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# User Manual

Revision 1.000 English

# **DALI / DeviceNet Slave - Converter**

(Order Code: HD67837-B2-Y, HD67837-B2-N)

for Website information: www.adfweb.com?Product=HD67837

for Price information: www.adfweb.com?Price=HD67837-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**

Converter DALI to
www.adfweb.com?Product=HD67822
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=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

(KNX) (RS485) (BACnet/IP Master) (BACnet/IP Slave) (CAN) (CANopen) (DeviceNet Master) (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





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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 <u>www.adfweb.com/download/</u> 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	15/06/2017	Ff	All	First Release

#### 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:

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#### **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.

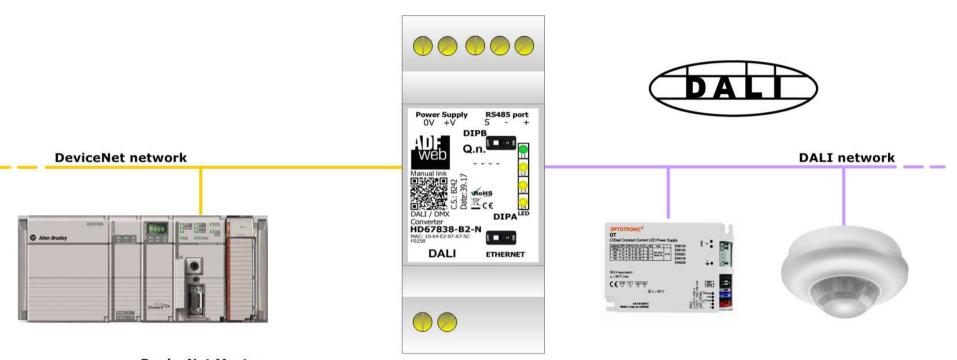
#### **CE** CONFORMITY

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

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**EXAMPLE OF CONNECTION:** 

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**DeviceNet Master** 

HD67837-B2





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# **CONNECTION SCHEME:**

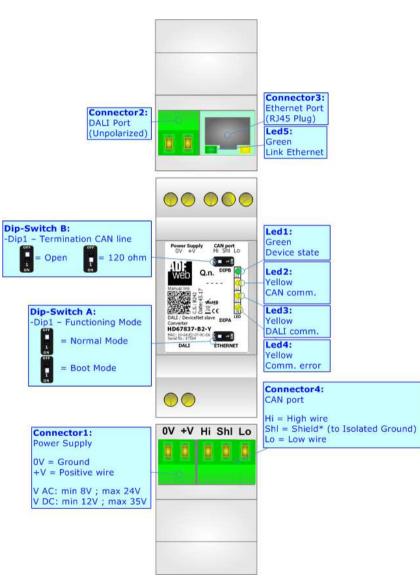


Figure 1: Connection scheme for HD67837-B2



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# CHARACTERISTICS:

The HD67837 is a DALI / DeviceNet - Converter.

It has the following characteristics:

- ✤ Up to 56 devices on DALI bus;
- Configurator for DALI network/devices;
- → Isolation between DALI DeviceNet, Power Supply DeviceNet. Additional isolation Power Supply DALI for HD67837-B2-N version;
- 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 SW67837 software on your PC in order to perform the following:

- Define the parameter of DeviceNet line;
- ✤ Define the parameter of DALI line;
- Update the device.



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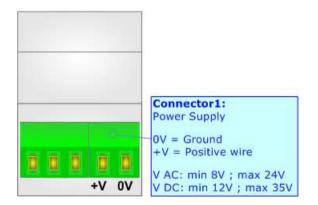
# **POWER SUPPLY:**

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

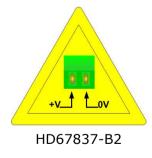
VAC 🔨		VDC	
Vmin	Vmax	Vmin	Vmax
8V	24V	12V	35V

Consumption at 24V DC:

ſ	Device	Consumption [W/VA]
HD67837-B2		3.5



**Caution:** Not reverse the polarity power





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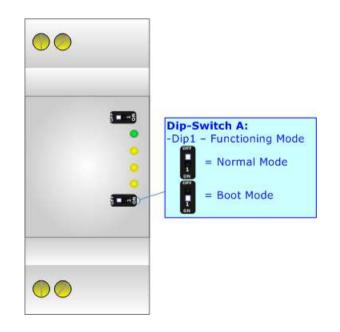
### **FUNCTION MODES:**

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.



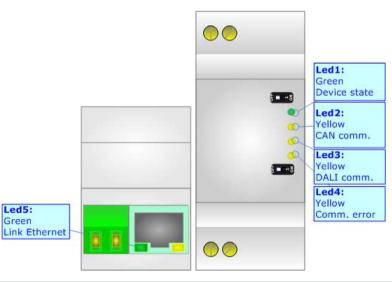


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# LEDS:

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: CAN communication (yellow)	Blinks when DeviceNet 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: Comm. error (yellow)	Turns ON when DALI devices defined are 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





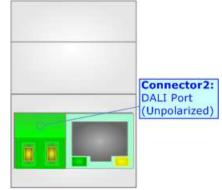
# DALI:

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 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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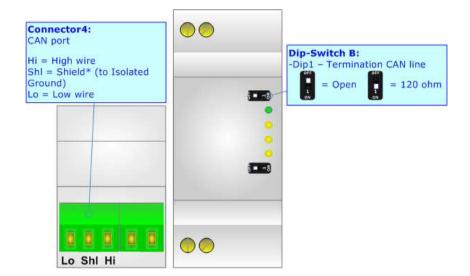
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# CAN:

For terminating the CAN line with a  $120\Omega$  resistor it is necessary to put Dip1 of 'Dip-Switch B' at ON position.

# Cable characteristics:

DC parameter:	Impedance	70 Ohm/m
AC parameters:	Impedance	120 Ohm/m
	Delay	5 ns/m
Length	Baud Rate [bps]	Length MAX [m]
	10 K	5000
	20 K	2500
	50 K	1000
	100 K	650
	125 K	500
	250 K	250
	500 K	100
	800 K	50
	1000 K	25



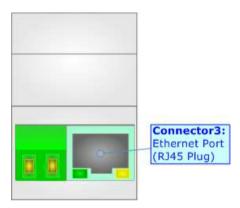


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# ETHERNET:

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

The Ethernet connection must be made using Connector2 of HD67837-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.





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#### **USE OF COMPOSITOR SW67837:**

To configure the Converter, use the available software that runs with Windows called SW67837. It is downloadable on the site <u>www.adfweb.com</u> 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 SW67837, the window below appears (Fig. 2).

Mote:

It is necessary to have installed .Net Framework 4.

🟙 ADFweb.com - Configurator SW67837 - DALI / DeviceNet Slave 🛛 🗙				
	67837 eviceNet Slave - Converter			
Begin	Opened Configuration of the Converter : Example1			
Step 1	New Configuration 📄 Open Configurat	on		
Step 2	Set Communication			
Step 3	DALI Access			
Step 4	Vpdate Device UDP	www.ADFweb.com		

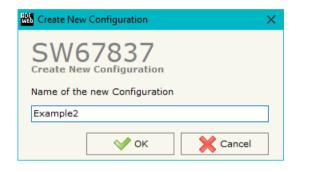
Figure 2: Main window for SW67837



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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 / DeviceNet Slave 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".

We Open Configuration	—		×
SW67837 Open an Existing Configuration List of Avaliable Configurations			
Example2 Example3			
ок		Cance	el



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#### **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.

Software Options	×
SW67837 Software Options	
Language Connection Options Software Settings	
Enable Internet Connection     Check Software Update at Start of Program     Check Available Update	
OK X Cancel	

Web Software	Options	×
	67837	
Language	Connection Options Softwa	re Settings
Selected	Language :	
*	English	
	Pa	ge 1 / 1
<b>~</b>	OK X 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 SW67837 check automatically if there are updatings when it is launched.



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Web Software	Options		×
	67837		
Language	Connection Options	Software Settings	
	into next field in the ta		
✓	ок 🔀 с	ancel	

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 DeviceNet and DALI buses.

By Pressing the "**Set Communication**" button from the main window for SW67837 (Fig. 2) the window "Set Communication" appears (Fig. 3).

The means of the fields for "DeviceNet Slave" are:

- In the field "ID Device" the DeviceNet ID for the converter is defined;
- In the field "Baudrate" the data rate of the DeviceNet is defined;
- In the fields "Number Byte IN" the number of input byte of the slave station is defined (fixed to 132);
- In the fields "Number Byte Out" the number of output byte of the slave station is defined (calculated in relation to the connected DALI nodes).

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.

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.

Set Communication	>
SW6783	37
Set Communication	
DeviceNet Slave	×
ID Device 10	
Baudrate 500K	~
Number Byte IN	132
Number Byte Out	32
DALI	X
DALI Console Port	10001
Ethernet	X
IP ADDRESS	<u>1</u>
192 . 168	.0
SUBNET Mask	
255 . 255	. 255 . 0
GATEWAY	
192 . 168	.01
	DK 🛛 🗙 Cancel

Figure 3: "Set Communication" window



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#### DALI ACCESS:

By pressing the "DALI Access" button from the main window for SW67837 (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.

DALI Access				×
SW6783 Select the DALI Device	7 ce Present in t	he Network		Num Byte In : 132 Num Byte Out: 32
DALI ID Device 0	[07]	DALI ID Device 16	DALI ID Device 32	DALI ID Device 48
DALI ID Device 1	[815]	DALI ID Device 17	DALI ID Device 33	DALI ID Device 49
DALI ID Device 2	[1623]	DALI ID Device 18	DALI ID Device 34	DALI ID Device 50
DALI ID Device 3		DALI ID Device 19	DALI ID Device 35	DALI ID Device 51
DALI ID Device 4	[2431]	DALI ID Device 20	DALI ID Device 36	DALI ID Device 52
DALI ID Device 5		DALI ID Device 21	DALI ID Device 37	DALI ID Device 53
DALI ID Device 6		DALI ID Device 22	DALI ID Device 38	DALI ID Device 54
DALI ID Device 7		DALI ID Device 23	DALI ID Device 39	DALI ID Device 55
DALI ID Device 8		DALI ID Device 24	DALI ID Device 40	DALI ID Device 56
DALI ID Device 9		DALI ID Device 25	DALI ID Device 41	DALI ID Device 57
DALI ID Device 10		DALI ID Device 26	DALI ID Device 42	DALI ID Device 58
DALI ID Device 11		DALI ID Device 27	DALI ID Device 43	DALI ID Device 59
DALI ID Device 12		DALI ID Device 28	DALI ID Device 44	DALI ID Device 60
DALI ID Device 13		DALI ID Device 29	DALI ID Device 45	DALI ID Device 61
DALI ID Device 14		DALI ID Device 30	DALI ID Device 46	DALI ID Device 62
DALI ID Device 15		DALI ID Device 31	DALI ID Device 47	DALI ID Device 63
🗸 ок	X Cancel	Select All	DALI Maps	

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.

👑 Update Device by Ethernet (UDP)	×
SW67837 Update Device Using the Ethernet Port	
Insert the IP Address of Device	
Select Update Options	
Firmware + Configuration	~
Read Back	
	7
Cancel 🔛 Execute Update Firmware	
ADFweb.com - SW67837 Ethernet Update	×
	Ver. 1.500
ADFweb.com - SW67837 Ethernet Update	~ ~
Image: Strain	~ ~
Image: Second state         INIT : Waiting         FIRMWARE : Waiting	~ ~
Image: Second state         INIT : Waiting         FIRMWARE : Waiting	~ ~

Figure 5: "Update device" windows



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# 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 HD67837 device.

# Note:

When you receive the device, for the first time, you also have to update the Firmware in the HD67837 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.

ADFweb.com - SW67837 Ethernet Update	
INIT : Device Not Found	Ver. 1.500
FIRMWARE : Waiting	
PROJECT : Waiting	
🕮 ADFweb.com - SW67837 Ethernet Update	
ADFweb.com - SW67837 Ethernet Update	Ver. 1.500
	Ver. 1.500

Figure 6: "Protection" window

In the case of HD67837 you have to use the software "SW67837": www.adfweb.com\download\filefold\SW67837.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 <u>www.adfweb.com</u> 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).

tup Search Dal	i File About				
A DALINET			BR	OADCAST	
	C	CONTROL COMMAN	IDS		Actual Value
		POWER CONTROL			
		COMMAND 00 Extinguish the lamp	without fading		SEND COMMANI
		COMMAND FEEDBACK			
		1			
		SET SCENES			
		C	C	C	C
		GO TO: SCENE 0	GO TO: SCENE 1	GO TO: SCENE 2	GO TO: SCENE 3
		C	C	C	C
		GO TO: SCENE 4	GO TO: SCENE 5	GO TO: SCENE 6	GO TO: SCENE 7
		C GO TO: SCENE 8	GO TO: SCENE 9	C GO TO: SCENE 10	C GO TO: SCENE 11
		do 10.002.020	do to: boline o		do to: coene tr
		C	C	C	C
		GO TO: SCENE 12	GO TO: SCENE 13	GO TO: SCENE 14	GO TO: SCENE 15
	H				

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 ("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 HD67837 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.

DALI CONSOLE Version 1.0.1.11	- (f)	
Setup Search Dali File About		
a second of the second s	BROADCAST	
C	CONTROL COMMANDS Actual Value	
$\sim$	POWER CONTROL	
(2)		
	COMMAND XX	
	COMMAND XX 00 Extinguish the lamp without fading 03 SEND CO	MMAND
	COMMAND FEEDBACK	
	SET SCENES	
	C C C C	
	GO TO: SCENE 0 GO TO: SCENE 1 GO TO: SCENE 2 GO TO: SCEN	NE 3
	C C C C	
	GO TO: SCENE 4 GO TO: SCENE 5 GO TO: SCENE 6 GO TO: SCEN	NE 7
	C C C C	_
	GO TO: SCENE 8 GO TO: SCENE 9 GO TO: SCENE 10 GO TO: SCEN	E 11
	C C C C	_
	GO TO: SCENE 12 GO TO: SCENE 13 GO TO: SCENE 14 GO TO: SCENE	E 15
	(3)	
	$\sim$	
	l	
(1) Menu bar		
(2) Network vie	W	
(3) Settings / co	ommands view	

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 HD67837 converter. By Pressing the "**Setup**" button from the menu bar of the DALI Console software, the "SETUP" window appears (Fig. 10).

SETUP DEVICE IP ADDRESS 192.168.2.195	🗹 AutoRefresh
PRG PORTS 10001 10000	CLOSE SETUP

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 SW67837, the one on the right must be fixed to '10000'.

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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" 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.

DALI CONSOLE Version 1,0.1.	02		- 🗆 X
Setup Search Dali File	About	DEVICE 0	
ALL DEVICES     DEVICE1     T DEVICE1     T DEVICE2     T DEVICE3     GROUP1     GROUP1     GROUP2     GROUP3     SCENES     SCENE1	Q	DEVICE INFO     Device Type: LED LAMP Software Version: 1     SET NEW ADDRESS       Min Value     Max Value     System Fail     Power On     Fade Time     Fade Rate       1     254     0     0     0     0     LOAD       SET     SET     SET     SET     SET     SET     SET	DEVICE STATUS: BALLAST K.O. LAMP K.O. AMP KO. LAMP ON OUT OF LIMITS CHANGE ON RESET NO ADDRESS M POWER FAILURE
			nal Value 30
		GROUP MEMBERSHIP           Ø GROUP 0         GROUP 4         GROUP 8         GROUP 9           Ø GROUP 1         GROUP 5         GROUP 9         GROUP 9           Ø GROUP 2         GROUP 6         GROUP 10         GROUP 10           Ø GROUP 3         GROUP 7         GROUP 11         GROUP 10	13 14
		SET SCENES C GO TO: SCENE 0 C GO TO: SCENE 1 C GO TO: SCENE 2 C GO TO: SCENE 2 C C C C C C C C C C C C C	TO: SCENE 3
			TO: SCENE 7
		GO TO: SCENE 8 OFF CONSCENE 9 OFF CONSCENE 10	TO: SCENE 11
	D	O         OFF         O         OFF         O         OFF         O         OFF         O	TO: SCENE 15

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.

# / <u>Note:</u>

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:
  - 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;
  - $\circ$   $\;$  OFF: the scene is disabled.



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#### **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; Betu

- 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.

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.

LI CONSOLE Version 1.0.1.11				- 🗆 X
p Search Dali File Ab	out			
DALINET	_	0	ROUP 0	
		NDS		Actual Value 30
T DEVICE2	POWER CONTROL			
- Can GROUPS	Tanan on sama on sama on sama on sa			10 00 Kanalah ( manano ( maanano ( maanano H -
GROUP0	COMMAND		xx	
🗄 🔅 GROUP2 🗄 潫 GROUP3	00 Extinguish the lam	p without fading	~ 03	SEND COMMAND
CENES	COMMAND FEEDBACK			
SCENE1				]
	SET SCENES		~	
	GO TO: SCENE 0	GO TO: SCENE 1	GO TO: SCENE 2	GO TO: SCENE 3
	GO TO: SCENE 4	GO TO: SCENE 5	GO TO: SCENE 6	GO TO: SCENE 7
	GO TO: SCENE 8	GO TO: SCENE 9	GO TO: SCENE 10	GO TO: SCENE 11
	C	0	C	C
	GO TO: SCENE 12	GO TO: SCENE 13	GO TO: SCENE 14	GO TO: SCENE 15

Figure 11: "Groups settings" window

Note:



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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.

BALI CONSOLE Version 1.0.	1.11							×
Setup Search Dali Fil	e About							
DALINET     DALINET     ALL DEVICES					DADCAST			
		∇ 0 1 2 3 4 5 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	13   14   15   16   17   18   19   20	26 27 28 29 30 31 32 33	39 40 41 42 43 44 45 45	52 53 54 55 56 57 58 58 59		
E - ☆ GROUP2 E - ☆ GROUP3 E - ⓒ SCENES E - ⓒ SCENE0		8 9 10 11	21 22 23 24	☐ 34 ☐ 35 ☐ 36 ☐ 37	47 48 49 50	☐ 60 ☐ 61 ☐ 62 ☐ 63		
SCENE0	I	12	25	38	51			
				ACTIVA	TE SCENE 0			-
	P							
web <b>DAL</b>								

Figure 12: "Scenes settings" window

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#### 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.

Mote: 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.

ALI CONSOLE Version 1.0.1.1	1				- 🗆 X
ip Search Dali File	About				
ALL DEVICES	_		BR	OADCAST	
DEVICE0	C	CONTROL COMMA	NDS		Actual Value 30
T DEVICE1		POWER CONTROL			
GROUP0 GROUP1 GROUP2 GROUP3		COMMAND 00 Extinguish the lam	p without fading	×	SEND COMMAND
SCENE0		COMMAND FEEDBACK			
		SET SCENES			[*****
		GO TO: SCENE 0	GO TO: SCENE 1	GO TO: SCENE 2	GO TO: SCENE 3
		GO TO: SCENE 4	GO TO: SCENE 5	C GO TO: SCENE 6	GO TO: SCENE 7
		C GO TO: SCENE 8	GO TO: SCENE 9	C GO TO: SCENE 10	C GO TO: SCENE 11
		GO TO: SCENE 12	GO TO: SCENE 13	GO TO: SCENE 14	C GO TO: SCENE 15
	D				

Figure 13: "Broadcast settings" window



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# **DEVICENET MAP:**

Internally to the converter, there are two different arrays of bytes. The data inside them are different:

- Array in IN: data read from DALI network;
- ✤ Array in OUT: data written to DALI network.

#### Structure of the DeviceNet map in OUT (data that the DeviceNet Master can read)

For each DALI node configured, the converter will reserve 8 bytes. The map is generated dynamically in relation to the number of nodes defined: using the SW67837, it is possible to see which are the bytes reserved inside the DeviceNet array for each DALI node.

Below, it is possible to see the generic structure of 8 bytes reserved 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	<ul> <li>Bit 0, 1, 2, 3 (least significant) = Type of DALI node</li> <li>Bit 4, 5, 6, 7 (most significant) = Version of DALI node</li> </ul>
4	Min. settable value of DALI node



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5	Max. settable value of DALI nod	Max. settable value of DALI node		
6	Each bit has a different meaning. configured'. Bit 0 (less significant) Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 5 Bit 6 Bit 7 (most significant)	'0' means 'Group not configured', '1' means 'Group = Group 0 = Group 1 = Group 2 = Group 3 = Group 4 = Group 5 = Group 6 = Group 7		
7	<ul> <li>Bit 0 (least significant)</li> <li>Bit 1</li> <li>Bit 2</li> <li>Bit 3</li> <li>Bit 4</li> <li>Bit 5</li> <li>Bit 6</li> <li>Bit 7 (most significant)</li> </ul>	= Group 8 = Group 9 = Group 10 = Group 11 = Group 12 = Group 13 = Group 14 = Group 15		

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# Structure of the DeviceNet map in IN (data that the DeviceNet Master can write)

ADV SETTING FOR SINGLE DALI NODES		
DeviceNet byte	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	

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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

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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

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ADV SETTING FOR GROUPS		
DeviceNet byte	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	

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ADV SETTING (BROADCAST)		
DeviceNet byte	Description	
80	ADV to set	

# / <u>Note:</u>

The range of ADV can be from 0 to 255. The minimum and the maximum value of the ADV for each DALI node depends on the setting of the DALI node. These values can be programmed using "DALI Console" software.

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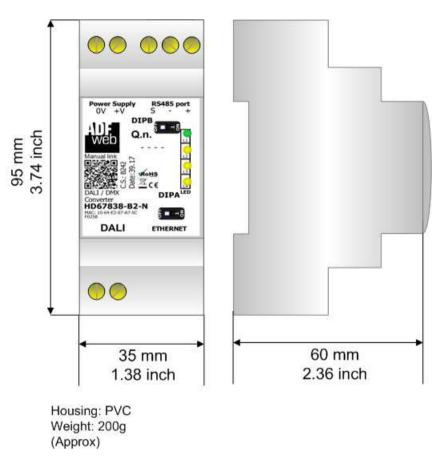
SCENE CONTROL		
DeviceNet byte	Description	
128	Control byte: it must be increased of +1 every times that the command must be sent on DALI.	
129	ID of DALI device to command (for commands, most significant bit must be set to '1' as DALI specifications):	
130	Scene to control: • $0x10 = Scene 0$ • $0x11 = Scene 1$ • $0x12 = Scene 2$ • $0x13 = Scene 3$ • $0x14 = Scene 4$ • $0x15 = Scene 5$ • $0x16 = Scene 6$ • $0x17 = Scene 7$ • $0x18 = Scene 8$ • $0x19 = Scene 9$ • $0x1A = Scene 10$ • $0x1B = Scene 11$ • $0x1B = Scene 12$ • $0x1D = Scene 13$ • $0x1F = Scene 15$	





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# **MECHANICAL DIMENSIONS:**



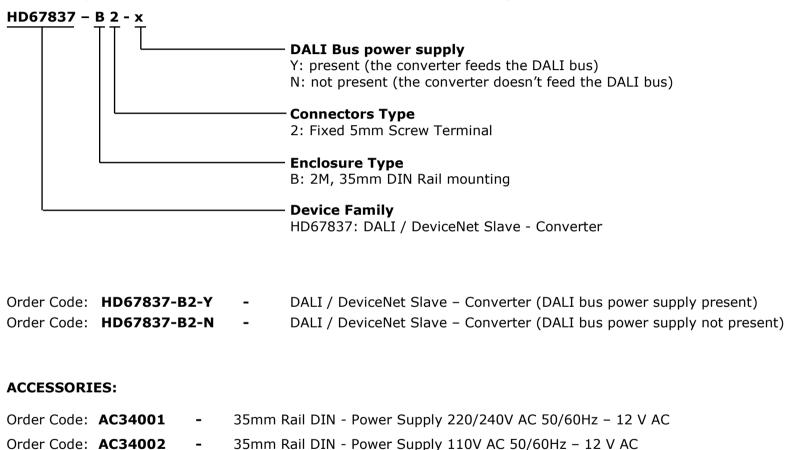
*Figure 14: Mechanical dimensions scheme for HD67837-B2-x* 



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# **ORDERING INFORMATIONS:**

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





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#### **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

**C** 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 <u>www.adfweb.com</u>. 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 <u>www.adfweb.com</u>. 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.

