

# User Manual

Revision 1.101  
English

## J1939 / CANopen – Converter

(Order Code: HD67438)

For Website information:

[www.adfweb.com?Product=HD67438](http://www.adfweb.com?Product=HD67438)

For Price information:

[www.adfweb.com?Price=HD67438](http://www.adfweb.com?Price=HD67438)

### Benefits and Main Features:

- ⊕ Very easy to configure
- ⊕ Wide supply input range
- ⊕ Electrical isolation
- ⊕ Industrial temperature range:
- ⊕ -40°C / 105°C (-40°F / 221°F)



User Manual



For others Gateways / Bridges:

### J1939 to Modbus

See also the following links:

[www.adfweb.com?Product=HD67212](http://www.adfweb.com?Product=HD67212) (Modbus RTU)

### CANopen to Modbus

See also the following links:

[www.adfweb.com?Product=HD67001](http://www.adfweb.com?Product=HD67001) (Modbus RTU Master)

[www.adfweb.com?Product=HD67002](http://www.adfweb.com?Product=HD67002) (Modbus RTU Slave)

[www.adfweb.com?Product=HD67004](http://www.adfweb.com?Product=HD67004) (Modbus TCP Master)

[www.adfweb.com?Product=HD67005](http://www.adfweb.com?Product=HD67005) (Modbus TCP Slave)

For others Gateways / Bridges:

For **CAN bus 2.0A** and/or **CAN bus 2.0B to Modbus**

See also the following links:

[www.adfweb.com?Product=HD67011](http://www.adfweb.com?Product=HD67011) (Modbus RTU Slave)

[www.adfweb.com?Product=HD67012](http://www.adfweb.com?Product=HD67012) (Modbus RTU Master)

[www.adfweb.com?Product=HD67014](http://www.adfweb.com?Product=HD67014) (Modbus TCP Slave)

[www.adfweb.com?Product=HD67015](http://www.adfweb.com?Product=HD67015) (Modbus TCP Master)

Do you have an your customer protocol?

See the following links:

[www.adfweb.com?Product=HD67003](http://www.adfweb.com?Product=HD67003)

Do you need to choose a device? do you want help?

Ask it to the following link:

[www.adfweb.com?Cmd=helpme](http://www.adfweb.com?Cmd=helpme)

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**UPDATED DOCUMENTATION:**

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

- Updated
- Related to the product you own

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

With this “Document Code” go to web page [www.adfweb.com/download/](http://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	11/12/2012	Dp	All	First released version
1.001	16/12/2013	Dp	All	Revision
1.100	23/11/2016	Ff	All	New hardware version
1.101	13/03/2017	Ff	All	Revision

**WARNING:**

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**TRADEMARKS:**

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**SECURITY ALERT:****GENERAL INFORMATION**

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

**INTENDED USE**

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

**QUALIFIED PERSONNEL**

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

**RESIDUAL RISKS**

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

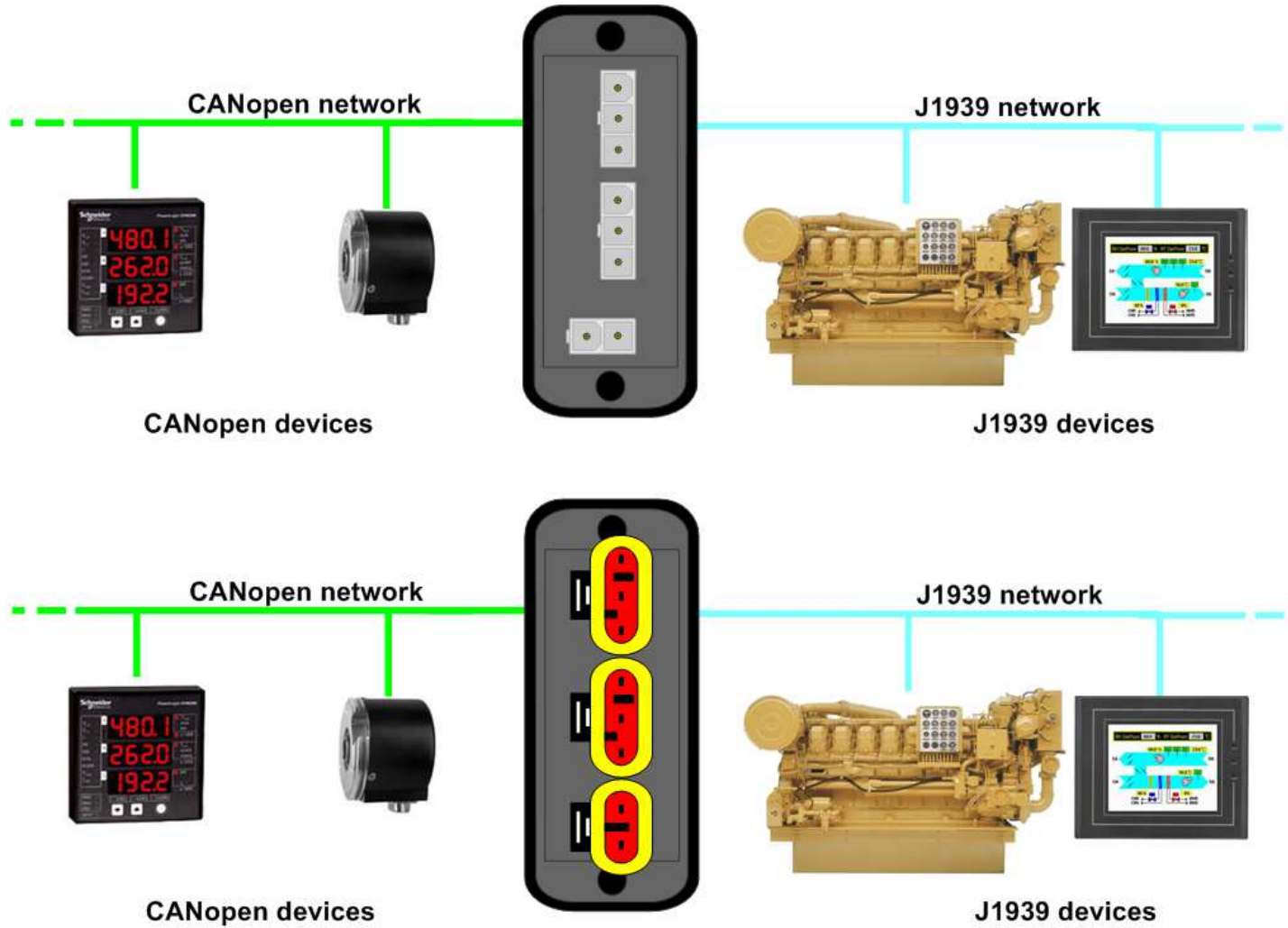


This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

**CE CONFORMITY**

The declaration is made by our company. You can send an email to [support@adfweb.com](mailto:support@adfweb.com) or give us a call if you need it.

**EXAMPLE OF CONNECTION:**



**CONNECTION SCHEME:**



Figure 1a: Connection scheme for HD67438-E4x-xxx

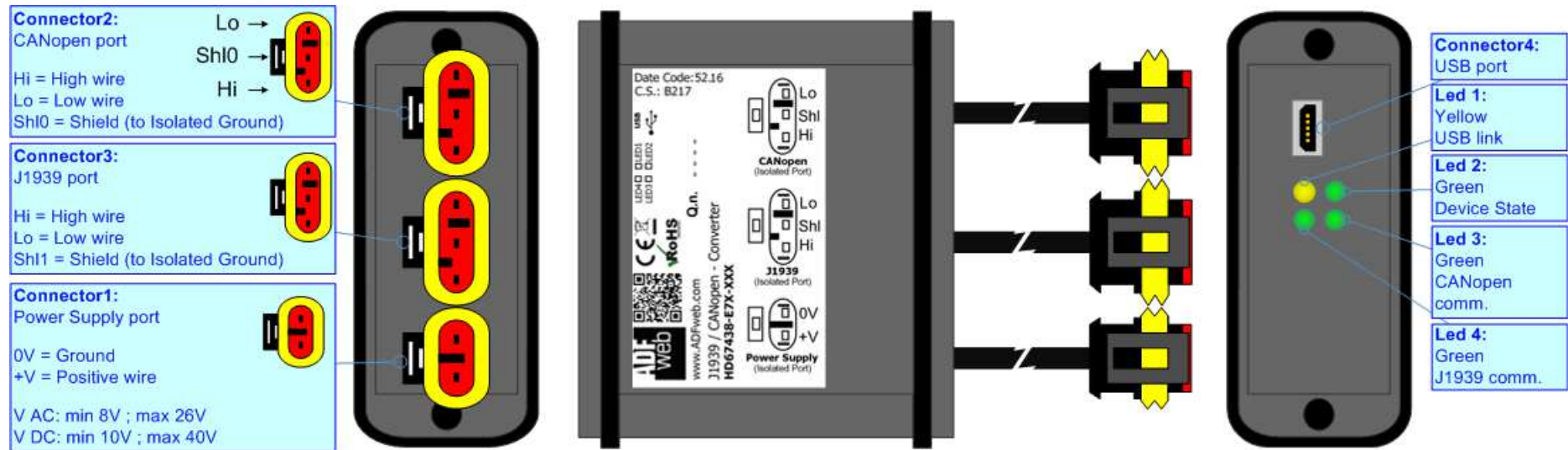


Figure 1b: Connection scheme for HD67438-E7x-xxx

**CHARACTERISTICS:**

The “**HD67438**” series are rugged devices used to interface J1939 devices with CANopen devices.

With his particular enclosure, equipped with four fixing lugs, makes available the mounting of the device in any plane surface (horizontal, vertical, oblique).

It is possible to have the device varnished or totally resined and also in both cases with “Mini-Fit®” connectors or “AMP SuperSeal 1.5” connectors. If is resined, the enclosure, like the “AMP SuperSeal 1.5” connectors, is waterproof (IP63).

All the four series have these characteristics:

- Triple 4kV isolation between Power Supply / CANopen / J1939;
- Varnished / Resined (optionally);
- Wide power supply input range: 8...26V AC | 10...40V DC;
- Mini-Fit® / AMP SuperSeal 1.5 connectors;
- Metal enclosure with fixing lugs;
- Possibility to use Metal hose clamps for fixing it without using lugs;
- Microprocessor for data control;
- Wide temperature range: -40°C / 105°C (-40°F / 221°F).

**CONFIGURATION:**

You need Compositor SW67438 software on your PC in order to perform the following:

- Define that J1939 frames of the J1939 network are reading from CANopen;
- Define that J1939 frames of the J1939 network are writing from CANopen;
- Define the Receive PDO;
- Define the Transmit PDO;
- Define SDO Server in read;
- Define SDO Server in write;
- Define the J1939 frames to send the SDO client request;
- Define the J1939 frames to send the state of Node Guard of the CANopen devices;
- Update the device.



**POWER SUPPLY:**

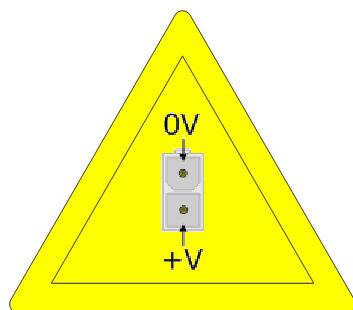
The devices can be powered between a wide range of tensions. For more details see the two tables below.

	VAC		VDC	
	Vmin	Vmax	Vmin	Vmax
<b>HD67438-Exx-xxx</b>	<b>8V</b>	<b>26V</b>	<b>10V</b>	<b>40V</b>

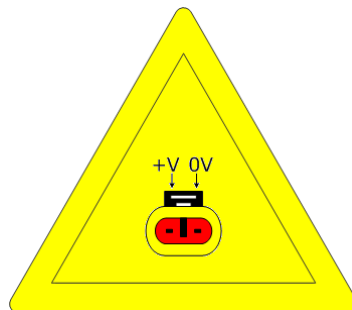
Consumption at 24V DC:

Device	W/VA
HD67438-Exx-xxx	4

**Caution: Not reverse the polarity power**



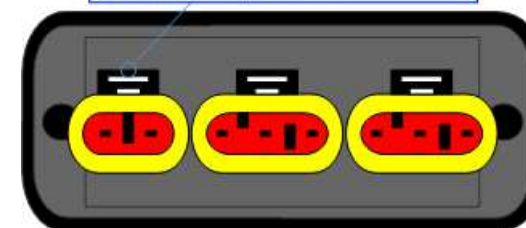
HD67438-E4x-xxx



HD67438-E7x-xxx



**Note:** It is possible to use also negative tensions. In this case the polarity must be inverted.

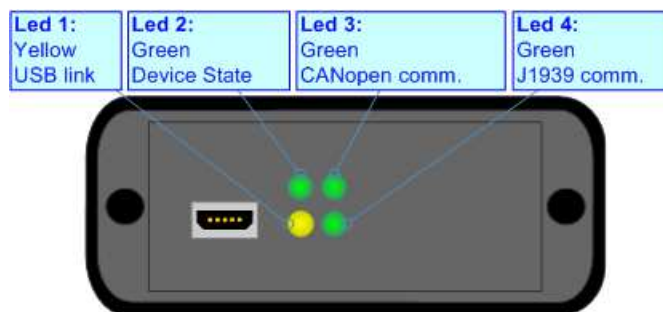




**LEDS:**

The device has got four 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: USB link (yellow)	<b>ON:</b> USB cable inserted <b>OFF:</b> USB cable not inserted	<b>ON:</b> USB cable inserted <b>OFF:</b> USB cable not inserted
2: Device state (green)	Blinks slowly (~1Hz)	<b>Blinks quickly:</b> Boot state <b>Blinks very slowly (~0.5Hz):</b> update in progress
3: CANopen communication (green)	Blinks when CANopen frames are received	<b>Blinks quickly:</b> Boot state <b>Blinks very slowly (~0.5Hz):</b> update in progress
4: J1939 communication (green)	Blinks when J1939 frames are received	<b>Blinks quickly:</b> Boot state <b>Blinks very slowly (~0.5Hz):</b> update in progress



**J1939:**

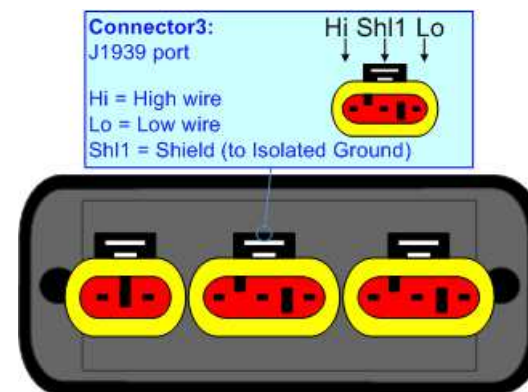
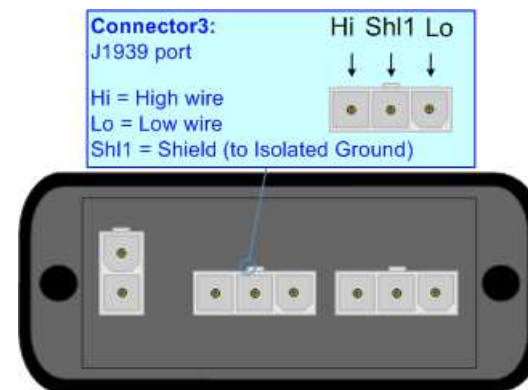
The connection of J1939 in the HD67438-E4x-xxx device must be made with a 3way MiniFit Female connector. The pinout of Male Mini-Fit connector of the board is at right side of the page.

The connection of J1939 in the HD67438-E7x-xxx device must be made with a AMP SuperSeal 1.5 Male connector. The pinout of Female connector of the board is at right side of the page.

The termination of J1939 line, with a 120Ω resistor, in the HD67438-Exx-xxx is made internally of the device; when the order is performed. If the device have the J1939 terminated the code is the follow: HD67438-Exx-xYx; otherwise is this other: HD67438-Exx-xNx.

Cable characteristics:

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



**CANopen:**

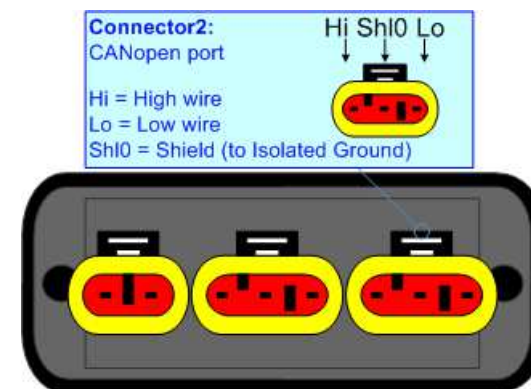
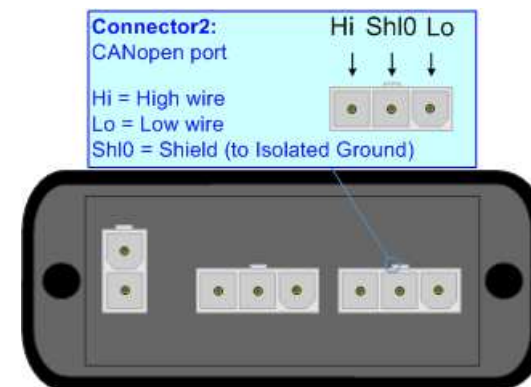
The connection of CANopen in the HD67438-E4x-xxx device must be made with a 3way MiniFit Female connector. The pinout of Male Mini-Fit connector of the board is at right side of the page.

The connection of CANopen in the HD67438-E7x-xxx device must be made with a AMP SuperSeal 1.5 Male connector. The pinout of Female connector of the board is at right side of the page.

The termination of J1939 line, with a 120Ω resistor, in the HD67438-Exx-xxx is made internally of the device; when the order is performed. If the device have the CANopen terminated the code is the follow: HD67438-Exx-Yxx; otherwise is this other: HD67438-Exx-Nxx.

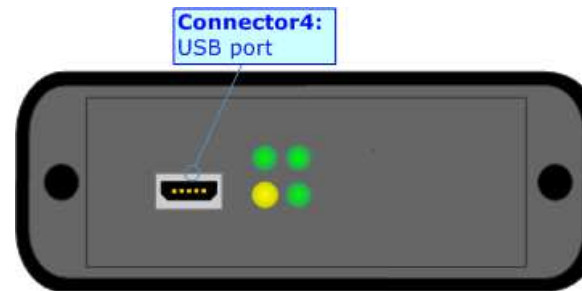
Cable characteristics:

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



**USB:**

The USB port is used to start the converter in Boot Mode and to program the converter. It is necessary to use a Micro USB type B cable.



### USE OF COMPOSITOR SW67438:

To configure the Converter, use the available software that runs with Windows called SW67438. It is downloadable on the site [www.adfweb.com](http://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 SW67438, the window below appears (Fig. 2).

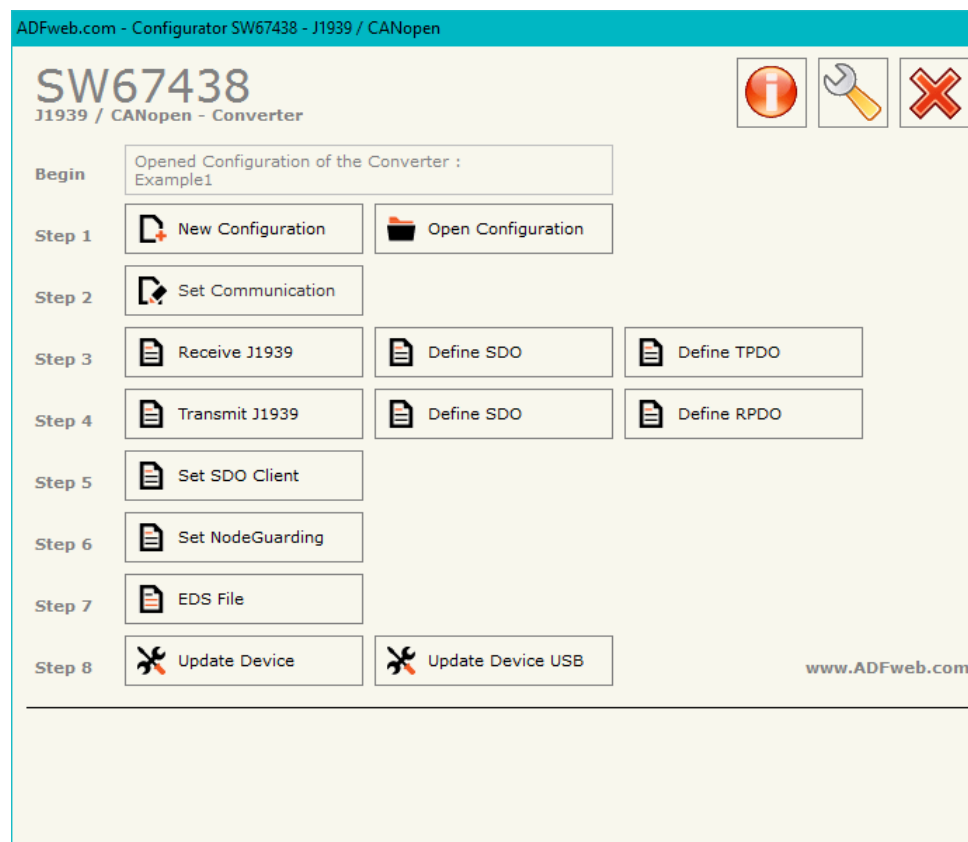
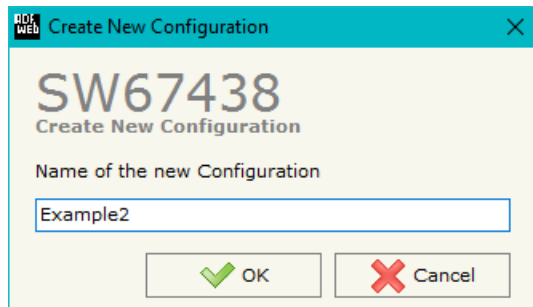


Figure 2: Main window for SW67438

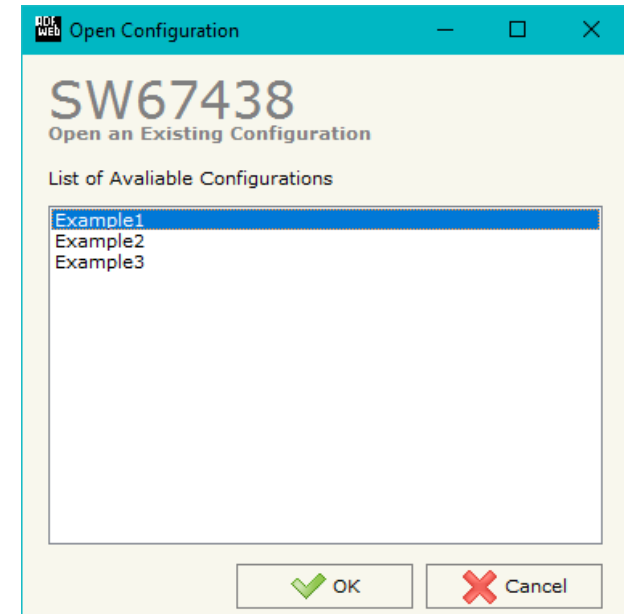
**NEW CONFIGURATION / OPEN CONFIGURATION:**

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




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

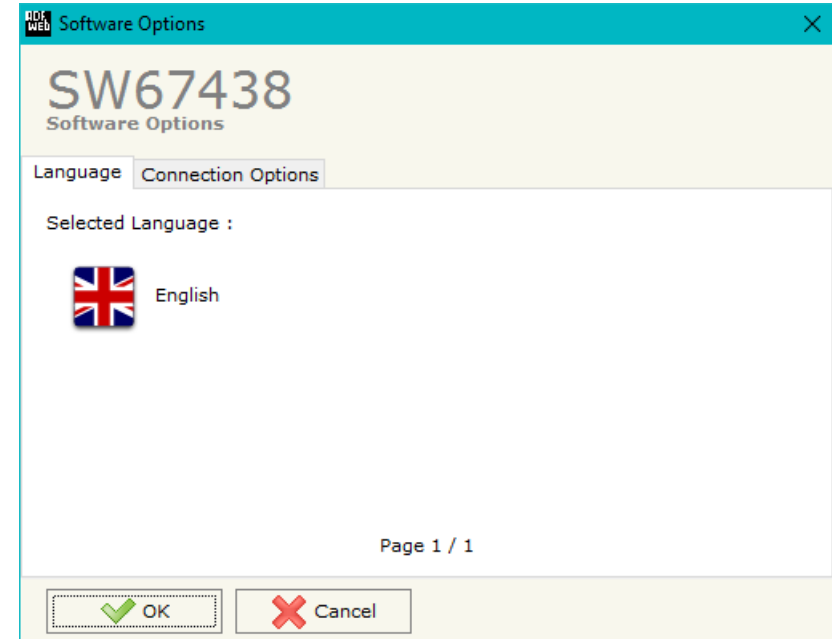
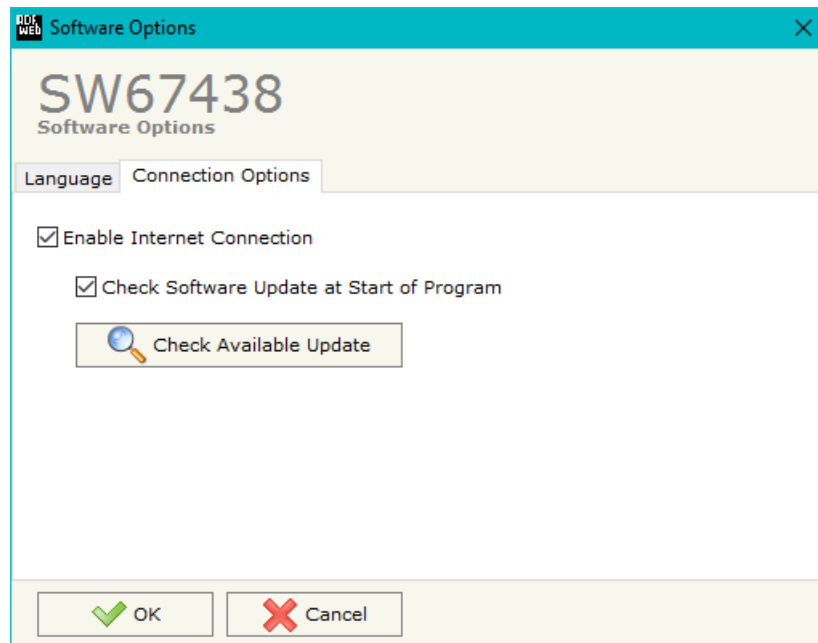
- To clone the configurations of a programmable “J1939 / CANopen - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient to duplicate 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 SW67438 checks automatically if there are updatings when it is launched.



## SET COMMUNICATION:

This section defines the fundamental communication parameters of two buses, J1939 and CANopen.

By pressing the **"Set Communication"** button from the main window for SW67438 (Fig. 2) the window "Set Communication Setting" appears (Fig. 3).

The meaning of the fields of "J1939" are:

- In the field **"Baudrate"** the data rate of J1939 bus is defined;
- In the field **"TimeOut Data (s)"** a time is defined. When this time is expired, the data on CANopen side will be set to '0xFF';
- If the field **"Enable Peer to Peer"** is checked, the gateway accepts all the IDs that have the PGNs inserted in the section "Receive J1939";
- In the field **"Device ID J1939"** the J1939 address for the converter is defined.

The meaning of the fields of "CANopen" are:

- In the field **"ID Device"** the CANopen ID for the converter is defined;
- If the field **"Set Operational State at Start-Up"** is checked, when the device is switched ON, it will go in Operational Mode, otherwise in Pre-Operational Mode;
- If the field **"Network Start at Start-Up"** is checked, when the device is switched ON, it will put in Operational Mode all the nodes present in the CANopen network with a Broadcast command;
- In the field **"Delay (s)"** the delay from the Start-up of the converter for the Start command is defined;
- If the field **"Enable SDO Client"** is checked, it is possible to send CANopen SDO Client request from the J1939 network;
- In the field **"TimeOut SDO (1/10 ms)"** the maximum timeout of the SDO Client requests is defined (only if "Enable SDO Client" option is checked);

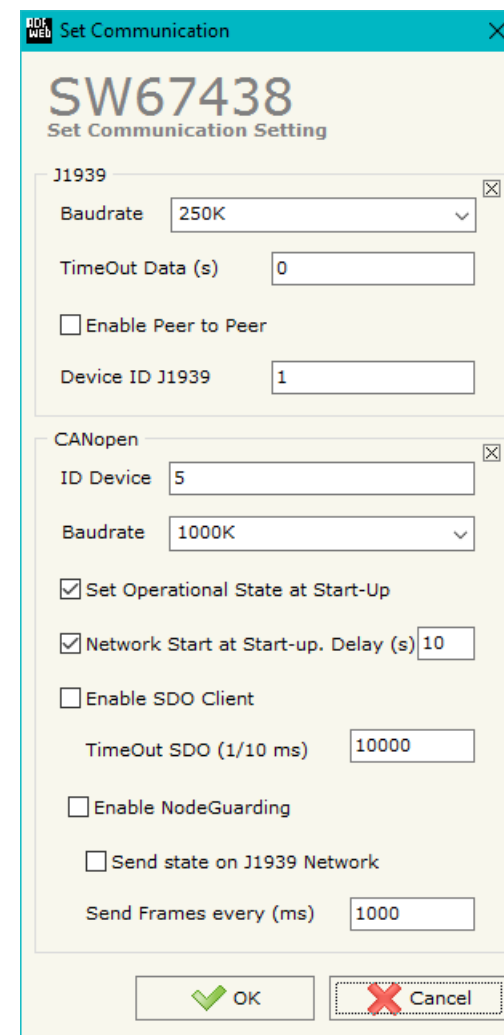
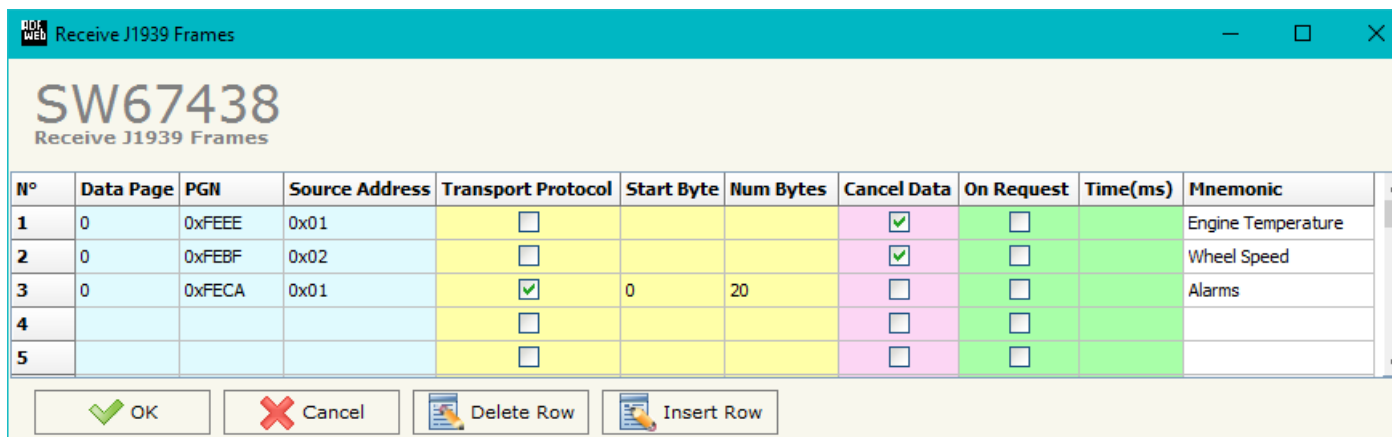


Figure 3: "Set Communication" window

- If the field "**Enable NodeGuarding**" is checked, it is possible to send the NodeGuard command to the CANopen devices to monitoring their state;
- If the field "**Send state on J1939 Network**" is checked, it is possible to send the state of the CANopen devices in the J1939 network;
- In the field "**Send Frame every (ms)**" the cyclic time to send the state of the CANopen devices on the J1939 network is defined.

## RECEIVE J1939:

By pressing the **Receive J1939** button from the main window for SW67438 (Fig. 2) the window "Receive J1939" appears (Fig. 4). This section is used to define the J1939 messages accepted by the converter.



N°	Data Page	PGN	Source Address	Transport Protocol	Start Byte	Num Bytes	Cancel Data	On Request	Time(ms)	Mnemonic
1	0	0xFEEE	0x01	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>		Engine Temperature
2	0	0xFEBF	0x02	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>		Wheel Speed
3	0	0xFECA	0x01	<input checked="" type="checkbox"/>	0	20	<input type="checkbox"/>	<input type="checkbox"/>		Alarms
4				<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
5				<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		

Figure 4: "Receive J1939 Frames" window

The means of the fields of the table are:

- In the field **"Data Page"** the data page of the J1939 message is defined. The value can be 0 or 1 (usually it is 0);
- In the field **"PGN"** the PGN of the J1939 message to be read from CANopen is defined (in J1939 protocol the PGN is an identifier);
- In the field **"Source Address"** the address of the device that sends the frame is defined;
- If the field **"Transport Protocol"** is checked, the frame will use Transport Protocol functions (it is used to send more than 8 bytes);
- In the field **"Start Byte"** the starting byte to map on CANopen side is defined. This field is enabled only when the field "Transport Protocol" is checked;
- In the field **"Num Bytes"** the number of consecutive bytes starting from the "Start Byte" is defined;
- If the field **"Cancel Data"** is checked, the Time Out on the data is Enable. When the data arrived from J1939 are older than the TimeOut (defined in the section "Set Communication"), the data bytes will be set to 0xFF value;
- If the field **"On Request"** is checked, the Remote Request frame is enable. The converter sends the Remote Request frame cyclically with an interval expressed in the "Time(ms)" fields.
- In the field **"Time(ms)"** the interval of the Remote Request is defined.
- In the field **"Mnemonic"** the description for the frame is defined.

**DEFINE SDO (Step 3):**

By pressing the "Define SDO" button from the main window of SW67438 (Fig. 2) in "Step 3" the window "Define Read Server SDOs for Receive J1939 frames" appears (Fig. 5):

- In the field "List of Receive J1939 Frames" there are all the J1939 frames inserted in the "Receive J1939" section;
- In the field "List of Server SDO in read" there are all the SDOs created for the J1939 Frame selected in the "List of Receive J1939 Frames" list;
- In the field "Index SDO" there is the address of the SDO;
- In the field "SubIndex SDO" there is the SubIndex of SDO;
- In the field "Dimension SDO" is possible to select the dimension of the SDO;
- Depending on the dimension of SDO, it is possible to map up to 4 bytes of J1939 frame;
- With "Create, Modify, Delete, Copy, Paste" buttons it is possible to add, modify, delete, copy and paste a SDO;

Example:

These are the steps to follow to add a SDO to a frame J1939:

- Select a J1939 frame of the "List of Receive J1939 Frames";
- Insert the valid Index, SubIndex and Dimension of the SDO;
- Select which bytes of the J1939 frame map in the bytes of the SDO;
- Press the "Create" button to confirm the SDO (it will be added in the List of Server SDO in read").

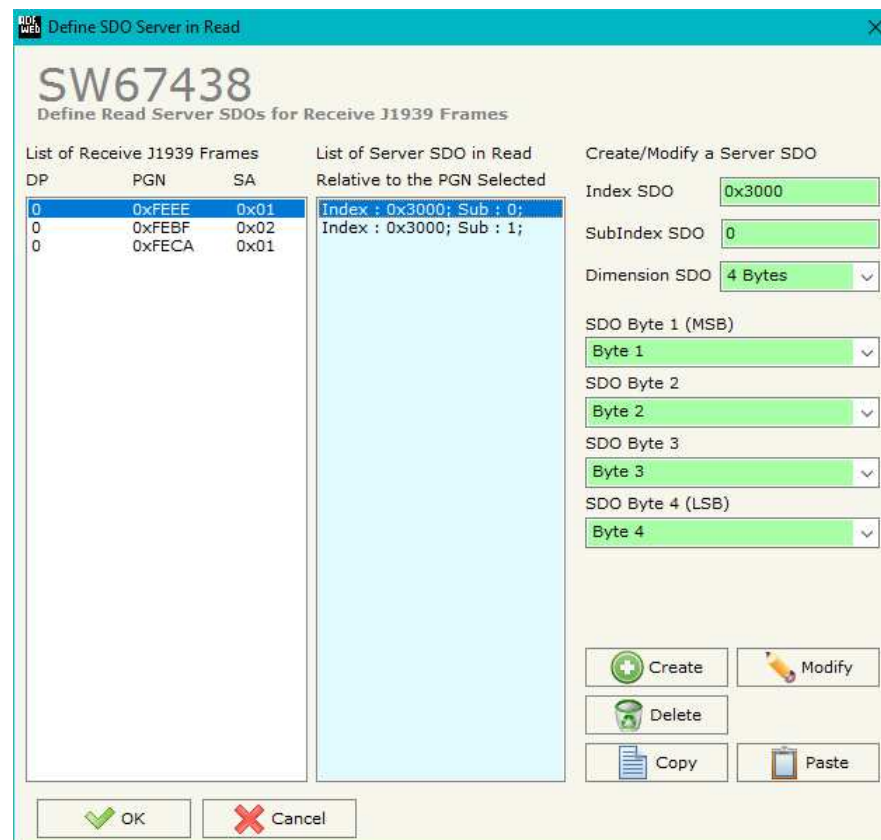


Figure 5: "Define Read Server SDOs for Receive J1939 frames" window

**DEFINE TPDO:**

By pressing the "Define TPDO" button from the main window of SW67438 (Fig. 2) the window "Define Transmit PDO" appears (Fig. 6). This section is used to define the TPDO messages sent by the converter.

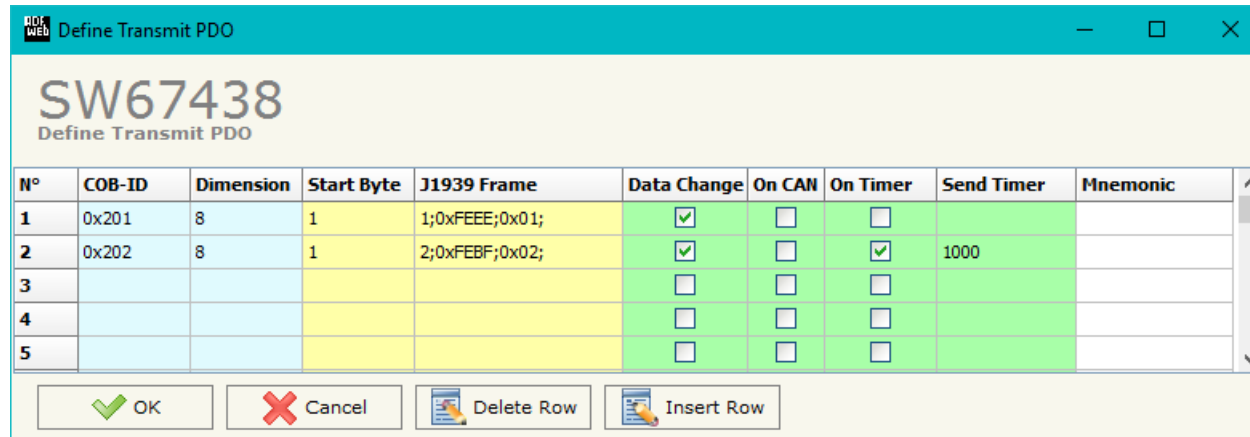


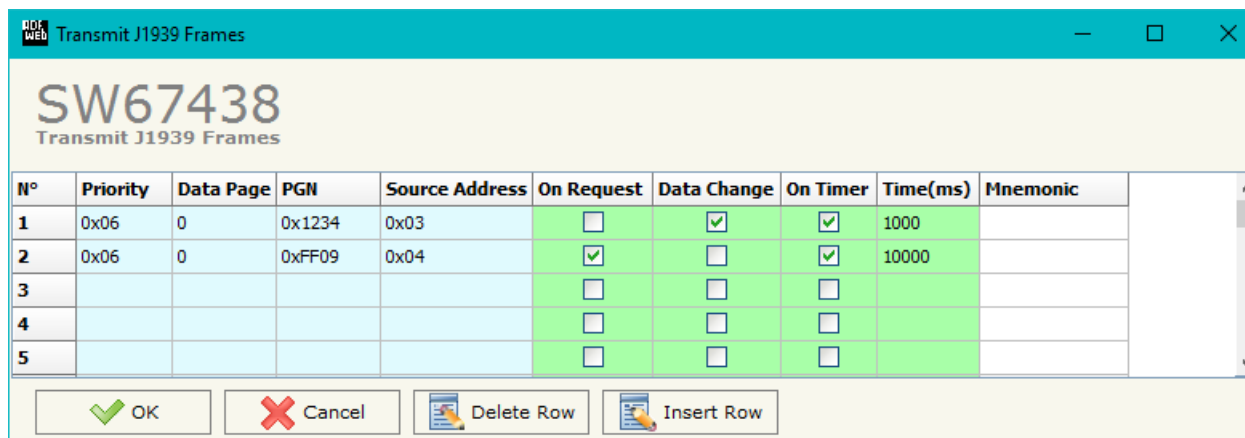
Figure 6: "Define Transmit PDO" window

The means of the fields of the table are:

- In the field "COB-ID" the COB-ID of the PDO frame is defined;
- In the field "Dimension" the number of Byte (up to 8 Byte) of the PDO frame is defined;
- In the field "Start Byte" the first byte of the J1939 to copy in the TPDO is defined;
- In the field "J1939 Frame" the J1939 Frame created with "Receive J1939 Frame" section to map into the TPDO is defined;
- If the field "Data Change" is checked, the PDO is sent when a data bytes from J1939 changes value;
- If the field "On CAN" is checked, the PDO is sent when the J1939 frame is received by converter.
- If the field "On Timer" is checked, the PDO is sent cyclically;
- In the field "Send Timer" the cyclic time (in milliseconds) for "On Timer" option is defined;
- In the field "Mnemonic" the description for the PDO is defined.

## TRANSMIT J1939:

By pressing the "**Transmit J1939**" button from the main window of SW67150 (Fig. 2) the window "Transmit J1939" appears (Fig. 7). This section is used to define the J1939 messages sent by the converter.



N°	Priority	Data Page	PGN	Source Address	On Request	Data Change	On Timer	Time(ms)	Mnemonic
1	0x06	0	0x1234	0x03	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1000	
2	0x06	0	0xFF09	0x04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10000	
3					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Figure 7: "Transmit J1939 Frames" window

The means of the fields of the table are:

- In the field "**Priority**" the priority of the J1939 message is defined. In J1939 protocol, the priority is a number between 0 and 7. 0 is the highest priority and 7 is the lowest;
- In the field "**Data Page**" the data page of the J1939 message is defined. The value can be 0 or 1 (usually it is 0);
- In the field "**PGN**" the PGN of the J1939 message to be written from CANopen is defined (in J1939 protocol the PGN is an identifier);
- In the field "**Source Address**" the address of the device that sends the frame is defined;
- If the field "**On Request**" is checked, the J1939 frame is sent when arrive a request frame from the J1939 network;
- If the field "**Data Change**" is checked, the J1939 frame is sent when a byte from CANopen side changes value;
- If the field "**On Timer**" is checked, the J1939 frame is sent cyclically;
- In the field "**Time (ms)**" the delay (in milliseconds) with which sending the J1939 message is defined;
- In the field "**Mnemonic**" a description for the frame is defined.

**DEFINE SDO (Step 4):**

By pressing the "Define SDO" button from the main window of SW67438 (Fig. 2) in "Step 4" the window "Define Write Server SDOs for Transmit J1939 Frames" appears (Fig. 8):

- In the field "List of Transmit J1939 Frames" there are all the J1939 frames inserted in the "Transmit J1939" section;
- In the field "List of Server SDO in Write" there are all the SDO create for the J1939 Frame selected in the "List of Transmit J1939 Frames" list;
- In the field "Index SDO" there is the address of the SDO;
- In the field "SubIndex SDO" there is the SubIndex of SDO;
- In the field "Dimension SDO" is possible to select the dimension of the SDO;
- Depending on the dimension of SDO, it is possible to map up to 4 bytes of J1939 frame;
- In the field "Send Frame J1939 When Write SDO" it is possible to select "False" for not sending the J1939 frame when write the SDO or selecting "True" for sending the J1939 frame when write the SDO
- With "Create, Modify, Delete, Copy, Paste" buttons it is possible to add, modify, delete, copy and paste a SDO.

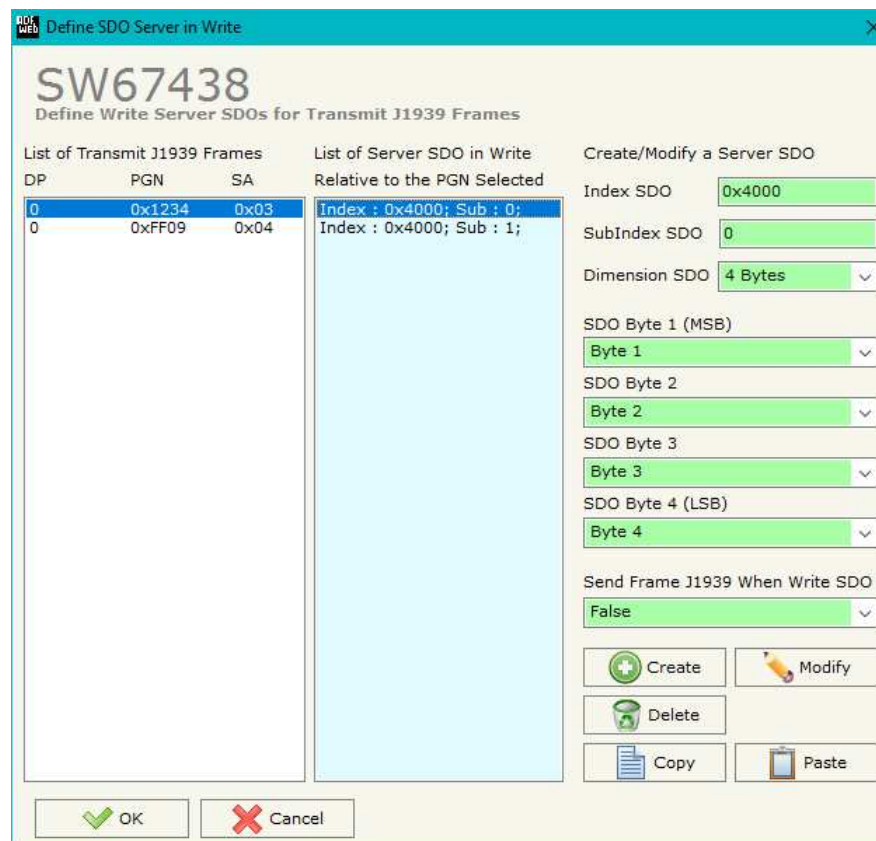


Figure 8: "Define Write Server SDOs for Transmit J1939 Frames" window



**DEFINE RPDO:**

By pressing the “**Define RPDO**” button from the main window of SW67438 (Fig. 2) the window “Define Receive PDO” appears (Fig. 9). This section is used to define the RPDO messages accepted by the converter.

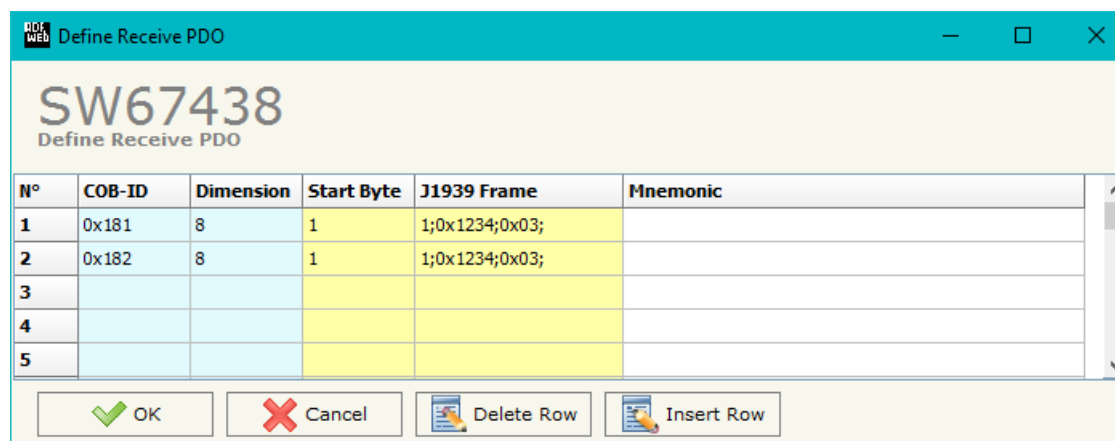


Figure 9: “Define Receive PDO” window

The means of the fields of the table are:

- In the field “**COB-ID**” the COB-ID of the PDO frame is defined;
- In the field “**Dimension**” the number of Byte (up to 8 Byte) of the PDO frame is defined;
- In the field “**Start Byte**” the first byte of the J1939 to link to the RPDO is defined;
- In the field “**J1939 Frame**” the J1939 Frame created with “Transmit J1939 Frame” section to link to the RPDO is defined;
- In the field “**Mnemonic**” the description for the PDO is defined.

### SET SDO CLIENT:

By pressing the **Set SDO Client** button from the main window of SW67438 (Fig. 2) the window "Define J1939 Frames to use the Client SDO Requests" appears (Fig. 10).

In this window is possible to configure five J1939 messages used to read and write SDO data from other devices in the CANopen network.

The first two frames are used to read a SDO, the last three messages are used to write a SDO.

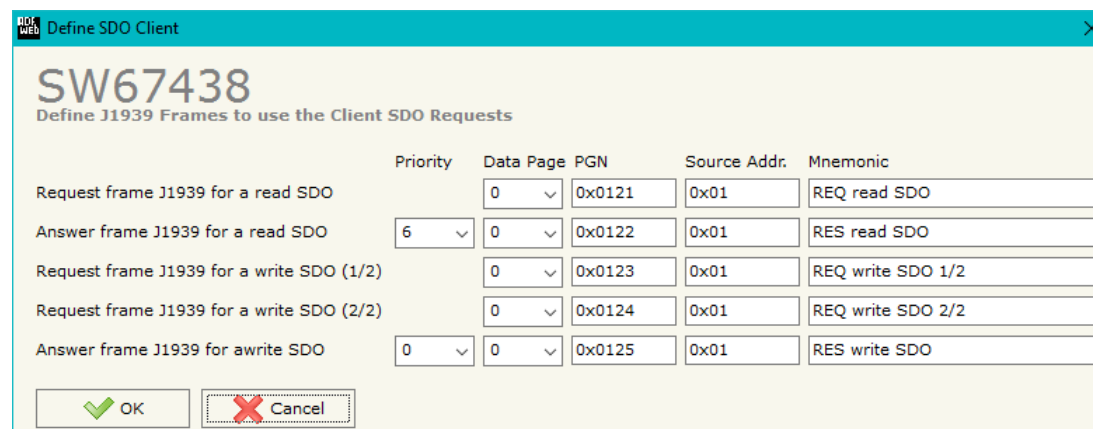


Figure 10: "Define J1939 Frames to use the Client SDO Requests" window

### READ SDO

#### Request frame J1939 to read a SDO

When the converter receives this message, it will send a SDO reading request to CANopen network.

The coordinates of the SDO are inside the data bytes of the J1939 message in this format:

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
ID Device	Index	Index	SubIndex	Num Byte	Not used = 0	Not used = 0	Not used = 0

#### Answer frame J1939 of a read SDO

The converter sends this frame with the answer from the interrogated CANopen device.

The Data bytes of this message are:

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
ID Device REQ	Index REQ	Index REQ	SubIndex REQ	Data byte 1	Data byte 2	Data byte 3	Data byte 4

## WRITE SDO

### *Request frame J1939 to write a SDO (1/2)*

When the converter receives this message, it will save the coordinates of SDO writing request.

The coordinates of the SDO are inside the data bytes of the J1939 message in this format:

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
ID Device	Index	Index	SubIndex	Num Byte	Not used = 0	Not used = 0	Not used = 0

### *Request frame J1939 to write a SDO (2/2)*

When the converter receives this message, it will send the SDO writing request in CANopen network.

The coordinates of the SDO are inside the data bytes of the J1939 message in this format:

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Data Byte 1	Data Byte 2	Data Byte 3	Data Byte 4	Not used = 0	Not used = 0	Not used = 0	Not used = 0

### *Answer frame J1939 of a write SDO*

The converter sends this frame when a SDO writing request is sent correctly.

The Data byte of this message are:

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
ID Device REQ	Index REQ	Index REQ	SubIndex REQ	1	Not used = 0	Not used = 0	Not used = 0

### SET NODEGUARDING:

By pressing the **Set NodeGuarding** button from the main window of SW67438 (Fig. 2) the window "Define Node Guarding" appears (Fig. 11)

In this window is possible to config up to 32 devices to check with the NodeGuard and up to 5 J1939 messages with which sending the state of the CANopen devices into the J1939 network.

In the first part of the windows is possible to insert the devices to check with NodeGuard:

- In the field **Node ID** the ID of the CANopen device to monitor is defined. It is possible to insert up to 32 IDs;
- In the field **Guard Time** the delay between two interrogations is defined;
- In the field **Life Time Factor** the number of attempts before considering the device absent is defined;
- In the field **Mnemonic** a brief description is defined.

In the second part of the windows is possible to configure the J1939 messages with which sending the state of CANopen devices in J1939 network.

In every J1939 message there is the state of seven CANopen Devices. In the first data byte each bit represents a CANopen device. If it present the bit will be equal to 1, otherwise 0.

From the second byte to the eighth there are the states of the CANopen devices interrogated.

These bytes can take this values:

Value	Meaning
0	UNKNOW
1	INITIALISING
4	STOPPED
5	OPERATIONAL
127	PRE_OPERATIONAL

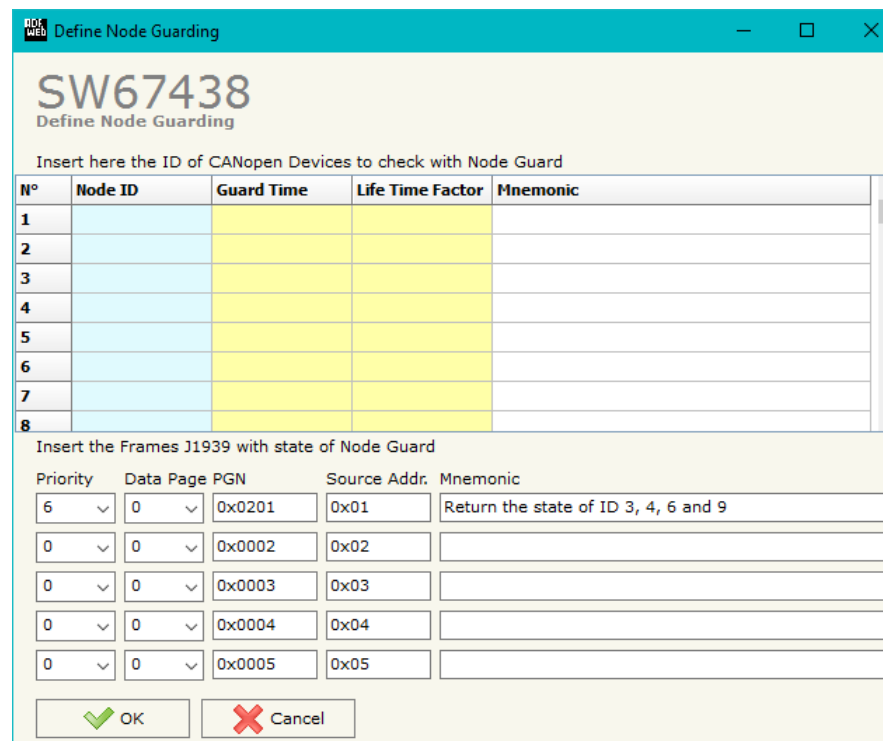


Figure 11: "Define Node Guarding" window

**EDS FILE:**

By Pressing the “**EDS File**” button from the main window for SW67438 (Fig. 2) it is possible to generate the EDS file to be imported into the CANopen Client.

**UPDATE DEVICE (ONLY FOR THE HARDWARE WITHOUT USB PORT):**

By pressing the **Update Device** button it is possible to load the created Configuration into the device; and also the Firmware, if is necessary.

In order to load the parameters or update the firmware in the Converter, follow these instructions:

- Connect the AC67400 to the PC;
- Connect the CAN port of AC67400 to a CAN port of HD67438;
- Turn ON the device;
- Select the **COM port**;
- Select the **Baudrate**;
- 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;
- Disconnect the AC67400;
- Turn ON the device.

At this point the configuration/firmware on the device is correctly update.

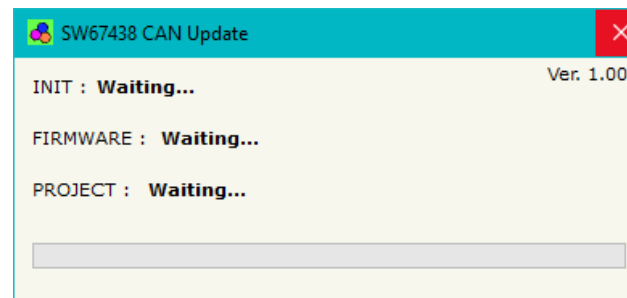
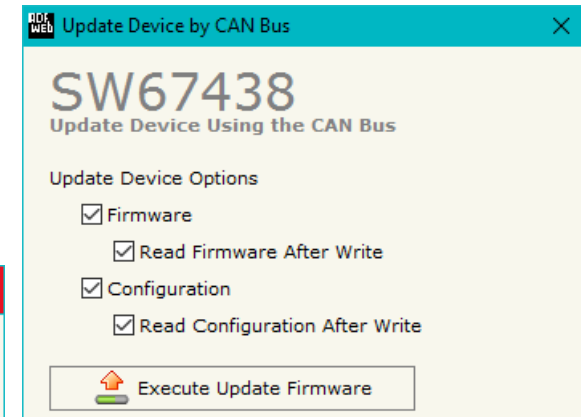
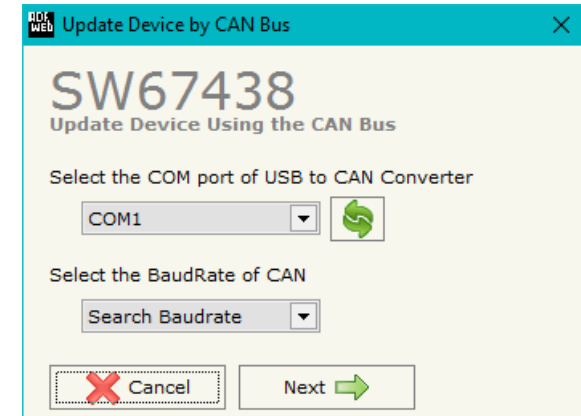


Figure 12: "Update Device" windows

**UPDATE DEVICE USB:**

By pressing the **"Update Device USB"** button it is possible to load the created Configuration into the device, and also the Firmware if is necessary, using the USB port.

In order to load the parameters or update the firmware in the device, follow these instructions:

- Connect the USB cable from your PC to the Converter;
- Select the **"COM port"**;
- Select which operations you want to do.
- Press the **"Execute update firmware"** button to start the upload;
- When all the operations are "OK", disconnect the USB cable;

At this point the configuration/firmware on the device is correctly update.

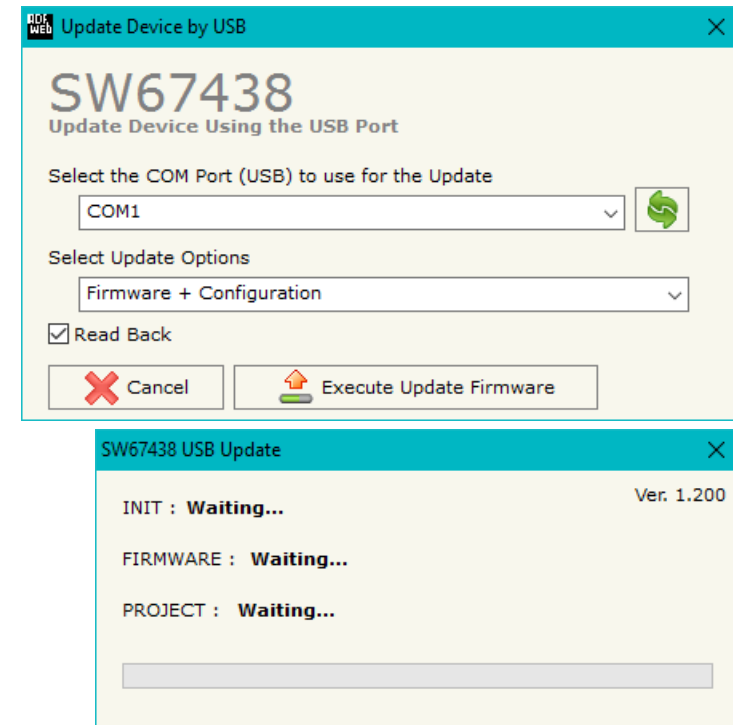





Figure 13: "Update Device" windows



 **Note:**  
When you install a new version of the software it is better if the first time you do the update of the Firmware in the HD67438 device.

 **Note:**  
When you receive the device, for the first time, you have to update also the Firmware in the HD67438 device.

 **Warning:**  
If the Fig. 14 appears when you try to do the Update, before require assistance, try these points:

- Check if the serial COM port selected is the correct one;
- Check if the AC67400 is connected between the PC and the device;
- Check if the USB cable is connected between the PC and the device;
- 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;
- Pay attention to Firewall lock.

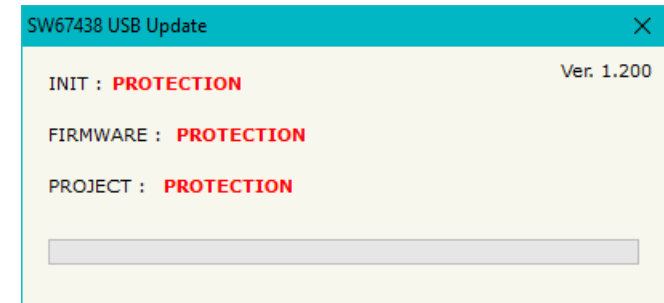
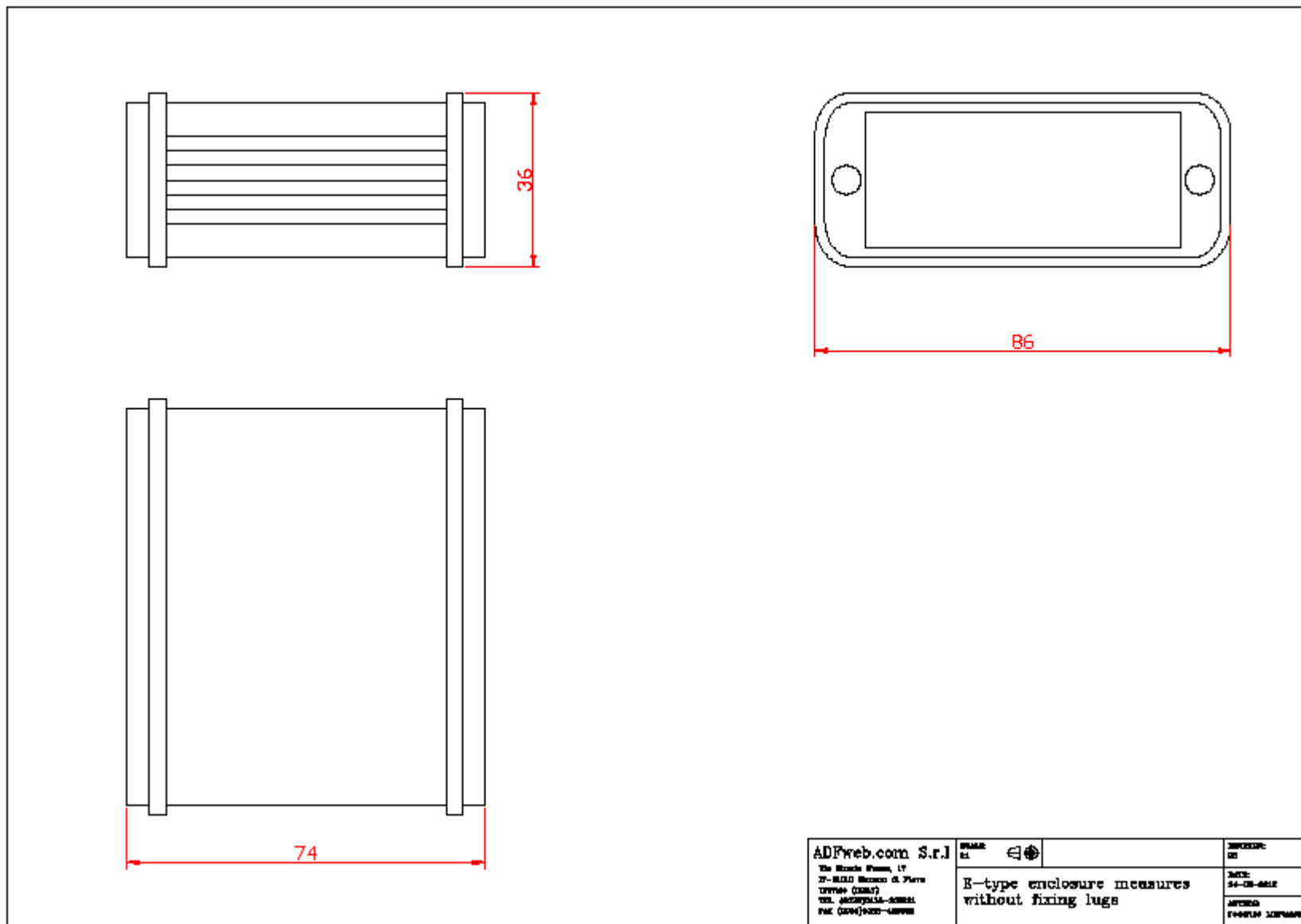



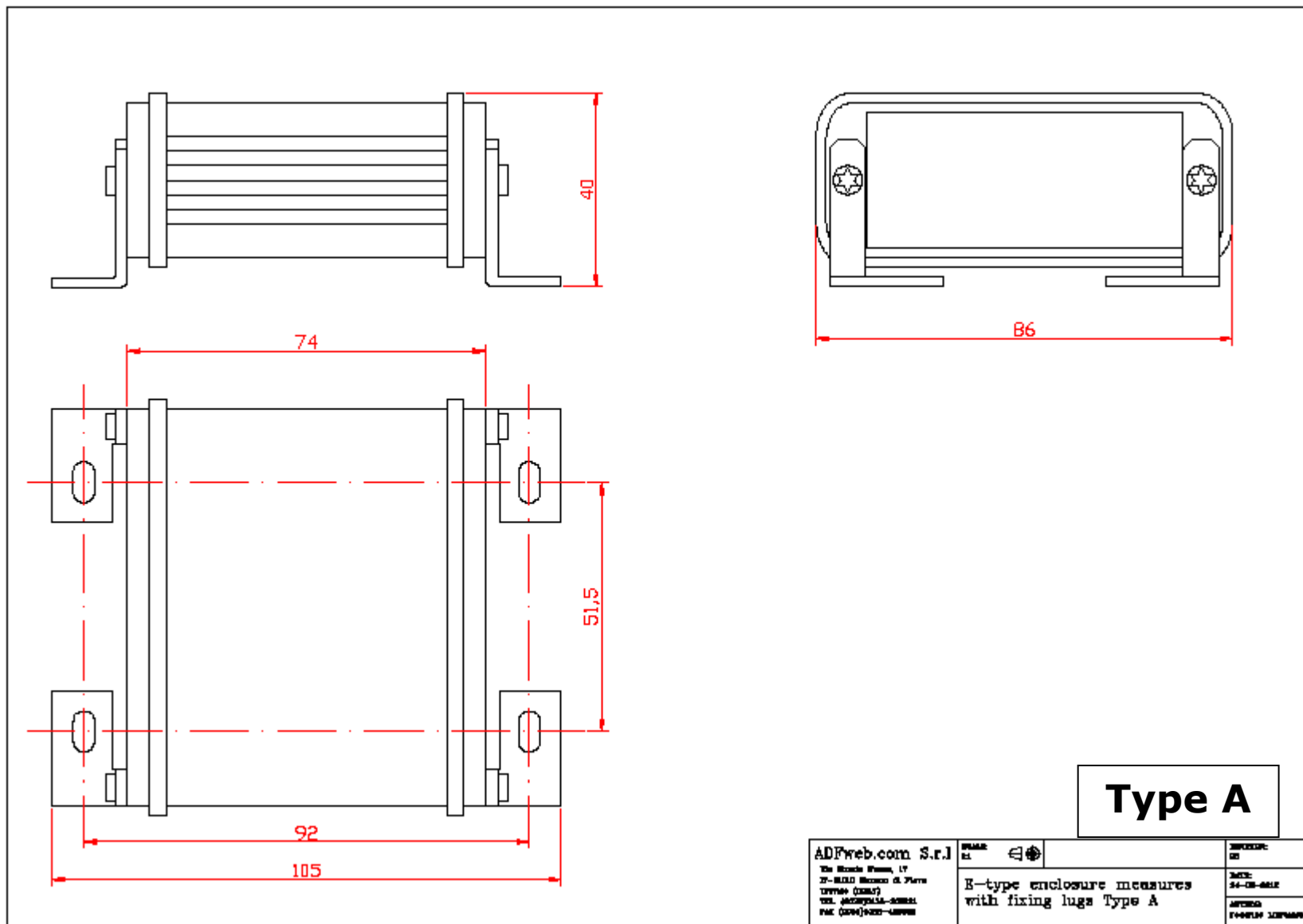
Figure 14: "Protection" window

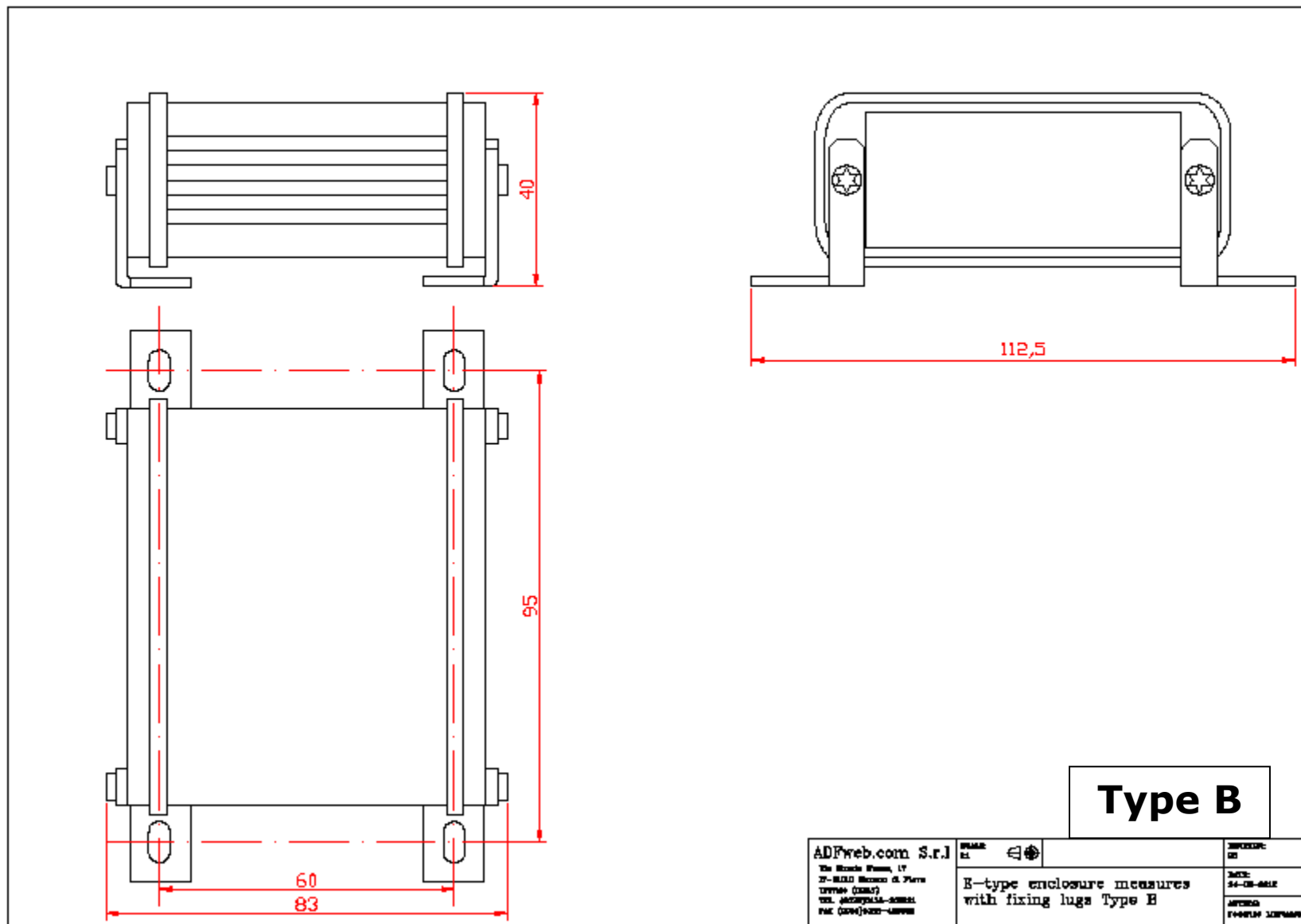
In the case of HD67438 you have to use the software "SW67438": [www.adfweb.com/download/filefold/SW67438.zip](http://www.adfweb.com/download/filefold/SW67438.zip).

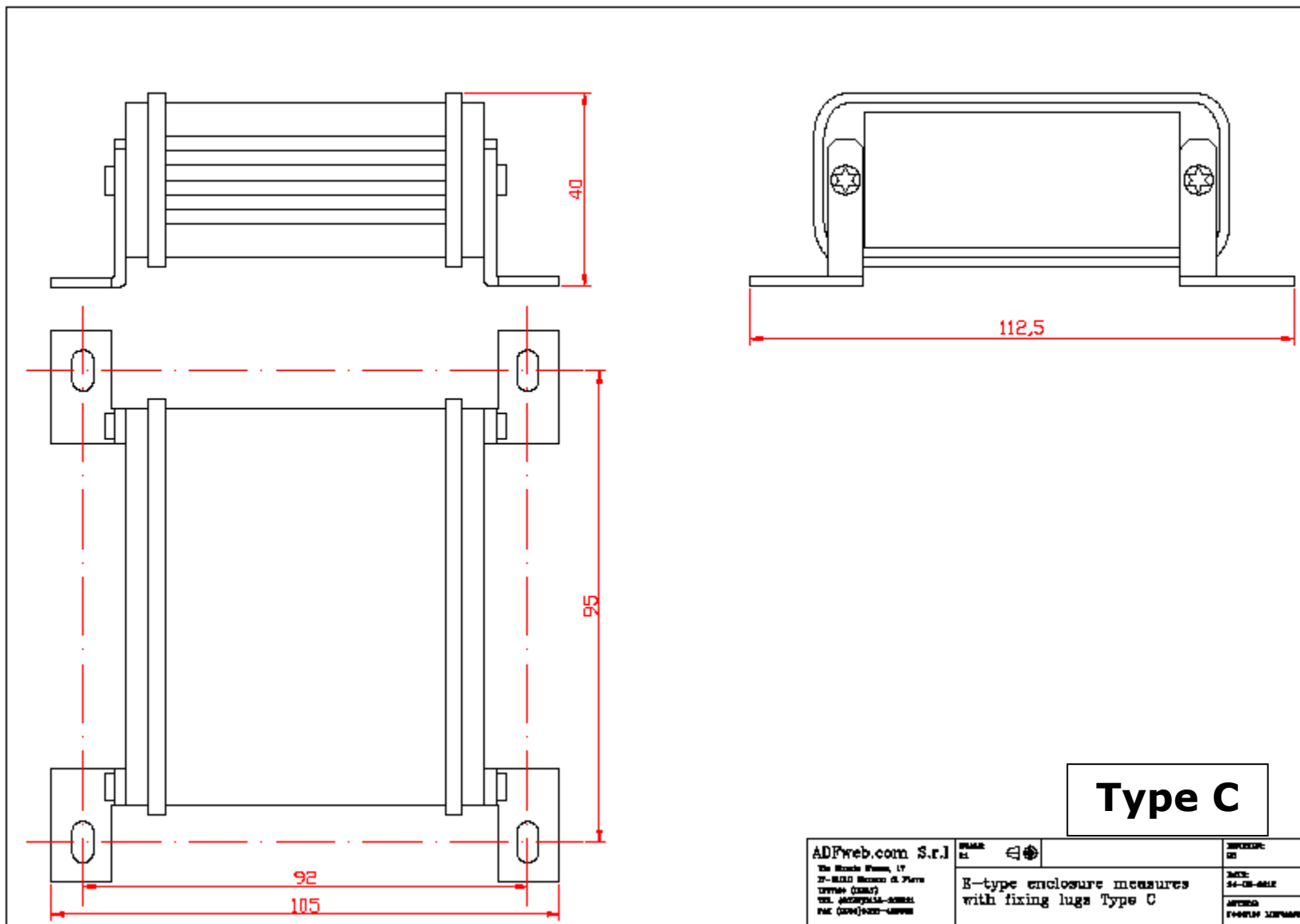
**MECHANICAL DIMENSIONS:**



<p>ADFweb.com S.r.l. Via Biondi 8/mon, 17 37-03010 Marenco di Piave TREVISO (TV31017) TEL. (0423)915111-909911 FAX (0423)915111-909911</p>	<p>IPNAME:  E-type enclosure measures without fixing lugs</p>	<p>INDICAZIONE: DE MISURE: 34-DE-081E AUTOREGOLAZIONE: E-081E-081E-081E</p>
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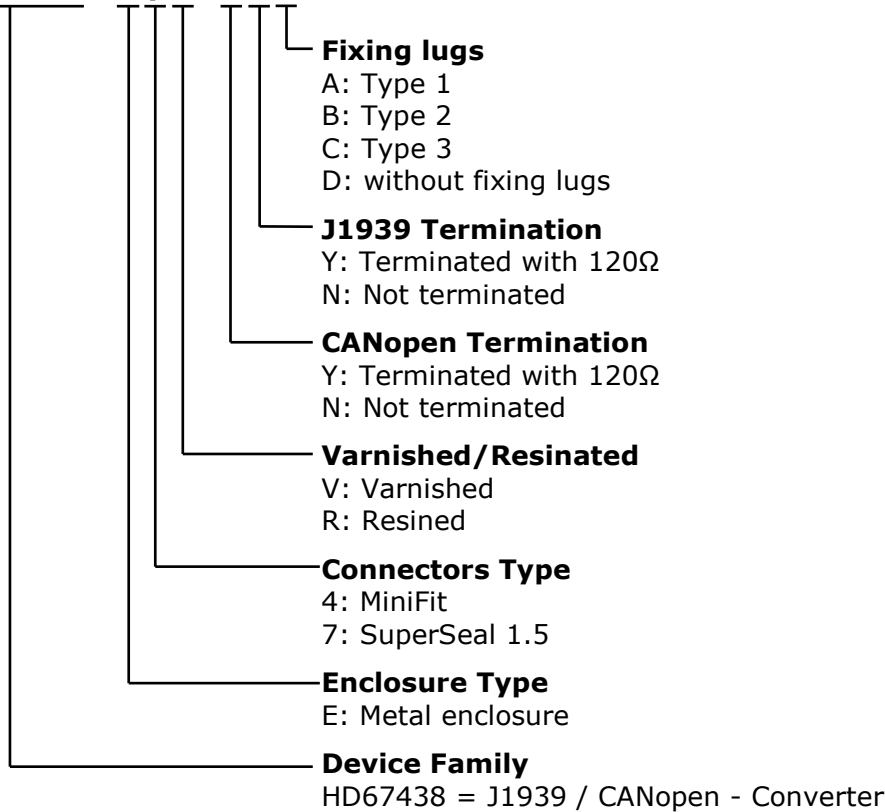




**ORDERING INFORMATIONS:**

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

**HD67438 - E y z - s d f**



**ACCESSORIES:**

- Order Code: **AC34001** - Rail DIN - Power Supply 220/240V AC 50/60Hz – 12 V AC
- Order Code: **AC34002** - Rail DIN - Power Supply 110V AC 50/60Hz – 12 V AC
- Order Code: **AC67402** - Cable Super Seal 1.5 MALE 2-pole - 1.0 Meter
- Order Code: **AC67402-3** - Cable Super Seal 1.5 MALE 2-pole - 3.0 Meters
- Order Code: **AC67403** - Cable Super Seal 1.5 MALE 3-pole - 1.0 Meter
- Order Code: **AC67403-3** - Cable Super Seal 1.5 MALE 3-pole - 3.0 Meters
- Order Code: **AC67410** - Accessory Automotive Devices - Support for rail DIN

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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](http://www.adfweb.com).  
Otherwise contact us at the address [support@adfweb.com](mailto: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](http://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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