Industrial Electronic Devices

User Manual

Revision 1.000
English

DMX / PROFINET - Converter

(Order Code: HD67614-B2)

for Website information:
www.adfweb.com?Product=HD67614

for Price information:
www.adfweb.com?Price=HD67614-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 DMX products, see also the following links:

Converter DMX to
www.adfweb.com?Product=HD67670   (BACnet Slave)
www.adfweb.com?Product=HD67821   (KNX)
www.adfweb.com?Product=HD67039   (Ethernet)
www.adfweb.com?Product=HD67588   (EtherNet/IP)
www.adfweb.com?Product=HD67509   (Modbus TCP Slave)
www.adfweb.com?Product=HD67040   (SNMP)

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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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	26/10/2015	Ff	All	First Release

WARNING:

ADFweb.com reserves the right to change information in this manual about our product without warning.
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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:
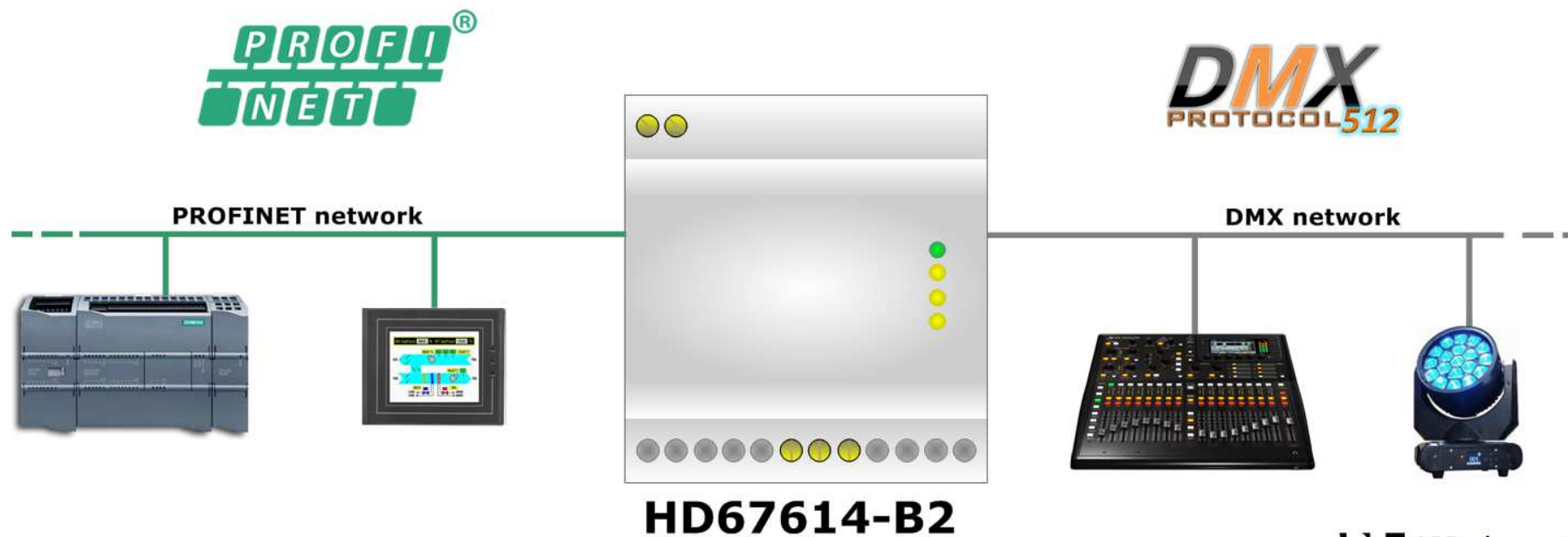
⚠ This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

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

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EXAMPLE OF CONNECTION:

HD67614-B2

CONNECTION SCHEME:

Dip-Switch B:
-Dip1 – Termination RS485 line

= Open   = 120 ohm

Connector6:
RS485 port

S = Shield (to Isolated Ground)
B = Negative wire
A = Positive wire

Led5:
Green
Link Ethernet

Connector2:
Ethernet Port
(RJ45 Plug)

A B S

Led1:
Green
Device state

Led2:
Yellow
PROFINET comm.

Led3:
Yellow
DMX comm.

Led4:
Yellow
PROFINET error

Power Supply
0V +V
8...24V AC
or
12...35V DC

DMX / PROFINET - Converter
HD67614-B2
MAC: 10-64-E2-07-42-22
Serial Nr.: C4370

Q.n. - - - -

RS485 port
+ -   S   ETHERNET

Connector1:
Power Supply

0V = Ground
+V = Positive wire

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

0V +V

Dip-Switch A:
-Dip1 – Functioning Mode

= Normal Mode

= Boot Mode

Figure 1: Connection scheme for HD67614-B2

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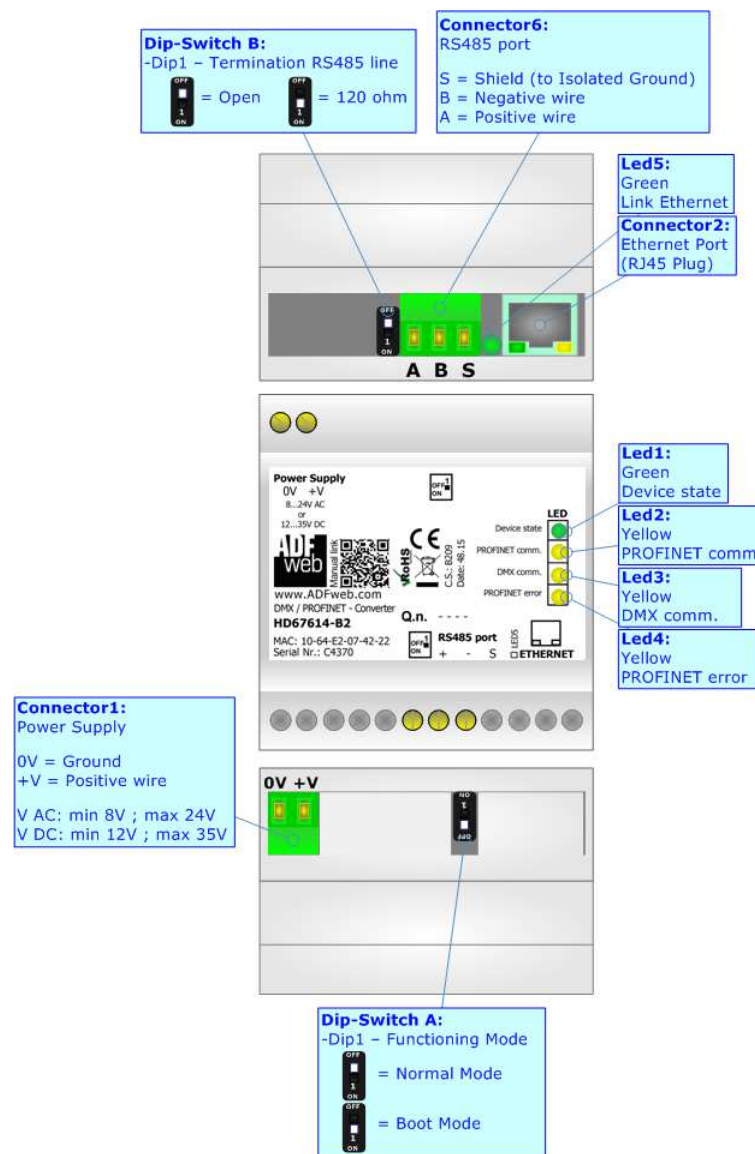
CHARACTERISTICS:

The HD67614 is a DMX / PROFINET Converter.

It has the following characteristics:

- Up to 512 bytes on DMX side;
- Triple isolation between Ethernet - Power Supply, Ethernet – Serial, Power Supply - Serial.
- 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 Compositor SW67614 software on your PC in order to perform the following:

- Define the parameter of PROFINET line;
- Define the parameter of DMX line;
- Define the map of PROFINET byte that must be written in DMX side;
- Update the device.

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POWER SUPPLY:

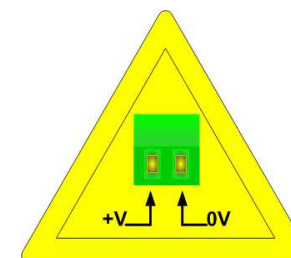The devices can be powered at 8...24V AC and 12...35V DC. For more details see the two tables below.

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

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67614-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

HD67614-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.

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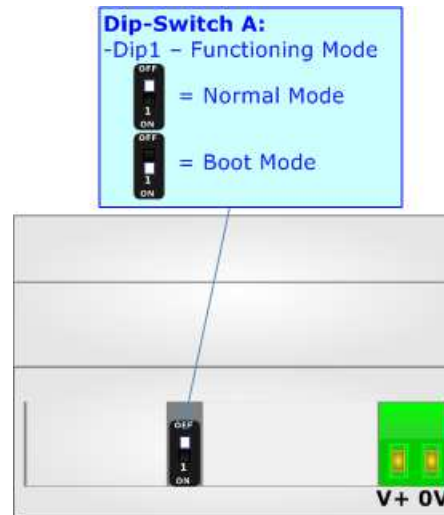
LEDS:

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)	**ON:** Device powered **OFF:** Device not powered
2: PROFINET communication (yellow)	Blinks when PROFINET communication with the Master is running	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
3: DMX communication (yellow)	Blinks when DMX frame is received	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
4: PROFINET error (yellow)	**ON**: PROFINET communication is in fault **OFF**: No faults are 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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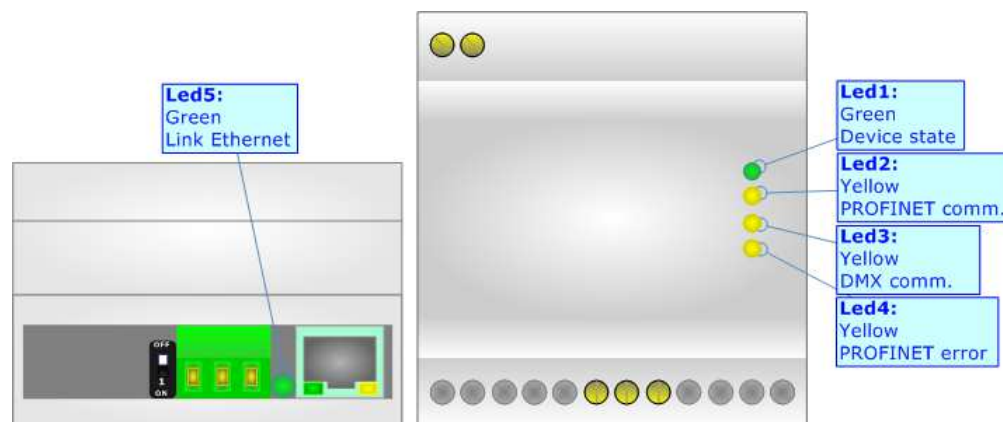
RS485:

For terminate the RS485 line with a 220Ω resistor it is necessary to put ON dip 1, like in figure.
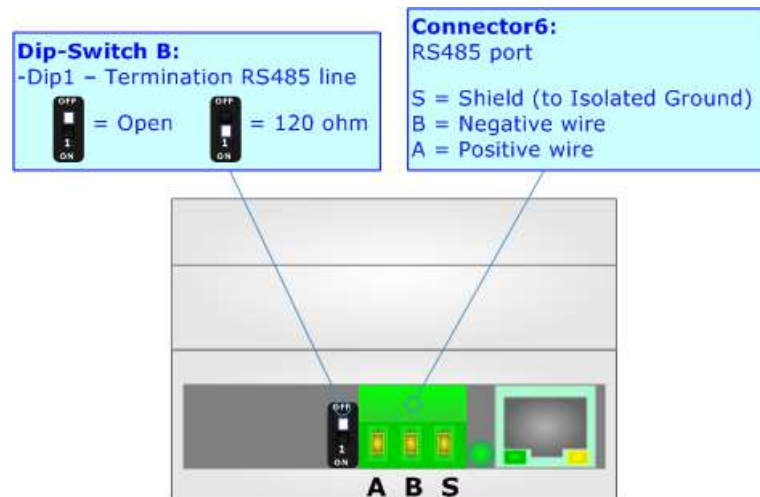
The maximum length of the cable should be 1200m (4000 feet).

Here some codes of cables:

- Belden: p/n 8132 - 2x 28AWG stranded twisted pairs conductor + foil shield + braid shield;
- Belden p/n 82842 - 2x 24AWG stranded twisted pairs conductor + foil shield + braid shield;
- Tasker: p/n C521 - 1x 24AWG twisted pair conductor + foil shield + braid shield;
- Tasker: p/n C522 - 2x 24AWG twisted pairs conductor + foil shield + braid shield.

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ETHERNET:

The Ethernet port is used for PROFINET communication and for programming the device.

The Ethernet connection must be made using Connector2 of HD67614-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.

![ADFweb logo] Industrial Electronic Devices
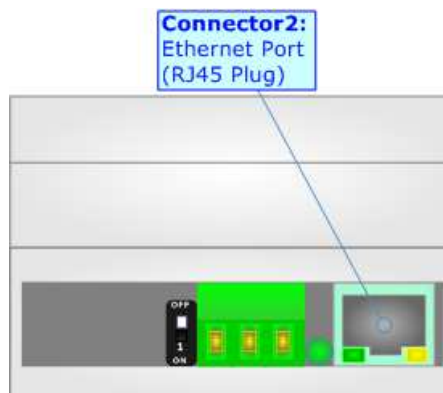
USE OF COMPOSITOR SW67614:

To configure the Converter, use the available software that runs with Windows called SW67614. 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 SW67614, the window below appears (Fig. 2).

Note:
It is necessary to have installed .Net Framework 4.
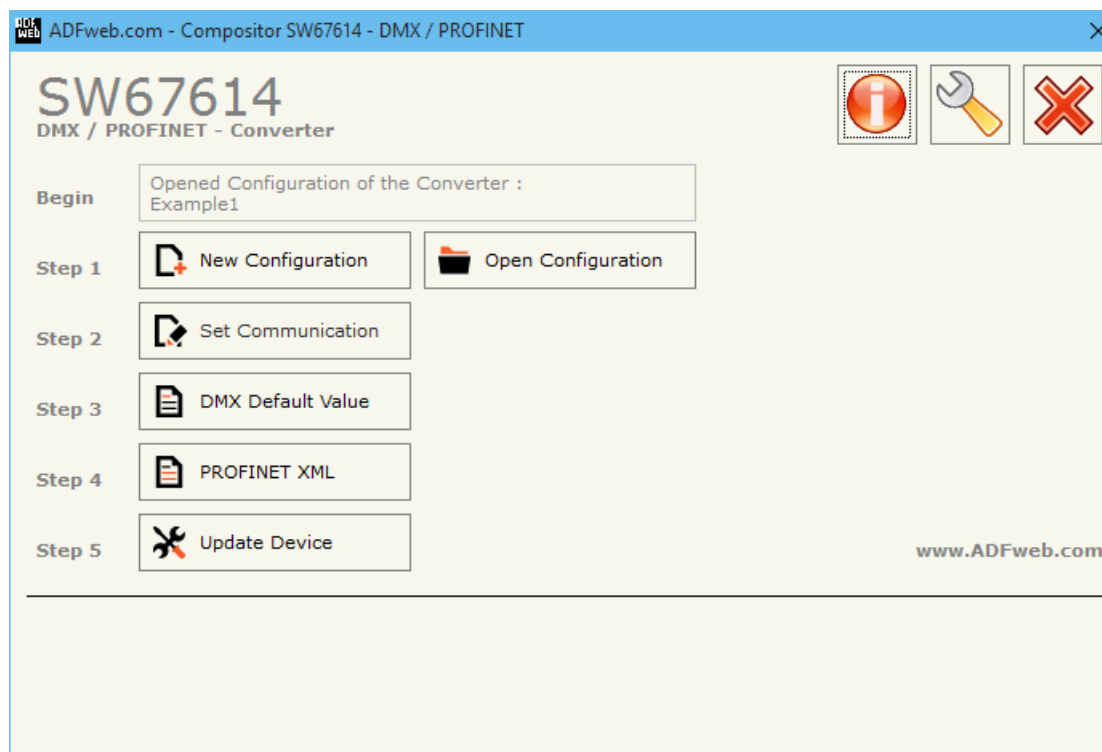

Figure 2: Main window for SW67614

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NEW CONFIGURATION / OPEN CONFIGURATION:

The "**New Configuration**" button creates the folder which contains the entire device's configuration.
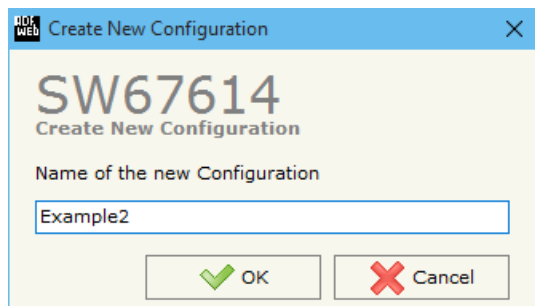
A device's configuration can also be imported or exported:

- To clone the configurations of a Programmable "DMX / PROFINET - 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**".

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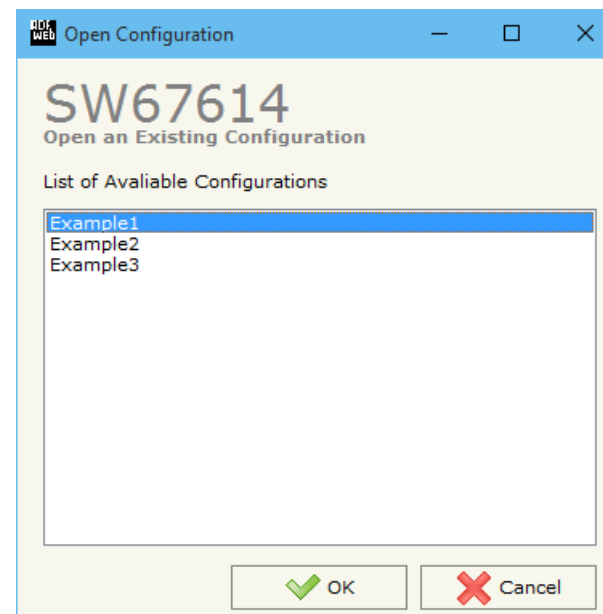
SOFTWARE OPTIONS:

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.
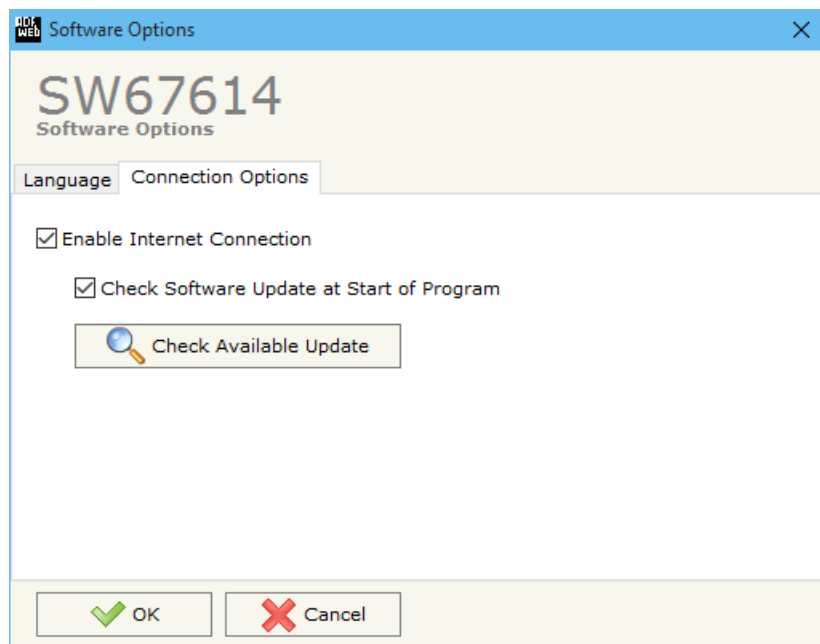
In the section "Connection Options", it is possible to check if there are some updatings of the software compositor in ADFweb.com website.
Checking the option "**Check Software Update at Start of Program**", the SW67614 check automatically if there are updatings when it is launched.

SET COMMUNICATION:

This section define the fundamental communication parameters of the converter.

By Pressing the "**Set Communication**" button from the main window for SW67614 (Fig. 2) the window "Set Communication" appears (Fig. 3).
The window is divided in two sections, one for PROFINET and one for DMX.

The means of the fields for "PROFINET" are:

+ In the field "**IP ADDRESS**" insert the IP address that you want to give to the Converter;
+ In the field "**SUBNET Mask**" insert the SubNet Mask;
+ In the field "**GATEWAY**" insert the default gateway that you want to use. This feature can be enabled or disabled pressing the Check Box field. This feature is used for going out of the net;
+ In the field "**Port**" the port for PROFINET communication is defined (fixed to '34964');
+ In the field "**PROFINET Name of Station**" is possible to assign a name to the PROFINET node.
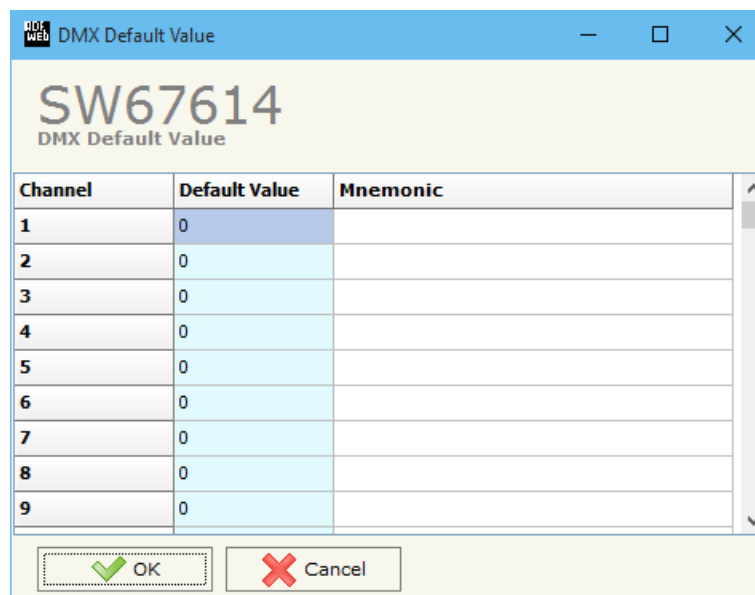
The means of the fields for "DMX" are:

+ In the field "**Channel Number**" the number of channels of the DMX side is defined (up to 512 channels).

Figure 3: "Set Communication" window

DMX DEFAULT VALUE:

By pressing the "**DMX Default Value**" button from the main window for SW67614 (Fig. 2) the "DMX Default Value" window appears (Fig. 4).
In this section it is possible to define the default value for each channel of the DMX array when the converter is turned ON.

Figure 4: "DMX Default Value" 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**";
➤ Press the "**Ping**" button, "Device Found!" must appear;
➤ Press the "**Next**" button;
➤ 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.

At this point the configuration/firmware on the device is correctly updated.
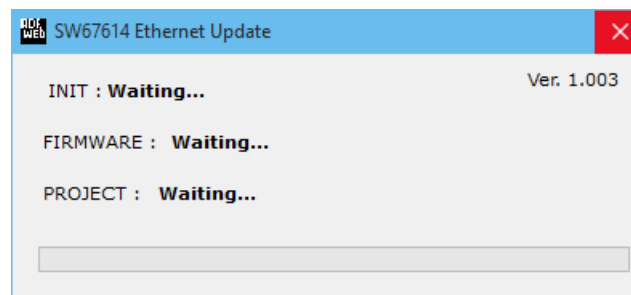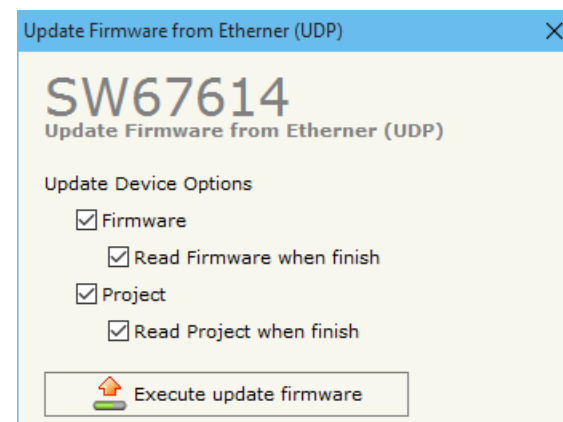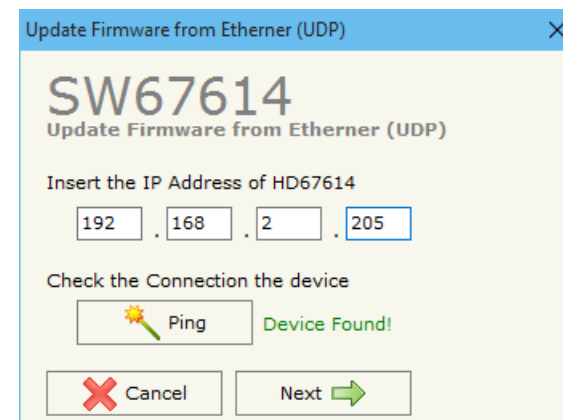
Figure 5: "Update device" windows

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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;
- Press the "**Ping**" button, must appear "Device Found!";
- Press the "**Next**" button;
- 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.

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 HD67614 device.

Note:
   When you receive the device, for the first time, you also have to update the Firmware in the HD67614 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;
- If you are using the program inside a Virtual Machine, try to use in the main Operating System;
- If you are using Windows Seven or Vista or 8 or 10, make sure that you have the administrator privileges;
- Take attention at Firewall lock;
- Check the LAN settings.

Figure 6: "Protection" window

   In the case of HD67614 you have to use the software "SW67614": www.adfweb.com\download\filefold\SW67614.zip.

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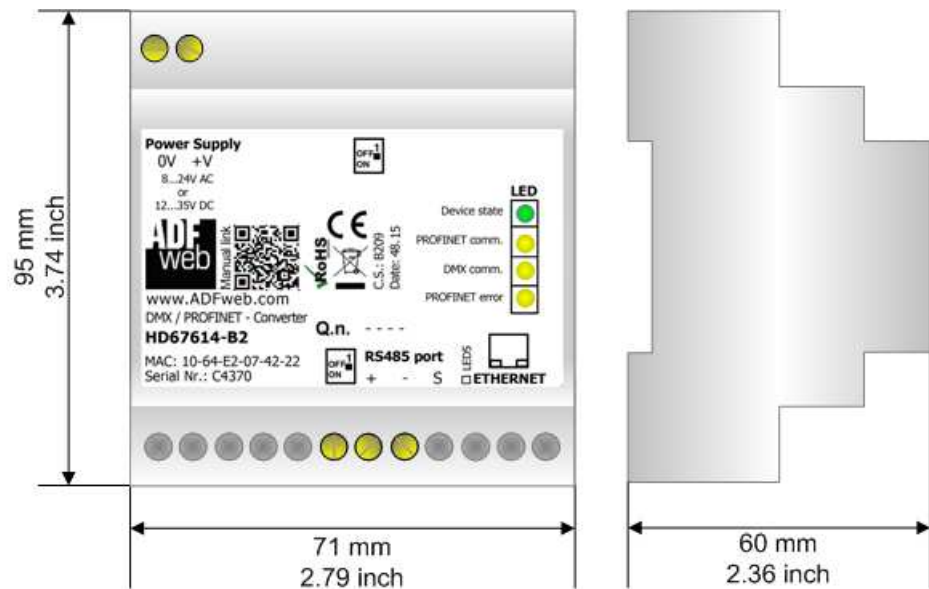
MECHANICAL DIMENSIONS:

Figure 7: Mechanical dimensions scheme for HD67614-B2

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ORDERING INFORMATIONS:

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

HD67614 – B 2

Connectors Type
2: Fixed 5mm Screw Terminal

Enclosure Type
B: 4M, 35mm DIN Rail mounting

Device Family
HD67614: DMX / PROFINET - Converter
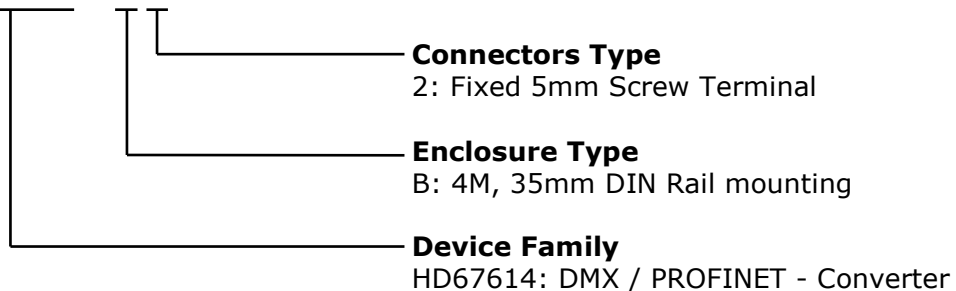
Order Code: **HD67614-B2**   -   DMX / PROFINET – Converter

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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