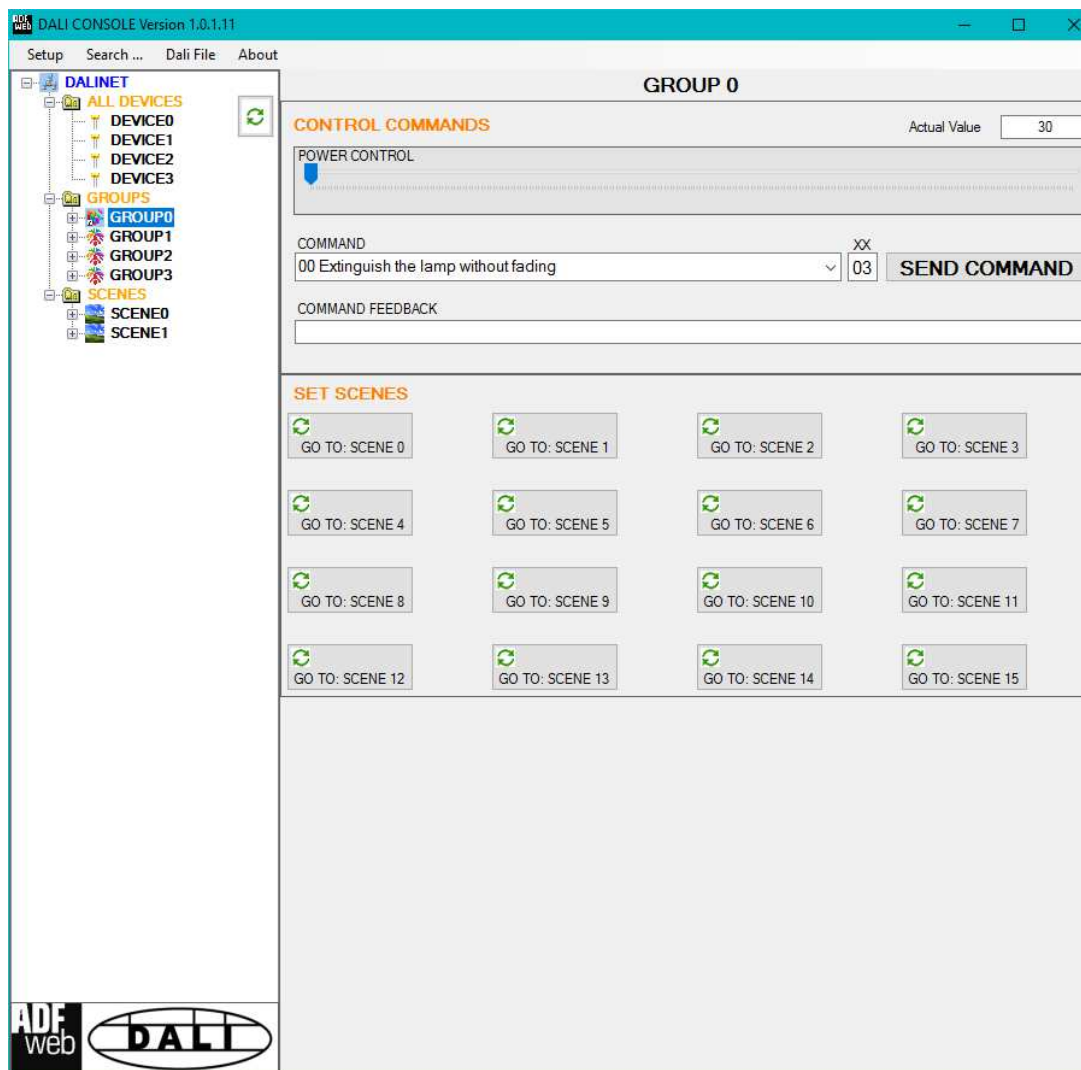


Figure 11: "Groups settings" window

SCENES:

By selecting a DALI scene from the Network view, it is possible to see the devices that have programmed the selected scene.

It is also possible to activate it by pressing the **“ACTIVATE SCENE X”** button.

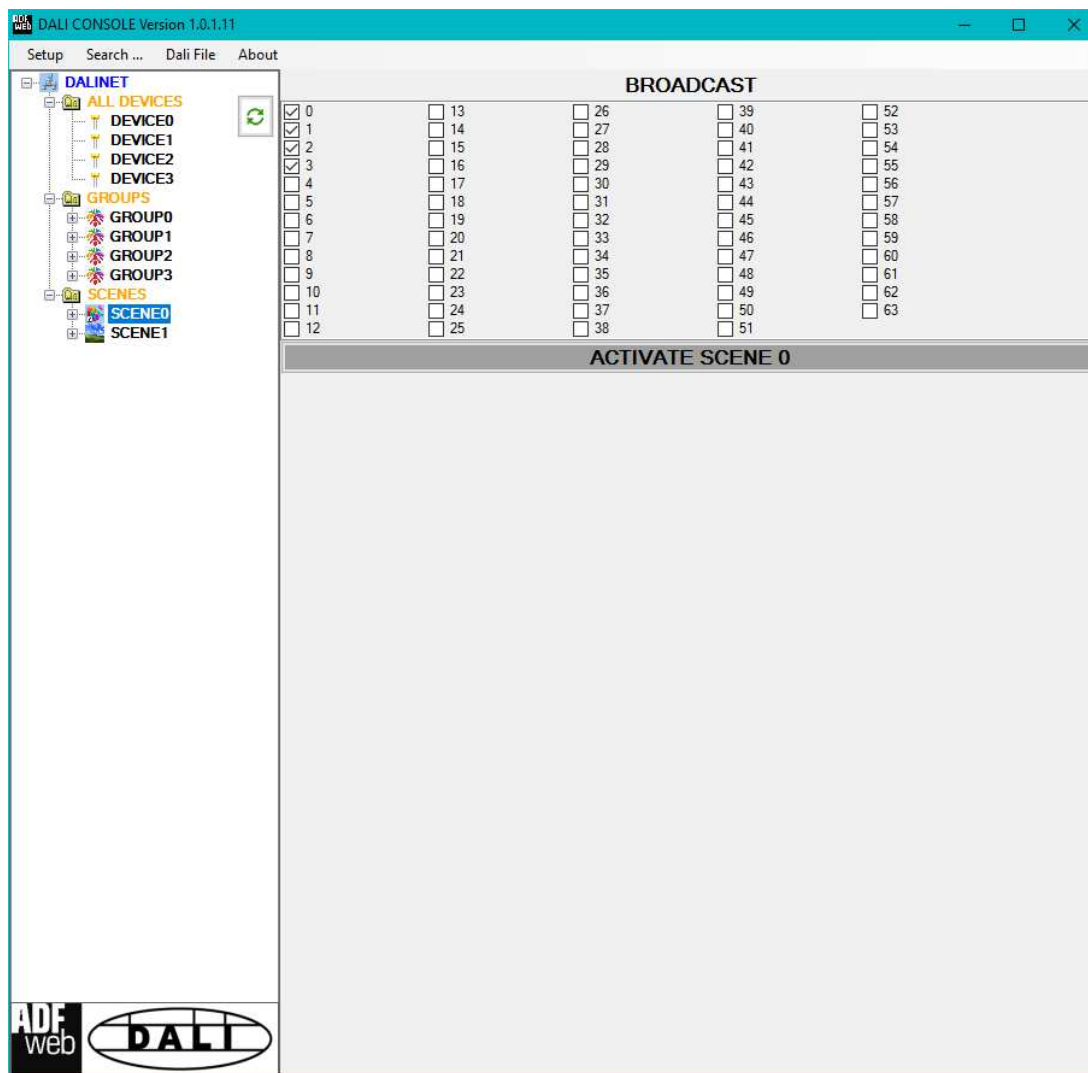



Figure 12: "Scenes settings" window

ALL DEVICES (BROADCAST):

The means of the fields for the "CONTROL COMMANDS" section are:

- In the "POWER CONTROL" bar it is possible to change the actual ADV of the entire DALI network;
- In the field "COMMAND" it is possible to select a DALI command to send to the entire DALI network. For set commands, it is possible to insert the value to set in the field "xx". As soon as the command to send is selected, the command is sent: in order to send the same command more times, it is possible to press the "SEND COMMAND" button;
- In the field "COMMAND FEEDBACK" the response from the DALI network is printed.

 **Note:** This section is used to test the functioning of the DALI network.

In the "SET SCENES" section it is possible to activate the programmed scenes into all the DALI devices that have them:

- By pressing the buttons "GO TO: SCENE X" it is possible to activate the correspondent scene in the DALI network. Only the devices that have it will accept the command.

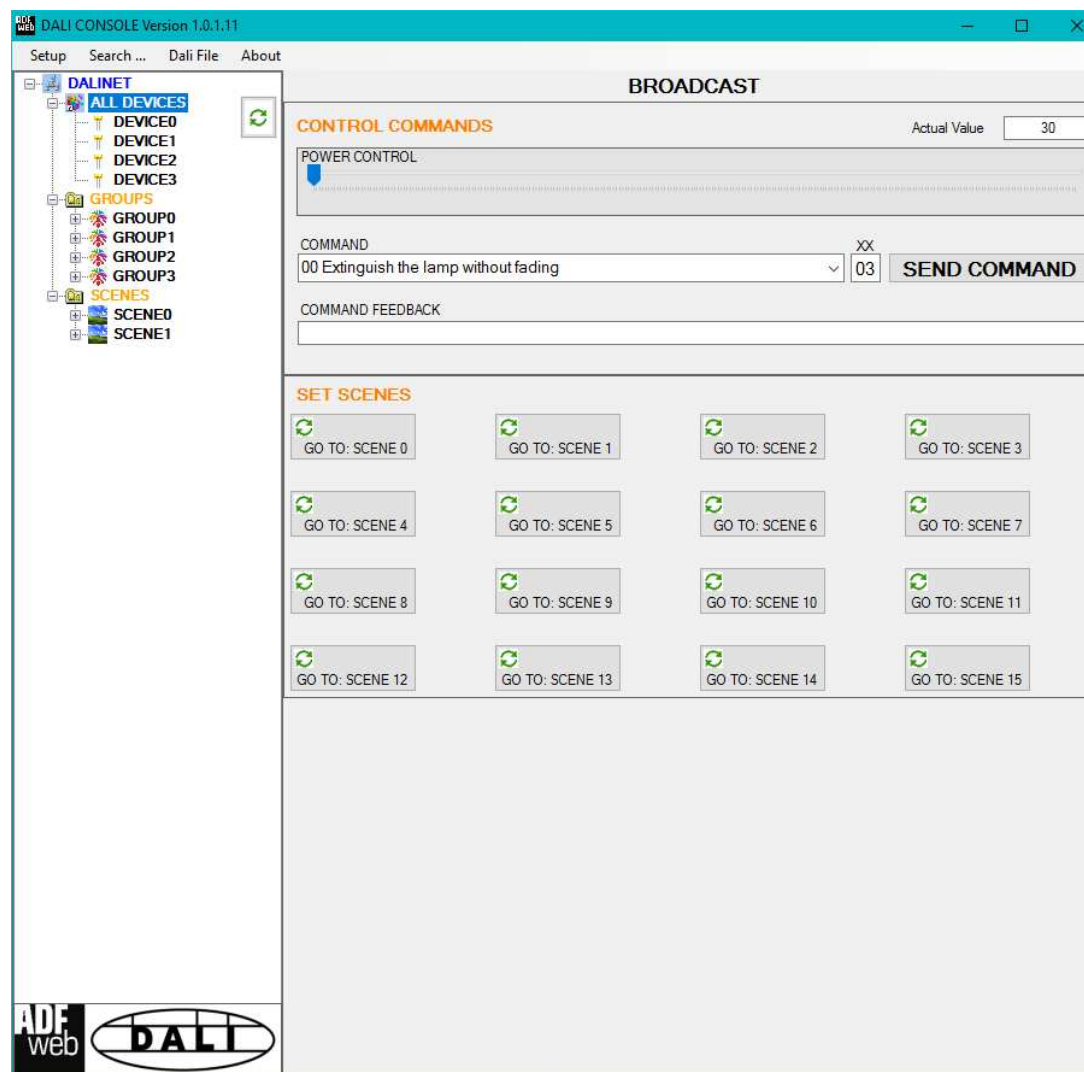


Figure 13: "Broadcast settings" window

DATA MAPPING:

Structure of the KNX map in OUT (readable data from KNX side)

Starting from the first "DALI Data point ADV" defined, the converter creates 64 KNX Data points that will contain the info about the last ADV set inside the DALI lamp. The value will be of 1 byte and it can have a value between 0 and 255. It is possible to read it with a KNX reading request.

ADV READING FOR SINGLE DALI NODES	
Offset (from 'DALI Data Point ADV')	Description
0	ADV to set on DALI node 0
1	ADV to set on DALI node 1
2	ADV to set on DALI node 2
3	ADV to set on DALI node 3
4	ADV to set on DALI node 4
5	ADV to set on DALI node 5
6	ADV to set on DALI node 6
7	ADV to set on DALI node 7
8	ADV to set on DALI node 8
9	ADV to set on DALI node 9
10	ADV to set on DALI node 10
11	ADV to set on DALI node 11
12	ADV to set on DALI node 12
13	ADV to set on DALI node 13
14	ADV to set on DALI node 14
15	ADV to set on DALI node 15

16	ADV to set on DALI node 16
17	ADV to set on DALI node 17
18	ADV to set on DALI node 18
19	ADV to set on DALI node 19
20	ADV to set on DALI node 20
21	ADV to set on DALI node 21
22	ADV to set on DALI node 22
23	ADV to set on DALI node 23
24	ADV to set on DALI node 24
25	ADV to set on DALI node 25
26	ADV to set on DALI node 26
27	ADV to set on DALI node 27
28	ADV to set on DALI node 28
29	ADV to set on DALI node 29
30	ADV to set on DALI node 30
31	ADV to set on DALI node 31
32	ADV to set on DALI node 32
33	ADV to set on DALI node 33
34	ADV to set on DALI node 34
35	ADV to set on DALI node 35
36	ADV to set on DALI node 36
37	ADV to set on DALI node 37

38	ADV to set on DALI node 38
39	ADV to set on DALI node 39
40	ADV to set on DALI node 40
41	ADV to set on DALI node 41
42	ADV to set on DALI node 42
43	ADV to set on DALI node 43
44	ADV to set on DALI node 44
45	ADV to set on DALI node 45
46	ADV to set on DALI node 46
47	ADV to set on DALI node 47
48	ADV to set on DALI node 48
49	ADV to set on DALI node 49
50	ADV to set on DALI node 50
51	ADV to set on DALI node 51
52	ADV to set on DALI node 52
53	ADV to set on DALI node 53
54	ADV to set on DALI node 54
55	ADV to set on DALI node 55
56	ADV to set on DALI node 56
57	ADV to set on DALI node 57
58	ADV to set on DALI node 58
59	ADV to set on DALI node 59
60	ADV to set on DALI node 60

61	ADV to set on DALI node 61
62	ADV to set on DALI node 62
63	ADV to set on DALI node 63

For example:

Supposing that the "DALI Data Point ADV" set is '3/3/0', in order to read the ADV of the DALI node 27, it is necessary to read the KNX Group Address 3/3/27 (DALI Data Point + Offset = 3/3/0 + 27 = 3/3/27).

Structure of the KNX map in IN (settable data from KNX side)

Starting from the first "DALI Data Point ADV", "DALI Data Point SW" and "DALI Data Point DIM" defined, the converter creates consecutive KNX Data points that can be used to manage the ADV setting on the DALI network for single nodes, groups, broadcast and scenes.

In order to manage the single DALI nodes, the groups and the entire network, it is possible to use three different ways:

- Writing the specific ADV to set: it is possible to write the value as 1 byte value (0-255) in order to set the desired ADV;
- Switch ON and OFF: it is possible to turn OFF (ADV = 0) or turn ON (ADV = 254) the DALI devices. It is necessary to use a switch command on KNX side (1-bit);
- Dimming: it is possible to dim up or down the light between the minimum and the maximum ADV allowed in the DALI devices. It is necessary to use a 3-bit format on KNX side.

In order to manage the scenes, it is possible to write inside the reserved KNX Group Addresses the DALI ID in which setting the selected scene (1-byte format):

- ID for single nodes: 0-63;
- ID for groups: 64-79;
- ID for broadcast: 80.

For each DALI Data Point group, they are created consecutive Data Points used to manage the DALI devices:

- 97 Data Points for the ADV setting starting from "DALI Data Point ADV":
 - 0-63th: single DALI node;
 - 64th-79th: DALI groups;
 - 80th: broadcast;
 - 81th-96th: Scene.
- 80 Data Points for switching starting from "DALI Data Point SW":
 - 0-63th: single DALI node;
 - 64th-79th: DALI groups;
 - 80th: broadcast.
- 80 Data Points for dimming starting from "DALI Data Point DIM":
 - 0-63th: single DALI node;
 - 64th-79th: DALI groups;
 - 80th: broadcast.

ADV SETTING:

ADV SETTING FOR SINGLE DALI NODES	
Offset (from 'DALI Data Point ADV')	Description
0	ADV to set on DALI node 0
1	ADV to set on DALI node 1
2	ADV to set on DALI node 2
3	ADV to set on DALI node 3
4	ADV to set on DALI node 4
5	ADV to set on DALI node 5
6	ADV to set on DALI node 6
7	ADV to set on DALI node 7
8	ADV to set on DALI node 8
9	ADV to set on DALI node 9
10	ADV to set on DALI node 10
11	ADV to set on DALI node 11
12	ADV to set on DALI node 12
13	ADV to set on DALI node 13
14	ADV to set on DALI node 14
15	ADV to set on DALI node 15
16	ADV to set on DALI node 16
17	ADV to set on DALI node 17
18	ADV to set on DALI node 18
19	ADV to set on DALI node 19
20	ADV to set on DALI node 20

21	ADV to set on DALI node 21
22	ADV to set on DALI node 22
23	ADV to set on DALI node 23
24	ADV to set on DALI node 24
25	ADV to set on DALI node 25
26	ADV to set on DALI node 26
27	ADV to set on DALI node 27
28	ADV to set on DALI node 28
29	ADV to set on DALI node 29
30	ADV to set on DALI node 30
31	ADV to set on DALI node 31
32	ADV to set on DALI node 32
33	ADV to set on DALI node 33
34	ADV to set on DALI node 34
35	ADV to set on DALI node 35
36	ADV to set on DALI node 36
37	ADV to set on DALI node 37
38	ADV to set on DALI node 38
39	ADV to set on DALI node 39
40	ADV to set on DALI node 40
41	ADV to set on DALI node 41
42	ADV to set on DALI node 42
43	ADV to set on DALI node 43
44	ADV to set on DALI node 44

45	ADV to set on DALI node 45
46	ADV to set on DALI node 46
47	ADV to set on DALI node 47
48	ADV to set on DALI node 48
49	ADV to set on DALI node 49
50	ADV to set on DALI node 50
51	ADV to set on DALI node 51
52	ADV to set on DALI node 52
53	ADV to set on DALI node 53
54	ADV to set on DALI node 54
55	ADV to set on DALI node 55
56	ADV to set on DALI node 56
57	ADV to set on DALI node 57
58	ADV to set on DALI node 58
59	ADV to set on DALI node 59
60	ADV to set on DALI node 60
61	ADV to set on DALI node 61
62	ADV to set on DALI node 62
63	ADV to set on DALI node 63

ADV SETTING FOR GROUPS	
Offset (from 'DALI Data Point ADV')	Description
64	ADV to set on Group 0
65	ADV to set on Group 1
66	ADV to set on Group 2
67	ADV to set on Group 3
68	ADV to set on Group 4
69	ADV to set on Group 5
70	ADV to set on Group 6
71	ADV to set on Group 7
72	ADV to set on Group 8
73	ADV to set on Group 9
74	ADV to set on Group 10
75	ADV to set on Group 11
76	ADV to set on Group 12
77	ADV to set on Group 13
78	ADV to set on Group 14
79	ADV to set on Group 15

ADV SETTING (BROADCAST)	
Offset (from 'DALI Data Point ADV')	Description
80	ADV to set

For example:

Supposing that the "DALI Data Point" set is '3/3/0', in order to write the ADV of the DALI node 27, it is necessary to write the KNX Group Address 3/3/27 (DALI Data Point + Offset = 3/3/0 + 27 = 3/3/27).

If we want to write the Group 2, it is necessary to write the KNX Groups Address 3/3/66.

SCENE CONTROL	
Offset (from 'DALI Data Point ADV')	Description
81	Scene 0 management's KNX group address
82	Scene 1 management's KNX group address
83	Scene 2 management's KNX group address
84	Scene 3 management's KNX group address
85	Scene 4 management's KNX group address
86	Scene 5 management's KNX group address
87	Scene 6 management's KNX group address
88	Scene 7 management's KNX group address
89	Scene 8 management's KNX group address
90	Scene 9 management's KNX group address
91	Scene 10 management's KNX group address
92	Scene 11 management's KNX group address
93	Scene 12 management's KNX group address
94	Scene 13 management's KNX group address
95	Scene 14 management's KNX group address
96	Scene 15 management's KNX group address

For example:

Supposing that the "DALI Data Point" set is '3/3/0', in order to write the set the scene 4 in the group 5, it is necessary to write the value '68' into the KNX Group Address 3/3/85.

SWITCHING SETTING:

ADV SETTING FOR SINGLE DALI NODES	
Offset (from 'DALI Data Point SW)	Description
0	0 = OFF, 1 = ON → DALI node 0
1	0 = OFF, 1 = ON → DALI node 1
2	0 = OFF, 1 = ON → DALI node 2
3	0 = OFF, 1 = ON → DALI node 3
4	0 = OFF, 1 = ON → DALI node 4
5	0 = OFF, 1 = ON → DALI node 5
6	0 = OFF, 1 = ON → DALI node 6
7	0 = OFF, 1 = ON → DALI node 7
8	0 = OFF, 1 = ON → DALI node 8
9	0 = OFF, 1 = ON → DALI node 9
10	0 = OFF, 1 = ON → DALI node 10
11	0 = OFF, 1 = ON → DALI node 11
12	0 = OFF, 1 = ON → DALI node 12
13	0 = OFF, 1 = ON → DALI node 13
14	0 = OFF, 1 = ON → DALI node 14
15	0 = OFF, 1 = ON → DALI node 15
16	0 = OFF, 1 = ON → DALI node 16
17	0 = OFF, 1 = ON → DALI node 17
18	0 = OFF, 1 = ON → DALI node 18
19	0 = OFF, 1 = ON → DALI node 19
20	0 = OFF, 1 = ON → DALI node 20

21	0 = OFF, 1 = ON → DALI node 21
22	0 = OFF, 1 = ON → DALI node 22
23	0 = OFF, 1 = ON → DALI node 23
24	0 = OFF, 1 = ON → DALI node 24
25	0 = OFF, 1 = ON → DALI node 25
26	0 = OFF, 1 = ON → DALI node 26
27	0 = OFF, 1 = ON → DALI node 27
28	0 = OFF, 1 = ON → DALI node 28
29	0 = OFF, 1 = ON → DALI node 29
30	0 = OFF, 1 = ON → DALI node 30
31	0 = OFF, 1 = ON → DALI node 31
32	0 = OFF, 1 = ON → DALI node 32
33	0 = OFF, 1 = ON → DALI node 33
34	0 = OFF, 1 = ON → DALI node 34
35	0 = OFF, 1 = ON → DALI node 35
36	0 = OFF, 1 = ON → DALI node 36
37	0 = OFF, 1 = ON → DALI node 37
38	0 = OFF, 1 = ON → DALI node 38
39	0 = OFF, 1 = ON → DALI node 39
40	0 = OFF, 1 = ON → DALI node 40
41	0 = OFF, 1 = ON → DALI node 41
42	0 = OFF, 1 = ON → DALI node 42
43	0 = OFF, 1 = ON → DALI node 43
44	0 = OFF, 1 = ON → DALI node 44

45	0 = OFF, 1 = ON → DALI node 45
46	0 = OFF, 1 = ON → DALI node 46
47	0 = OFF, 1 = ON → DALI node 47
48	0 = OFF, 1 = ON → DALI node 48
49	0 = OFF, 1 = ON → DALI node 49
50	0 = OFF, 1 = ON → DALI node 50
51	0 = OFF, 1 = ON → DALI node 51
52	0 = OFF, 1 = ON → DALI node 52
53	0 = OFF, 1 = ON → DALI node 53
54	0 = OFF, 1 = ON → DALI node 54
55	0 = OFF, 1 = ON → DALI node 55
56	0 = OFF, 1 = ON → DALI node 56
57	0 = OFF, 1 = ON → DALI node 57
58	0 = OFF, 1 = ON → DALI node 58
59	0 = OFF, 1 = ON → DALI node 59
60	0 = OFF, 1 = ON → DALI node 60
61	0 = OFF, 1 = ON → DALI node 61
62	0 = OFF, 1 = ON → DALI node 62
63	0 = OFF, 1 = ON → DALI node 63

ADV SETTING FOR GROUPS	
Offset (from 'DALI Data Point SW)	Description
64	0 = OFF, 1 = ON → Group 0
65	0 = OFF, 1 = ON → Group 1
66	0 = OFF, 1 = ON → Group 2
67	0 = OFF, 1 = ON → Group 3
68	0 = OFF, 1 = ON → Group 4
69	0 = OFF, 1 = ON → Group 5
70	0 = OFF, 1 = ON → Group 6
71	0 = OFF, 1 = ON → Group 7
72	0 = OFF, 1 = ON → Group 8
73	0 = OFF, 1 = ON → Group 9
74	0 = OFF, 1 = ON → Group 10
75	0 = OFF, 1 = ON → Group 11
76	0 = OFF, 1 = ON → Group 12
77	0 = OFF, 1 = ON → Group 13
78	0 = OFF, 1 = ON → Group 14
79	0 = OFF, 1 = ON → Group 15

ADV SETTING (BROADCAST)	
Offset (from 'DALI Data Point SW)	Description
80	0 = OFF, 1 = ON → Broadcast

For example:

Supposing that the "DALI Data Point" set is '3/4/0', in order to write the ADV of the DALI node 27, it is necessary to write the KNX Group Address 3/4/27 (DALI Data Point + Offset = 3/4/0 + 27 = 3/4/27).

If we want to write the Group 2, it is necessary to write the KNX Groups Address 3/4/66.

DIMMING SETTING:

ADV SETTING FOR SINGLE DALI NODES	
Offset (from 'DALI Data Point DIM)	Description
0	Dim to set on DALI node 0
1	Dim to set on DALI node 1
2	Dim to set on DALI node 2
3	Dim to set on DALI node 3
4	Dim to set on DALI node 4
5	Dim to set on DALI node 5
6	Dim to set on DALI node 6
7	Dim to set on DALI node 7
8	Dim to set on DALI node 8
9	Dim to set on DALI node 9
10	Dim to set on DALI node 10
11	Dim to set on DALI node 11
12	Dim to set on DALI node 12
13	Dim to set on DALI node 13
14	Dim to set on DALI node 14
15	Dim to set on DALI node 15
16	Dim to set on DALI node 16
17	Dim to set on DALI node 17
18	Dim to set on DALI node 18
19	Dim to set on DALI node 19
20	Dim to set on DALI node 20

21	Dim to set on DALI node 21
22	Dim to set on DALI node 22
23	Dim to set on DALI node 23
24	Dim to set on DALI node 24
25	Dim to set on DALI node 25
26	Dim to set on DALI node 26
27	Dim to set on DALI node 27
28	Dim to set on DALI node 28
29	Dim to set on DALI node 29
30	Dim to set on DALI node 30
31	Dim to set on DALI node 31
32	Dim to set on DALI node 32
33	Dim to set on DALI node 33
34	Dim to set on DALI node 34
35	Dim to set on DALI node 35
36	Dim to set on DALI node 36
37	Dim to set on DALI node 37
38	Dim to set on DALI node 38
39	Dim to set on DALI node 39
40	Dim to set on DALI node 40
41	Dim to set on DALI node 41
42	Dim to set on DALI node 42
43	Dim to set on DALI node 43
44	Dim to set on DALI node 44

45	Dim to set on DALI node 45
46	Dim to set on DALI node 46
47	Dim to set on DALI node 47
48	Dim to set on DALI node 48
49	Dim to set on DALI node 49
50	Dim to set on DALI node 50
51	Dim to set on DALI node 51
52	Dim to set on DALI node 52
53	Dim to set on DALI node 53
54	Dim to set on DALI node 54
55	Dim to set on DALI node 55
56	Dim to set on DALI node 56
57	Dim to set on DALI node 57
58	Dim to set on DALI node 58
59	Dim to set on DALI node 59
60	Dim to set on DALI node 60
61	Dim to set on DALI node 61
62	Dim to set on DALI node 62
63	Dim to set on DALI node 63

ADV SETTING FOR GROUPS	
Offset (from 'DALI Data Point DIM)	Description
64	Dim to set on Group 0
65	Dim to set on Group 1
66	Dim to set on Group 2
67	Dim to set on Group 3
68	Dim to set on Group 4
69	Dim to set on Group 5
70	Dim to set on Group 6
71	Dim to set on Group 7
72	Dim to set on Group 8
73	Dim to set on Group 9
74	Dim to set on Group 10
75	Dim to set on Group 11
76	Dim to set on Group 12
77	Dim to set on Group 13
78	Dim to set on Group 14
79	Dim to set on Group 15

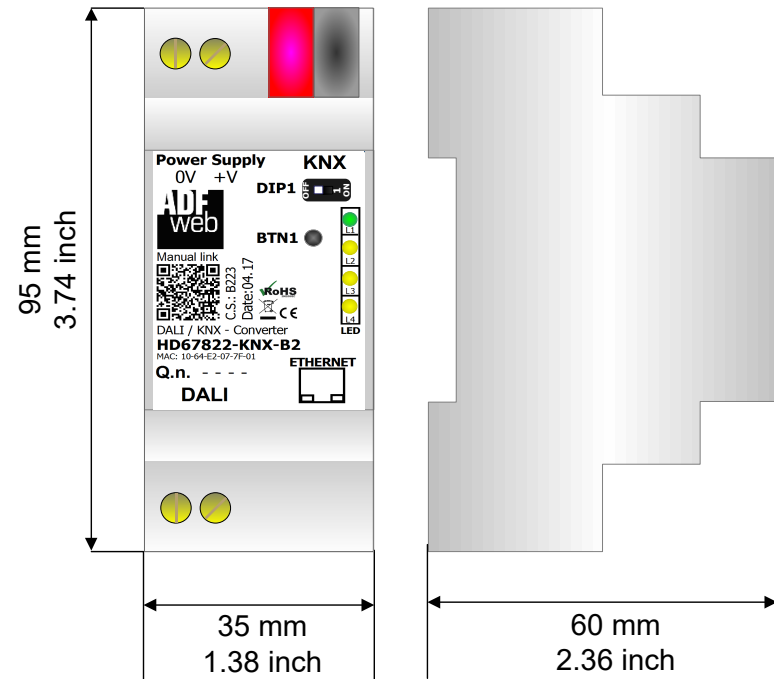
ADV SETTING (BROADCAST)	
Offset (from 'DALI Data Point DIM)	Description
80	Dim to set

For example:

Supposing that the "DALI Data Point" set is '3/5/0', in order to write the ADV of the DALI node 27, it is necessary to write the KNX Group Address 3/5/27 (DALI Data Point + Offset = 3/5/0 + 27 = 3/5/27).

If we want to write the Group 2, it is necessary to write the KNX Groups Address 3/5/66.

MECHANICAL DIMENSIONS:



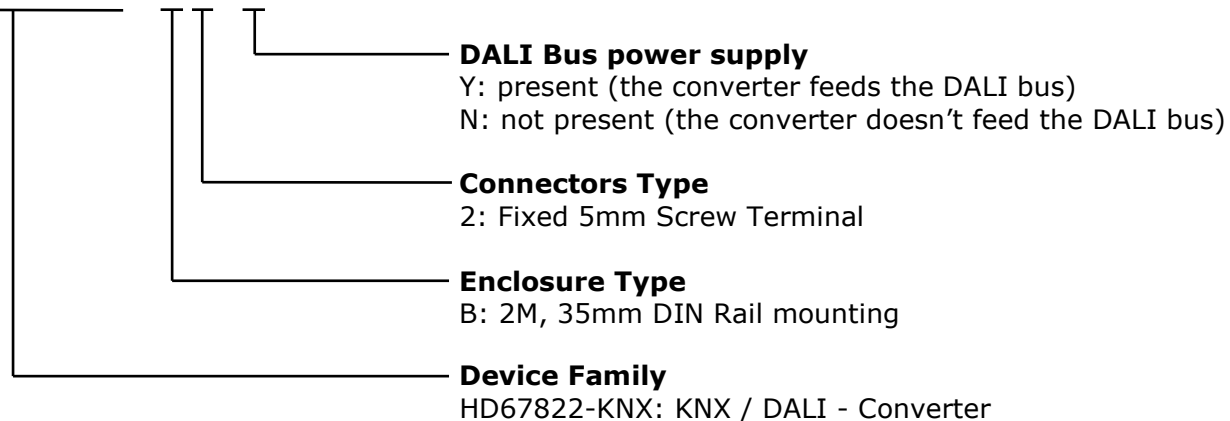
Housing: PVC
 Weight: 200g
 (Approx)

Figure 14: Mechanical dimensions scheme for HD67822-KNX-B2-x

ORDERING INFORMATIONS:

The ordering part number is formed by a valid combination of the following:

HD67822 - KNX - B 2 - x



- Order Code: **HD67822-KNX-B2-Y** - KNX / DALI - Converter (DALI bus power supply present)
- Order Code: **HD67822-KNX-B2-N** - KNX / DALI - Converter (DALI bus power supply not present)

ACCESSORIES:

- Order Code: **AC34001** - 35mm Rail DIN - Power Supply 220/240V AC 50/60Hz - 12 V AC
- Order Code: **AC34002** - 35mm Rail DIN - Power Supply 110V AC 50/60Hz - 12 V AC
- Order Code: **AC34-AB1TP** - KNX Power Supply - KNX out 640mA - in 240VAC
- Order Code: **AC34-AG1TP** - KNX Power Supply - KNX out 640mA + AUX out 30VDC - in 240VAC

DISCLAIMER:

All technical content within this document can be modified without notice. The content of the document is a under continual renewal. For losses due to fire, earthquake, third party access or other accidents, or intentional or accidental abuse, misuse, or use under abnormal conditions repairs are charged to the user. ADFweb.com S.r.l. will not be liable for accidental loss of use or inability to use this product, such as loss of business income. ADFweb.com S.r.l. shall not be liable for consequences of improper use.

OTHER REGULATIONS AND STANDARDS:**WEEE INFORMATION**

Disposal of old electrical and electronic equipment (as in the European Union and other European countries with separate collection systems).

— This symbol on the product or on its packaging indicates that this product may not be treated as household rubbish. Instead, it should be taken to an applicable collection point for the recycling of electrical and electronic equipment. If the product is disposed correctly, you will help prevent potential negative environmental factors and impact of human health, which could otherwise be caused by inappropriate disposal. The recycling of materials will help to conserve natural resources. For more information about recycling this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE

The device respects the 2002/95/EC Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (commonly referred to as Restriction of Hazardous Substances Directive or RoHS).

CE MARKING

The product conforms with the essential requirements of the applicable EC directives.

WARRANTIES AND TECHNICAL SUPPORT:

For fast and easy technical support for your ADFweb.com SRL products, consult our internet support at www.adfweb.com.
Otherwise contact us at the address support@adfweb.com

RETURN POLICY:

If while using your product you have any problem and you wish to exchange or repair it, please do the following:

- Obtain a Product Return Number (PRN) from our internet support at www.adfweb.com. Together with the request, you need to provide detailed information about the problem.
- Send the product to the address provided with the PRN, having prepaid the shipping costs (shipment costs billed to us will not be accepted).

If the product is within the warranty of twelve months, it will be repaired or exchanged and returned within three weeks. If the product is no longer under warranty, you will receive a repair estimate.



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