

User Manual

Revision 1.100
English

EtherNet/IP / DeviceNet Slave - Converter

(Order Code: HD67598-A1)

For Website information:

www.adfweb.com?Product=HD67598

For Price information:

www.adfweb.com?Price=HD67598-A1

Benefits and Main Features:

- ⊕ Electrical isolation
- ⊕ Two EtherNet/IP ports
- ⊕ Temperature range: -40°C/+85°C (-40°F/+185°F)



User Manual

For others Ethernet/IP products see also the following link:

Converter EtherNet/IP to

www.adfweb.com?Product=HD67077
www.adfweb.com?Product=HD67091
www.adfweb.com?Product=HD67159
www.adfweb.com?Product=HD67174
www.adfweb.com?Product=HD67588
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www.adfweb.com?Product=HD67B16
www.adfweb.com?Product=HD67B39
www.adfweb.com?Product=HD67B78
www.adfweb.com?Product=HD67C63
www.adfweb.com?Product=HD67D25
www.adfweb.com?Product=HD67E27
www.adfweb.com?Product=HD67E77
www.adfweb.com?Product=HD67F25

(M-Bus)
(M-Bus Wireless)
(SNMP Agent)
(SNMP Manager)
(DMX)
(NMEA2000)
(Serial)
(Modbus Master)
(Modbus Slave)
(PROFIBUS Master)
(PROFIBUS Slave)
(CAN)
(CANopen)
(DeviceNet Master)
(J1939)
(S7comm)
(PROFINET Slave)
(Modbus TCP Slave)
(Modbus TCP Master)
(BACnet Slave)
(BACnet Master)
(IEC 61850 Server)
(IEC 61850 Client)
(KNX)
(DALI)
(IO-Link Master)
(HART)
(MQTT)
(IO-Link Slave)
(OPC UA Client)
(OPC UA Server)
(PROFINET Master)
(EnOcean)
(LoRaWAN)
(EtherCAT Slave)
(EtherCAT Master)
(LoRaWAN Gateway)

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UPDATED DOCUMENTATION:

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

- Updated
- Related to the product you own

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

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

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.001	04/04/2013	Nt	All	Added new chapters
1.002	04/06/2024	Ln	All	Revision
1.100	17/04/2025	Ln	All	New design

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 are required for each individual application, legal and safety regulation. 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 instrument can represent a potential hazard if they are inappropriately installed and operated by personnel untrained. These instructions refer to residual risks with the following symbol:

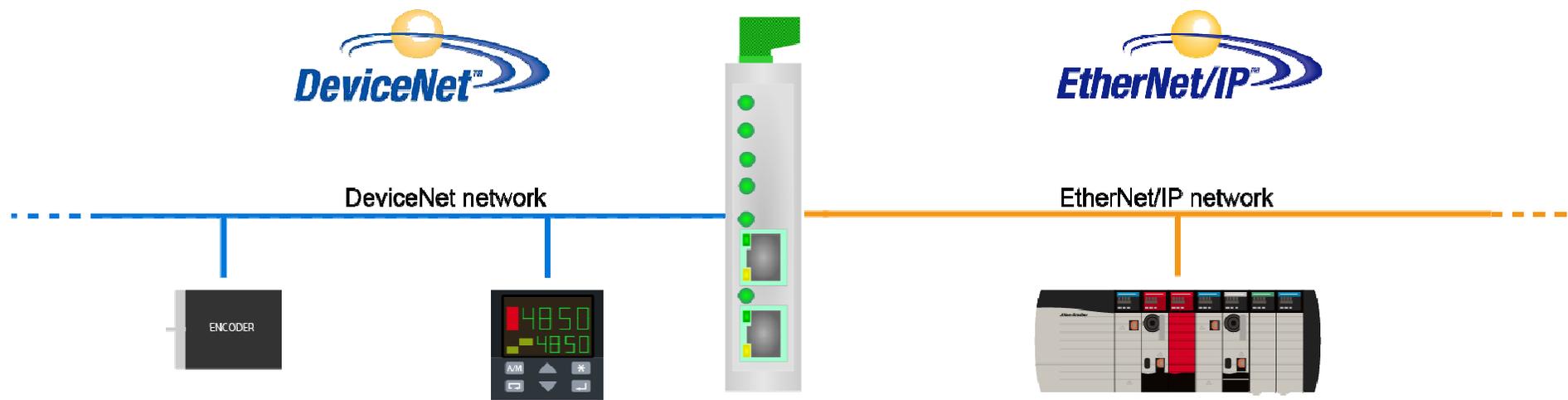
 This symbol indicates that non-observance of the safety instructions is danger for people to serious injury or death and / or the possibility of damage.

CE CONFORMITY

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

EXAMPLE OF CONNECTION:

Ethernet/IP / DeviceNet - Converter
HD67598-A1



HD67598-A1



ADFweb.com



+39 0438 309 131



+39 349 440 9592



support@adfweb.com

CONNECTION SCHEME:

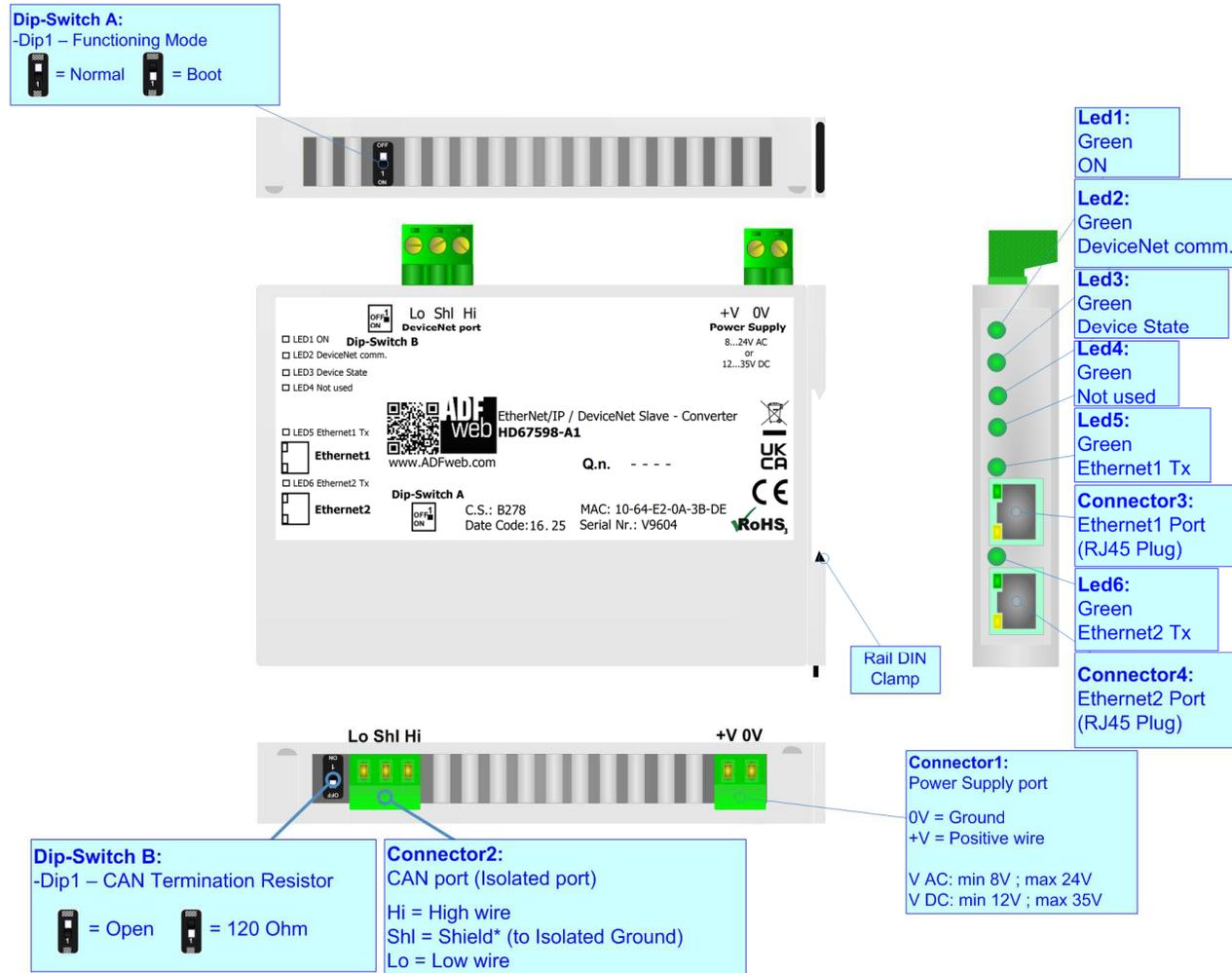


Figure 1: Connection scheme for HD67598-A1

CHARACTERISTICS:

The HD67598-A1 is a EtherNet/IP / DeviceNet Master Converter.

It allows the following characteristics:

- Up to 455 bytes in reading and 455 bytes in writing;
- Two-directional information between DeviceNet bus and EtherNet/IP 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 SW67598 software on your PC in order to perform the following:

- Define the parameter of EtherNet/IP line;
- Define the parameter of DeviceNet line;
- Update the device.

POWER SUPPLY:

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

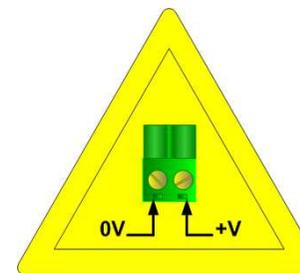
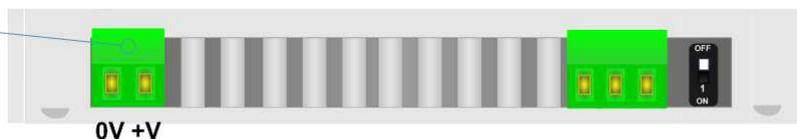
VAC		VDC	
Vmin	Vmax	Vmin	Vmax
8V	24V	12V	35V

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67598-A1	3.5

Caution: Not reverse the polarity power

Connector1:
Power Supply port
0V = Ground
+V = Positive wire
V AC: min 8V ; max 24V
V DC: min 12V ; max 35V



HD67598-A1

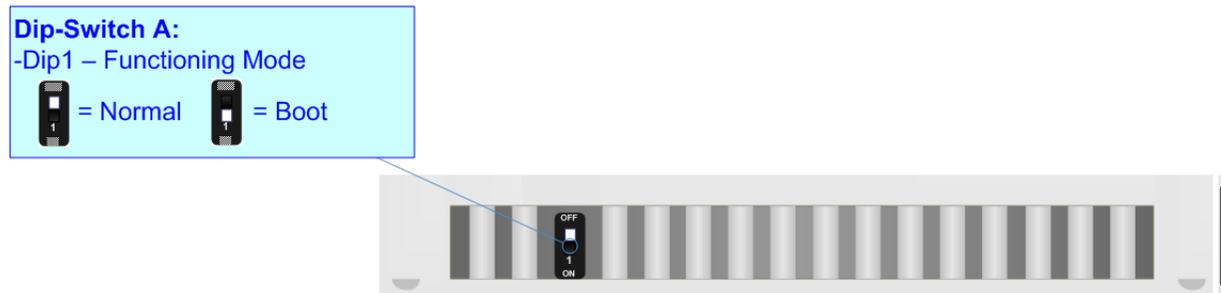
FUNCTION MODES:

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

- The first, with Dip1 in Off position (factory setting), is used for the normal working of the device.
- The second, with Dip1 in On position, is used for upload the Project/Firmware.

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

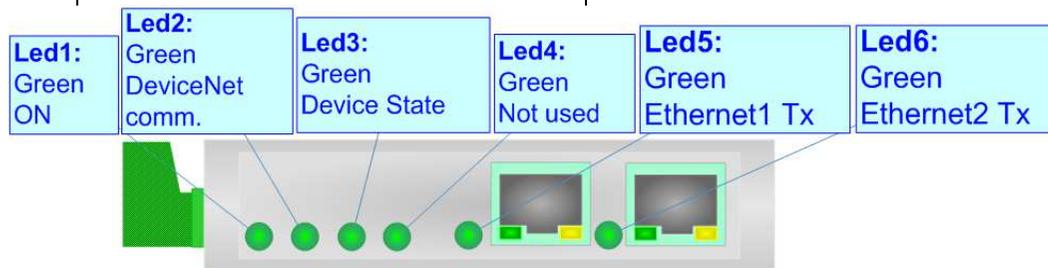
According to the functioning mode, the LEDs will have specifics functions (see 'LEDS' section).



LEDS:

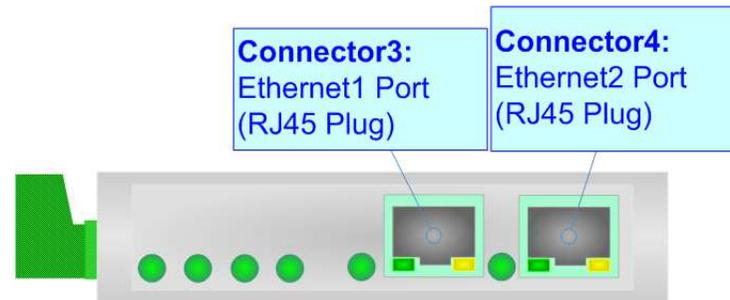
The device has got six LEDs that are used to give information of the functioning status.
The various meanings of the LEDs are described in the table below.

LED	Normal Mode	Boot Mode
1: ON (green)	ON	ON
2: DeviceNet comm. (green)	Blinks quickly when DeviceNet communication is running	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
3: Device State (green)	Blinks slowly (~1Hz)	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
4: Not used (green)	OFF	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
5: Ethernet1 Link Tx (green)	ON: Ethernet cable connected OFF: Ethernet cable disconnected	ON: Ethernet cable connected OFF: Ethernet cable disconnected
6: Ethernet2 Link Tx (green)	ON: Ethernet cable connected OFF: Ethernet cable disconnected	ON: Ethernet cable connected OFF: Ethernet cable disconnected



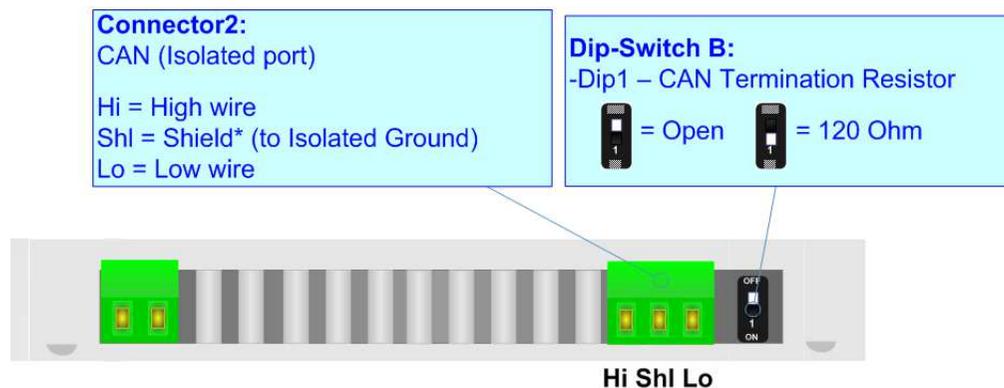
ETHERNET/IP:

The EtherNet/IP connection must be made using Connector3 and/or Connector4 of HD67598-A1 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/PLC/other is recommended the use of a cross cable.



DEVICENET:

For terminate the CAN line with a 120Ω resistor it is necessary that the Dip1 of 'Dip-Switch A' is 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]
		125 K	500
		250 K	250
		500 K	100

USE OF COMPOSITOR SW67598:

To configure the Converter, use the available software that runs with Windows called SW67598. 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 or 11; 32/64bit).

When launching the SW67598, the window below appears (Fig. 2).



Note:

It is necessary to have installed .Net Framework 4.

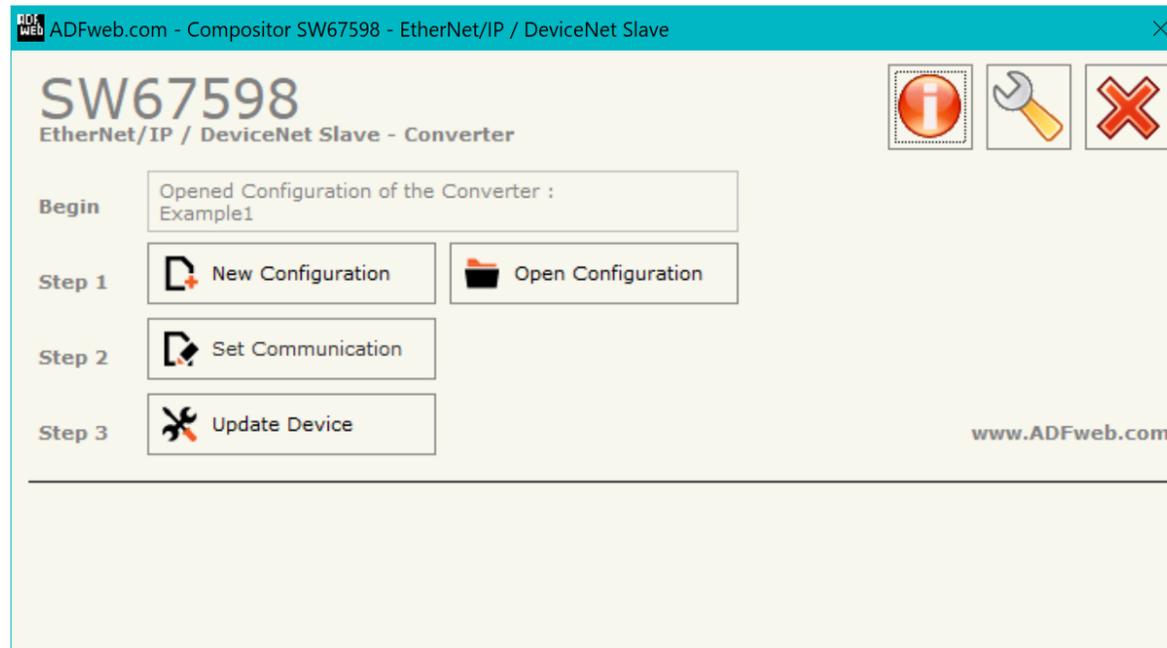


Figure 2: Main window for SW67598

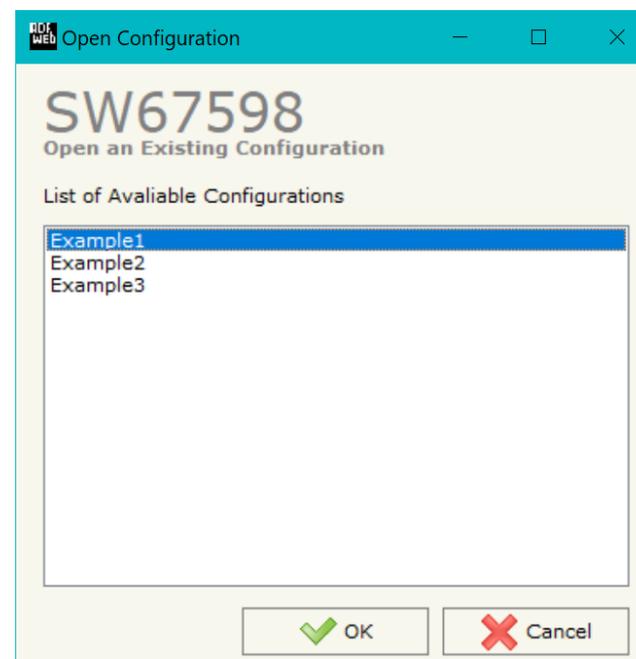
NEW CONFIGURATION / OPEN CONFIGURATION:

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



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

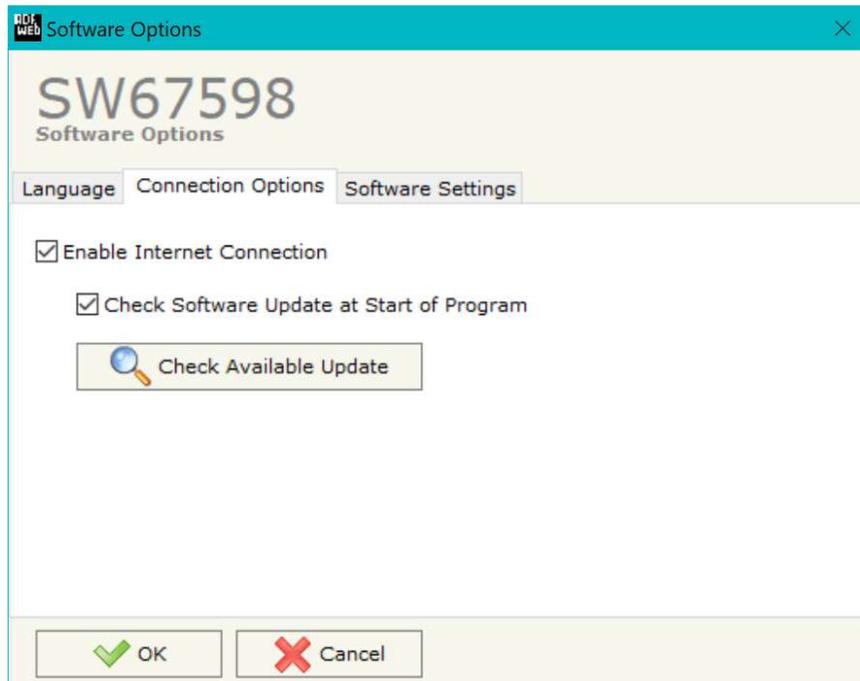
- To clone the configurations of a Programmable “EtherNet/IP / DeviceNet Slave - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient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



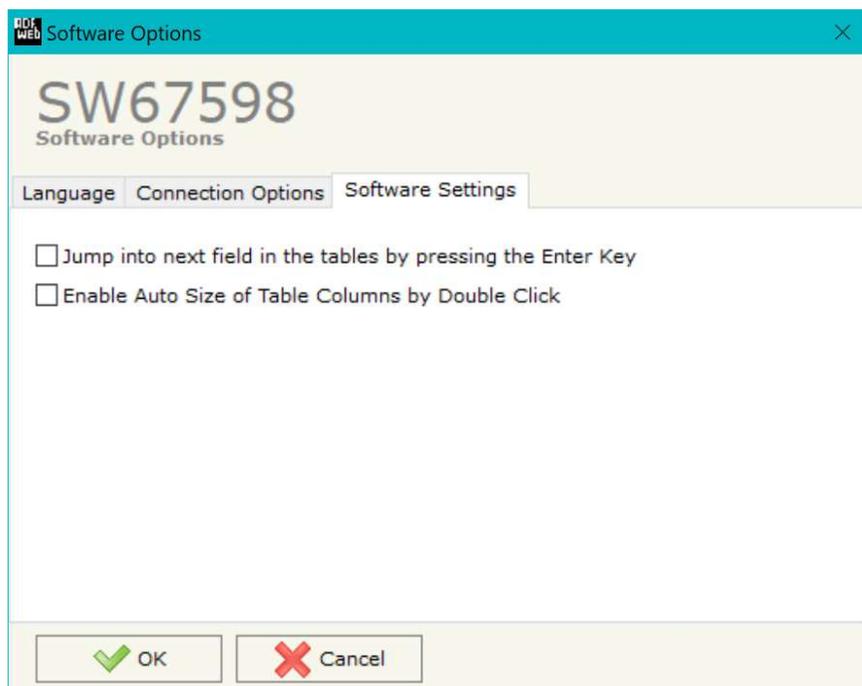
SOFTWARE OPTIONS:

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 SW67598 check automatically if there are updatings when it is launched.



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

SET COMMUNICATION:

This section define the fundamental communication parameters of two buses, EtherNet/IP and DeviceNet.

By Pressing the "**Set Communication**" button from the main window for SW67598 (Fig. 2) the window "Set Communication" appears (Fig. 3).

The means of the fields for "EtherNet/IP" are:

- In the fields "**IP ADDRESS**" insert the IP address that you want to give to the Converter;
- In the fields "**SUBNET Mask**" insert the SubNet Mask;
- In the fields "**GATEWAY**" insert the default gateway that you want to use. This feature can be enabled or disabled pressing the Check Box field;
- In the field "**Port**" insert the number of port;
- In the field "**Number Byte Input**" the number of input byte of EtherNet/IP side is defined (at maximum it is possible to use 455 byte);
- In the field "**Number Byte Output**" the number of output byte of Ethernet/IP side is defined (at maximum it is possible to use 455 byte).

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

- In the field "**ID Device**" the address for the DeviceNet Master is defined;
- In the field "**Baudrate**" the velocity of the DeviceNet bus is defined.

The screenshot shows a software window titled "Set Communication" for device "SW67598". It is divided into two main sections: "EtherNet/IP" and "DeviceNet Slave".

EtherNet/IP Section:

- IP ADDRESS:** 192.168.0.10
- SUBNET Mask:** 255.255.255.0
- GATEWAY:** (unchecked)
- GATEWAY:** 192.168.0.1
- Port:** 44818
- Number Byte Input:** 455
- Number Byte Output:** 455

DeviceNet Slave Section:

- ID Device:** 10
- Baudrate:** 500K

At the bottom of the window, there are two buttons: "OK" (with a green checkmark) and "Cancel" (with a red X).

Figure 3: "Set Communication" 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. This by using the Ethernet port.

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' in 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 updated.



Figure 4: "Update device" windows

**Note:**

When you receive the device, for the first time, you also have to update the Firmware in the HD67598 device.

**Warning:**

If Fig. 5 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;
- ➔ 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, 10 or 11 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 or 11 you have to launch the "Command Prompt" with Administrator Rights;
- ➔ Pay attention at Firewall lock.

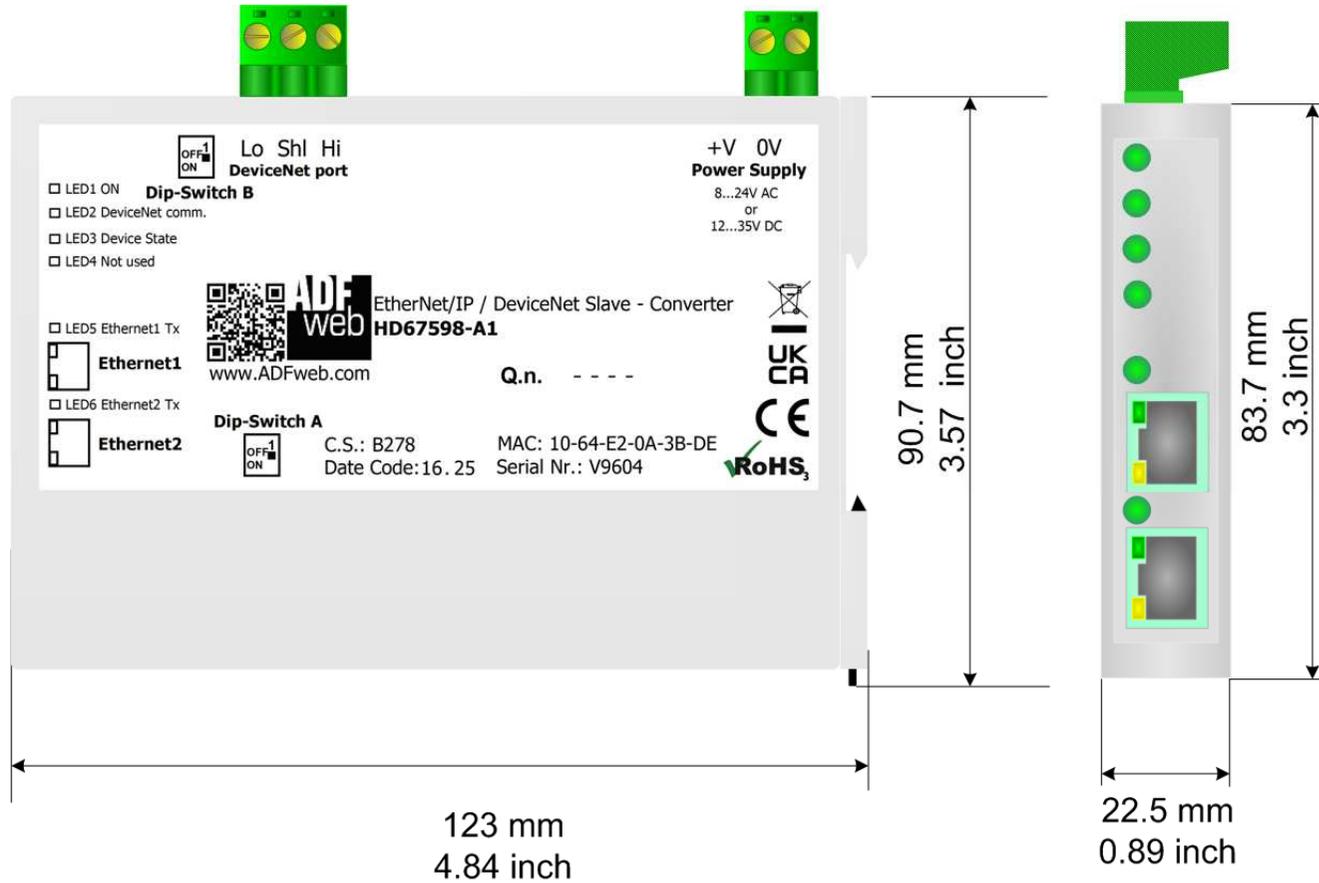


Figure 5: "Error" window

**Warning:**

In the case of HD67598 you have to use the software "SW67598": www.adfweb.com/download/filefold/SW67598.zip.

MECHANICAL DIMENSIONS:

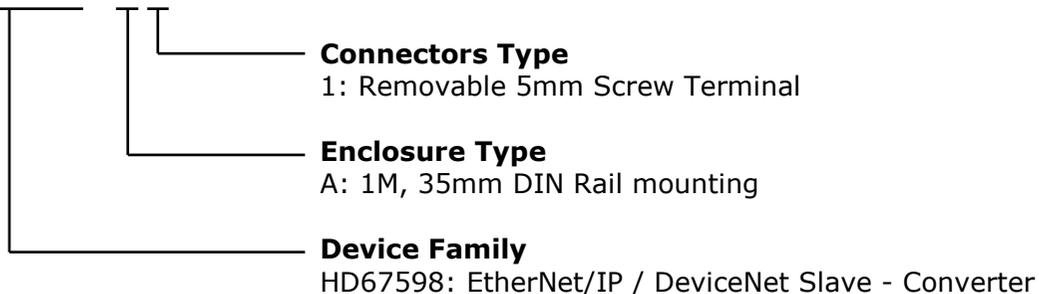


Housing: PC-ABS
 Weight: 200g (Approx)

Figure 6: Mechanical dimensions scheme for HD67598-A1

ORDERING INFORMATION:

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

HD67598 - A 1

Order Code: **HD67598-A1** - Converter EtherNet/IP / DeviceNet Slave Converter

ACCESSORIES:

Order Code: **AC34011** - 35mm Rail DIN - Power Supply 220/240V AC 50/60Hz – 12 V DC

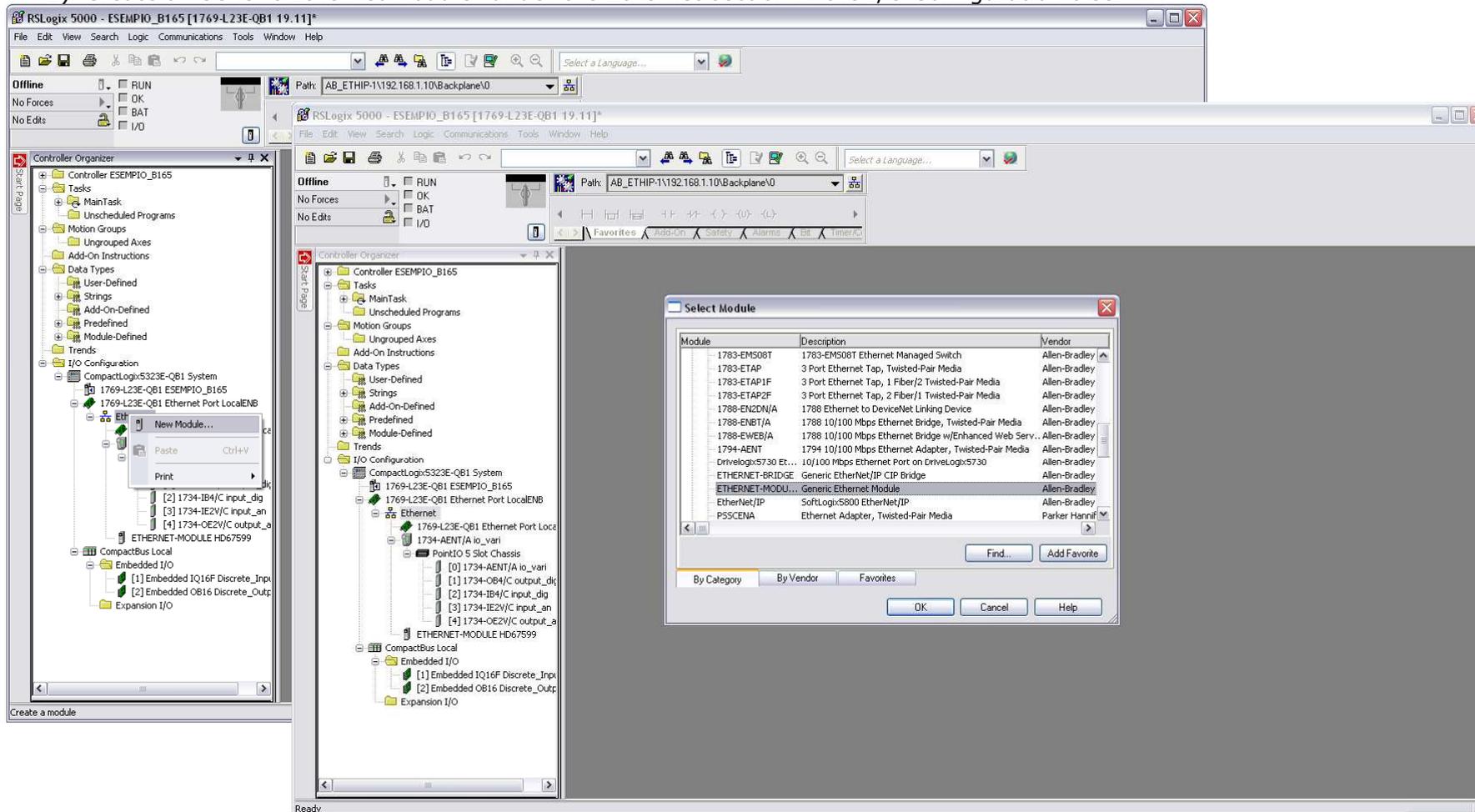
Order Code: **AC34012** - 35mm Rail DIN - Power Supply 220/240V AC 50/60Hz – 24 V DC

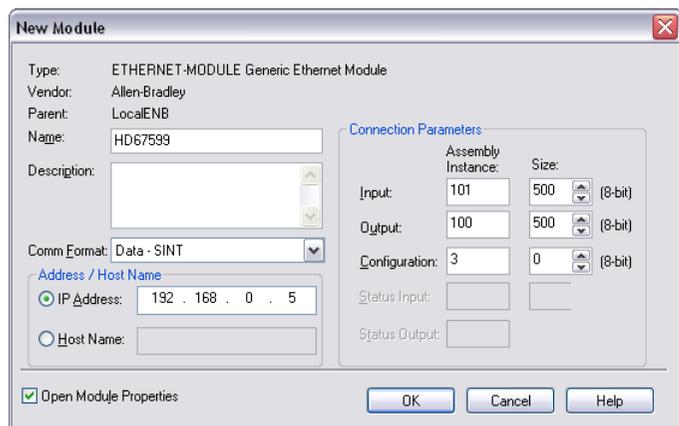
PLC CONFIGURATION:

The configuration and commissioning of the EtherNet/IP Converter as described on the following pages was accomplished with the help of the "RSLogix 5000" software of Rockwell Automation. In case of using a control system from another supplier please attend to the associated documentation.

These are the steps to follow:

- 1) Create a "Generic Ethernet Module" under the Ethernet section in the I/O Configuration tree.





2) Edit the settings of the new Generic Ethernet Module. As shown in the screen shot below, the module was named "HD67598" and the IP-address assigned is 192.168.0.5.

For the Comm Format "Data - SINT" shall be selected as the data type.

The HD67598-A1 can uses up to 500 bytes for input assembly instance 101 and 500 bytes for output assembly instance 100.

RSLogix 5000 requires a configuration assembly instance. Both modules do not provide a configuration assembly instance. Therefore it is allowed to select an instance of 3 and to set the value to zero.

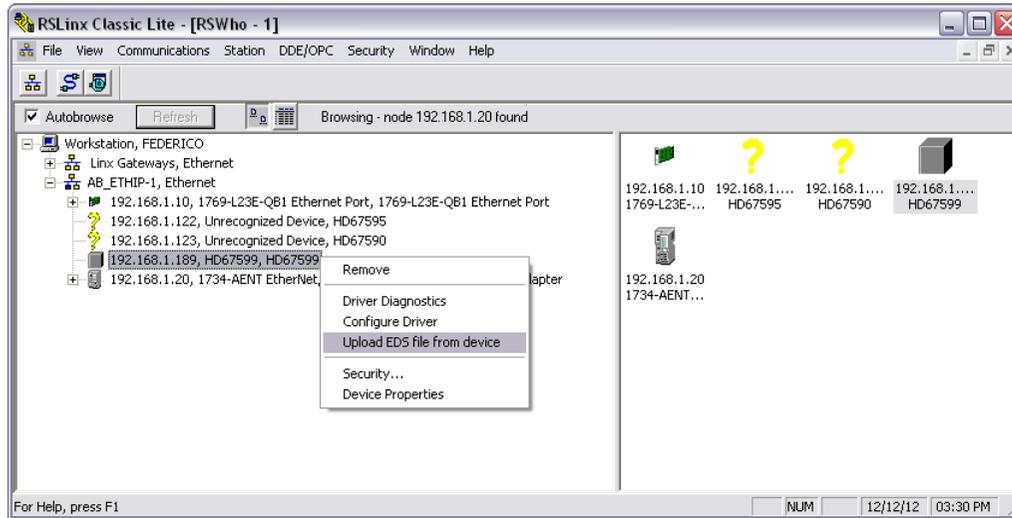
3) The setting of 10msec for the "Requested Packet Interval (RPI)" is adequate but it is possible to change this value as required. A lower value of 2ms shall not be selected.



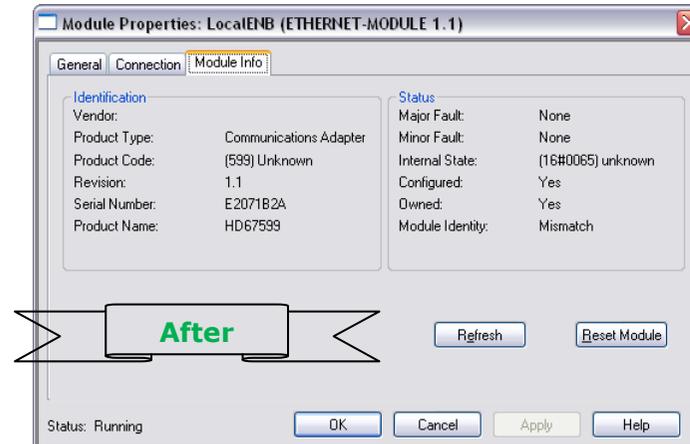
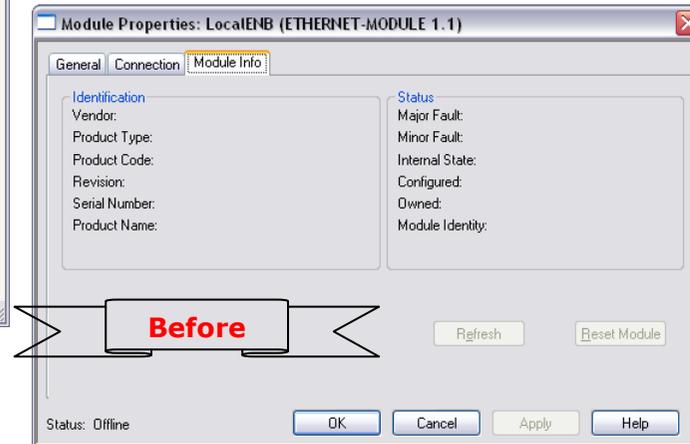
Warning:

The field "Use Unicast Connection over EtherNet/IP" must be checked.





5) With "RSLinks Classic Lite", after have done a network scan (RSWho), and finding the EtherNet/IP device, it is possible to load the EDS file for the device in order to have the "Module Info" compiled.



DISCLAIMER

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

OTHER REGULATIONS AND STANDARDS

WEEE INFORMATION



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

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

RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE



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

CE MARKING



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

WARRANTIES AND TECHNICAL SUPPORT:

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

RETURN POLICY:

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

- 1) 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.
- 2) 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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