

User Manual

Revision 1.100 English

CANopen / Modbus Slave – Converter

(Order Code: HD67422)

For Website information:

www.adfweb.com?Product=HD67422

For Price information:

www.adfweb.com?Price=HD67422

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

User Manual CANopen / Modbus Slave

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For other Gateways / Bridges:

CAN from/to Modbus

See also the following links:

www.adfweb.com?product=HD67012
www.adfweb.com?product=HD67514
www.adfweb.com?product=HD67515
(Modbus RTU Slave)
(Modbus TCP Master)
(Modbus TCP Slave)

CANopen from/to Modbus

See also the following links:

www.adfweb.com?product=HD67001 www.adfweb.com?product=HD67502 www.adfweb.com?product=HD67504 www.adfweb.com?product=HD67505 (Modbus RTU Master) (Modbus RTU Slave) (Modbus TCP Master) (Modbus TCP Slave)

Do you have an your customer protocol?

See the following links:

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



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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 | 04/12/2012 | Ff | All | First release version |
| 1.100 | 15/06/2017 | Ff | All | New hardware version |
| | | | | |
| | | | | |

WARNING:

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ADFweb.com is not responsible for any error this manual may contain.

TRADEMARKS:

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

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SECURITY ALERT:

GENERAL INFORMATION

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

INTENDED USE

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

QUALIFIED PERSONNEL

The device can be used only by qualified personnel, strictly in accordance with the specifications.

Qualified personnel are persons who are familiar with the installation, assembly, commissioning and operation of this equipment and who have appropriate qualifications for their job.

RESIDUAL RISKS

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



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

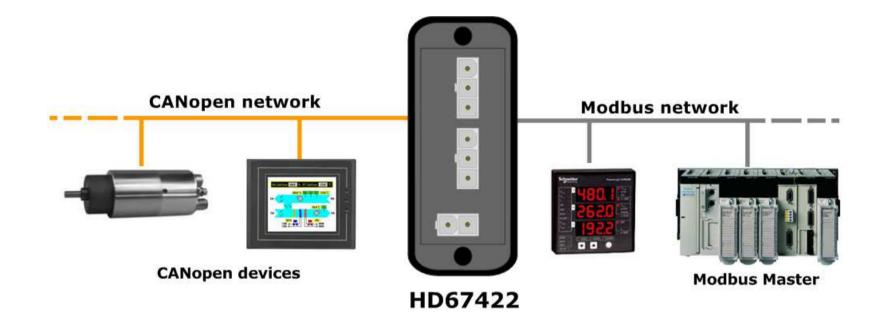
CE CONFORMITY

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

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EXAMPLE OF CONNECTION:



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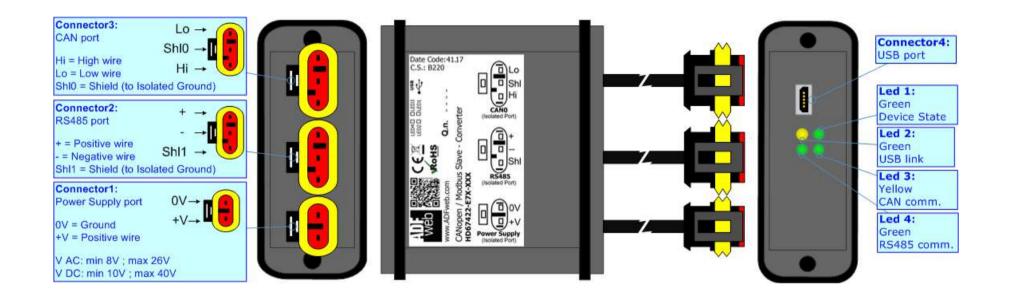
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CONNECTION SCHEME:



Figure 1a: Connection scheme for HD67422-E4x-xxx

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CHARACTERISTICS:

The "HD67422" series are rugged devices used to interface CANopen devices with Modbus Master.

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.

All the four series have these characteristics:

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- → Triple 4kV isolation between Power Supply / RS485 / CAN;
- 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 SW67422 software on your PC in order to perform the following:

- Define the list of SDOs and PDOs in reception;
- Define the list of SDOs and PDOs in transmission;
- Define the EMCY;
- Define the NodeGuarding;
- Define the Modbus registers readable by the Master;
- Define the Modbus registers writeable by the Master;
- Update the device.

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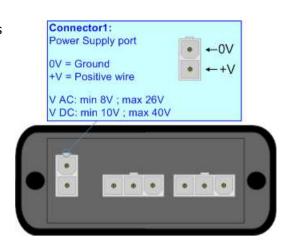
POWER SUPPLY:

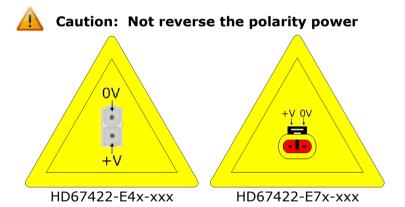
The devices can be powered between a wide range of tensions. For more details see the two tables below.

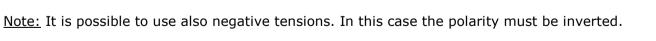
| | VAC ~ | | VDC | === |
|-----------------|-------|------|------|------|
| | Vmin | Vmax | Vmin | Vmax |
| HD67422-Exx-xxx | 8V | 26V | 10V | 40V |

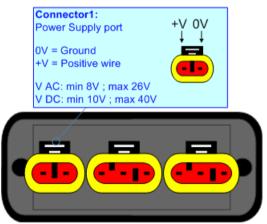
Consumption at 24V DC:

| Device | W/VA |
|-----------------|------|
| HD67422-Exx-xxx | 4 |









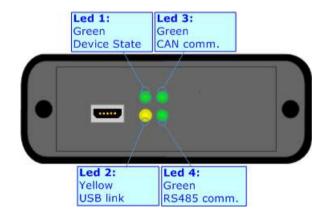
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LEDS:

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: Device state (green) | Blinks slowly (~1Hz) | Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress |
| 2: USB link (yellow) | ON: USB cable inserted OFF: USB cable not inserted | ON: USB cable inserted OFF: USB cable not inserted |
| 3: CAN Communication (green) | Blinks when CANopen frames are received | Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress |
| 4: RS485 communication (green) | Blinks when a Modbus request is received | Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress |



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RS485:

The connection of the RS485 in the HD67422-E4x-xxx device must be made with a 3way MiniFit Female connector. The pinout of Male MiniFit connector of the board is at right side of the page.

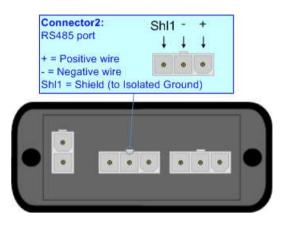
The connection of the RS485 in the HD67422-E7x-xxx device must be made with a AMP SuperSeal 1.5 Male connector. The pinout of Female connector of the board is at right side of the page.

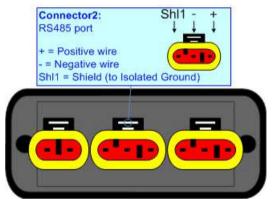
The termination of RS485 line, with a 120Ω resistor, in the HD67422-Exx-xxx is made internally of the device; when the order is performed. If the device have the RS485 terminated the code is the follow: HD67422-Exx-xYx; otherwise is this other: HD67422-Exx-xNx.

The maximum length of the cable should be 1200m (4000 feet).

Here some codes of cables:

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





Link for Mini-Fit® connectors: http://www.molex.com/molex/products/group?key=minifit_products&channel=products Link for SuperSeal 1.5 connectors: http://www.te.com/catalog/cinf/en/c/10876/956

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CAN:

The connection of the CAN in the HD67422-E4x-xxx device must be made with a 3way MiniFit Female connector. The pinout of Male MiniFit connector of the board is at right side of the page.

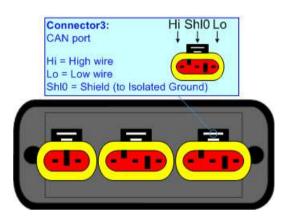
The connection of the CAN in the HD67422-E7x-xxx device must be made with a AMP SuperSeal 1.5 Male connector. The pinout of Female connector of the board is at right side of the page.

The termination of CAN line, with a 120Ω resistor, in the HD67422-Exx-xxx is made internally of the device; when the order is performed. If the device have the CAN terminated the code is the follow: HD67422-Exx-Yxx; otherwise is this other: HD67422-Exx-Nxx.

Connector3: CAN port Hi = High wire Lo = Low wire Shl0 = Shield (to Isolated Ground)

Cable characteristics:

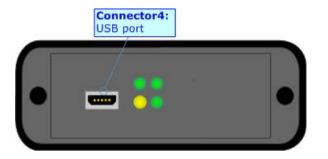
| DC parameter: | Impedance | 70 Ohm/m |
|----------------|-----------------|----------------|
| AC parameters: | Impedance | 120 Ohm/m |
| _ | Delay | 5 ns/m |
| Length | Baud Rate [bps] | Length MAX [m] |
| | 10 K | 5000 |
| | 20 K | 2500 |
| | 50 K | 1000 |
| | 100 K | 650 |
| | 125 K | 500 |
| | 250 K | 250 |
| | 500 K | 100 |
| | 800 K | 50 |
| | 1000 K | 25 |



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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.



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USE OF COMPOSITOR SW67422:

To configure the Converter, use the available software that runs with Windows called SW67422. It is downloadable on the site www.adfweb.com and its operation is described in this document. (This manual is referenced to the last version of the software present on our web site). The software works with MSWindows (XP, Vista, Seven, 8, 10; 32/64bit).

When launching the SW67422, the window below appears (Fig. 2).

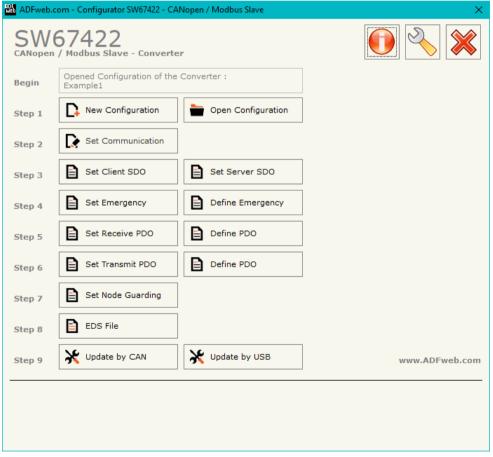


Figure 2: Main window for SW67422

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NEW CONFIGURATION / OPEN CONFIGURATION:

The "New Configuration" button creates the folder which contains the entire device's configuration.



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

- → To clone the configurations of a programmable "CANopen / Modbus 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".

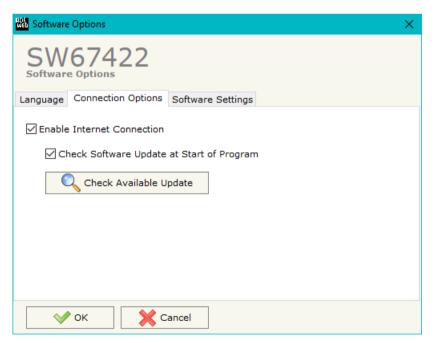


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SOFTWARE OPTIONS:

By pressing the "Settings" () button there is the possibility to change the language of the software and check the updatings for the compositor.

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





In the section "Connection Options", it is possible to check if there are some updatings of the software compositor in ADFweb.com website. Checking the option "Check Software Update at Start of Program", the SW67422 checks automatically if there are updatings when it is launched.

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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.

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SET COMMUNICATION:

This section defines the fundamental communication parameters of two Buses, CANopen and Modbus.

By pressing the "Set Communication" button from the main window for SW67422 (Fig. 2) the window "Set communication" appears (Fig. 3).

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

- ▶ In the field "Device ID" the ID of CANopen side is defined;
- ▶ In the field "Baud Rate" the data rate of CANopen side 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 converter starts in Operational State, otherwise it starts in Pre-Operational State;
- → In the field "Network Start at Start-Up" the state of the CANopen network is defined. I.e. If it is checked, the converter sends a command to set the Operational State for all the devices in the network after the time defined in the "Delay (s)" field;
- → In the field "SDO Client TimeOut (1/10 ms)" the maximum time that the converter attends for the answer from the CANopen slave interrogated is defined;
- → If the field "Set CANopen State on Modbus" is checked, it is possible to send the Modbus command (sender word) of Operational/Pre-Operational State to one or all devices in CANopen network. The Modbus register to use is defined in the field on the right. The sender word must have:
 - The high byte with the value '1' for Operational or '2' for Pre-Operational.
 - The low byte must have the ID of the CANopen device to control (Operational/PreOperational). If set to '0', the command is sent in Broadcast;
- ▶ If the field "Enable NodeGuard" is checked, it is possible to enable the NodeGuarding of CANopen Slaves. The two fields are used to indicate which Modbus registers using to save the state of the CANopen device. Every bit represents a CANopen device, if the device is present, the bit is equal to '1', otherwise '0'.

Figure 3: "Set Communication" window

The meaning of the fields of "Modbus Slave" are:

- ▶ In the field "Baudrate" the data rate of the RS485 bus is defined;
- → In the field "Parity" the serial parity is defined;
- → In the field "ID Device" the Modbus ID is defined;

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SET SDO CLIENT:

By pressing the "Set SDO Client" button from the main window for SW67422 (Fig. 2) the window "SDO Client Access Definition" appears (Fig. 4).

The following objects can be defined in the section "Set SDO Client":

- Which SDOs of the CANopen are readable from a Modbus;
- → Which SDOs of the CANopen are writeable from a Modbus.

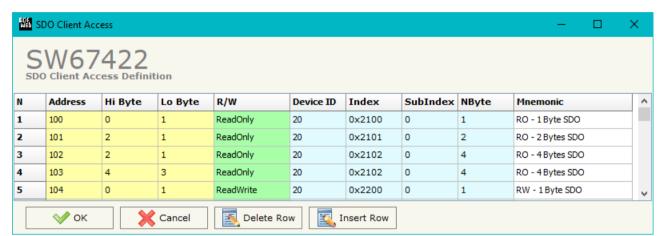


Figure 4: "SDO Client Access Definition" window

The data of the columns have the following meanings:

- ▶ In the field "Address" the Modbus register associated to the SDO is defined;
- → In the field "Hi Byte" the correspondence between the Hi byte of the Modbus register and a SDO byte is defined (it can be set with 0, 1, 2, 3, 4);
 - 1 = First byte of the SDO;
 - 2 = Second byte of the SDO;
 - o 3 = Third byte of the SDO;
 - 4 = Fourth byte of the SDO;
 - \circ 0 = No byte.
- ▼ In the field "Lo Byte" the correspondence between the Lo byte of the Modbus register and a SDO byte is defined (it can be set with 0, 1, 2, 3, 4);
 - o 1 = First byte of the SDO:
 - 2 = Second byte of the SDO;
 - 3 = Third byte of the SDO;
 - 4 = Fourth byte of the SDO;
 - \circ 0 = No byte.
- → In the field "R/W" the type of SDO is defined (ReadOnly or ReadWrite);

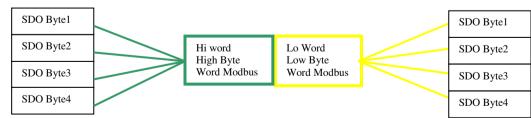


Figure 5: Scheme of the word configuration

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- ▶ In the field "Device ID" the ID of the CANopen device to interrogate is defined;
- → In the field "Index" the Index of the SDO is defined;
- ▶ In the field "SubIndex" the SubIndex of the SDO is defined:
- ★ In the field "NByte" the dimension of the SDO is defined (1, 2 or 4);
- ▶ In the field "Mnemonic" a description is defined.

Example 1:

If you want to write data in the form of SDO in the CANopen from the Modbus network on the device at the address:

- Address 44;
- → Index 0x3000;
- SubIndex 2;
- By dimensions 2 bytes.

By the following word Modbus on the Gateway:

→ Address 3000.

In the above scenario:

The Modbus Master can read:

- → to the address Modbus of the Gateway (Note: the one specified in the "Set Communication");
- to the word Modbus 3000;
- → the first byte of the SDO found in the low byte of the Modbus register (note: Lo Byte=1);
- → the second byte of the SDO found in high byte of the Modbus word (note: Hi Byte=2);

The SDO:

- → two byte dimension (note: NByte=2);
- belonging to a CANopen device ID 44;
- → of the following coordinates: Index 0x3000 and SubIndex 2.

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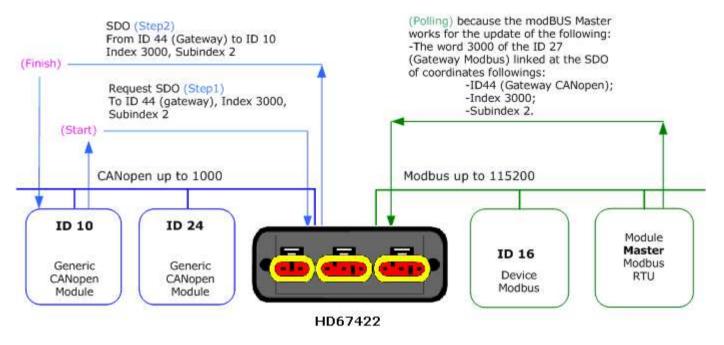


Figure 6: Chart of SDO request from Modbus side

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SET SDO SERVER:

By pressing the "Set SDO Server" button from the main window for SW67422 (Fig. 2) the window "SDO Server Access Definition" appears (Fig. 7).

The following objects can be defined in the section "Set SDO Server":

- Which SDO object are accessible from the other devices of the CANopen network and the Modbus registers to read/write this informations;
- → Which Modbus registers are accessible to read/write a SDO object.



Figure 7: SDO Server Access Definition

The data of the columns have the following meanings:

- ▶ In the field "Address" the Modbus register associated to the SDO is defined;
- → In the field "Hi Byte" the correspondence between the Hi byte of the Modbus register and a SDO byte is defined (it can be set with 0, 1, 2, 3, 4);
 - 1 = First byte of the SDO;
 - o 2 = Second byte of the SDO;
 - o 3 = Third byte of the SDO:
 - 4 = Fourth byte of the SDO;
 - \circ 0 = No byte.
- → In the field "Lo Byte" the correspondence between the Lo byte of the Modbus register and a SDO byte is defined (it can be set with 0, 1, 2, 3, 4);
 - 1 = First byte of the SDO;
 - o 2 = Second byte of the SDO;
 - o 3 = Third byte of the SDO;
 - o 4 = Fourth byte of the SDO;
 - \circ 0 = No byte.



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- → In the field "R/W" the type of SDO is defined (ReadOnly or ReadWrite);
- → In the field "Index" the Index of the SDO is defined;
- → In the field "SubIndex" the SubIndex of the SDO is defined;
- → In the field "NByte" the dimension of the SDO is defined (1, 2 or 4);
- → In the field "Mnemonic" a description is defined.

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SET EMERGENCY:

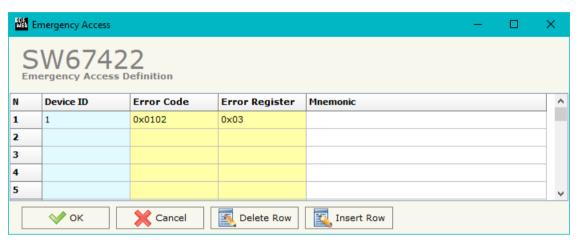


Figure 8: "Emergency Access Definition" window

By pressing the "Set Emergency" button from the Main Window for SW67422 (Fig. 2) the window "Emergency Access Definition" appears (Fig. 8):

- → In the field "Device ID" the Node ID of the CANopen device that transmit the EMCY is defined;
- → In the field "Error Code" the value of the error code (the maximum value is 0xFFFF) is defined;
- → In the field "Error Register" the value of the error register (the maximum value is 0xFF) is defined;
- → In the field "Mnemonic" a description is defined.

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DEFINE EMERGENCY:

By pressing the "**Define Emergency**" button from the main window for SW67422 (Fig. 2) the window "Define Modbus Registers for Emergency Frames" appears (Fig. 9):

- → In the field "List of Emergency defined" there is the list of Emergency inserted in "Set Emergency" Section
- → In the field "List of Modbus Registers" there are the Modbus words.
- → In the field "Create/Modify a Modbus Register"
 the index of the Modbus registers and the bytes of
 the EMCY messages are defined.

For example:

Click on the frame, insert the valid address in the field "Index of Modbus Register", select the byte position, click the "Create" button, in the field "List of Modbus Registers" appears the new Modbus register created with the data that it contains.

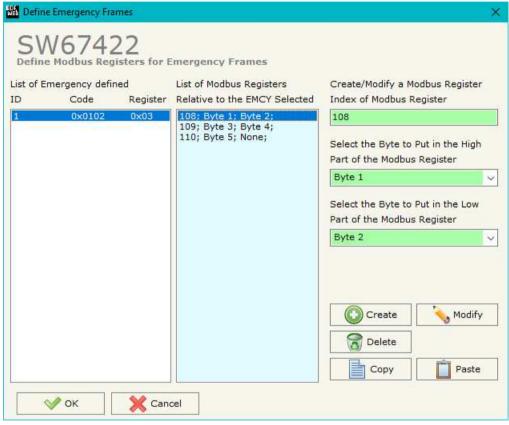


Figure 9: "Define Modbus Registers for Emergency Frames" window

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SET RECEIVE PDO:

By pressing the "Receive COB" button from the main window for SW67422 (Fig. 2) the window "Receive PDO Access Definition" appears (Fig. 10). In this section, it is possible to define the PDO frames that the converter will receive from CANopen network.

The window appears like below:

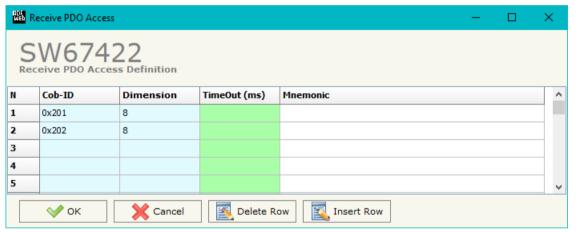


Figure 10: "Receive PDO Access Definition" window

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- → In the field "Cob-ID", the Cob-ID of the PDO is defined;
- → In the field "Dimension" the number of bytes of the PDO (the maximum dimension is 8 Bytes) is defined;
- ▼ If the field "TimeOut" the TimeOut is defined; after the TimeOut defined, the value of the data of the PDO become "0";
- ▶ In the field "Mnemonic" a description of the frame is defined.

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DEFINE PDO:

By pressing the "**Define PDO**" button near "Set Receive PDO" from the main window for SW67422 (Fig. 2) the window "Define Modbus Registers for PDO Frames" appears (Fig. 11):

- → In the field "List of Receive CAN Frames" there is the list of PDO frames that you inserted in "Set Receive PDO" Section
- → In the field "List of Modbus Registers" there are the Modbus words.
- → In the field "Create/Modify a Modbus Register"
 the index of the Modbus register and the bytes of the PDO frame to map in are defined.

For example:

Click on the frame, insert the valid address in the field "Index of Modbus Register", select the byte position, click the "Create" button, in the field "List of Modbus Registers" appears the new Modbus register created with the data that it contains.

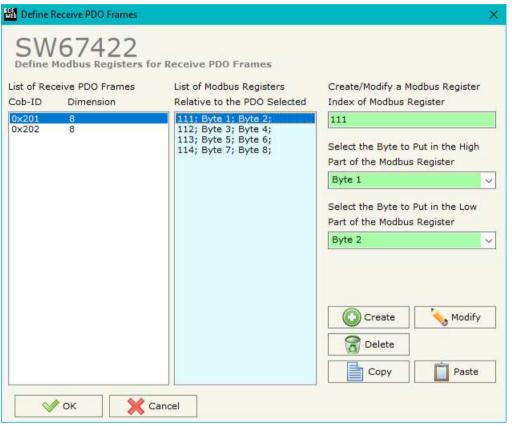


Figure 11: "Define COB" window

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SET TRANSMIT PDO:

By pressing the "Set Transmit COB" button from the main window of SW67422 (Fig. 2) the window "Transmit PDO Access Definition" appears (Fig. 12): in this section, it is possible to define the PDO frames that the converter will send to the CANopen network.

The window appears like below:

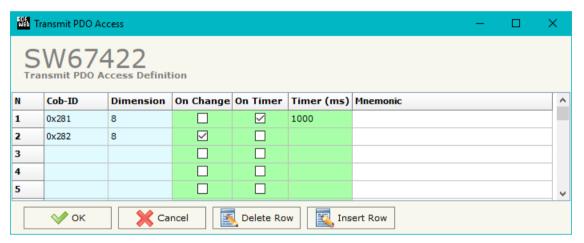


Figure 12: "Transmit PDO Access Definition" window

- ▶ In the field "Dimension" the number of bytes of the PDO (the maximum dimension is 8 Bytes) is defined;
- ▶ If the field "On Change" is checked, the CAN frame is sent when the data written from Modbus side changes;
- → If the field "On Timer" is checked, the CAN frame is sent cyclically;
- ▶ In the field "Timer (ms)" the cyclic delay is defined;
- ▶ In the field "Mnemonic" the description for the frame is defined.

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DEFINE PDO

By pressing the "**Define COB**" button near "Set Transmit PDO" from the main window for SW67422 (Fig. 2), the window "Define Modbus Registers for Transmit PDO Frames" appears (Fig. 13):

- → In the field "List of Transmit CAN Frames" there is the list of PDO that you inserted in "Set Transmit PDO" section.
- In the field "List of Modbus Registers" there are the Modbus words.
- → In the field "Create/Modify a Modbus Register"
 the index of the Modbus register and the bytes of the
 PDO frame to map are defined.
- With the field "Send PDO frame on Modbus Write" it is possible to decide when to send the PDO frame. If a Modbus word has written "False "in this field, the PDO frame is not sent immediately, but it is sent when another word that have this field "True" is written.

For example:

Click on the frame, insert the valid address in the field "Index of Modbus Register", select the byte position, click the "Create" button, in the field "List of Modbus Registers" appears the new Modbus register created.

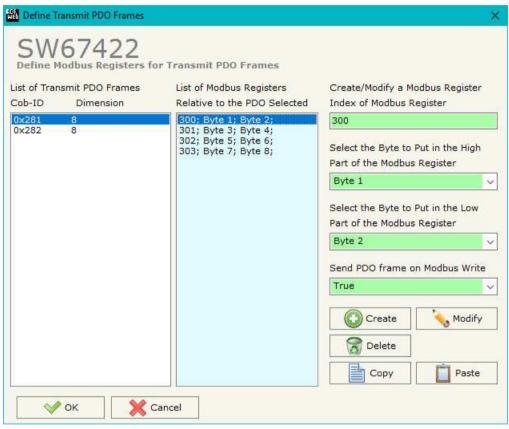


Figure 13: "Define Modbus Registers for Transmit PDO Frames" window

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SET NODE GUARDING

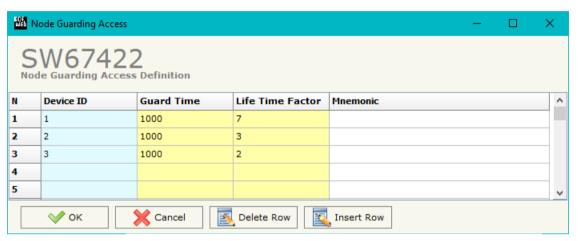


Figure 14: "Node Guarding Access Definition" window

By pressing the "Set Node Guarding" button from the Main Window of SW67422 (Fig. 2) the "Node Guarding Access Definition" window appears (Fig. 14).

- → In the field "Device ID" the address of the CANopen device to control is defined. It is possible to insert up to 32 address;
- ▶ In the field "Guard Time" the Guard Time is defined. This value indicates the delay between two interrogations;
- ▶ In the field "Life Time Factor" the number of attempts before considering the CANopen device absent is defined;
- → In the field "Mnemonic" a description is defined.

EDS FILE:

By Pressing the "EDS File" button from the main window for SW67422 (Fig. 2) it is possible to generate the EDS file to be imported into the CANopen Client.

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UPDATE BY CAN (ONLY FOR THE HARDWARE WITHOUT USB PORT):

By pressing the "Update by CAN" 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 CAN port of HD67422;
- Feed the HD67422;
- Turn on the device;
- → Select the "COM port" and press the "Connect" button;
- 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.

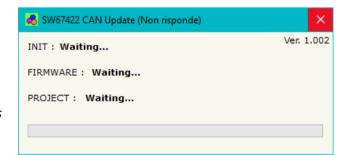






Figure 15: "Update by CAN" windows

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UPDATE BY 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;
- ▼ Turn ON the converter (it starts in Boot Mode);
- 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.



Figure 16 "Update Device" windows

FIRMWARE: Waiting...

PROJECT: Waiting...



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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 HD67422 device.



Note:

When you receive the device, for the first time, you have to update also the Firmware in the HD67422 device.



Warning:

If the Fig. 17 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 17: "Protection" window

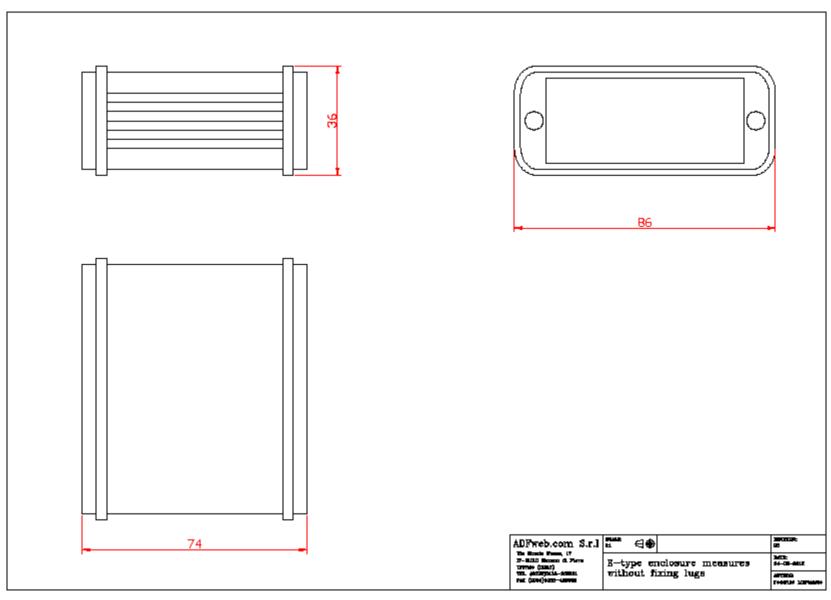
In the case of HD67422 you have to use the software "SW67422": www.adfweb.com\download\filefold\SW67422.zip.

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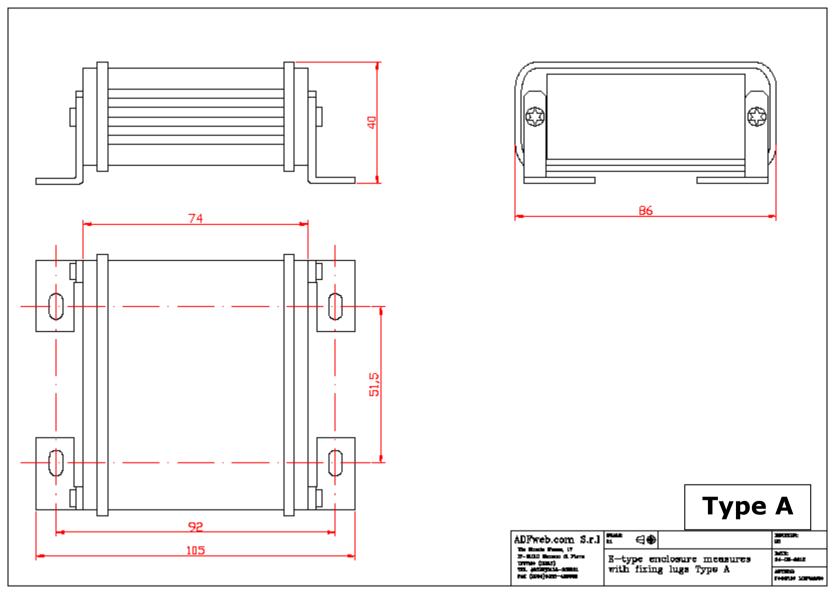
INFO: <u>www.adfweb.com</u> *Phone* +39.0438.30.91.31

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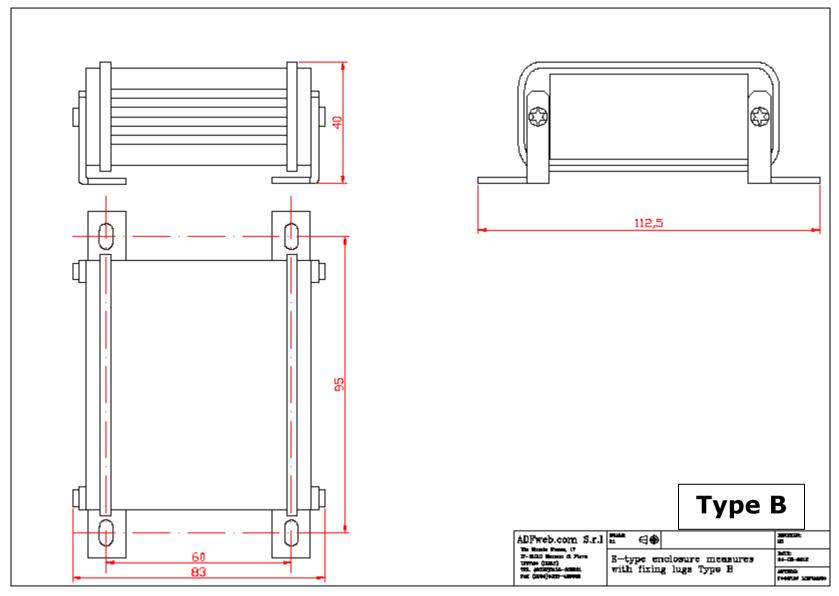
MECHANICAL DIMENSIONS:



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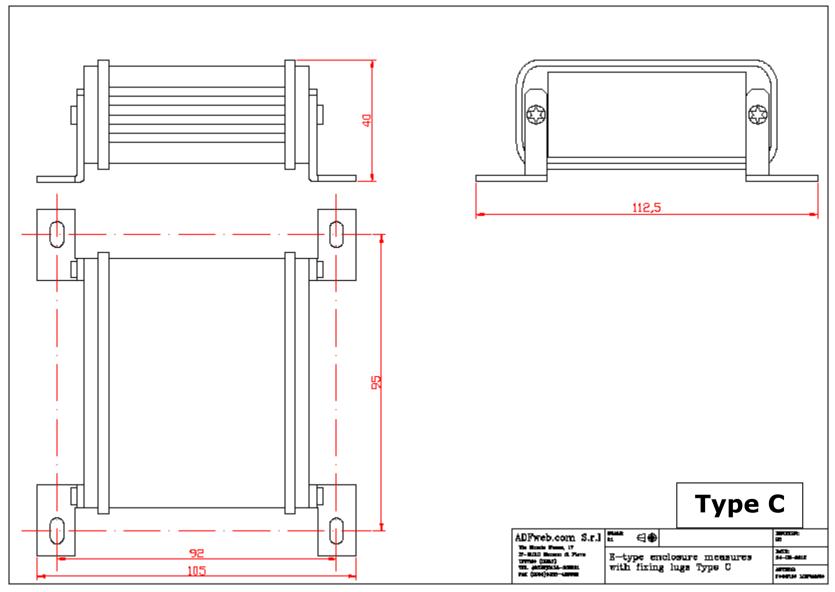


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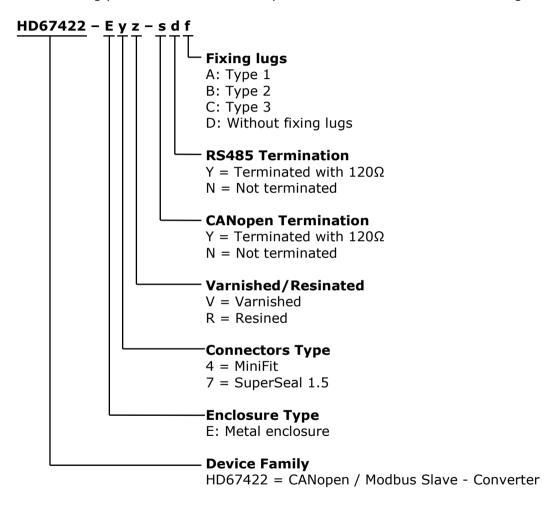
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ORDERING INFORMATIONS:

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



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ACCESSORIES:

Order Code: **AC67400** - CAN interface to configure devices

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: **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 **RoHS** and electronic equipment (commonly referred to as Restriction of Hazardous Substances Directive or RoHS).

INFO: www.adfweb.com

CE MARKING

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

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WARRANTIES AND TECHNICAL SUPPORT:

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

RETURN POLICY:

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

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

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



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