![ADFweb logo] Industrial Electronic Devices

User Manual

Revision 1.000
English

DALI / Ethernet - Converter

(Order Code: HD67839-B2-Y, HD67839-B2-N)

for Website information:
www.adfweb.com?Product=HD67839

for Price information:
www.adfweb.com?Price=HD67839-B2

Benefits and Main Features:

⊕ Very easy to configure

⊕ Electrical isolation

⊕ Temperature range: -40°C/85°C (-40°F/185°F)

User Manual

For others DALI products, see also the following links:

Converter DALI to
www.adfweb.com?Product=HD67832   **(BACnet/IP Master)**
www.adfweb.com?Product=HD67833   **(BACnet/IP Slave)**
www.adfweb.com?Product=HD67840   **(EtherNet/IP)**
www.adfweb.com?Product=HD67844   **(Modbus TCP Master)**
www.adfweb.com?Product=HD67845   **(Modbus TCP Slave)**
www.adfweb.com?Product=HD67848   **(PROFINET)**
www.adfweb.com?Product=HD67849   **(SNMP Manager)**
www.adfweb.com?Product=HD67850   **(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

INDEX:

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

WARNING:

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ADFweb.com is not responsible for any error this manual may contain.

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Industrial Electronic Devices

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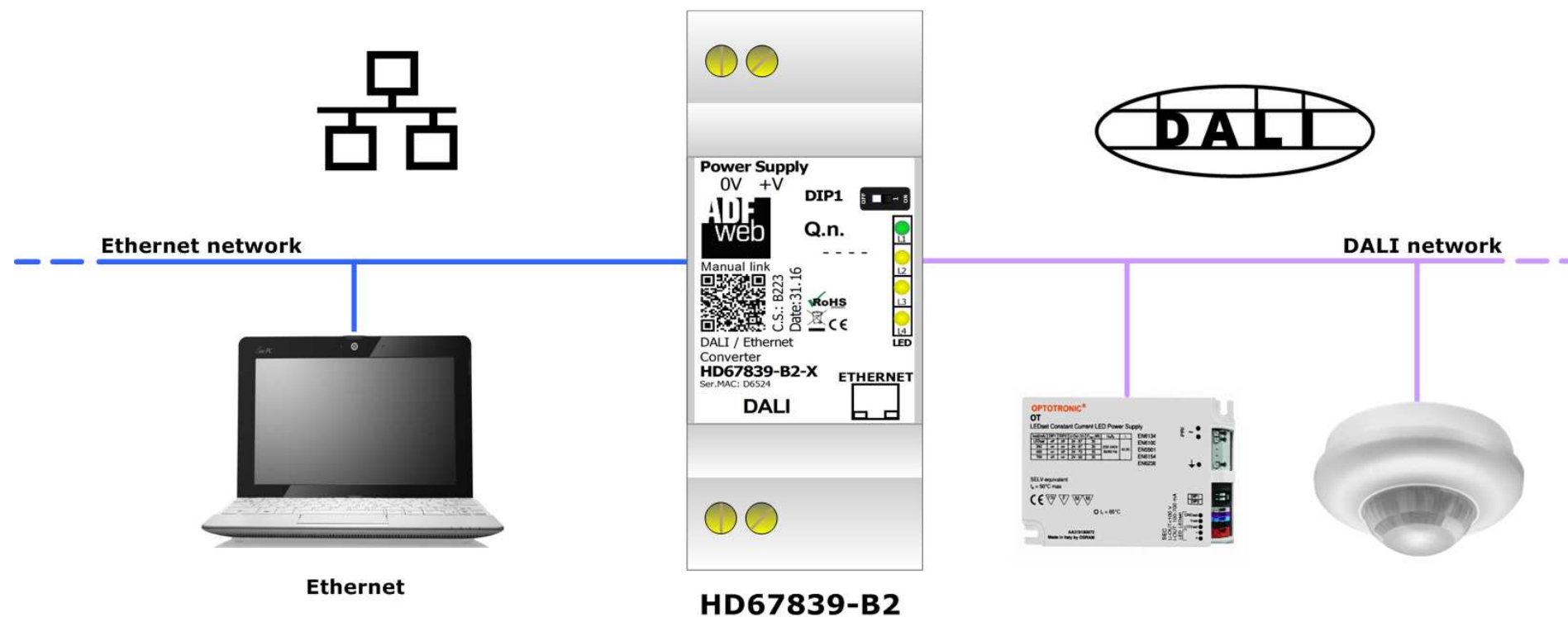
⚠ This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

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.
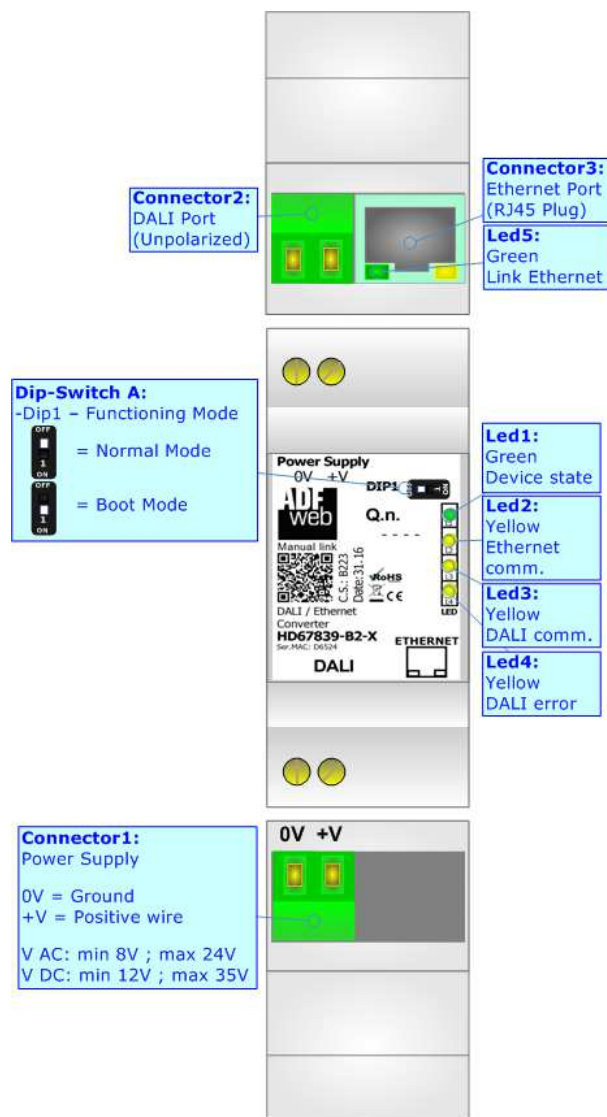
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EXAMPLE OF CONNECTION:

Ethernet network

Ethernet

HD67839-B2

DALI network

CONNECTION SCHEME:

Connector2:
DALI Port
(Unpolarized)

Connector3:
Ethernet Port
(RJ45 Plug)

Led5:
Green
Link Ethernet

Dip-Switch A:
-Dip1 – Functioning Mode

= Normal Mode

= Boot Mode

Power Supply
0V +V

DIP1

Q.n.

Manual link

C.S.: B23
Date: 31.16

RoHS

CE

DALI / Ethernet
Converter
HD67839-B2-X
Ser.MAC: D6524

DALI

ETHERNET

LED

Led1:
Green
Device state

Led2:
Yellow
Ethernet
comm.

Led3:
Yellow
DALI comm.

Led4:
Yellow
DALI error

Connector1:
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 24V
V DC: min 12V ; max 35V

0V +V

Figure 1: Connection scheme for HD67839-B2

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CHARACTERISTICS:

The HD67839 is a DALI / Ethernet - Converter.

It has the following characteristics:

→ Up to 64 devices on DALI bus;
→ Configurator for DALI network/devices;
→ Isolation between DALI – Ethernet, Power Supply - Ethernet. Additional isolation Power Supply – DALI for HD67839-B2-N version;
→ Two-directional information between DALI bus and Ethernet 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 SW67839 software on your PC in order to perform the following:

→ Define the parameter of Ethernet line;
→ Define the parameter of DALI line;
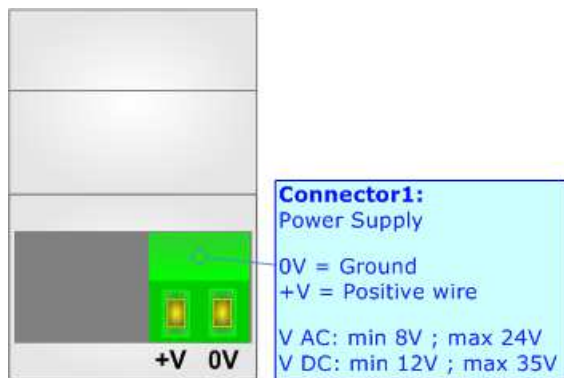→ Update the device.

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POWER SUPPLY:

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

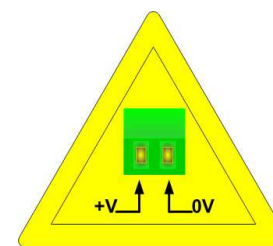| VAC		VDC	
Vmin	**Vmax**	**Vmin**	**Vmax**
8V	**24V**	**12V**	**35V**

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67839-B2	3.5

Connector1:
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 24V
V DC: min 12V ; max 35V

+V 0V

Caution: Not reverse the polarity power

+V   0V

HD67839-B2

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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.

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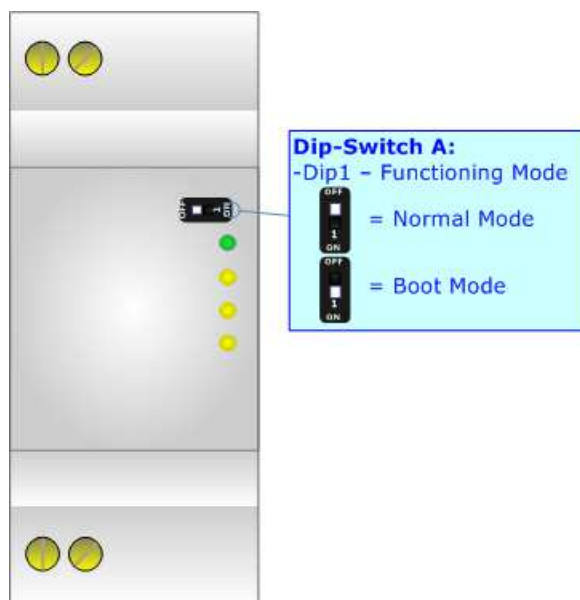
LEDS:

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: Ethernet communication (yellow)	Blinks when Ethernet 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

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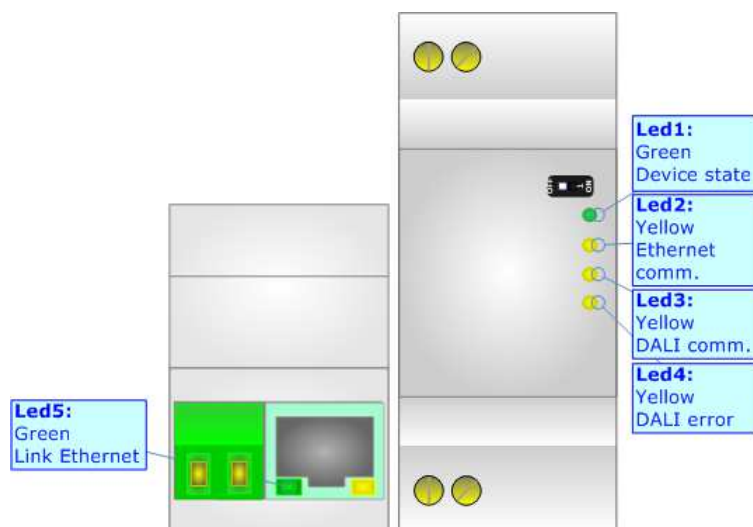
DALI:

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.

Connector2:
DALI Port
(Unpolarized)
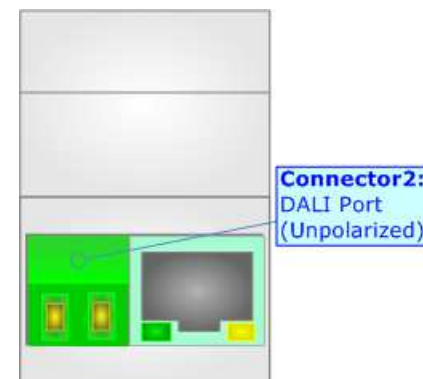
Characteristics	Description
Medium	Shielded Twisted Pair
Topology	Linear, Star or mixed
Device power consumption	Max 250 mA
DALI voltage	9.5 V – 22.5 V (typical 16 V)
Maximum cable length	300 m (1.5 mm2 wire)
Maximum number of DALI devices	64
Baud rate	1200 bps
Maximum number of DALI groups	16
Maximum number of DALI scenes	16

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ETHERNET:

The Ethernet port is used for the Ethernet communication, for programming DALI network and for programming the device.
The Ethernet connection must be made using Connector2 of HD67839-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.

Connector3:
Ethernet Port
(RJ45 Plug)

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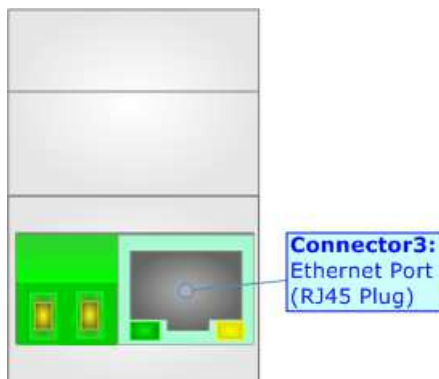
USE OF COMPOSITOR SW67839:

To configure the Converter, use the available software that runs with Windows called SW67839. 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 SW67839, the window below appears (Fig. 2).
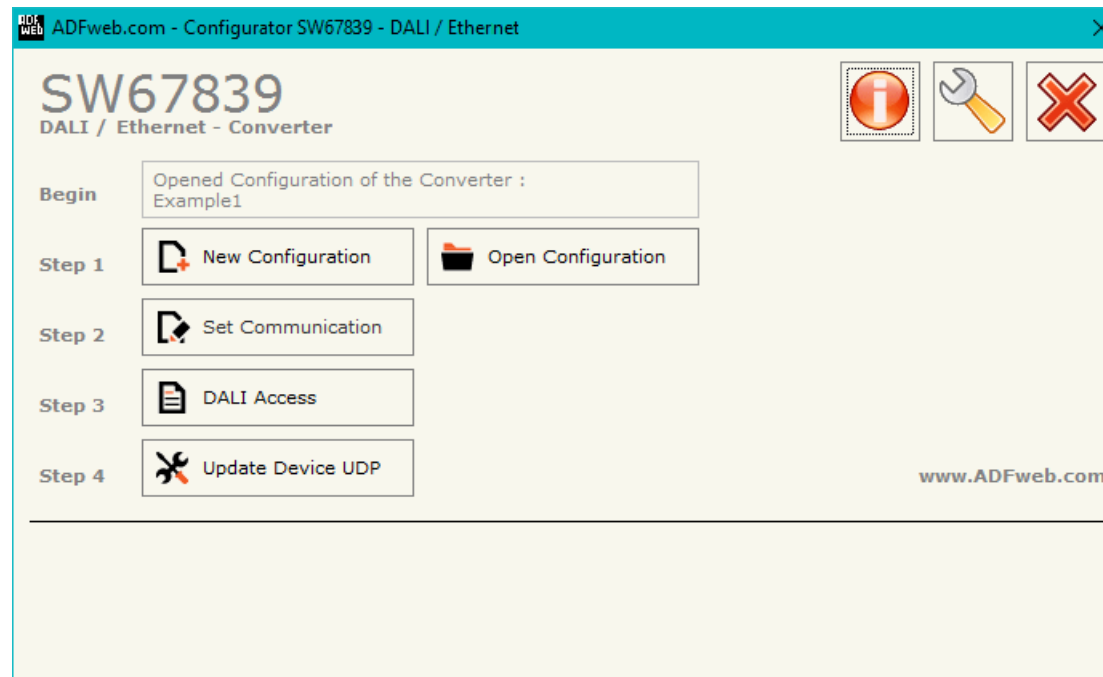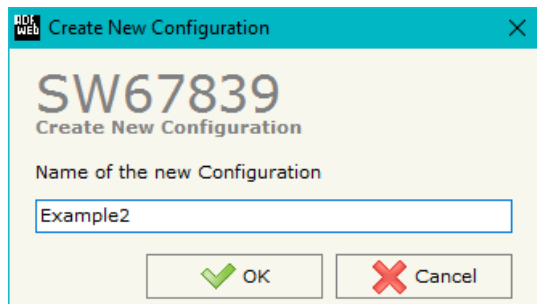
Note:
It is necessary to have installed .Net Framework 4.


Figure 2: Main window for SW67839

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NEW CONFIGURATION / OPEN CONFIGURATION:

The "**New Configuration**" button creates the folder which contains the entire device's configuration.

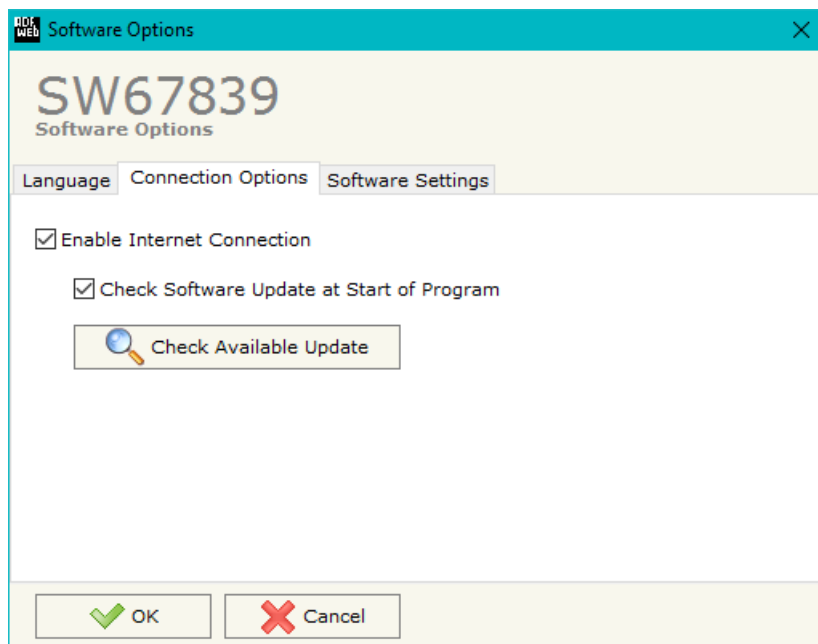A device's configuration can also be imported or exported:

- To clone the configurations of a Programmable "DALI / Ethernet - 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**".

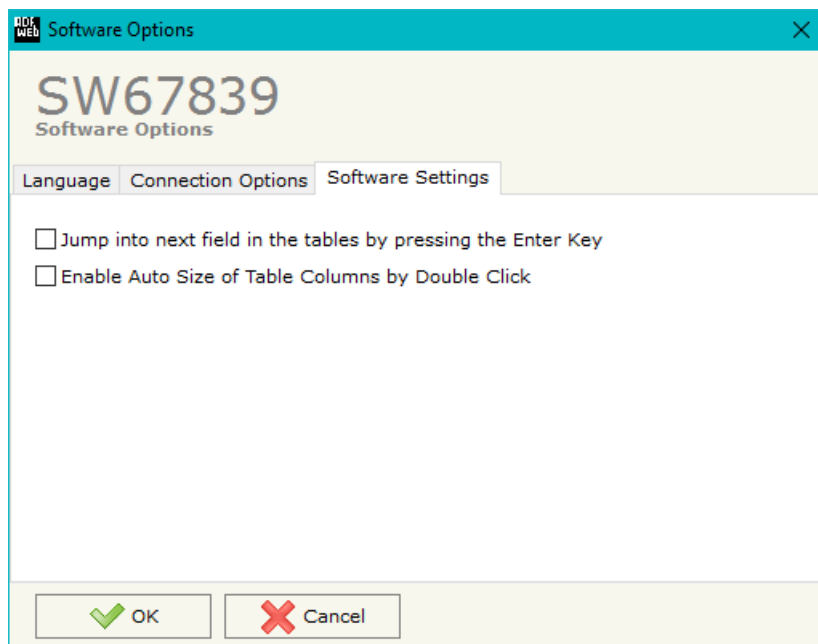![ADFweb logo] Industrial Electronic Devices
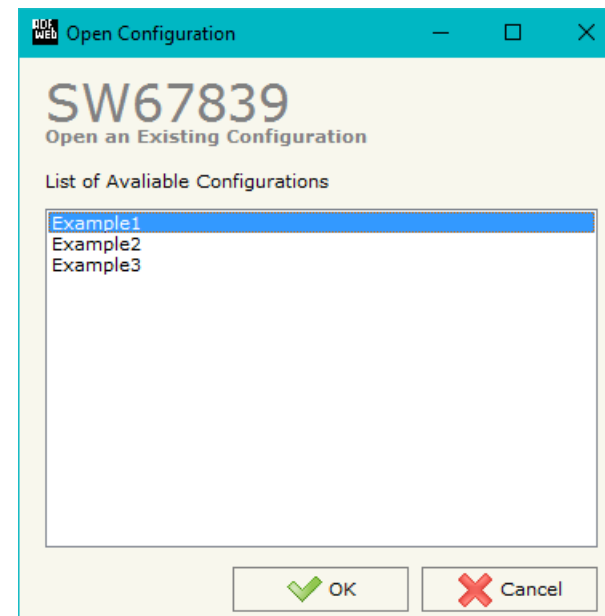
SOFTWARE OPTIONS:

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.

SW67839
Software Options

| Language | Connection Options | Software Settings |

Selected Language :

🏴 English

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✔ OK   ✖ Cancel

SW67839
Software Options

| Language | Connection Options | Software Settings |

☑ Enable Internet Connection

☑ Check Software Update at Start of Program

🔍 Check Available Update

✔ OK   ✖ Cancel

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 SW67839 check automatically if there are updatings when it is launched.

Software Options

SW67839
Software Options

| Language | Connection Options | Software Settings |

☐ Jump into next field in the tables by pressing the Enter Key
☐ Enable Auto Size of Table Columns by Double Click

✓ OK   ✗ Cancel

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.

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SET COMMUNICATION:

This section define the fundamental communication parameters of Ethernet bus.

By Pressing the "**Set Communication**" button from the main window for SW67839 (Fig. 2) the window "Set Communication" appears (Fig. 3).

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.

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

- In the field "**DALI Console Port**" the UDP port used for Ethernet communication is defined.

Note:
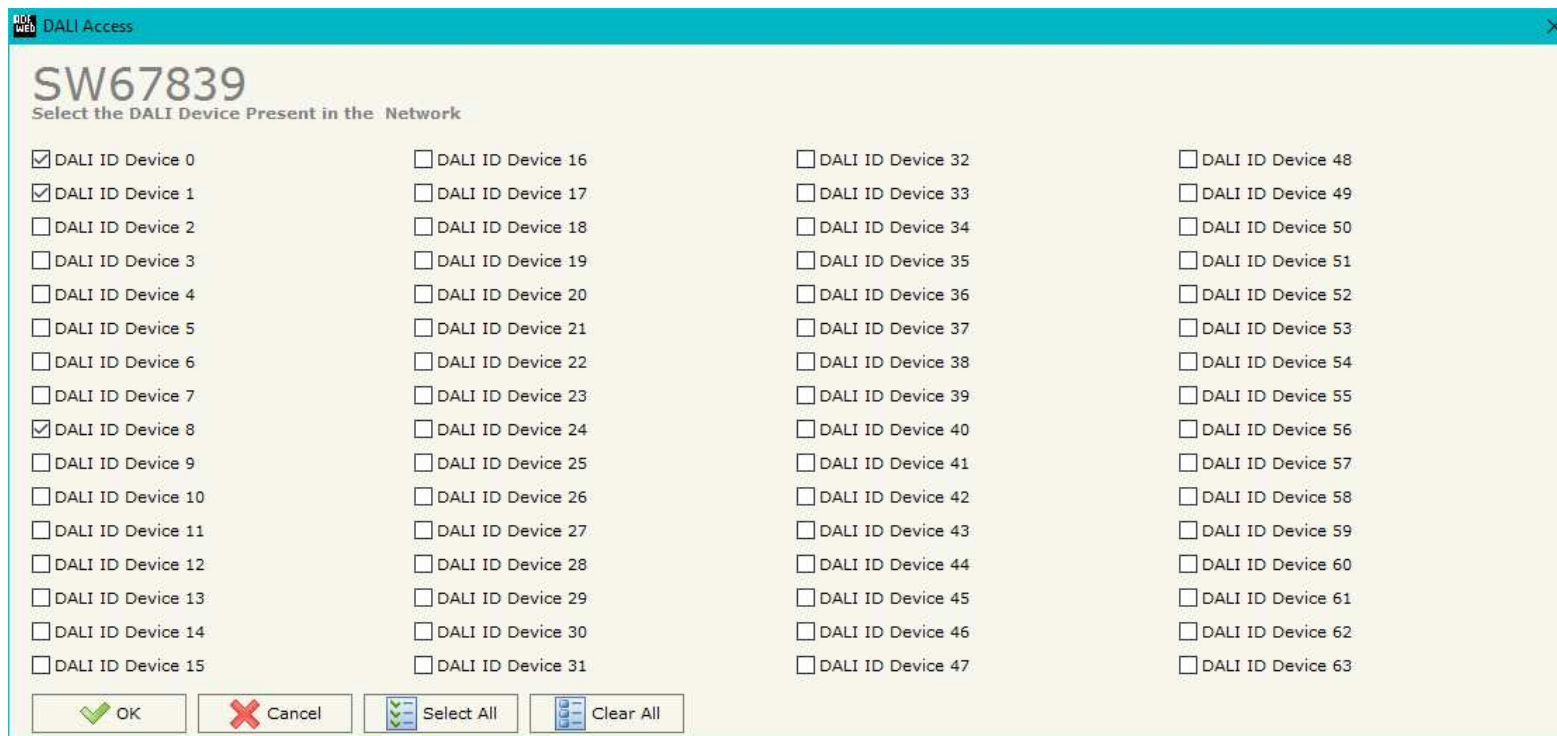For Ethernet communication, UDP protocol is allowed.

Figure 3: "Set Communication" window

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DALI ACCESS:

By pressing the "**DALI Access**" button from the main window for SW67839 (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.

Figure 4: "DALI Access" window

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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.
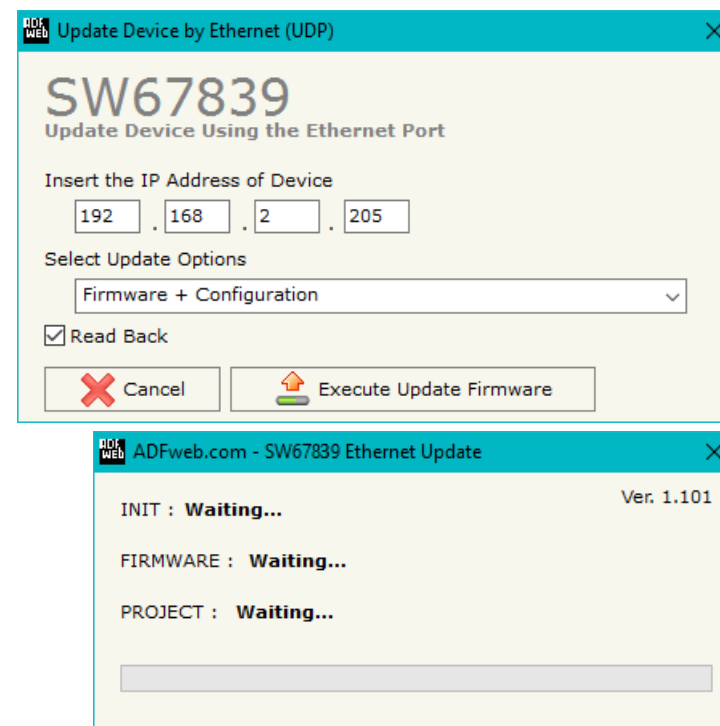
Figure 5: "Update device" windows

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 HD67839 device.

Note:
    When you receive the device, for the first time, you also have to update the Firmware in the HD67839 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.
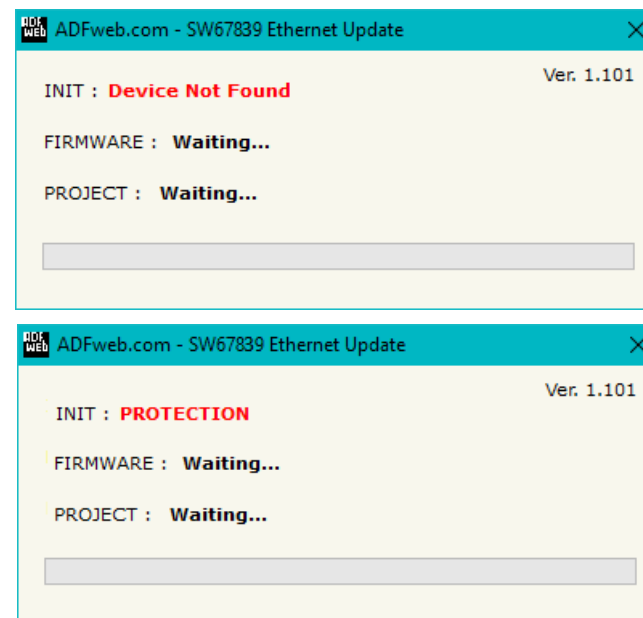
Figure 6: "Protection" window

In the case of HD67839 you have to use the software "SW67839": www.adfweb.com\download\filefold\SW67839.zip.

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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).
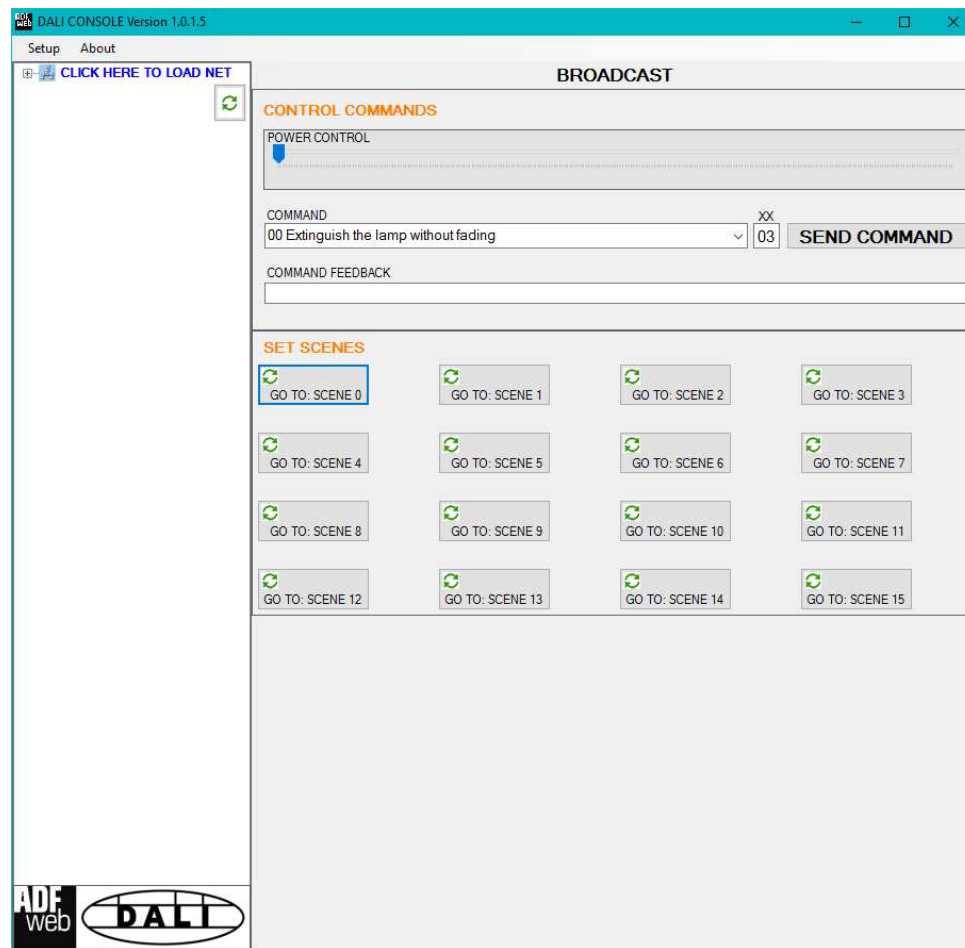
Figure 7: Main window for DALI Console

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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 and see the informations about the DALI Console software;
- "**Network view**" (Fig. 8, Point 2): it is possible to see all the DALI devices connected to the HD67839 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.

Figure 8: Structure of DALI Console software

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SETUP:

This section defines the connection's parameters to the Ethernet side of the HD67839 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**" insert the IP address set inside the converter;
➔ In the field "**PRG PORT**" insert the communication port used for the Ethernet communication with the converter (the one programmed);
➔ By pressing "**SET ADDRESS ON DEVICE**" button, it is possible to program the ID of the DALI node connected to the converter.

⚠ IMPORTANT: in order to set the ID of the DALI nodes, it is necessary to connect just one DALI node at time to the converter in order to avoid conflicts in the network.

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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**" the Min value, Actual Value and Max Value of the ADV of the DALI device is printed;
- In the fields "**DEVICE STATUS**" the actual status of the DALI device is printed.

Note:
    This section is in Reading and it is used just to monitor the actual status of the selected DALI device.

Figure 10: "Device settings" window

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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 ned (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:

  o Value between 0 and 255: the scene will have the defined value of ADV;
  o ACT: the scene will take the programmed ADV value into the "POWER CONTROL" bar;
  o OFF: the scene is disabled.

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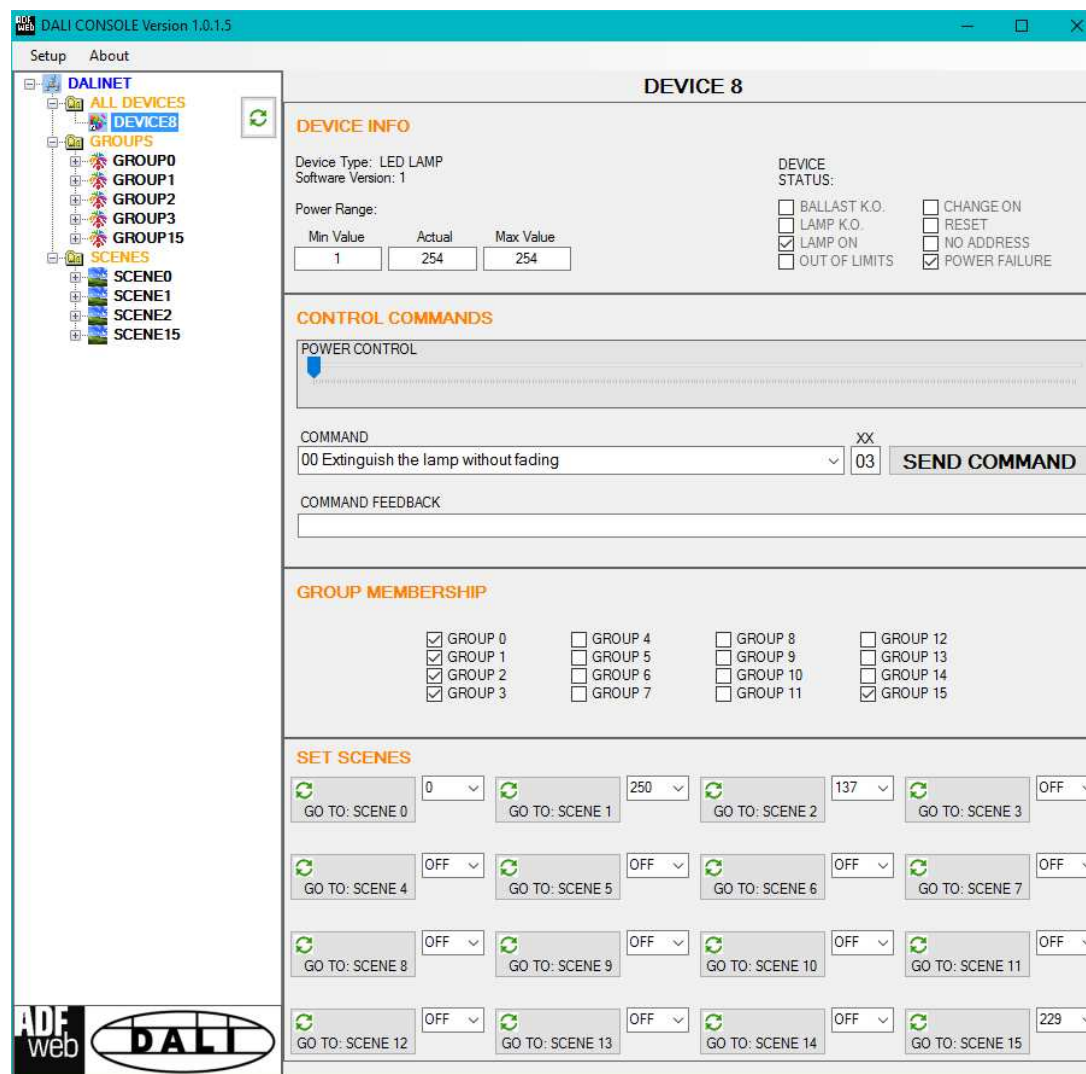
The means of the fields for the "CONTROL COMMANDS" section are:

+ 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.
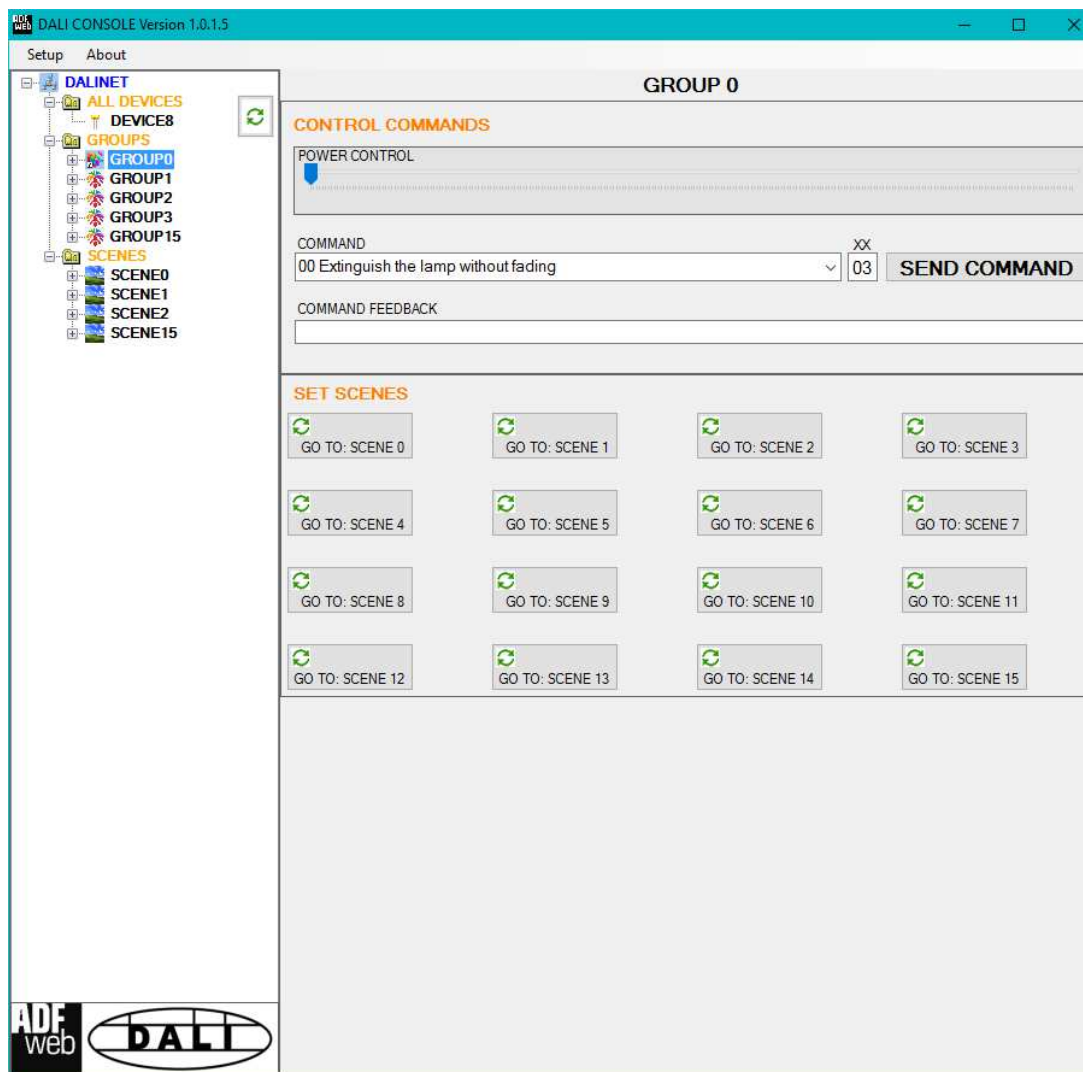
Figure 11: "Groups settings" window

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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.
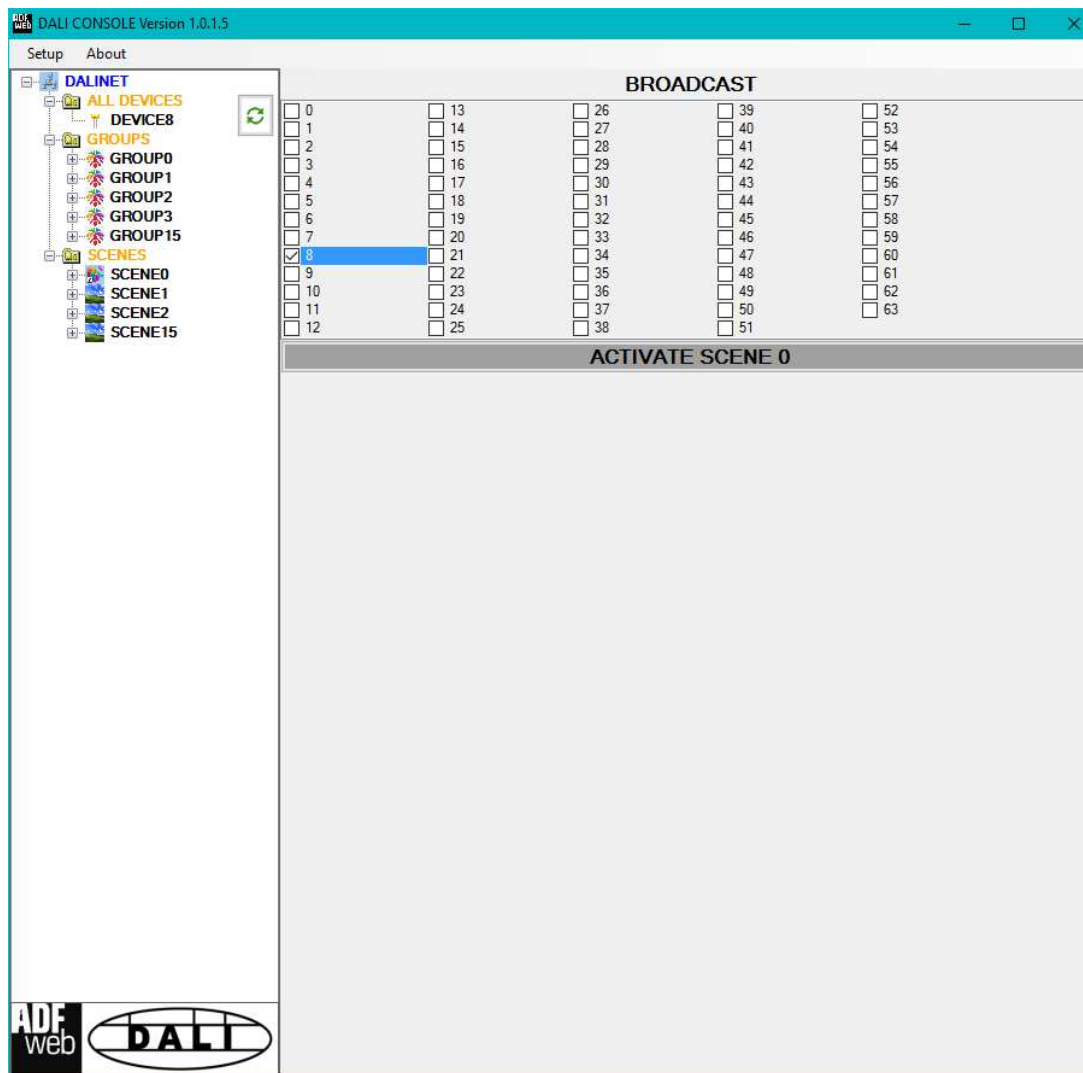
Figure 12: "Scenes settings" window

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.
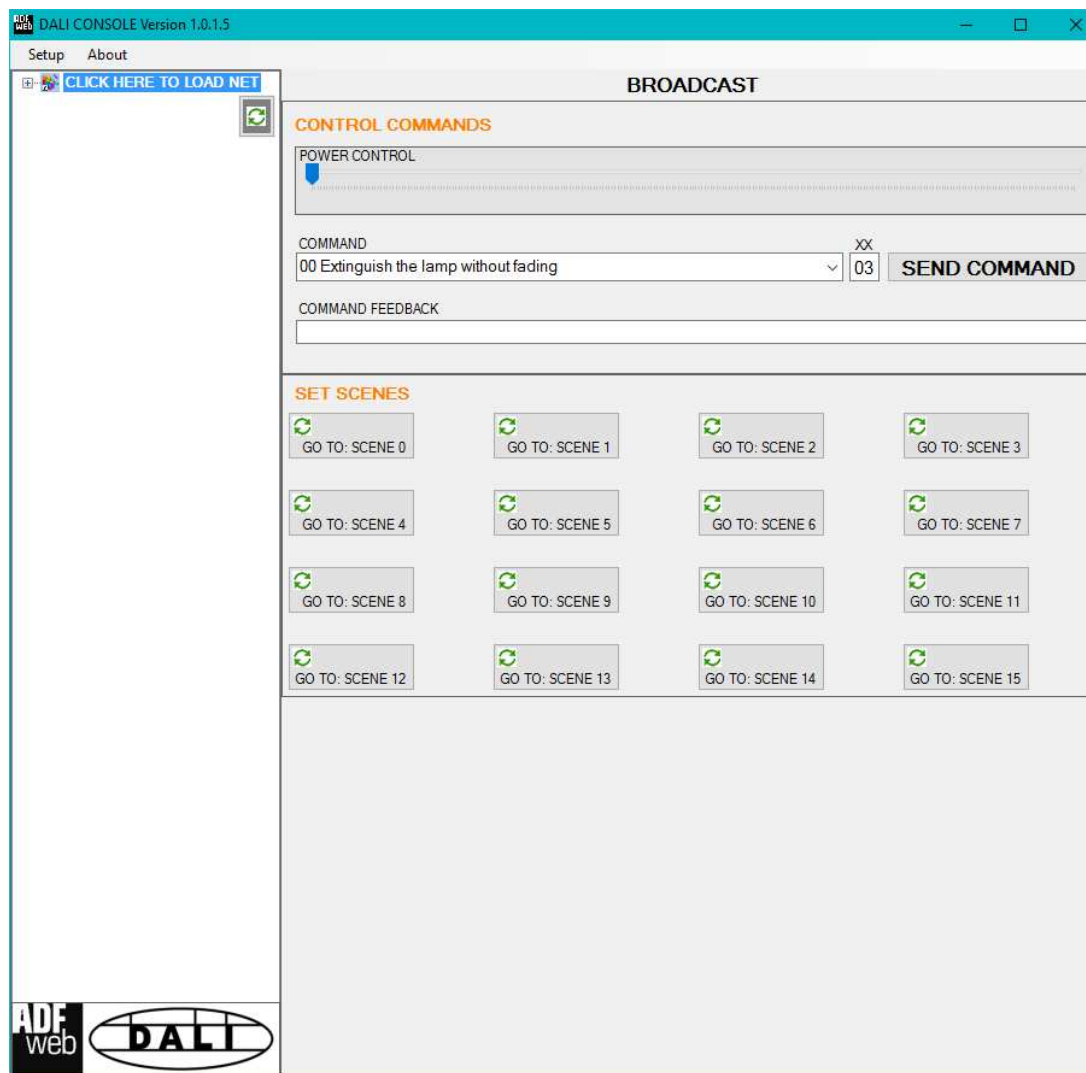
Figure 13: "Broadcast settings" window

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ETHERNET PROTOCOL

DALI NETWORK SCANNING

This command is used to get the informations from the DALI nodes configured in the network.

Note:
This command must be sent to the UDP port 10000.

REQUEST

	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte9
Hex	0x44	0x41	0x4C	0x49	0x5F	0x49	0x4E	0x46	0x4F	0x3D
Text	D	A	L	I	_	I	N	F	O	=

RESPONSE

The converter sends back as response an array of data of 512 bytes. For each DALI node, 8 bytes are reserved. Here's the data mapping of the data array sent:

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Byte	Data
0-7	Informations about DALI node 0
8-15	Informations about DALI node 1
16-23	Informations about DALI node 2
24-31	Informations about DALI node 3
32-19	Informations about DALI node 4
40-47	Informations about DALI node 5
48-55	Informations about DALI node 6
56-63	Informations about DALI node 7
64-71	Informations about DALI node 8
72-79	Informations about DALI node 9
80-87	Informations about DALI node 10
88-95	Informations about DALI node 11
96-103	Informations about DALI node 12
104-111	Informations about DALI node 13
112-119	Informations about DALI node 14
120-127	Informations about DALI node 15
128-135	Informations about DALI node 16
136-143	Informations about DALI node 17
144-151	Informations about DALI node 18
152-159	Informations about DALI node 19
160-167	Informations about DALI node 20
168-175	Informations about DALI node 21
176-183	Informations about DALI node 22
184-191	Informations about DALI node 23
192-199	Informations about DALI node 24
200-207	Informations about DALI node 25
208-215	Informations about DALI node 26
216-223	Informations about DALI node 27
224-231	Informations about DALI node 28
232-239	Informations about DALI node 29
240-247	Informations about DALI node 30
248-255	Informations about DALI node 31

Byte	Data
256-263	Informations about DALI node 32
264-271	Informations about DALI node 33
272-279	Informations about DALI node 34
280-287	Informations about DALI node 35
288-295	Informations about DALI node 36
296-303	Informations about DALI node 37
304-311	Informations about DALI node 38
312-319	Informations about DALI node 39
320-327	Informations about DALI node 40
328-335	Informations about DALI node 41
336-343	Informations about DALI node 42
344-351	Informations about DALI node 43
352-359	Informations about DALI node 44
360-367	Informations about DALI node 45
368-375	Informations about DALI node 46
376-383	Informations about DALI node 47
384-391	Informations about DALI node 48
392-399	Informations about DALI node 49
400-407	Informations about DALI node 50
408-415	Informations about DALI node 51
416-423	Informations about DALI node 52
424-431	Informations about DALI node 53
432-439	Informations about DALI node 54
440-447	Informations about DALI node 55
448-455	Informations about DALI node 56
456-463	Informations about DALI node 57
464-471	Informations about DALI node 58
472-479	Informations about DALI node 59
480-487	Informations about DALI node 60
488-495	Informations about DALI node 61
496-503	Informations about DALI node 62
504-511	Informations about DALI node 63

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Data map for each DALI node

Offset	Description
0	**Status** of DALI node
1	**ADV** of DALI node
2	**Response received after command** from DALI node
3	♦ Bit 0, 1, 2, 3 (least significant) = **Type** of DALI node ♦ Bit 4, 5, 6, 7 (most significant) = **Version** of DALI node
4	**Min. settable value** of DALI node
5	**Max. settable value** of DALI node
6-7	Each bit has a different meaning. '0' means 'Group not configured', '1' means 'Group configured'. ♦ Byte 6, Bit 0 (less significant) = Group 0 ♦ Byte 6, Bit 1 = Group 1 ♦ Byte 6, Bit 2 = Group 2 ♦ Byte 6, Bit 3 = Group 3 ♦ Byte 6, Bit 4 = Group 4 ♦ Byte 6, Bit 5 = Group 5 ♦ Byte 6, Bit 6 = Group 6 ♦ Byte 6, Bit 7 (most significant) = Group 7 ♦ Byte 7, Bit 0 (least significant) = Group 8 ♦ Byte 7, Bit 1 = Group 9 ♦ Byte 7, Bit 2 = Group 10 ♦ Byte 7, Bit 3 = Group 11 ♦ Byte 7, Bit 4 = Group 12 ♦ Byte 7, Bit 5 = Group 13 ♦ Byte 7, Bit 6 = Group 14 ♦ Byte 7, Bit 7 (most significant) = Group 15

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DALI SCENE SCANNING

This command is used to get the scenes configured into the DALI nodes configured in the network.

Note:
   This command must be sent to the UDP port 10000.

REQUEST

	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte9
Hex	0x44	0x41	0x4C	0x49	0x5F	0x53	0x43	0x45	0x4E	0x3D
Text	D	A	L	I	_	S	C	E	N	=

RESPONSE

The converter sends back as response an array of data of 1024 bytes. For each DALI node, 16 bytes are reserved, one for each possible scene configured. Here's the data mapping of the data array sent:

Byte	Data
0-15	Scenes configured on DALI node 0
16-31	Scenes configured on DALI node 1
32-47	Scenes configured on DALI node 2
.	
.	
.	
1008-1023	Scenes configured on DALI node 63

The bytes reserved for the scenes can have these values:

➤ 0-254 = Value set for the selected scene
➤ 255 = Scene not configures

Note:
   In each group of 16 bytes, the first one is for the Scene 0 and the last one is for Scene 15.

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ADV SETTING

This command is used to set the ADV for a specific DALI node, for a Group or for the entire DALI network.

REQUEST

Byte Number	Description
1	DALI ID + 1 (Hex)
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	DALI ID (Hex)
10	ADV to set (Hex)
11	0x00

The DALI ID can have different value in relation to the ADV to manage:

- 0 to 63 (0x00 to 0x3F) to manage a single DALI node;
- 64 to 79 (0x40 to 0x4F) to manage the Groups;
- 80 (0x50) for broadcast.

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SCENE SETTING

This command is used to activate a programmed scene in a single DALI node, in a group or for the entire DALI network.

REQUEST

Byte Number	Description
1	0x00
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	DALI ID + 0x80 (Hex)
10	Scene Number + 0x10 (Hex)
11	0x00

The DALI ID can have different value in relation to the ADV to manage:

- 0 to 63 (0x00 to 0x3F) to manage a single DALI node;
- 64 to 79 (0x40 to 0x4F) to manage the Groups;
- 127 (0x7F) for broadcast.

The Scene Number can have a value between 0 and 15.

GENERIC DALI COMMAND

This command is used to send a generic DALI command to a DALI node, to a group or to the entire network.

REQUEST

Byte Number	Description
1	0x00
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	DALI ID + 0x80 (Hex)
10	DALI Command (from DALI specifications)
11	0x00

The DALI ID can have different value in relation to the ADV to manage:

- 0 to 63 (0x00 to 0x3F) to manage a single DALI node;
- 64 to 79 (0x40 to 0x4F) to manage the Groups;
- 127 (0x7F) for broadcast.

RESPONSE

The converter can send back two type of messages:

- "ANSWER=VAL" where 'VAL' is the answer from the DALI device;
- "ANSWER NOT RECEIVED" if any answer is received from the DALI node.

SCENE PROGRAMMING

This commands are used to program the scenes inside the DALI nodes. It is necessary to send two consecutive commands for the programming.

REQUEST 1

Byte Number	Description
1	0x00
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	0xD1
10	ADV (Hex)
11	0x00

REQUEST 2

Byte Number	Description
1	0x00
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	DALI ID + 0x80 (Hex)
10	Scene Number + 0x40 (Hex)
11	0x00

The DALI ID can have different value in relation to the ADV to manage:

- 0 to 63 (0x00 to 0x3F) to manage a single DALI node;
- 64 to 79 (0x40 to 0x4F) to manage the Groups;
- 127 (0x7F) for broadcast.

The Scene Number can have a value between 0 and 15.

GROUP SETTING

This command is used to enable/disable the membership of the DALI nodes inside the group.

REQUEST

Byte Number	Description
1	0x00
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	DALI ID + 0x80 (Hex)
10	Group Number + 0x60 (Hex) = Enabling or Group Number + 0x70 (Hex) = Disabling
11	0x00

The DALI ID can be from 0 to 63 (0x00 to 0x3F). The Group Number can be from 0 to 15.

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NODE ID SETTING

These commands are used to program the ID Address on the DALI nodes. It is necessary to send them consecutively.

⚠ IMPORTANT: it is possible to connect a single DALI node to the HD67839 to program correctly the ID Node.

REQUEST 1

Byte Number	Description
1	0x00
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	0xD1
10	(DALI_ID_to_set << 1) + 1 (Hex)
11	0x40

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REQUEST 2

Byte Number	Description
1	0x00
2	0x10
3	0x00
4	0x00
5	0x00
6	0x02
7	0x04
8	Counter (increased for every command) (Hex)
9	0xFF
10	0x80
11	0x00

⚠ IMPORTANT: for correct setting, it is necessary to send the "REQUEST 2" two times. This is a specification from DALI protocol.

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MECHANICAL DIMENSIONS:
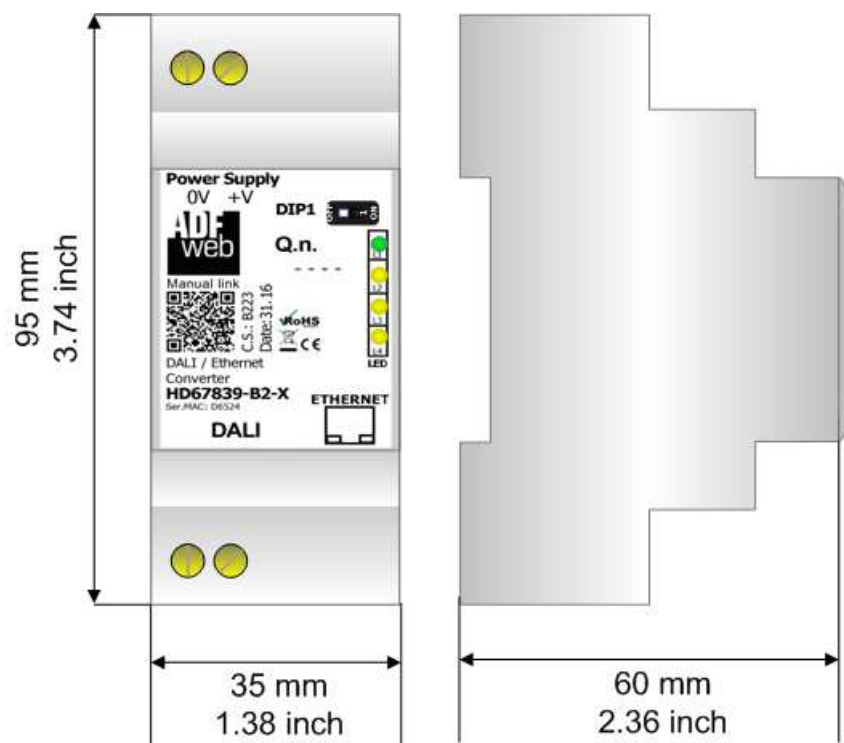
Housing: PVC
Weight: 200g
(Approx)

Figure 14: Mechanical dimensions scheme for HD67839-B2-x

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ORDERING INFORMATIONS:

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

HD67839 – B 2 - x

DALI Bus power supply
Y: present (the converter feeds the DALI bus)
N: not present (the converter doesn't feed the DALI bus)

Connectors Type
2: Fixed 5mm Screw Terminal

Enclosure Type
B: 2M, 35mm DIN Rail mounting

Device Family
HD67839: DALI / Ethernet - Converter

Order Code: **HD67839-B2-Y**   -   DALI / Ethernet – Converter (DALI bus power supply present)
Order Code: **HD67839-B2-N**   -   DALI / Ethernet – 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

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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.

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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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