

User Manual

Revision 1.002

English

EtherCAT / CANopen - Converter

(Order Code: HD67E08-A1)

For Website information:

www.adfweb.com?Product=HD67E08

For Price information:

www.adfweb.com?Price=HD67E08-A1

Benefits and Main Features:

- ✚ Triple Electrical isolation
- ✚ Temperature range: -40°C/+85°C (-40°F/+185°F)



For other EtherCAT Slave products see also the following link:

Converter EtherCAT Slave to

www.adfweb.com?Product=HD67E00
www.adfweb.com?Product=HD67E01
www.adfweb.com?Product=HD67E02
www.adfweb.com?Product=HD67E03
www.adfweb.com?Product=HD67E04
www.adfweb.com?Product=HD67E05
www.adfweb.com?Product=HD67E06
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www.adfweb.com?Product=HD67E28
www.adfweb.com?Product=HD67879

(Serial)
(Modbus Master)
(Modbus Slave)
(Modbus TCP Master)
(Modbus TCP Slave)
(BACnet Master)
(BACnet Slave)
(CAN)
(DeviceNet Master)
(DeviceNet Slave)
(DMX)
(Ethernet)
(IEC61850 Client)
(IEC61850 Server)
(J1939)
(MQTT)
(NMEA0183)
(NMEA2000)
(OPC UA Client)
(OPC UA Server)
(PROFINET Master)
(PROFINET Slave)
(SNMP Manager)
(SNMP Agent)
(EtherNet/IP Master)
(EtherNet/IP Slave)
(S7comm Client)
(IO-Link Master)



User Manual

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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
1.000	18/09/2020	Ff	All	First Release
1.001	23/03/2022	Ff	All	Revision
1.002	29/07/2024	Ln	All	Revision

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:

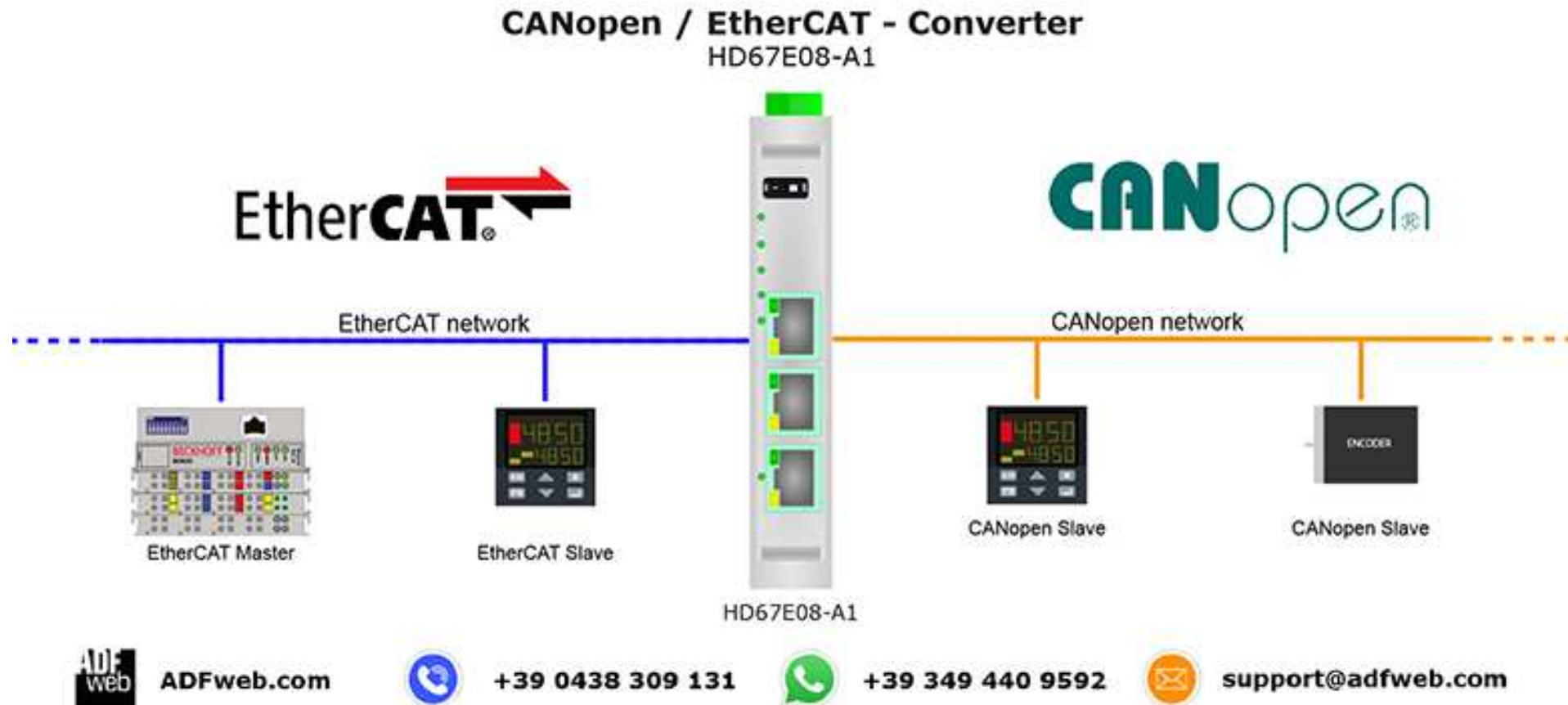


This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

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:

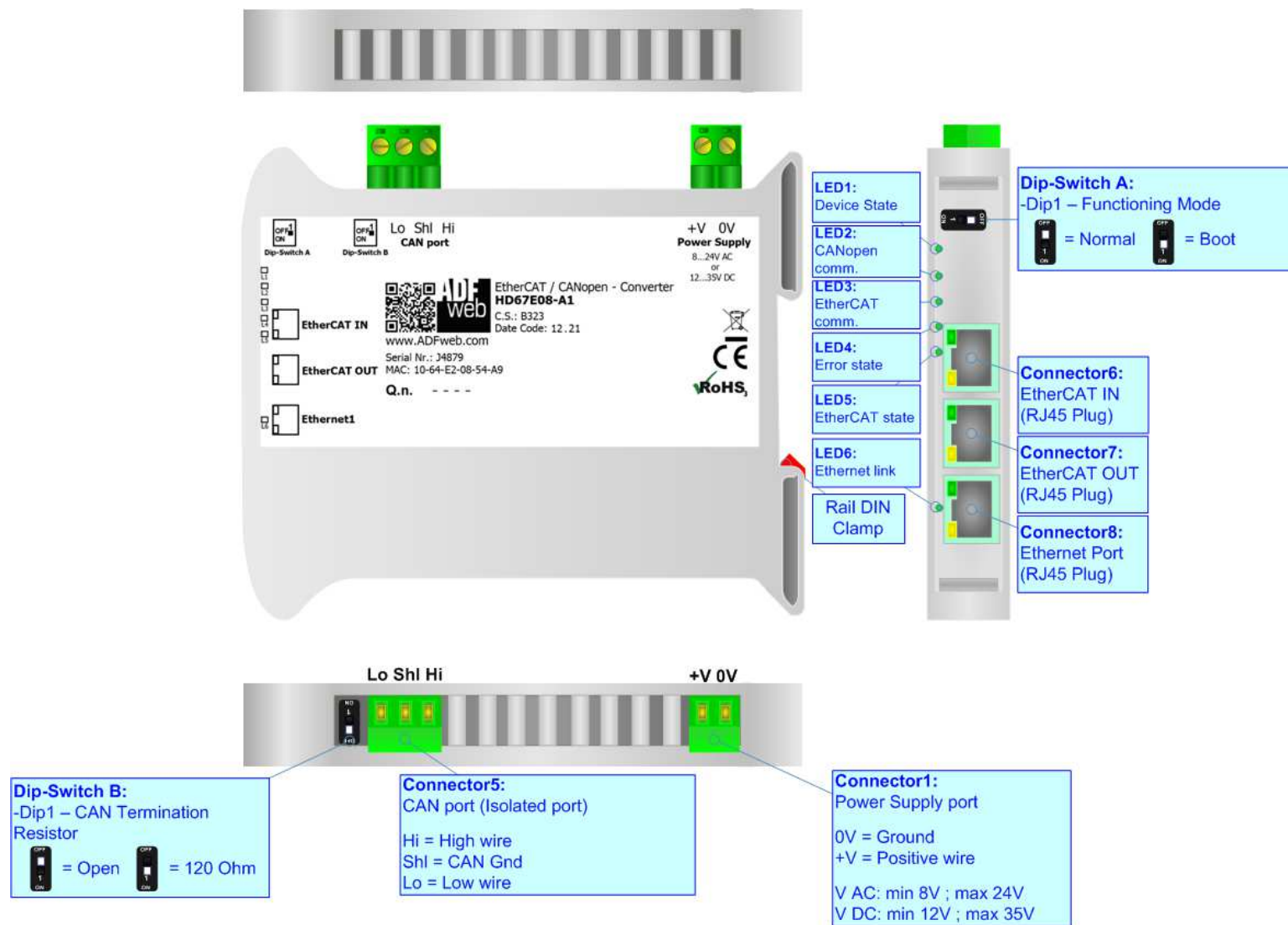


Figure 1: Connection scheme for HD67E08-A1

CHARACTERISTICS:

The HD67E08-A1 are EtherCAT / CANopen - Converters.

It allows for the following characteristics:

- Isolation between EtherCAT – CANopen – Power Supply;
- Two-directional information between EtherCAT bus and CANopen 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 SW67E08 software on your PC in order to perform the following:

- Define the parameters of EtherCAT line;
- Define the parameters of CANopen line;
- Define EtherCAT variables to read and write;
- Define SDO Server information;
- Define SDO Client information;
- Define PDO information (RPDO/TPDO);
- Export the ESI file for configuration of EtherCAT Master;
- Export the EDS file for configuration of CANopen Master;
- Update the device.

POWER SUPPLY:

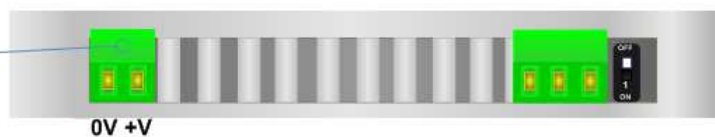
The devices can be powered at 8...24V AC and 12...35V DC. For more details see the two tables below.

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

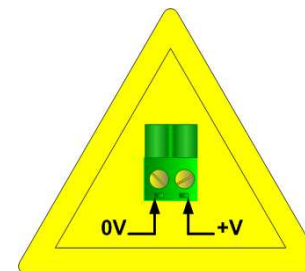
Consumption at 24V DC:

Device	Consumption [W/VA]
HD67E08-A1	3.5

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



Caution: Do not reverse the polarity power



HD67E08-A1

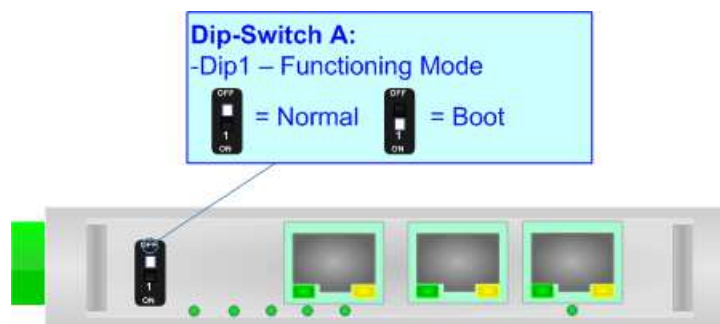
FUNCTION MODES:

The device has got two function modes depending on 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 uploading the Project and/or Firmware.

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

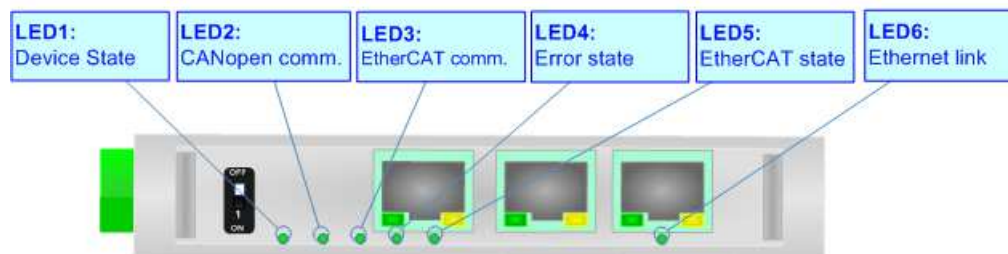
According to the functioning mode, the LEDs will have specific functions, see 'LEDS' section.



LEDS:

The device has got seven LEDs that are used to give information about 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 ($\sim 1\text{Hz}$)	Blinks quickly: Boot state Blinks very slowly ($\sim 0.5\text{Hz}$): update in progress
2: CANopen comm. (green)	It blinks when a CANopen message is received	Blinks quickly: Boot state Blinks very slowly ($\sim 0.5\text{Hz}$): update in progress
3: EtherCAT comm. (green)	It blinks when EtherCAT communication is running	Blinks quickly: Boot state Blinks very slowly ($\sim 0.5\text{Hz}$): update in progress
4: Error state (green)	ON: An error in the communication busses occurs OFF: No errors are present	Blinks quickly: Boot state Blinks very slowly ($\sim 0.5\text{Hz}$): update in progress
5: EtherCAT state (green)	OFF: EtherCAT Master not connected Blinking: EtherCAT Master is connecting ON: EtherCAT Master is connected	Blinks quickly: Boot state Blinks very slowly ($\sim 0.5\text{Hz}$): update in progress
6: Ethernet1 link (green)	ON: Ethernet cable connected OFF: Ethernet cable disconnected	ON: Ethernet cable connected OFF: Ethernet cable disconnected

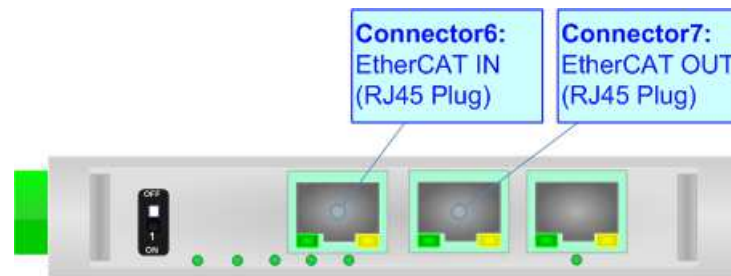


ETHERCAT

EtherCAT (Ethernet for Control Automation Technology) is an Ethernet-based fieldbus system, invented by Beckhoff Automation.

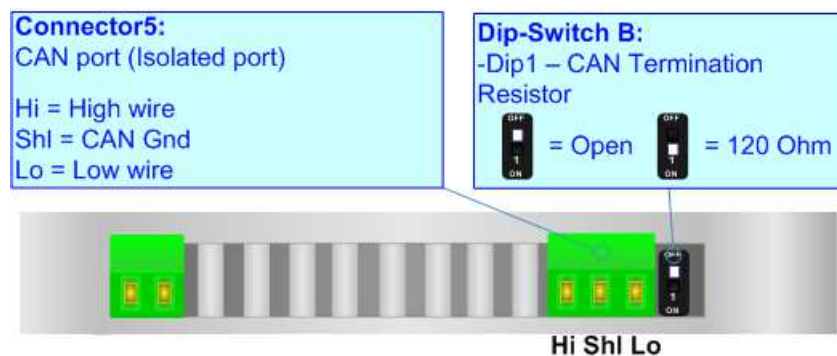
The protocol is standardized in IEC 61158 and is suitable for both hard and soft real-time computing requirements in automation technology. With EtherCAT, the standard Ethernet packet or frame (according to IEEE 802.3) is no longer received, interpreted, and copied as process data at every node. The EtherCAT slave devices read the data addressed to them while the telegram passes through the device, processing data "on the fly". In other words, real-time data and messages are prioritized over more general, less time-sensitive or heavy load data.

The converter has two EtherCAT ports, one is used as Input port (Connector6) and it will receive the incoming messages from the Master, the other is used as Output port (Connector7) and it will forward the messages to the others nodes of the network.



CAN:

For terminating the CAN line with a 120Ω resistor it is necessary that the Dip1 of 'Dip-Switch B' is at ON position.

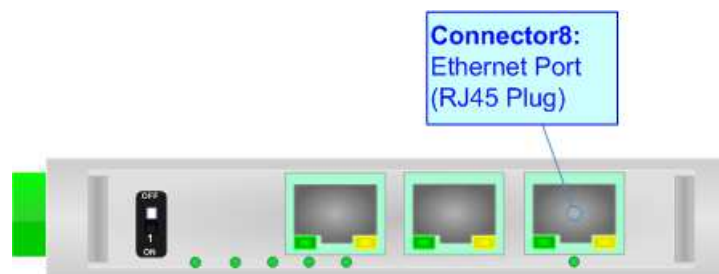


Cable characteristics:

DC parameter:		Impedance	70 Ohm/m
AC parameters:		Impedance	120 Ohm/m
		Delay	5 ns/m
Length		Baud Rate [bps]	Length MAX [m]
		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

ETHERNET:

The updating of the converter must be made using Connector8 of the HD67E08-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.



USE OF COMPOSITOR SW67E08:

To configure the Converter, use the available software that runs with Windows called SW67E08. 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 SW67E08, the window below appears (Fig. 2).



Note:

It is necessary to have installed .Net Framework 4.

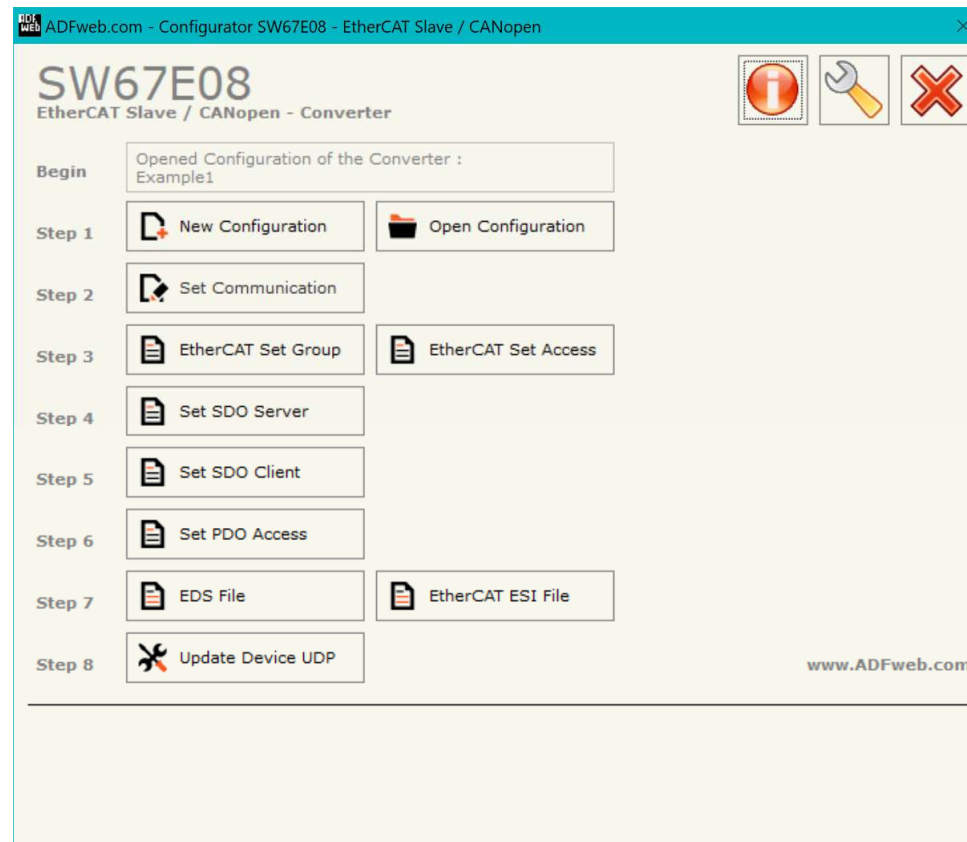
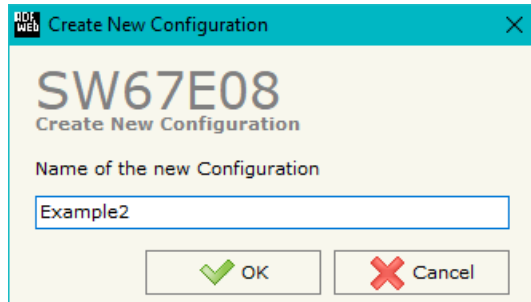


Figure 2: Main window for SW67E08

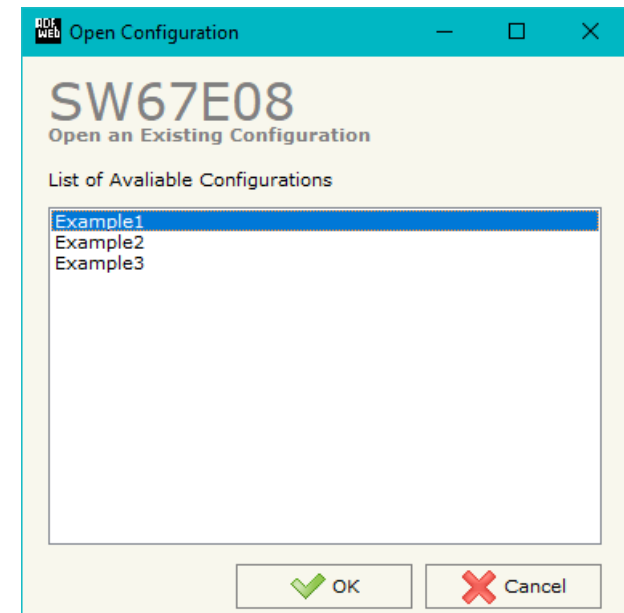
NEW CONFIGURATION / OPEN CONFIGURATION:

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




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

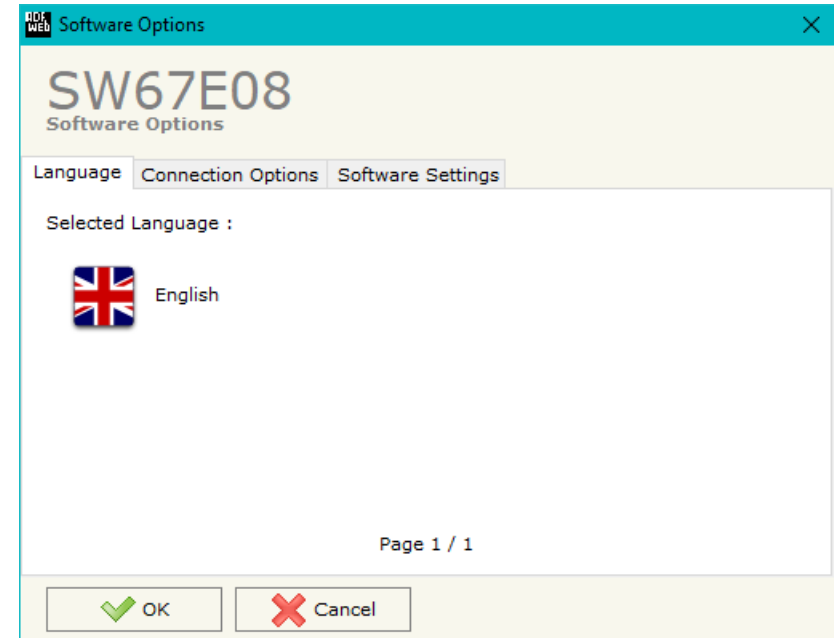
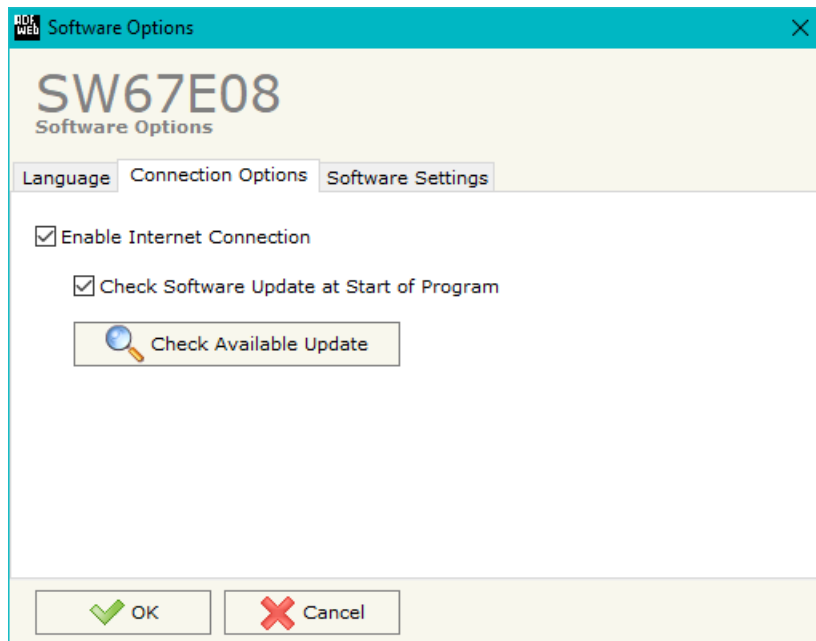
- To clone the configurations of a programmable “EtherCAT Slave / CANopen - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient to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



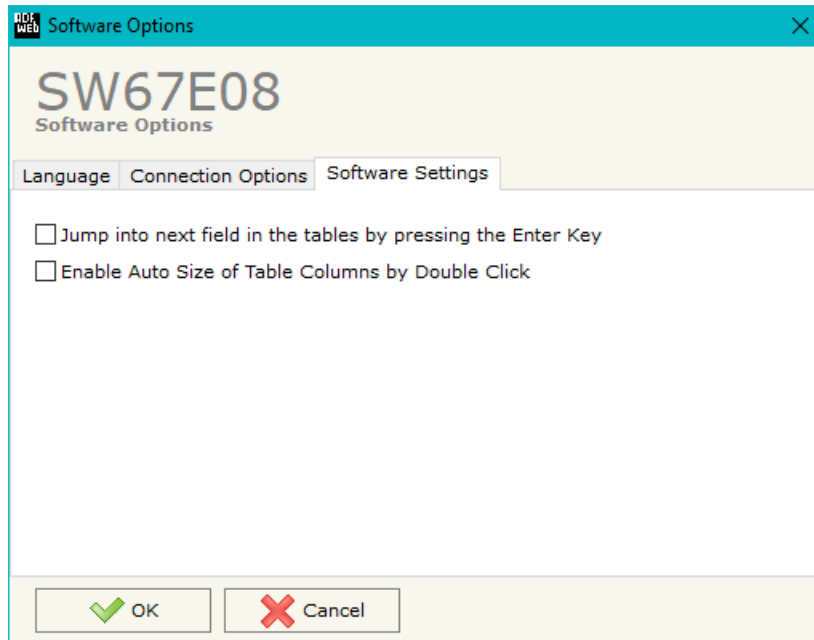
SOFTWARE OPTIONS:

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 SW67E08 checks 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, EtherCAT and CANopen.

By Pressing the **"Set Communication"** button from the main window for SW67E08 (Fig. 2) the window "Set Communication" appears (Fig. 3).

The means of the fields for "Ethernet Connection" are:

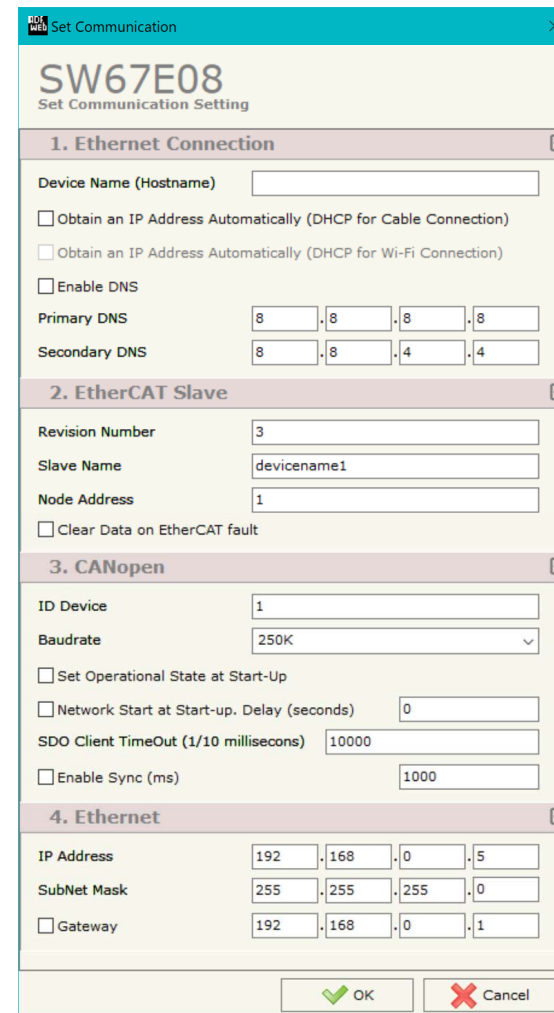
- In the field **"Device Name (Hostname)"** the Hostname to assign to the converter is defined;
- If the field **"Obtain an IP Address Automatically (DHCP for Cable Connection)"** is checked, DHCP for LAN connection is enabled;
- If the field **"Enable DNS"** is checked, DNS protocol is enabled;
- In the field **"Primary DNS"** the IP Address of the primary DNS server is defined;
- In the field **"Secondary DNS"** the IP Address of the secondary DNS server is defined.

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

- In the field **"Revision Number"** the revision number of the converter is defined;
- In the field **"Slave Name"** the name of the converter is defined;
- In the field **"Node Address"** the ID of the converter is defined;
- If the field **"Clear Data on EtherCAT fault"** is checked, the data on CANopen are set to '0' if the EtherCAT communication is in error.

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

- In the field **"ID Device"** the ID of the CANopen side is defined;
- In the field **"Baudrate"** the data rate of the CANopen line is defined;
- In the field **"Set Operational State at Start-Up"** the state of the CANopen is defined. I.e. If it is checked the board starts in Operational State, else it starts in Pre-Operational;
- In the field **"Network Start at Start-Up"** the state of the CANopen network is defined. I.e. If it is checked the board sends a command to set the Operational State of all the devices present in the network, after the time defined in the "Delay" field;
- In the field **"Delay (seconds)"** the delay before sending the "Start" command for the CANopen is defined;



The screenshot shows the 'Set Communication' window for device SW67E08. It is organized into four main sections:

- 1. Ethernet Connection:** Includes fields for Device Name (Hostname), checkboxes for obtaining IP address automatically (DHCP for Cable and Wi-Fi), a checkbox for Enable DNS, and input fields for Primary and Secondary DNS.
- 2. EtherCAT Slave:** Includes fields for Revision Number, Slave Name, and Node Address, along with a checkbox for Clear Data on EtherCAT fault.
- 3. CANopen:** Includes fields for ID Device, Baudrate (a dropdown menu), checkboxes for Set Operational State at Start-Up and Network Start at Start-Up, a field for Delay (seconds), a field for SDO Client TimeOut (1/10 milliseconds), a checkbox for Enable Sync (ms), and a field for Sync (ms).
- 4. Ethernet:** Includes input fields for IP Address, SubNet Mask, and Gateway.

At the bottom right, there are 'OK' and 'Cancel' buttons.

Figure 3: "Set Communication" window

- In the field "**SDO Client TimeOut (1/10 ms)**" the maximum time that the device attends for the answer from the Slave interrogated is defined;
- If the field "**Enable Sync (ms)**" is checked and a time is defined, the converter can send cyclically a SYNC message to the CANopen network.

The means of the fields for "Ethernet" are:

- In the fields "**IP Address**" the IP address for Ethernet side of the converter is defined;
- In the fields "**SubNet Mask**" the SubNet Mask for Ethernet side of the converter is defined;
- In the fields "**Gateway**" the default gateway of the net is defined. This feature can be enabled or disabled pressing the Check Box field. This feature is used for going out of the net.

ETHERCAT SET GROUP:

By Pressing the “**EtherCAT Set Group**” button from the main window for SW67E08 (Fig. 2) the window “EtherCAT Slave Set Group” appears (Fig. 4).

This section is used to define the EtherCAT group in which saving the variables configured into the EEPROM of the converter.

N	Group Name	Num Variables	Mnemonic
1	Test1	1	
2	Test2	1	
3			
4			
5			
6			
7			
8			

Figure 4: “EtherCAT Slave Set Group” window

The means of the fields are:

- In the field “**Group Name**” the name for each group is defined;
- In the field “**Num Variables**” the number of variables to map into the group is defined;
- In the field “**Mnemonic**” a description of the group is defined.

ETHERCAT SET ACCESS:

By Pressing the “**EtherCAT Set Access**” button from the main window for SW67E08 (Fig. 2) the window “EtherCAT Slave Set Access” appears (Fig. 5).

This section is used to define the EtherCAT variables readable by the EtherCAT Master (Slave To Master) and the EtherCAT variables writeable by the EtherCAT Master (Master To Slave).

SLAVE TO MASTER

N	Enable	Type	Length	Name	Init Value	Position	Start Bit	Group	Mnemonic
1	<input checked="" type="checkbox"/>	Int16	2	test1	0	0	0	Test1	Test1
2	<input checked="" type="checkbox"/>	UInt32	4	test2	0	2	0	Test2	Test2
3	<input checked="" type="checkbox"/>								
4	<input checked="" type="checkbox"/>								
5	<input checked="" type="checkbox"/>								
6	<input checked="" type="checkbox"/>								
7	<input checked="" type="checkbox"/>								
8	<input checked="" type="checkbox"/>								

Figure 5a: “EtherCAT Slave Set Access → Slave To Master” window

The means of the fields are:

- If the field “**Enable**” is checked, the EtherCAT variable is enabled;
- In the field “**Type**” the data format of the EtherCAT variable is defined;
- In the field “**Length**” the dimension of the EtherCAT variable is defined;
- In the field “**Name**” the name of the EtherCAT variable is defined;
- In the field “**Init Value**” the default value of the EtherCAT variable is defined;
- In the field “**Position**” the starting address of the EtherCAT array where the variable is mapped is defined;
- In the field “**Start Bit**” the starting bit of the selected Position where the variable is mapped is defined;
- In the field “**Group**” the membership to the groups is defined;
- In the field “**Mnemonic**” a description of the variable is defined.

MASTER TO SLAVE

N	Enable	Type	Length	Name	Position	Start Bit	Group	Mnemonic
1	<input checked="" type="checkbox"/>	Int32	4	test3	0	0		Test3
2	<input checked="" type="checkbox"/>							
3	<input checked="" type="checkbox"/>							
4	<input checked="" type="checkbox"/>							
5	<input checked="" type="checkbox"/>							
6	<input checked="" type="checkbox"/>							
7	<input checked="" type="checkbox"/>							
8	<input checked="" type="checkbox"/>							

Figure 5b: "EtherCAT Slave Set Access → Master To Slave" window

The means of the fields are:

- If the field "**Enable**" is checked, the EtherCAT variable is enabled;
- In the field "**Type**" the data format of the EtherCAT variable is defined;
- In the field "**Length**" the dimension of the EtherCAT variable is defined;
- In the field "**Name**" the name of the EtherCAT variable is defined;
- In the field "**Position**" the starting address of the EtherCAT array where the variable is mapped is defined;
- In the field "**Start Bit**" the starting bit of the selected Position where the variable is mapped is defined;
- In the field "**Group**" the membership to the groups is defined;
- In the field "**Mnemonic**" a description of the variable is defined.

SET SDO SERVER:

By pressing the **"Set SDO Server"** button from the main window for SW67E08 (Fig. 2) the window "Set SDO Server Access" appears (Fig. 6).

This window is made to create the SDO in read or write in the CANopen side, and to indicate which byte are associated to these SDOs.

It is divided in two parts, the "SDO in read" and the "SDO in Write".

The first part is used to read, using the SDO, the data arrived from the EtherCAT Master. The second is used to write, using SDO, the data that will be sent to the EtherCAT Master.

The data of the columns have the following meanings:

- In the field **"Index"** the address of the SDO is defined;
- In the field **"SubIndex"** the second address of the SDO is defined;
- If the field **"N Byte"** the dimension of the SDO is defined (it can be 1, 2 or 4);
- In the field **"Address Byte1"** insert the address of the EtherCAT arrays where read/write first byte of the SDO;
- In the field **"Address Byte2"** insert the address of the EtherCAT arrays where read/write second byte of the SDO (only if N Byte is 2 or 4);
- In the field **"Address Byte3"** insert the address of the EtherCAT arrays where read/write third byte of the SDO (only if N Byte is 4);
- In the field **"Address Byte4"** insert the address of the EtherCAT arrays where read/write fourth byte of the SDO (only if N Byte is 4);
- In the field **"Mnemonic"** the description for the SDO is defined.

N	Index	SubIndex	N Byte	Add Byte1	Add Byte2	Add Byte3	Add Byte4	Mnemonic
1	0x2001	0	4	0	1	2	3	
2	0x2002	0	2	4	5			

Figure 6: "Set SDO Server Access" window

SET SDO CLIENT:

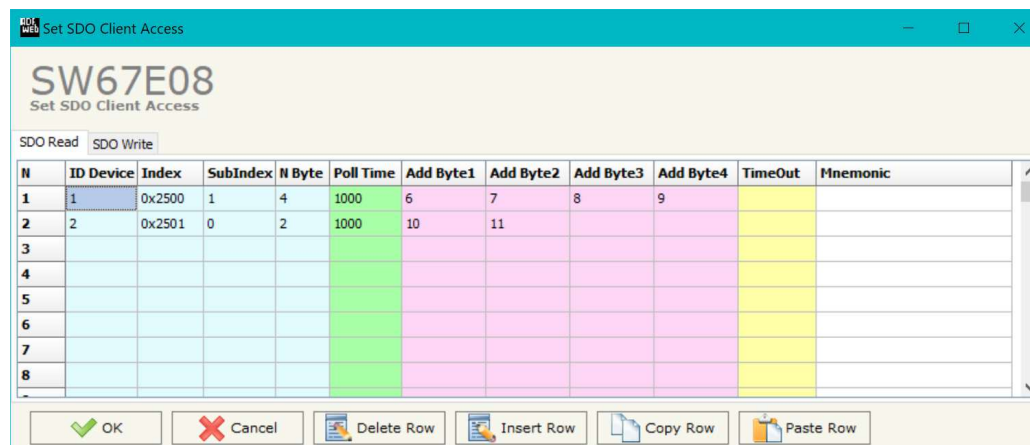
By pressing the **"Set SDO Client"** button from the main window for SW67E08 (Fig. 2) the window "Set SDO Client Access" appears (Fig. 7a and 7b).

With the SDO Client the HD67E08 Gateway can read and/or write the data from other devices connected in the network CANopen.

It is divided in two parts, the "SDO Read" and the "SDO Write". The first part is used to read, using the SDO, the data in another device and then put them in the EtherCAT array. The second part is used to write, using the SDO, the data present in the EtherCAT array to others CANopen devices.

The data of the columns in the "SDO Read" have the following meanings:

- In the field **"ID Device"** insert the ID of the device to read;
- In the field **"Index"** the address for the SDO is defined;
- In the field **"SubIndex"** the second address for the SDO is defined;
- In the field **"N Byte"** the dimension of the SDO is defined (it can be 1, 2, or 4);
- In the field **"Poll Time"** insert the cyclic time to make this request;
- In the field **"Addr Byte1"** the address of the EtherCAT array where coping the first byte of the SDO read is defined;
- In the field **"Addr Byte2"** the address of the EtherCAT array where coping the second byte of the SDO read is defined (only if N Byte is 2 or 4);
- In the field **"Addr Byte3"** the address of the EtherCAT array where coping the third byte of the SDO read is defined (only if N Byte is 4);
- In the field **"Addr Byte4"** the address of the EtherCAT array where coping the fourth byte of the SDO read is defined (only if N Byte is 4);
- The field **"TimeOut"** is used for put at zero the data into EtherCAT if the SDO response doesn't arrive for the time defined. If the value in the field is 0, it means that you don't want to use this feature, and so the value is never deleted;
- In the field **"Mnemonic"** the description for the SDO is defined.

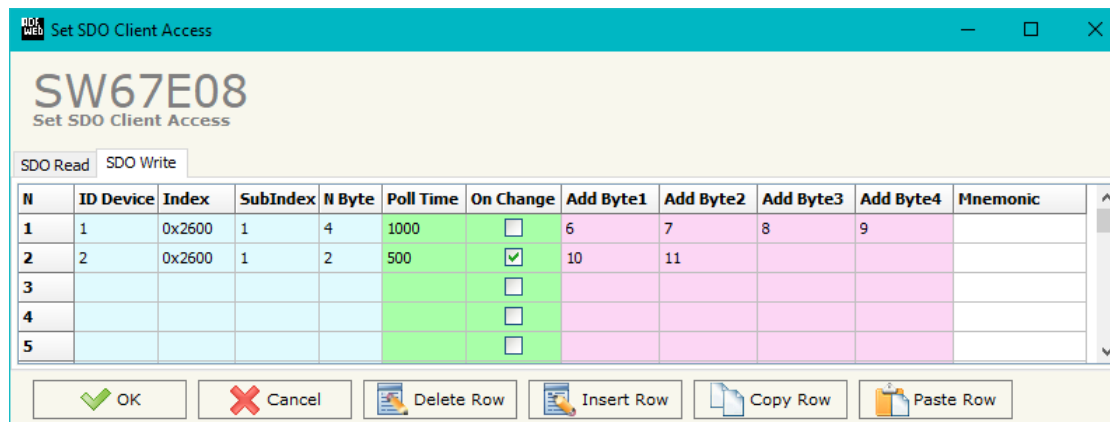


N	ID Device	Index	SubIndex	N Byte	Poll Time	Add Byte1	Add Byte2	Add Byte3	Add Byte4	TimeOut	Mnemonic
1	1	0x2500	1	4	1000	6	7	8	9		
2	2	0x2501	0	2	1000	10	11				
3											
4											
5											
6											
7											
8											

Figure 7a: "Set SDO Client Access – SDO Read" window

The data of the columns in the "SDO Write" have the following meanings:

- In the field "**ID Device**" insert the ID of the device to write;
- In the field "**Index**" the address for the SDO is defined;
- In the field "**SubIndex**" the second address for the SDO is defined;
- In the field "**N Byte**" the dimension of the SDO is defined (it can be 1, 2, or 4);
- In the field "**Poll Time**" insert the cyclic time to make this request;
- If the field "**On Change**" is checked, the gateway sends the Write SDO request when the data change the value;
- In the field "**Addr Byte1**" the address of the EtherCAT array where reading the first byte of the SDO write is defined;
- In the field "**Addr Byte2**" the address of the EtherCAT array where reading the second byte of the SDO write is defined (only if N Byte is 2 or 4);
- In the field "**Addr Byte3**" the address of the EtherCAT array where reading the third byte of the SDO write is defined (only if N Byte is 4);
- In the field "**Addr Byte4**" the address of the EtherCAT array where reading the fourth byte of the SDO write is defined (only if N Byte is 4);
- In the field "**Mnemonic**" the description for the SDO is defined.



N	ID Device	Index	SubIndex	N Byte	Poll Time	On Change	Addr Byte1	Addr Byte2	Addr Byte3	Addr Byte4	Mnemonic
1	1	0x2600	1	4	1000	<input type="checkbox"/>	6	7	8	9	
2	2	0x2600	1	2	500	<input checked="" type="checkbox"/>	10	11			
3						<input type="checkbox"/>					
4						<input type="checkbox"/>					
5						<input type="checkbox"/>					

Figure 7b: "Set SDO Client Access – SDO Write" window

SET PDO ACCESS:

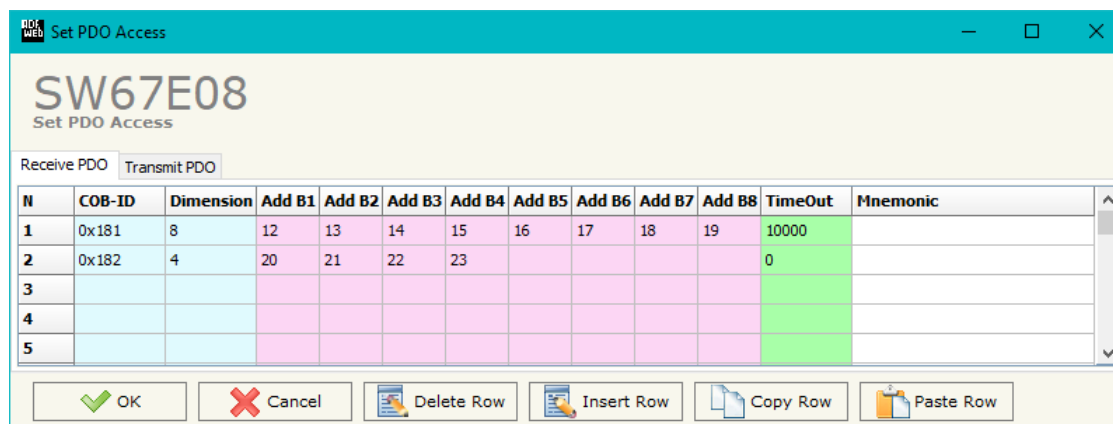
By pressing the "**Set PDO Access**" button from the main window for SW67E08 (Fig. 2) the window "Set PDO Access" appears (Fig. 8a and 8b).

This window is made to create the Receive and the Transmit PDO in the CANopen side, and to indicate which bytes are associated to these PDO.

It is divided in two parts, the "Receive PDO" and the "Transmit PDO". The first part is used to receive PDO in the CANopen network and copy the data in the EtherCAT array. The second part is used to transmit PDO in the CANopen network with the data of EtherCAT array.

The data of the columns in the "Receive PDO" have the following meanings:

- In the Field "**Cob-ID**" the address for the PDO is defined;
- In the Field "**Dimension**" the dimension of the PDO is defined (it can be between 1 and 8);
- In the Field "**Add B1**" the first byte where the data will be saved in the EtherCAT array is defined;
- In the Field "**Add B2**" the second byte where the data will be saved in the EtherCAT array is defined (only if **Dimension** > 1);
- In the Field "**Add B3**" the third byte where the data will be saved in the EtherCAT array is defined (only if **Dimension** > 2);
- In the Field "**Add B4**" the fourth byte where the data will be saved in the EtherCAT array is defined (only if **Dimension** > 3);
- In the Field "**Add B5**" the fifth byte where the data will be saved in the EtherCAT array is defined (only if **Dimension** > 4);
- In the Field "**Add B6**" the sixth byte where the data will be saved in the EtherCAT array is defined (only if **Dimension** > 5);
- In the Field "**Add B7**" the seventh byte where the data will be saved in the EtherCAT array is defined (only if **Dimension** > 6);
- In the Field "**Add B8**" the eighth byte where the data will be saved in the EtherCAT array is defined (only if **Dimension** > 7);
- The field "**TimeOut**" is used for put at zero the data into EtherCAT if the PDO doesn't arrive with a frequency less than the time expressed in the field. If the value in the field is 0, it means that you don't want to use this feature, and so the value is never deleted;
- In the field "**Mnemonic**" the description for the PDO is defined.

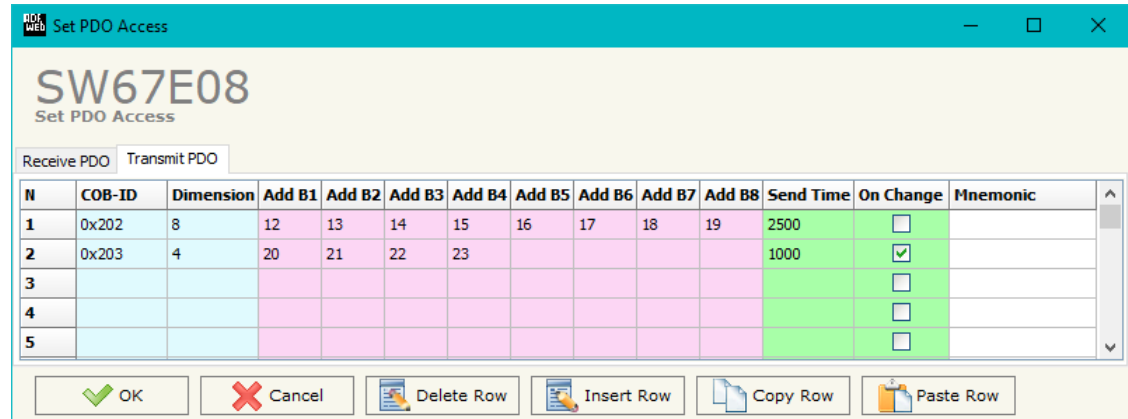


N	COB-ID	Dimension	Add B1	Add B2	Add B3	Add B4	Add B5	Add B6	Add B7	Add B8	TimeOut	Mnemonic
1	0x181	8	12	13	14	15	16	17	18	19	10000	
2	0x182	4	20	21	22	23					0	
3												
4												
5												

Figure 8a: "Set PDO Access – Receive PDO" window

The data of the columns in the "Transmit PDO" have the following meanings:

- In the Field "**Cob-ID**" the address for the PDO is defined;
- In the Field "**Dimension**" the dimension of the PDO is defined (it can be between 1 and 8);
- In the Field "**Add B1**" the first byte where the data will be loaded in the EtherCAT array is defined;
- In the Field "**Add B2**" the second byte where the data will be loaded in the EtherCAT array is defined (only if **Dimension** > 1);
- In the Field "**Add B3**" the third byte where the data will be loaded in the EtherCAT array is defined (only if **Dimension** > 2);
- In the Field "**Add B4**" the fourth byte where the data will be loaded in the EtherCAT array is defined (only if **Dimension** > 3);
- In the Field "**Add B5**" the fifth byte where the data will be loaded in the EtherCAT array is defined (only if **Dimension** > 4);
- In the Field "**Add B6**" the sixth byte where the data will be loaded in the EtherCAT array is defined (only if **Dimension** > 5);
- In the Field "**Add B7**" the seventh byte where the data will be loaded in the EtherCAT array is defined (only if **Dimension** > 6);
- In the Field "**Add B8**" the eighth byte where the data will be loaded in the EtherCAT array is defined (only if **Dimension** > 7);
- In the Field "**Send Time**" insert the interval used to send the PDO. The time is in milliseconds;
- If the field "**On Change**" is checked, the gateway send the Transmit PDO when the data change the value;
- In the field "**Mnemonic**" the description for the PDO is defined.



N	COB-ID	Dimension	Add B1	Add B2	Add B3	Add B4	Add B5	Add B6	Add B7	Add B8	Send Time	On Change	Mnemonic
1	0x202	8	12	13	14	15	16	17	18	19	2500	<input type="checkbox"/>	
2	0x203	4	20	21	22	23					1000	<input checked="" type="checkbox"/>	
3												<input type="checkbox"/>	
4												<input type="checkbox"/>	
5												<input type="checkbox"/>	

Figure 8b: "Set PDO Access – Transmit PDO" window

EDS FILE:

By Pressing the “**EDS FILE**” button from the main window for SW67E08 (Fig. 2) it is possible to generate the EDS file to be imported into the master CANopen.

ETHERCAT ESI FILE:

By pressing the “**EtherCAT ESI File**” button it is possible to save the ESI file for the EtherCAT side of the converter.
The ESI file is used to configure the EtherCAT Master.

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.

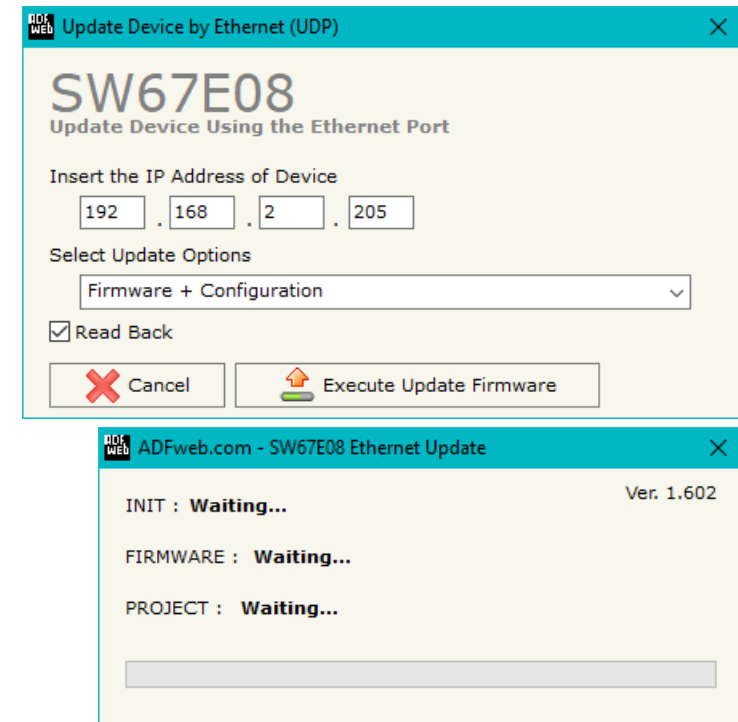


Figure 9: "Update device" windows


Note:

When you receive the device, for the first time, you also have to update the Firmware in the HD67E08 device.


Warning:

If Fig. 10 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.

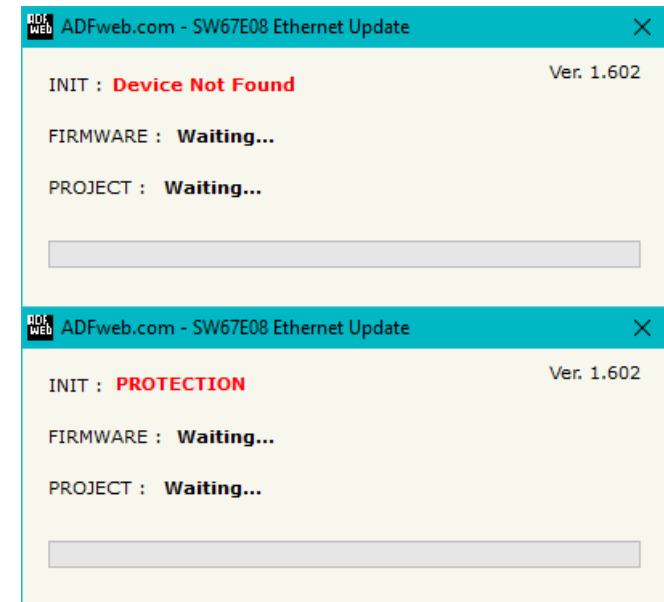


Figure 10: "Error" window


Warning:

In the case of HD67E08 you have to use the software "HD67E08": www.adfweb.com/download/filefold/SW67E08.zip.

MECHANICAL DIMENSIONS:

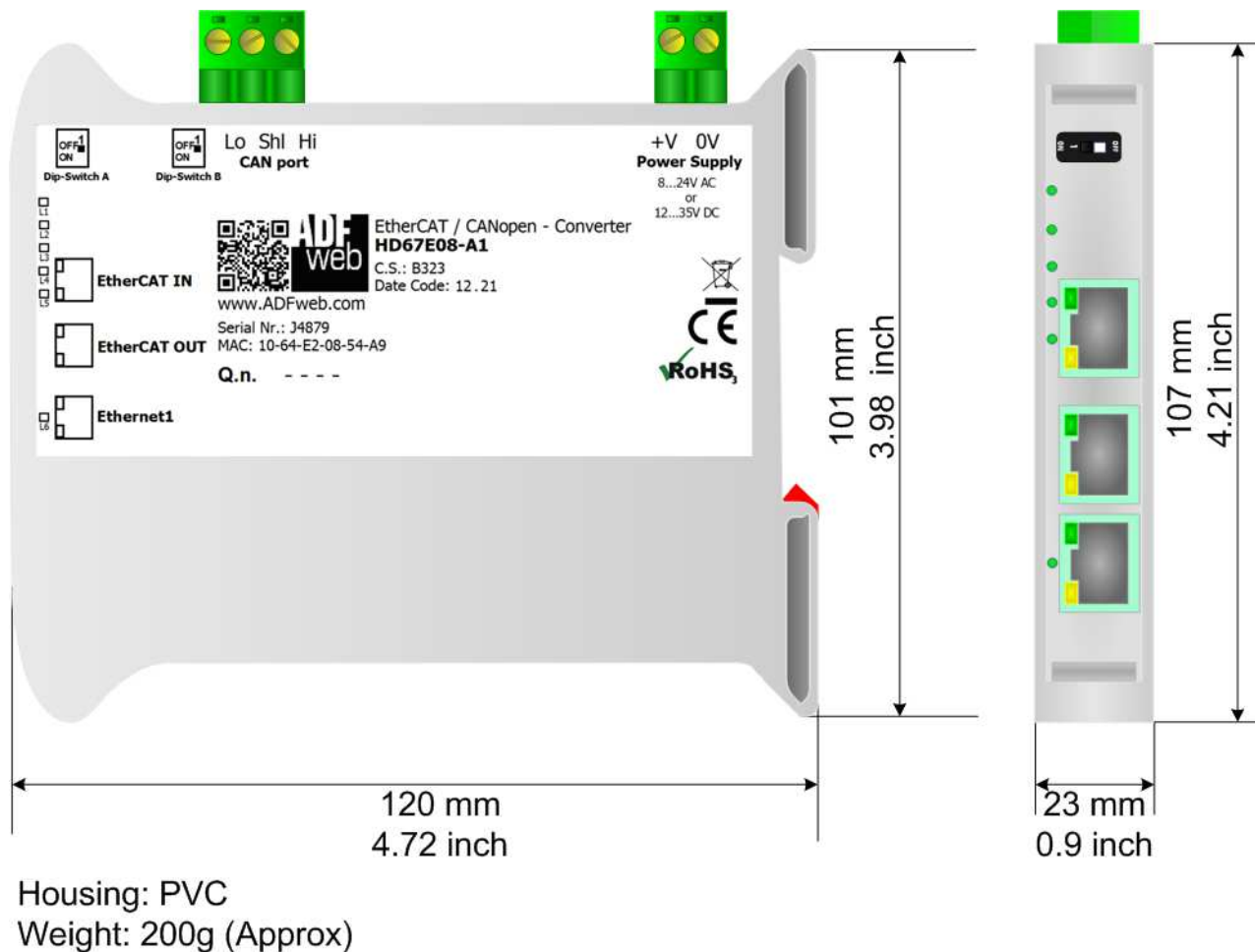
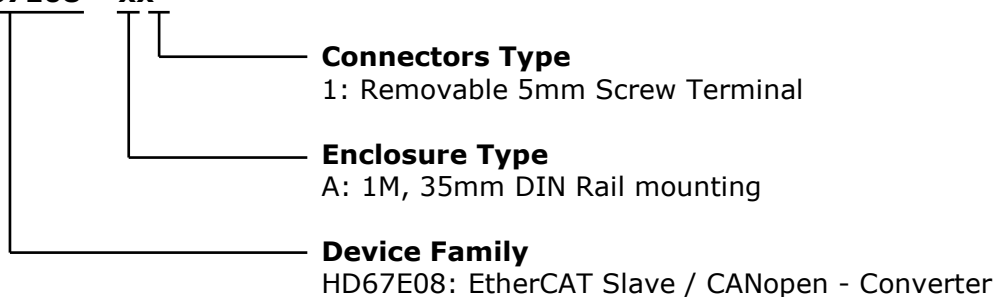


Figure 11: Mechanical dimensions scheme for HD67E08-A1

ORDERING INFORMATION:

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

HD67E08 – xx



Order Code: **HD67E08-A1** - EtherCAT Slave / CANopen – 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

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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



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.



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