User Manual
Revision 1.000
English

EtherNet/IP / DMX - Converter
(Order Code: HD67588-B2)

For Website information:
www.adfweb.com?Product=HD67588

For Price information:

Benefits and Main Features:
- Very easy to configure
- Triple electrical isolation
- Temperature range: -40°C/85°C (-40°F/185°F)

For others DMX products see also the following link:
Converter DMX to
www.adfweb.com?Product=HD67039  (Ethernet)
www.adfweb.com?Product=HD67040  (SNMP Agent)
www.adfweb.com?Product=HD67509  (Modbus TCP Slave)
www.adfweb.com?Product=HD67614  (PROFINET)
www.adfweb.com?Product=HD67070  (BACnet/IP Slave)
www.adfweb.com?Product=HD67821  (KNX)

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
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.


REVISION LIST:

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<th>Date</th>
<th>Author</th>
<th>Chapter</th>
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<tr>
<td>1.000</td>
<td>12/10/2015</td>
<td>FF</td>
<td>All</td>
<td>First Release</td>
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WARNING:

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

TRADEMARKS:

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

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

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

QUALIFIED PERSONNEL
The device can be used only by qualified personnel, strictly in accordance with the specifications. Qualified personnel are persons who are familiar with the installation, assembly, commissioning and operation of this equipment and who have appropriate qualifications for their job.

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

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

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

Figure 1: Connection scheme for HD67588-B2
CHARACTERISTICS:
The HD67588-B2 is a converter from EtherNet/IP to DMX and vice versa.

They allow the following characteristics:
- Triple isolation between EtherNet/IP - Power Supply, EtherNet/IP - DMX, Power Supply - DMX.
- Two-directional information between EtherNet/IP bus and DMX 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 Compositor SW67588 software on your PC in order to perform the following:
- Define the parameters of EtherNet/IP line;
- Define the parameters of DMX line;
- Update the device.
POWER SUPPLY:

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

<table>
<thead>
<tr>
<th>VAC</th>
<th>VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vmin</td>
<td>Vmax</td>
</tr>
<tr>
<td>8V</td>
<td>24V</td>
</tr>
<tr>
<td>12V</td>
<td>35V</td>
</tr>
</tbody>
</table>

Consumption at 24V DC:

<table>
<thead>
<tr>
<th>Device</th>
<th>Consumption [W/VA]</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD67588-B2</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Caution: Not reverse the polarity power
**FUNCTION MODES:**

The device has got two functions mode depending of the position of the ‘Dip1 of Dip-Switch A’:
- The first, with ‘Dip1 of Dip-Switch A’ at “OFF” position, is used for the normal working of the device.
- The second, with ‘Dip1 of Dip-Switch A’ at “ON” position, is used for upload the Project and/or Firmware.

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

According to the functioning mode, the LEDs will have specifics functions, see ‘LEDS’ section.
**LEDS:**

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

<table>
<thead>
<tr>
<th>LED</th>
<th>Normal Mode</th>
<th>Boot Mode</th>
</tr>
</thead>
</table>
| 1: Device State (green) | Blinks slowly (~1Hz) | ON: Device powered  
OFF: Device not powered |
| 2: EtherNet/IP communication (yellow) | Blinks when the EtherNet/IP communication is working | Blinks quickly: Boot state  
Blinks very slowly (~0.5Hz): update in progress |
| 3: DMX communication (yellow) | Blinks when a DMX frame is received | Blinks quickly: Boot state  
Blinks very slowly (~0.5Hz): update in progress |
| 4: Not used (yellow) | OFF | 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 |
RS485:

To terminate the RS485 line with a 220Ω resistor it is necessary to put ON dip 1, like in figure.

![Diagram of Dip-Switch B and Connector 6]

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.
**ETHERNET:**

The Ethernet port is used for EtherNet/IP communication and for programming the device. The Ethernet connection must be made using Connector2 of HD67588-B2 with at least a Category 5E cable. The maximum length of the cable should not exceed 100m. The cable has to conform to the T568 norms relative to connections in cat.5 up to 100 Mbps. To connect the device to an Hub/Switch is recommended the use of a straight cable, to connect the device to a PC is recommended the use of a cross cable.
USE OF COMPOSITOR SW67588:

To configure the Converter, use the available software that runs with Windows called SW67588. It is downloadable from 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 SW67588, the window below appears (Fig. 2).

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

Figure 2: Main window for SW67588
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 “EtherNet/IP / DMX - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient to duplicate the project folder with another name and open the new folder with the button “Open Configuration”.
SOFTWARE OPTIONS:

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

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

In the section “Connection Options”, it is possible to check if there are some updatings of the software compositor in ADFweb.com website. Checking the option “Check Software Update at Start of Program”, the SW67588 check automatically if there are updatings when it is launched.
SET COMMUNICATION:

This section defines the fundamental communication parameters of two buses, EtherNet/IP and DMX.

By pressing the “Set Communication” button from the main window for SW67588 (Fig. 2) the window “Set Communication” appears (Fig. 3).

The means of the fields for “EtherNet/IP” 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 used for EtherNet/IP communication is defined (fixed to ‘44818’).

The means of the fields for “DMX” section are:
- In the field “DMX” it is possible to define if the converter will act as DMX controller (“OUT”) or as DMX device (“IN”);
- In the field “Channel Number” the number of channels of the DMX side is defined (up to 496 channels).

Figure 3: "Set Communication" window
DMX DEFAULT VALUE:

By pressing the "DMX Default Value" button from the main window for SW67588 (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’ at 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.

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 updated.

*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 HD67588 device.

**Note:**
When you receive the device, for the first time, you also have to update the Firmware in the HD67588 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.

In the case of HD67588 you have to use the software “SW67588”: [www.adfweb.com\download\filefold\SW67588.zip](http://www.adfweb.com\download\filefold\SW67588.zip).
MECHANICAL DIMENSIONS:

Figure 7: Mechanical dimensions scheme for HD67588-B2

Housing: PVC
Weight: 200g (Approx)
ORDERING INFORMATIONS:

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

**HD67588 – B 2**

- **Connectors Type**
  - 2: Fixed 5mm Screw Terminal

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

- **Device Family**
  - HD67588: EtherNet/IP / DMX - Converter

Order Code: **HD67588-B2** - EtherNet/IP / DMX - 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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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**


**CE MARKING**

The product conforms with the essential requirements of the applicable EC directives.
WARRANTIES AND TECHNICAL SUPPORT:

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

RETURN POLICY:

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

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

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