

# User Manual

Revision 1.000  
English

## BACnet Master / CANopen - Converter

(Order Code: HD67718-IP-A1, HD67718-MSTP-A1, HD67718-MSTP-B2 )

For Website information:

[www.adfweb.com?Product=HD67718](http://www.adfweb.com?Product=HD67718)

For Price information:

[www.adfweb.com?Price=HD67718-IP-A1](http://www.adfweb.com?Price=HD67718-IP-A1)

[www.adfweb.com?Price=HD67718-MSTP-A1](http://www.adfweb.com?Price=HD67718-MSTP-A1)

[www.adfweb.com?Price=HD67718-MSTP-B2](http://www.adfweb.com?Price=HD67718-MSTP-B2)

### Benefits and Main Features:

- ✦ Very easy to configure
- ✦ Triple Electrical isolation
- ✦ Temperature range: -40°C/+85°C (-40°F/+185°F)



For other BACnet Master Slave products see also the following link:

#### Converter BACnet Master to

- [www.adfweb.com?Product=HD67704](http://www.adfweb.com?Product=HD67704)
- [www.adfweb.com?Product=HD67712](http://www.adfweb.com?Product=HD67712)
- [www.adfweb.com?Product=HD67714](http://www.adfweb.com?Product=HD67714)
- [www.adfweb.com?Product=HD67716](http://www.adfweb.com?Product=HD67716)
- [www.adfweb.com?Product=HD67717](http://www.adfweb.com?Product=HD67717)
- [www.adfweb.com?Product=HD67719](http://www.adfweb.com?Product=HD67719)
- [www.adfweb.com?Product=HD67721](http://www.adfweb.com?Product=HD67721)
- [www.adfweb.com?Product=HD67722](http://www.adfweb.com?Product=HD67722)
- [www.adfweb.com?Product=HD67723](http://www.adfweb.com?Product=HD67723)
- [www.adfweb.com?Product=HD67725](http://www.adfweb.com?Product=HD67725)
- [www.adfweb.com?Product=HD67726](http://www.adfweb.com?Product=HD67726)
- [www.adfweb.com?Product=HD67737](http://www.adfweb.com?Product=HD67737)
- [www.adfweb.com?Product=HD67801](http://www.adfweb.com?Product=HD67801)
- [www.adfweb.com?Product=HD67832](http://www.adfweb.com?Product=HD67832)
- [www.adfweb.com?Product=HD67937](http://www.adfweb.com?Product=HD67937)
- [www.adfweb.com?Product=HD67965](http://www.adfweb.com?Product=HD67965)
- [www.adfweb.com?Product=HD67B31](http://www.adfweb.com?Product=HD67B31)
- [www.adfweb.com?Product=HD67D16](http://www.adfweb.com?Product=HD67D16)
- [www.adfweb.com?Product=HD67E05](http://www.adfweb.com?Product=HD67E05)

- (DMX)**
- (Modbus Slave)**
- (Modbus TCP Slave)**
- (PROFIBUS Slave)**
- (CAN)**
- (PROFINET Slave)**
- (DeviceNet Slave)**
- (EtherNet/IP Slave)**
- (NMEA 2000)**
- (J1939)**
- (SNMP Agent)**
- (IEC 61850 Server)**
- (KNX)**
- (DALI)**
- (MQTT)**
- (IO-Link Slave)**
- (OPC UA Server)**
- (LoRaWAN)**
- (EtherCAT)**



User Manual

**INDEX:**

|  |      |
|--|------|
|  | Page |
| INDEX                                  | 2    |
| UPDATED DOCUMENTATION                  | 2    |
| REVISION LIST                          | 2    |
| WARNING                                | 2    |
| TRADEMARKS                             | 2    |
| SECURITY ALERT                         | 3    |
| EXAMPLE OF CONNECTION                  | 4    |
| CONNECTION SCHEME                      | 5    |
| CHARACTERISTICS                        | 8    |
| CONFIGURATION                          | 8    |
| POWER SUPPLY                           | 9    |
| FUNCTION MODES                         | 10   |
| LEDS                                   | 11   |
| ETHERNET                               | 13   |
| CAN                                    | 14   |
| RS485                                  | 15   |
| USE OF COMPOSITOR SW67718              | 16   |
| NEW CONFIGURATION / OPEN CONFIGURATION | 17   |
| SOFTWARE OPTIONS                       | 18   |
| SET COMMUNICATION                      | 20   |
| SET BACNET ACCESS                      | 22   |
| SET SDO SERVER                         | 26   |
| SET SDO CLIENT                         | 27   |
| PDO ACCESS                             | 29   |
| EDS FILE                               | 30   |
| UPDATE DEVICE                          | 31   |
| MECHANICAL DIMENSIONS                  | 33   |
| ORDERING INFORMATIONS                  | 36   |
| ACCESSORIES                            | 36   |
| DISCLAIMER                             | 37   |
| OTHER REGULATIONS AND STANDARDS        | 37   |
| WARRANTIES AND TECHNICAL SUPPORT       | 38   |
| RETURN POLICY                          | 38   |

**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    | 18/09/2020 | VDB    | All     | First Release |
|          |            |        |         |               |
|          |            |        |         |               |

**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:



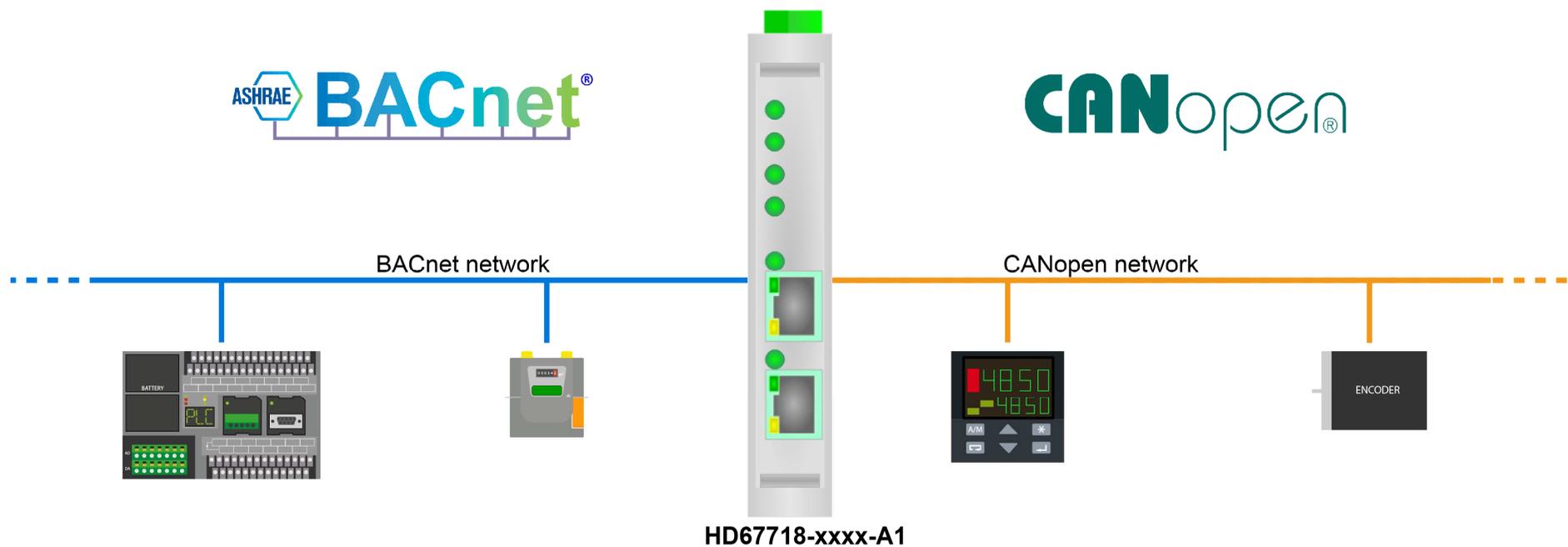
This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

**CE CONFORMITY**

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

**EXAMPLE OF CONNECTION:**

**BACnet / CANopen - Converter**  
HD67718-xxxx-A1



[ADFweb.com](http://ADFweb.com)



+39 0438 309 131



+39 349 440 9592



[support@adfweb.com](mailto:support@adfweb.com)

**CONNECTION SCHEME:**

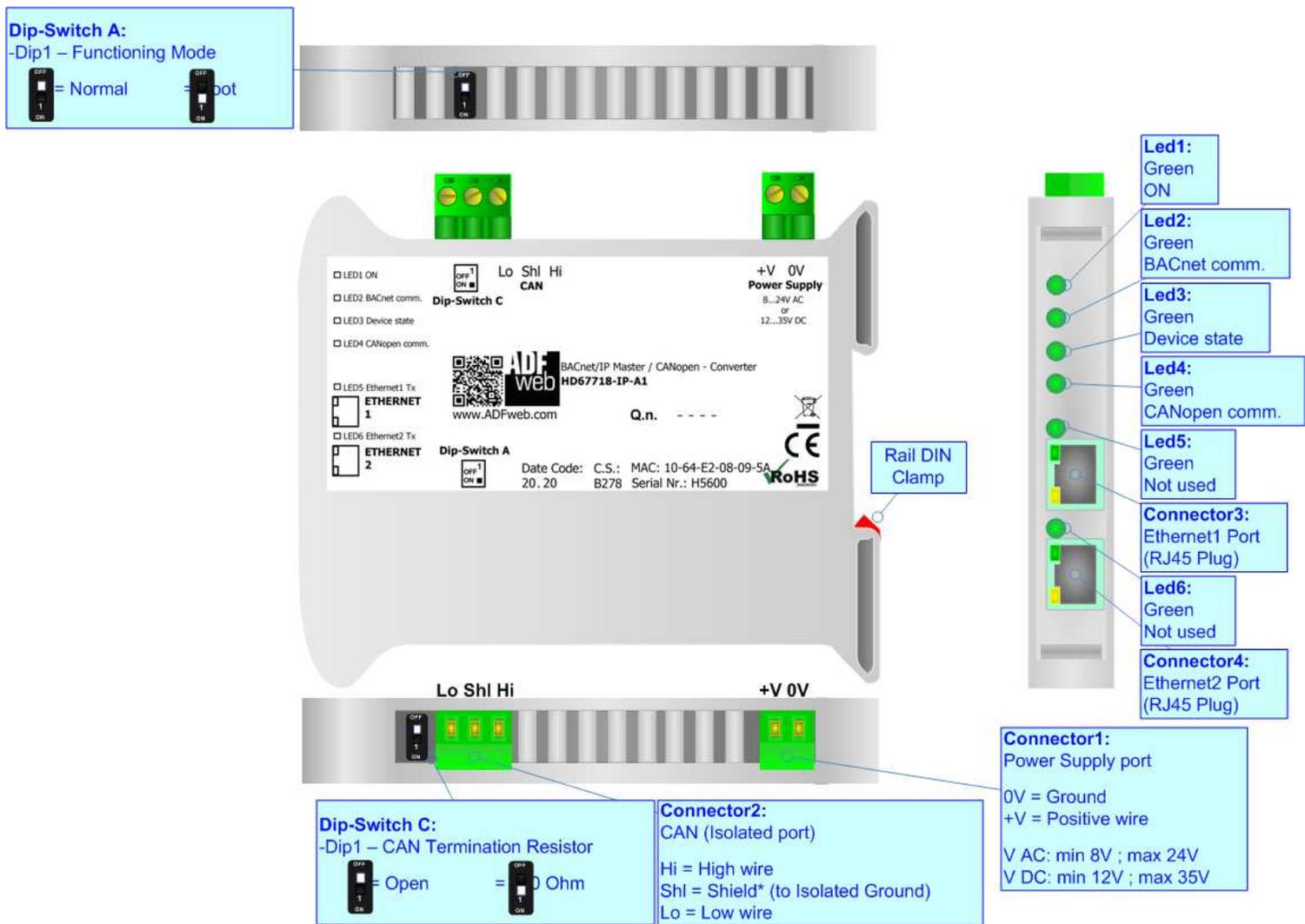


Figure 1a: Connection scheme for HD67718-IP-A1

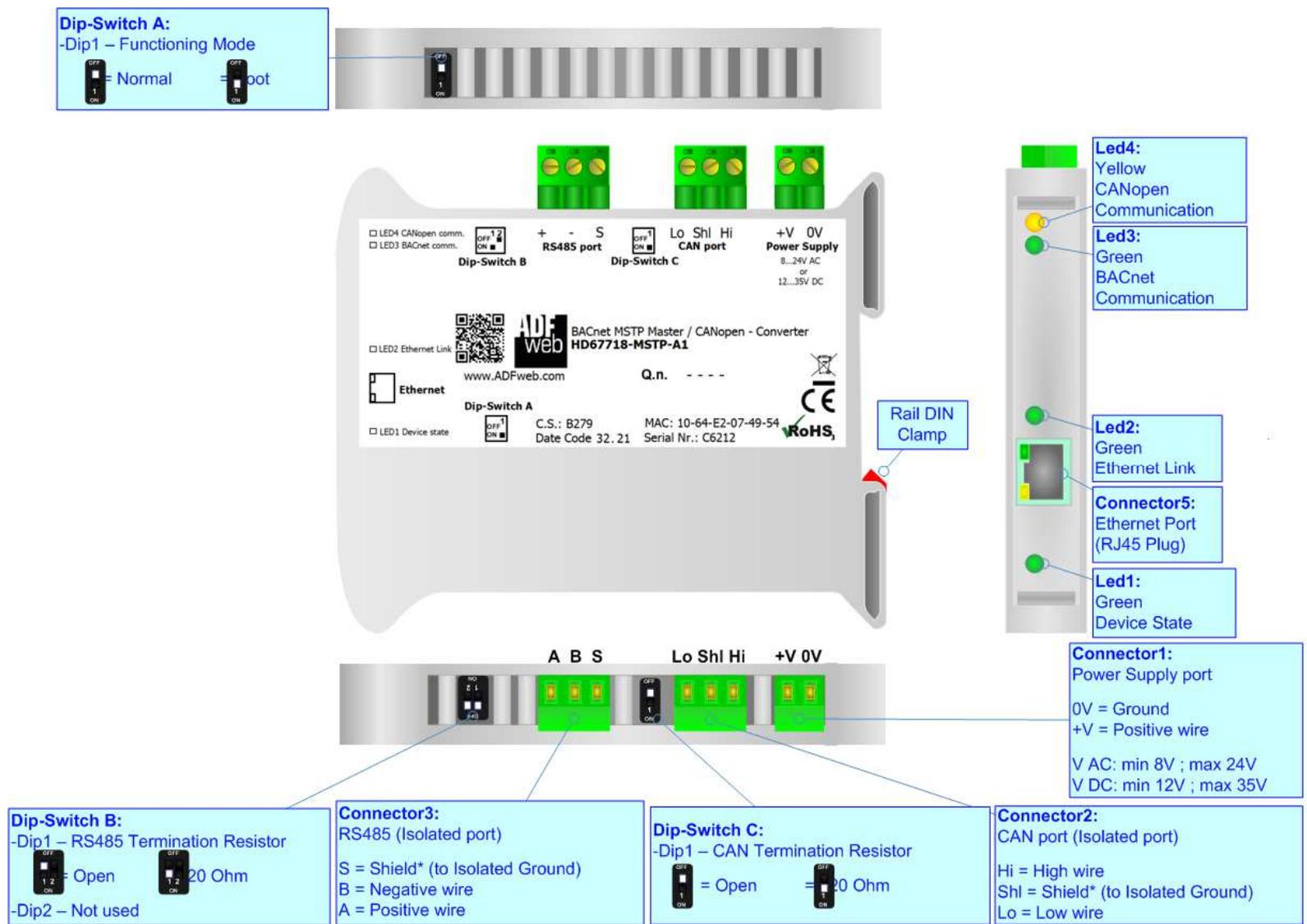


Figure 1b: Connection scheme for HD67718-MSTP-A1

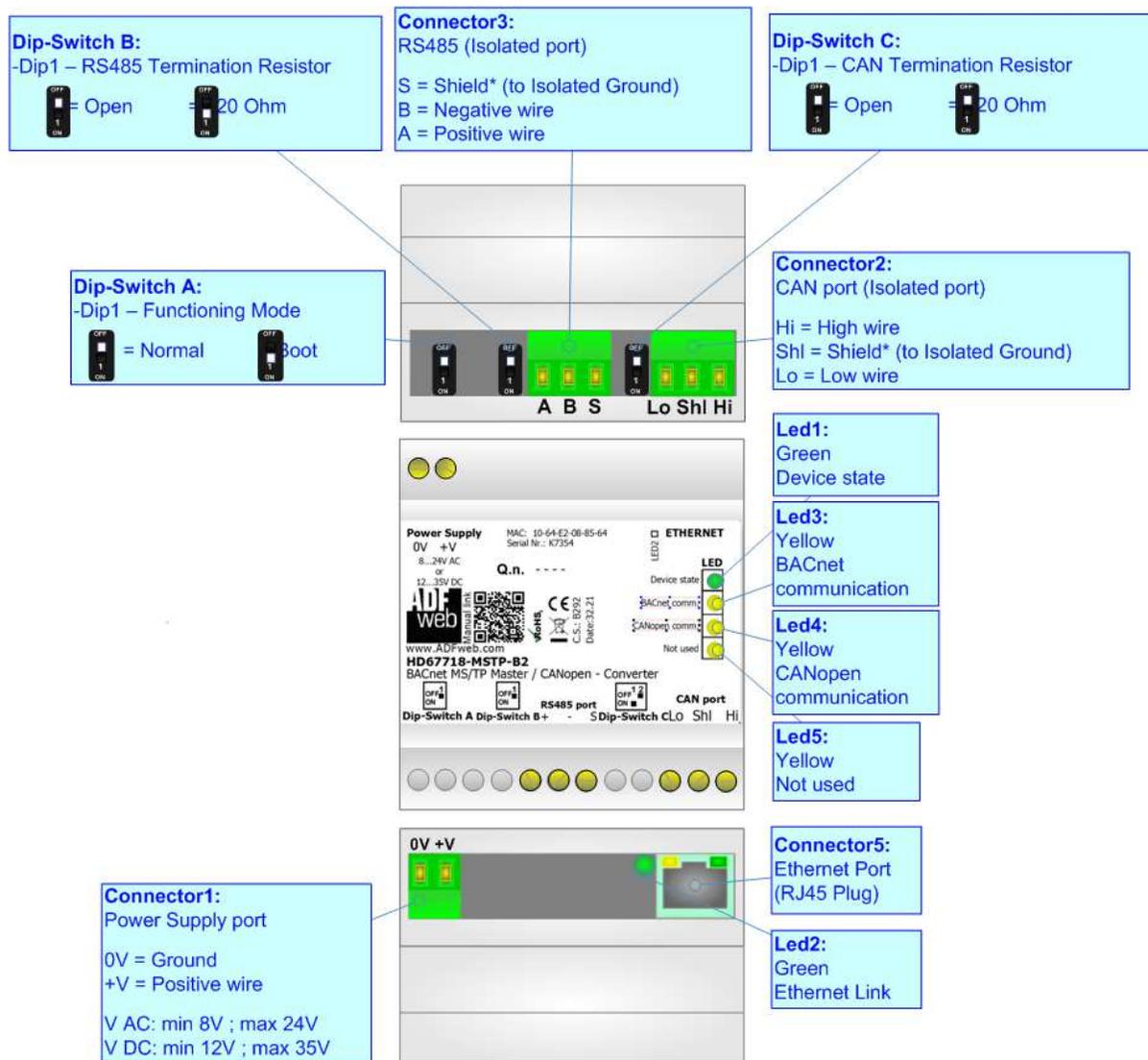


Figure 1c: Connection scheme for HD67718-MSTP-B2

**CHARACTERISTICS:**

The HD67718 are BACnet Master / CANopen - Converters.

It allows for the following characteristics:

- Isolation between BACnet – CANopen – Power Supply;
- Two-directional information between BACnet 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 HD67718 software on your PC in order to perform the following:

- Define the parameters of BACnet line;
- Define the parameters of CANopen line;
- Define BACnet variables to read and write;
- Define SDO Server information;
- Define SDO Client information;
- Define PDO information (RPDO/TPDO);
- 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  |

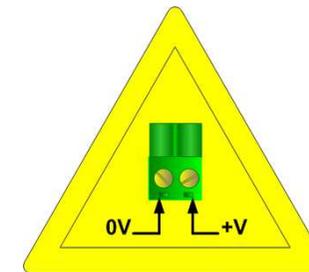
Consumption at 24V DC:

| Device         | Consumption [W/VA] |
|----------------|--------------------|
| HD67718-xxx-xx | 3.5                |

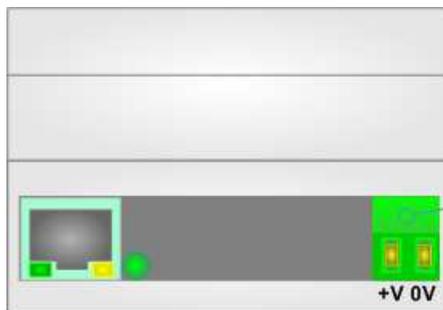
**Connector1:**  
Power Supply port  
0V = Ground  
+V = Positive wire  
V AC: min 8V ; max 24V  
V DC: min 12V ; max 35V



**Caution: Do not reverse the polarity power**



HD67718-xxx-xx



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

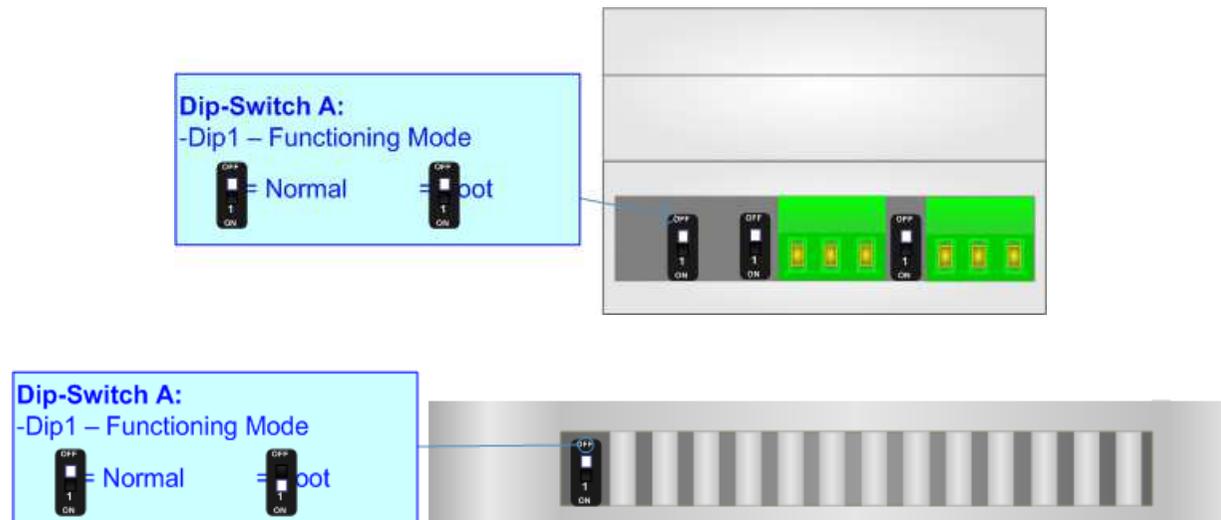
**FUNCTION MODES:**

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.

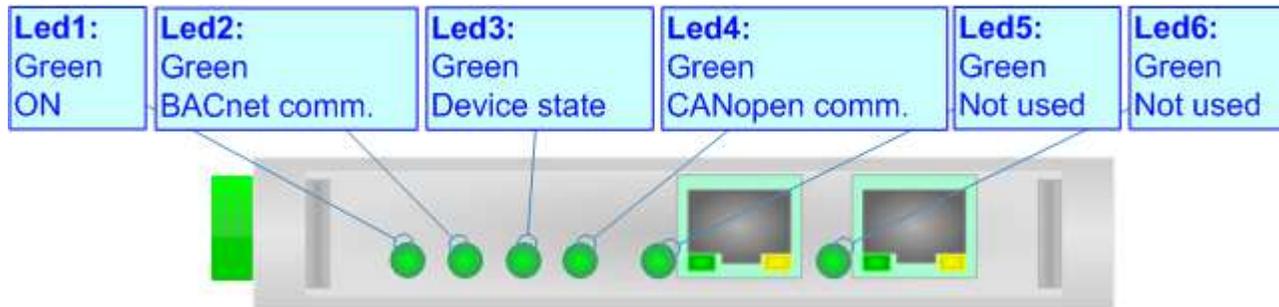


**LEDS:**

HD67718-IP-A1

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

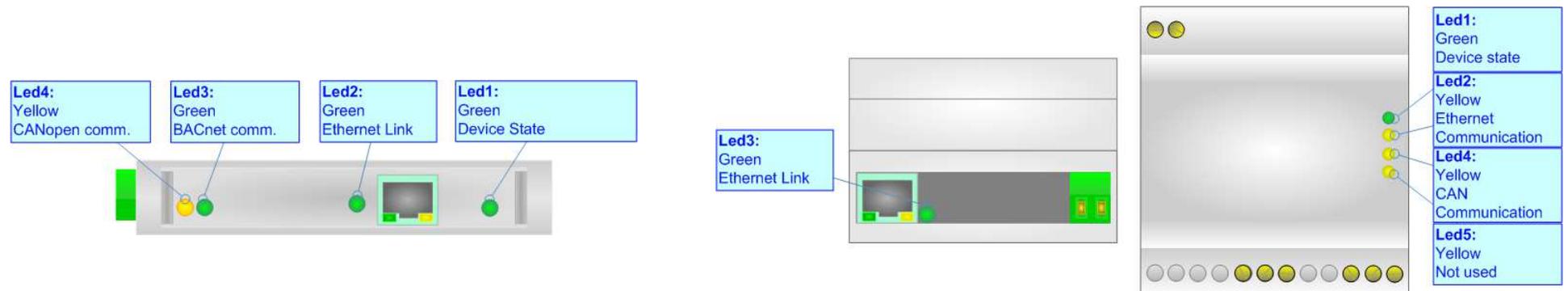
| LED                           | Normal Mode   | Boot Mode   |
|-------------------------------|---|---|
| 1: ON [supply voltage](green) | <b>ON:</b> Device powered<br><b>OFF:</b> Device not powered | <b>ON:</b> Device powered<br><b>OFF:</b> Device not powered                                 |
| 3: BACnet comm. (green)       | It blinks when a BACnet response is received                | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |
| 3: Device State (green)       | Blinks slowly (~1Hz)  | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |
| 4: CANopen comm. (green)      | Blinks quickly when receives CANopen frames                 | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |
| 5: Not used (green)           | /   | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |
| 6: Not used (green)           | /   | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |



**HD67718-MSTP-A1/B2**

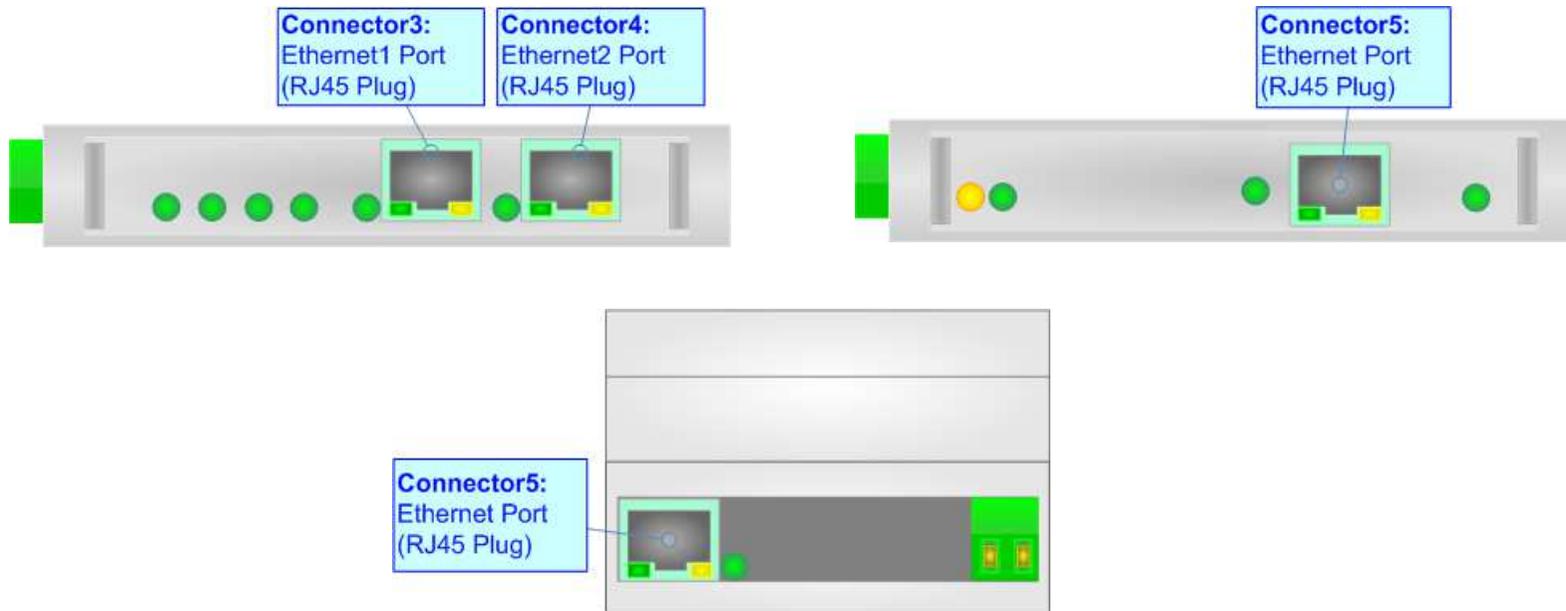
The device has four LEDs (five for the B2 version) that are used to give information of the functioning status.  
The various meanings of the LEDs are described in the table below.

| LED                              | Normal Mode  | Boot Mode   |
|----------------------------------|--|---|
| 1: Device State (green)          | Blinks slowly (~1Hz)   | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |
| 2: Link Ethernet (yellow)        | <b>ON:</b> Ethernet cable connected<br><b>OFF:</b> Ethernet cable disconnected | <b>ON:</b> Ethernet cable connected<br><b>OFF:</b> Ethernet cable disconnected              |
| 3: BACnet communication (yellow) | Blinks quickly when a BACnet response is received                              | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |
| 4: CAN Communication (yellow)    | Blinks quickly when a CAN frame is received                                    | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |
| 5: Not used (green)              | OFF  | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (~0.5Hz):</b> update in progress |



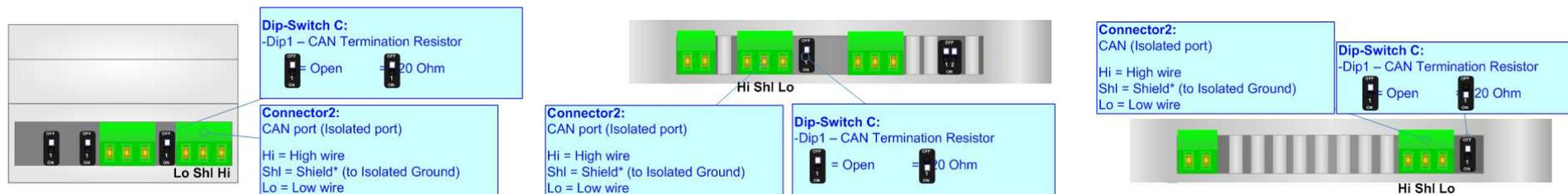
**ETHERNET:**

The Ethernet port is used for programming the device and for BACnet/IP communication.  
 The Ethernet connection must be made using Connector2 of HD67718-xxx-xx with at least a Category 5E cable. The maximum length of the cable should not exceed 100m. The cable has to conform to the T568 norms relative to connections in cat.5 up to 100 Mbps. To connect the device to an Hub/Switch is recommended the use of a straight cable, to connect the device to a PC is recommended the use of a cross cable.



**CAN:**

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

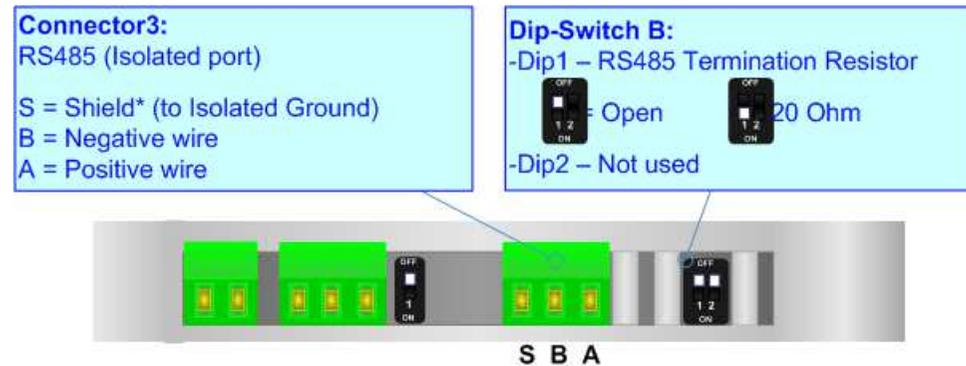


Cable characteristics:

|                       |                        |                       |
|-----------------------|------------------------|-----------------------|
| <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                    |

**RS485 (for BACnet MS/TP):**

For terminating the RS485 line with a 120Ω resistor it is necessary to put ON dip 1, like in figure.



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.

**USE OF COMPOSITOR SW67718:**

To configure the Converter, use the available software that runs with Windows called SW67718. 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 SW67718, the window below appears (Fig. 2).



**Note:**

It is necessary to have installed .Net Framework 4.

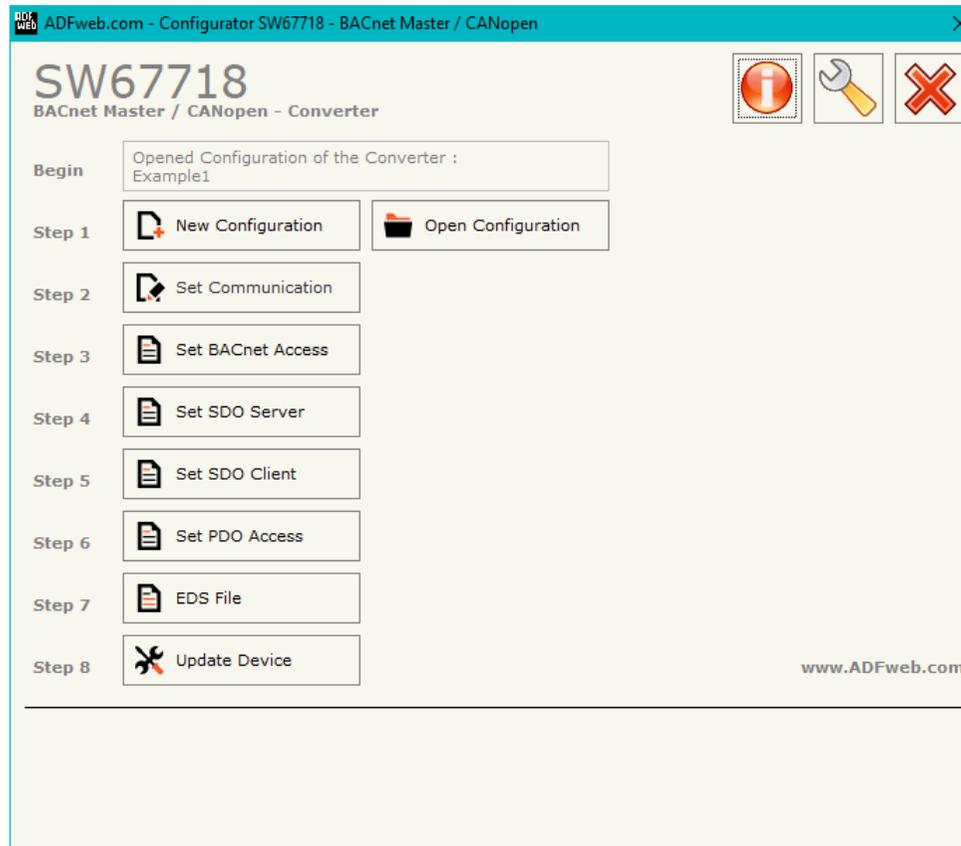
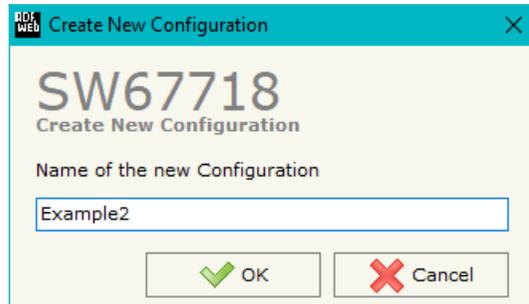


Figure 2: Main window for SW67718

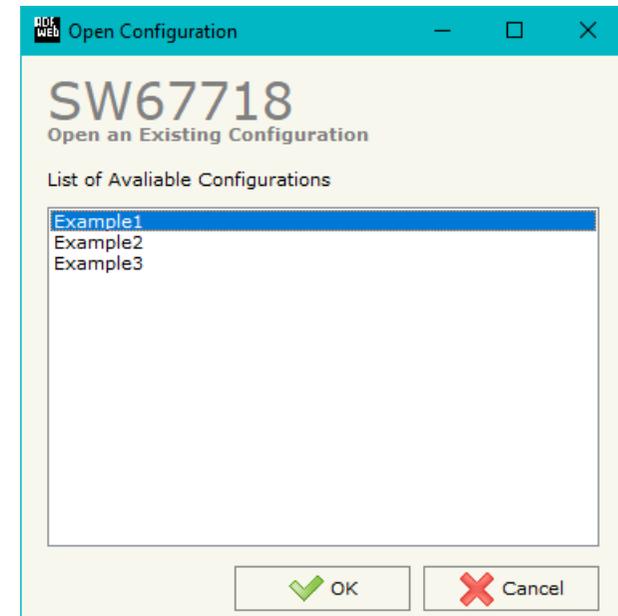
**NEW CONFIGURATION / OPEN CONFIGURATION:**

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



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

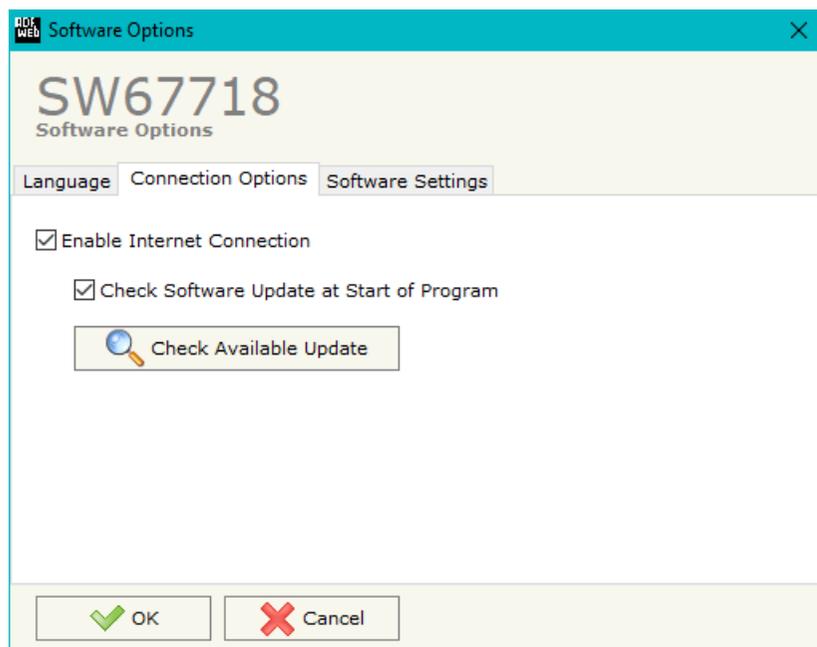
- To clone the configurations of a programmable “BACnet Master / CANopen - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient to duplicate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



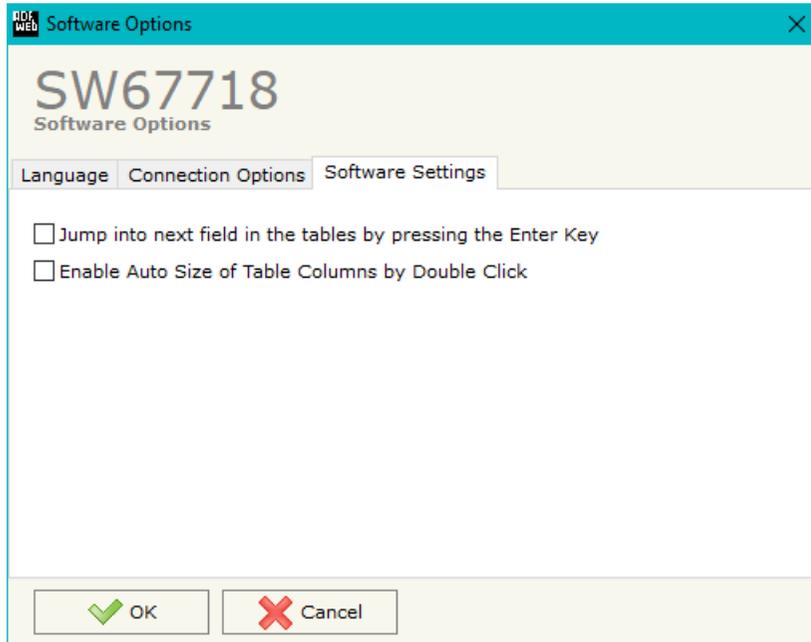
## SOFTWARE OPTIONS:

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 SW67718 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, CANopen and BACnet Slave.

By Pressing the **"Set Communication"** button from the main window for SW67718 (Fig. 2) the window "Set Communication" appears (Fig. 3).

In the section "BACnet Master" it is possible to select the type of BACnet to use from:

- BACnet/IP (it uses Ethernet);
- BACnet MS/TP (it uses RS485).

If selected "BACnet/IP" the means of the fields for "BACnet" are:

- In the fields **"IP ADDRESS"** the IP address of BACnet/IP side of the converter is defined;
- In the fields **"SUBNET Mask"** the SubNet Mask of BACnet/IP side of the converter is defined;
- In the fields **"GATEWAY"** the default gateway of the network is defined. This feature can be enabled or disabled pressing the Check Box field. This feature is used for going out of the net;
- In the field **"Port"** the port used for BACnet communication is defined. The default port used for BACnet communication is 47808, but is possible to insert any value;
- In the field **"BACnet Device Name"** the name of BACnet/IP side of the converter is defined;
- In the field **"Device Identifier"** the device instance of BACnet/IP side of the converter is defined;
- In the field **"TimeOut Polling (ms)"** the timeout for the BACnet requests is defined.

If selected "BACnet MS/TP" the means of the fields for "BACnet" are:

- In the field **"Baudrate"** the baudrate of BACnet MS/TP side of the converter is defined;
- In the field **"Parity"** the parity of BACnet MS/TP side of the converter is defined;
- In the field **"BACnet Device Name"** the name of BACnet MS/TP side of the converter is defined;
- In the field **"MAC Address"** the MAC of BACnet MS/TP side of the converter is defined;
- The field **"Max Masters"** specifies the highest allowable address for master nodes. The value shall be less than or equal to 127;

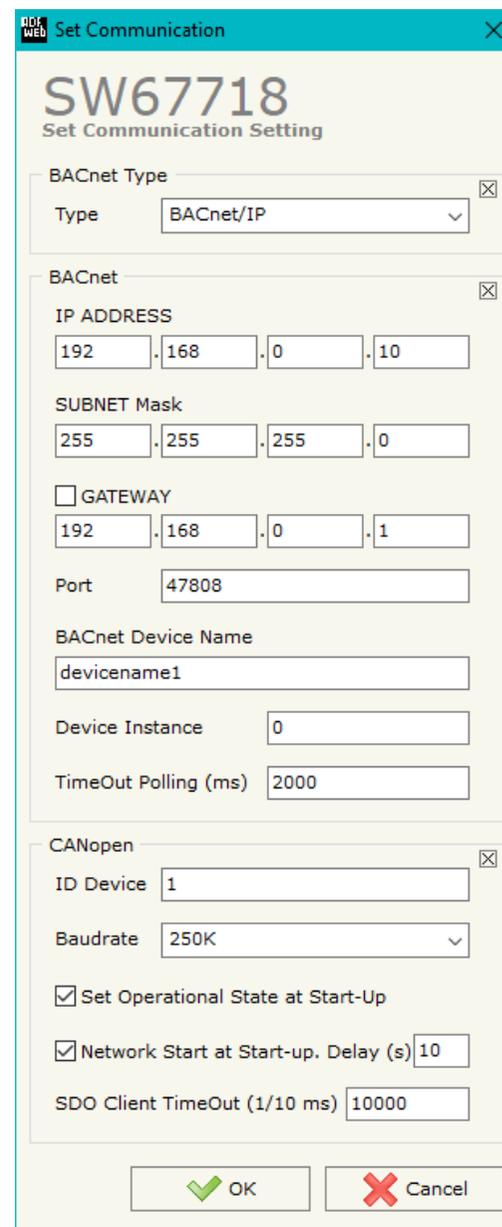


Figure 3: "Set Communication" window

- The field "**Max Info Frames**" specifies the maximum number of information frames the node may send before it must pass the token;
- In the field "**Device Instance**" it is possible to assign a number to the BACnet node (used for the Device Instance).

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 "**Baud Rate**" 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;
- 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;

## SET BACNET ACCESS:

By Pressing the **"Set BACnet Access"** button from the main window of SW67718 (Fig. 2), the window "Set BACnet Access" appears (Fig. 4). The window is divided in two parts, the **"BACnet Read"** that contains the BACnet objects that the converter reads from the BACnet devices and **"BACnet Write"** that contains the BACnet objects that the converter writes into the BACnet devices.

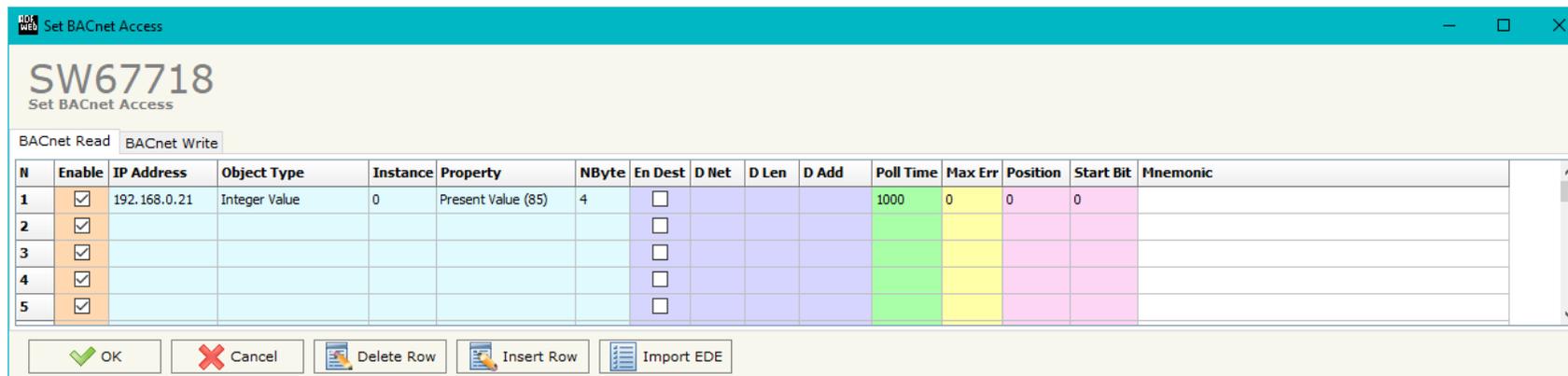


Figure 4a: "Set BACnet Access → BACnet Read" window

The means of the fields in the window "BACnet in Read" are the following:

- If the field **"Enable"** is checked, the BACnet variable is enabled;
- In the field **"IP Address"** the IP address of the device that contains the data to be read is defined;
- In the field **"Object Type"** the object to be read is defined;
- In the field **"Instance"** the instance number of the object is defined;
- In the field **"Property"** the property to be read is defined;
- In the field **"NByte"** the number of bytes of the BACnet object is defined;
- By checking the field **"En Dest"** it is possible to enable the Destination Network (D Net), Destination Length (D Len) and Destination Address (D ADR). These informations are used for make a request to other segments of network (through a BACnet router);
- In the field **"D Net"** the destination network (from 1 to 65535) is defined;
- In the field **"D Len"** the length of "D Add" field (1 or 2 or 6) is defined;
- In the field **"D Add"** the address of the endpoint is defined. If "D Len" is '1' it is possible to insert a number from 1 to 255; if "D Len" is '2' it is possible to insert a number from 1 to 65535; if "D Len" is '6' it is possible to insert an IP and port in this format "192.168.2.188:47808";

- In the field "**Poll Time**" the frequency of the request is defined (in ms);
- In the field "**Max Error**" the number of consecutive errors that the Master waits before resetting the data for the specific requests is defined;
- In the field "**Position**" the starting byte of the internal memory array where mapping the data read is defined;
- The field "**Start Bit**" is used for the "Binary Output" BACnet objects. It is possible to select the bit in the byte where saving the data;
- In the field "**Mnemonic**" a description of the data inserted in the row is defined.

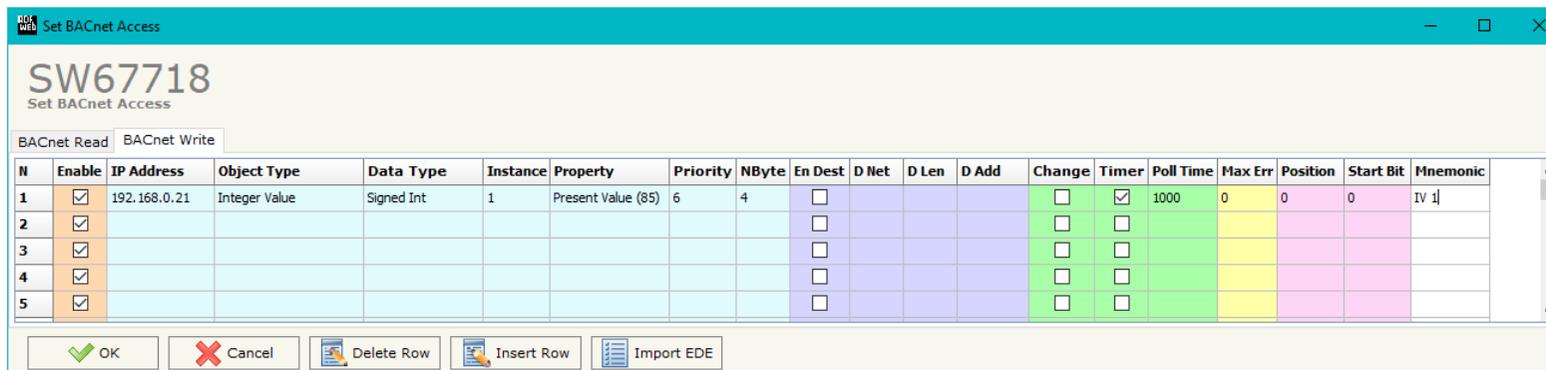


Figure 4b: "Set BACnet Access → BACnet Write" window

The means of the fields in the window "BACnet in Write" are the following:

- If the field "**Enable**" is checked, the BACnet variable is enabled;
- In the field "**IP Address**" the IP address of the slave that contains the data to be written is defined;
- In the field "**Object Type**" the object to be written is defined;
- In the field "**Data Type**" the type of data to write is defined;
- In the field "**Instance**" the instance number of the object is defined;
- In the field "**Property**" the property to be read is defined;
- In the field "**Priority**" the priority of the BACnet request is defined;
- In the field "**NByte**" the number of bytes of the BACnet object is defined;
- By checking the field "**En Dest**" it is possible to enable the Destination Network (D Net), Destination Length (D Len) and Destination Address (D Adr). These informations are used for make a request to other segments of network (through a BACnet router);
- In the field "**D Net**" the destination network (from 1 to 65535) is defined;
- In the field "**D Len**" the length of "D Add" field (1 or 2 or 6) is defined;
- In the field "**D Adr**" the address of the endpoint is defined. If "D Len" is '1' it is possible to insert a number from 1 to 255; if "D Len" is '2' it is possible to insert a number from 1 to 65535; if "D Len" is '6' it is possible to insert an IP and port in this format "192.168.2.188:47808";
- By checking the field "**Change**" the BACnet write request is made only if data from CANopen is changed; otherwise (if is selected the field "**Timer**") it is sent cyclically, using the "**Poll Time**" defined;

- In the field "**Max Error**" the number of consecutive errors that the Master waits before stopping the specific requests is defined;
- In the field "**Position**" the starting byte of the internal memory array from which taking the data to write is defined;
- The field "**Start Bit**" is used for the "Binary Output" BACnet objects. It is possible to select the bit in the byte from which taking the data;
- In the field "**Mnemonic**" a description of the data inserted in the row is defined.

**SET SDO SERVER:**

By pressing the **“Set SDO Server”** button from the main window for SW67718 (Fig. 2) the window **“Set SDO Server Access”** appears (Fig. 5).

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 BACnet Master. The second is used to write, using SDO, the data that will be sent to the BACnet 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 internal arrays where read/write first byte of the SDO;
- In the field **“Address Byte2”** insert the address of the internal 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 internal 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 internal 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.

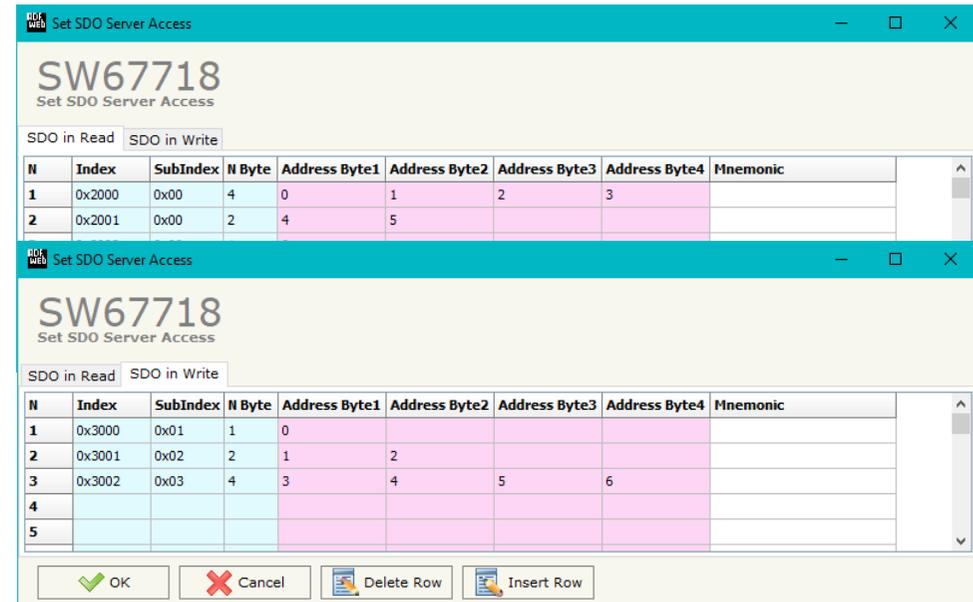


Figure 5: **“Set SDO Server Access”** window

### SET SDO CLIENT:

By pressing the "Set SDO Client" button from the main window for SW67718 (Fig. 2) the window "Set SDO Client Access" appears (Fig. 6a and 6b).

With the SDO Client the HD67718 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 internal array. The second part is used to write, using the SDO, the data present in the internal 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 "Address Byte1" the address of the internal array where coping the first byte of the SDO read is defined;
- In the field "Address Byte2" the address of the internal array where coping the second byte of the SDO read is defined (only if N Byte is 2 or 4);
- In the field "Address Byte3" the address of the internal array where coping the third byte of the SDO read is defined (only if N Byte is 4);
- In the field "Address Byte4" the address of the internal array where coping the fourth byte of the SDO read is defined (only if N Byte is 4);
- In the field "Mnemonic" the description for the SDO is defined.

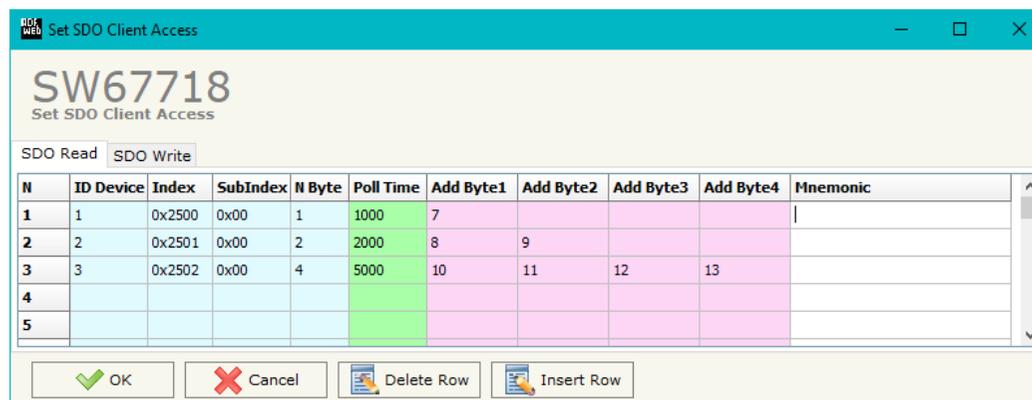


Figure 6a: "Set SDO Client Access – SDO Read" window

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 "**Address Byte1**" the address of the internal array where reading the first byte of the SDO write is defined;
- In the field "**Address Byte2**" the address of the internal array where reading the second byte of the SDO write is defined (only if N Byte is 2 or 4);
- In the field "**Address Byte3**" the address of the internal array where reading the third byte of the SDO write is defined (only if N Byte is 4);
- In the field "**Address Byte4**" the address of the internal 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.

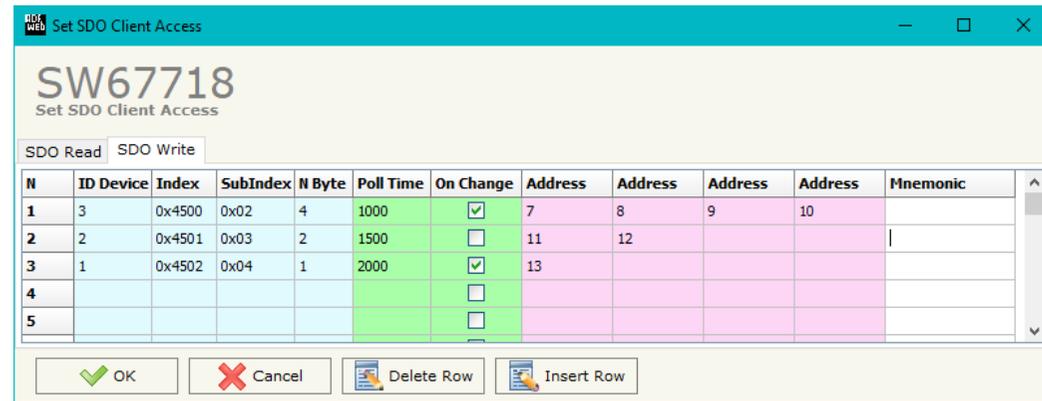


Figure 6b: "Set SDO Client Access – SDO Write" window

### SET PDO ACCESS:

By pressing the "Set PDO Access" button from the main window for SW67718 (Fig. 2) the window "Set PDO Access" appears (Fig. 7a and 7b).

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 BACnet array. The second part is used to transmit PDO in the CANopen network with the data of BACnet 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 internal array is defined;
- In the Field "**Add B2**" the second byte where the data will be saved in the internal array is defined (only if **Dimension** > 1);
- In the Field "**Add B3**" the third byte where the data will be saved in the internal array is defined (only if **Dimension** > 2);
- In the Field "**Add B4**" the fourth byte where the data will be saved in the internal array is defined (only if **Dimension** > 3);
- In the Field "**Add B5**" the fifth byte where the data will be saved in the internal array is defined (only if **Dimension** > 4);
- In the Field "**Add B6**" the sixth byte where the data will be saved in the internal array is defined (only if **Dimension** > 5);
- In the Field "**Add B7**" the seventh byte where the data will be saved in the internal array is defined (only if **Dimension** > 6);
- In the Field "**Add B8**" the eighth byte where the data will be saved in the internal array is defined (only if **Dimension** > 7);
- The field "**TimeOut**" is used for put at zero the data into internal 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.

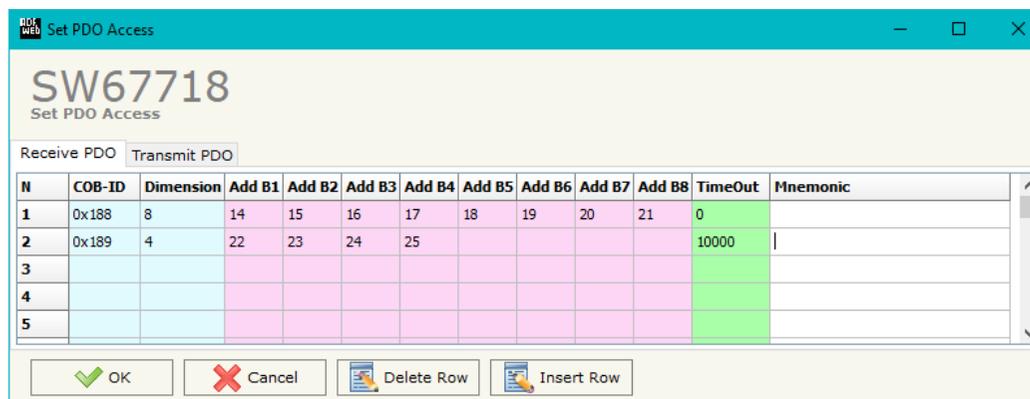


Figure 7a: "Set PDO Access – Receive PDO" window

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 BACnet array is defined;
- In the Field "**Add B2**" the second byte where the data will be loaded in the internal array is defined (only if **Dimension** > 1);
- In the Field "**Add B3**" the third byte where the data will be loaded in the internal array is defined (only if **Dimension** > 2);
- In the Field "**Add B4**" the fourth byte where the data will be loaded in the internal array is defined (only if **Dimension** > 3);
- In the Field "**Add B5**" the fifth byte where the data will be loaded in the internal array is defined (only if **Dimension** > 4);
- In the Field "**Add B6**" the sixth byte where the data will be loaded in the internal array is defined (only if **Dimension** > 5);
- In the Field "**Add B7**" the seventh byte where the data will be loaded in the internal array is defined (only if **Dimension** > 6);
- In the Field "**Add B8**" the eighth byte where the data will be loaded in the internal 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.

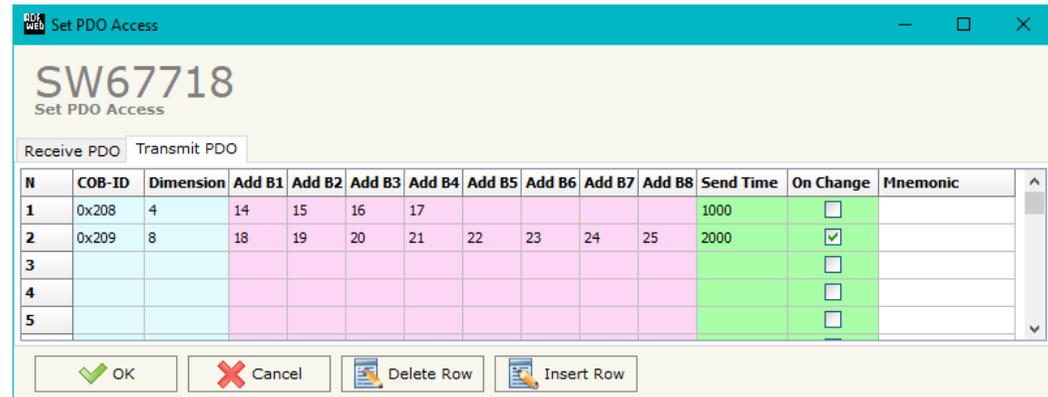


Figure 7b: "Set PDO Access – Transmit PDO" window

**EDS FILE:**

By Pressing the "**EDS FILE**" button from the main window for SW67718 (Fig. 2) it is possible to generate the EDS file to be imported into the master CANopen.

### 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.

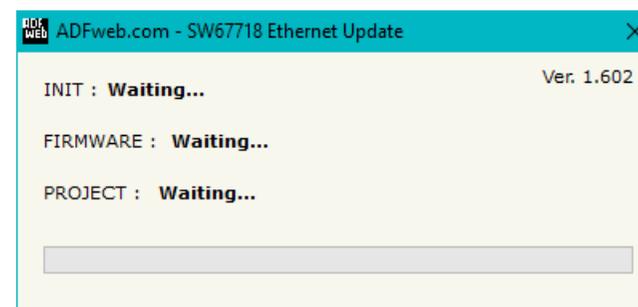
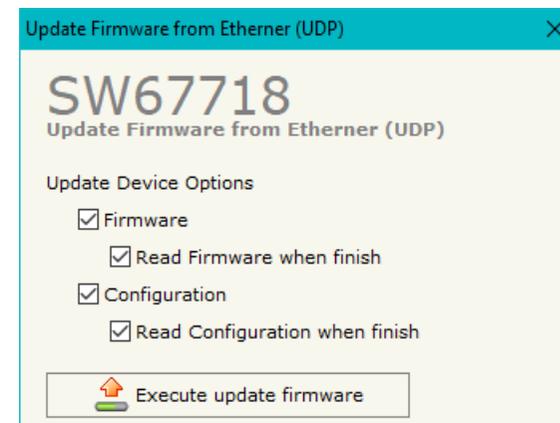
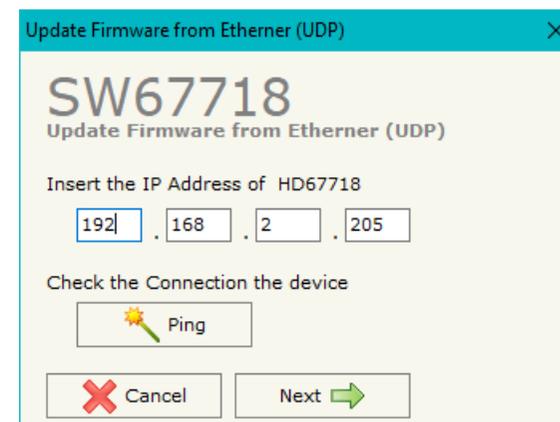


Figure 8: “Update device” windows



**Note:**

When you receive the device, for the first time, you also have to update the Firmware in the HD67718 device.



**Warning:**

If Fig. 9 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 or 10 make sure that you have the administrator privileges;
- In case you have to program more than one device, using the "UDP Update", you have to cancel the ARP table every time you connect a new device on Ethernet. For do this you have to launch the "Command Prompt" and write the command "arp -d". Pay attention that with Windows Vista, Seven, 8, 10 you have to launch the "Command Prompt" with Administrator Rights;
- Pay attention at Firewall lock.

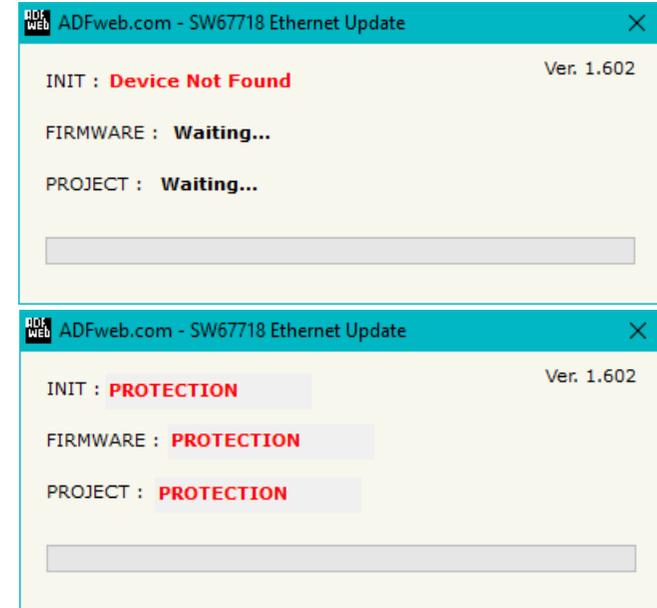


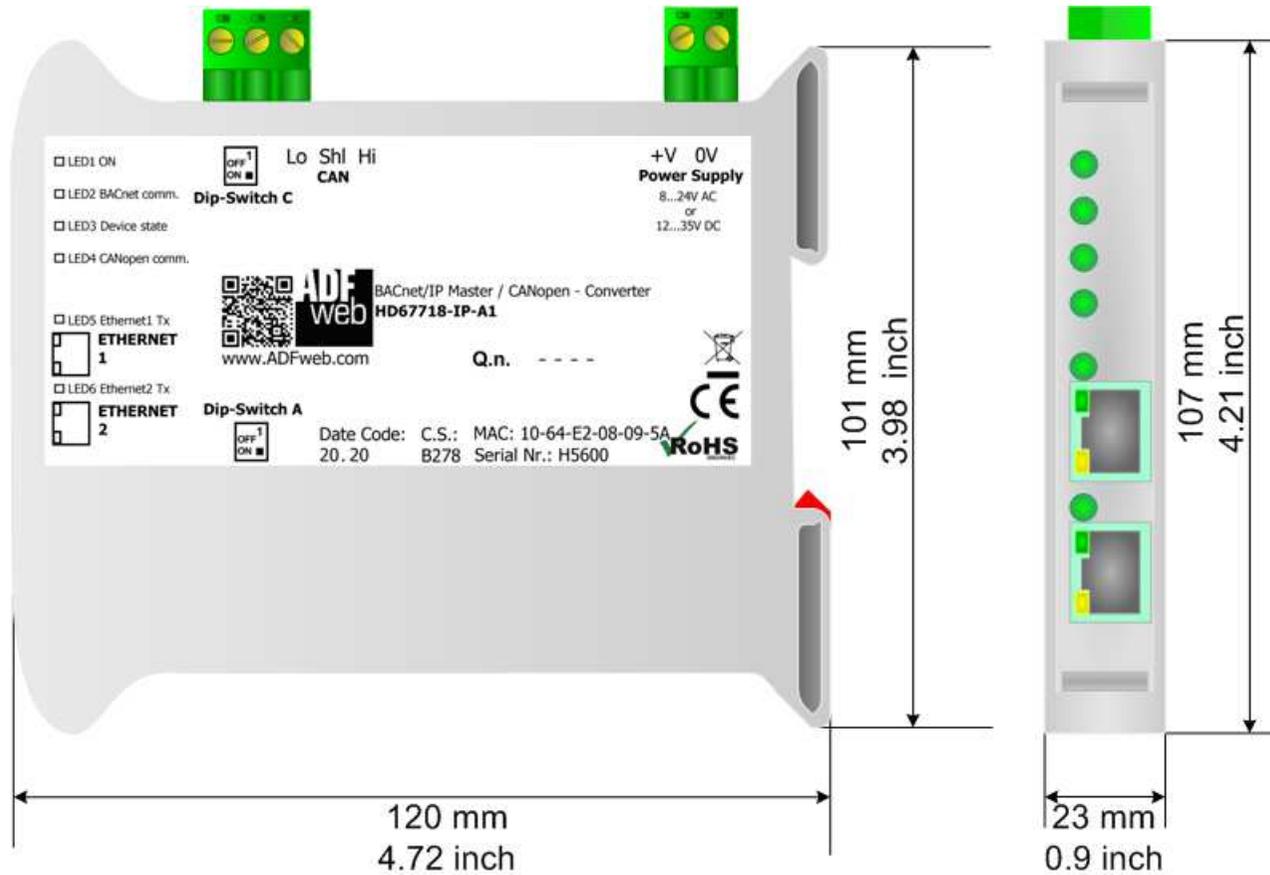
Figure 9: "Error" window



**Warning:**

In the case of HD67718 you have to use the software "HD67718": [www.adfweb.com/download/filefold/SW67718.zip](http://www.adfweb.com/download/filefold/SW67718.zip).

**MECHANICAL DIMENSIONS:**



Housing: PVC  
 Weight: 200g (Approx)

Figure 10a: Mechanical dimensions scheme for HD67718-IP-A1

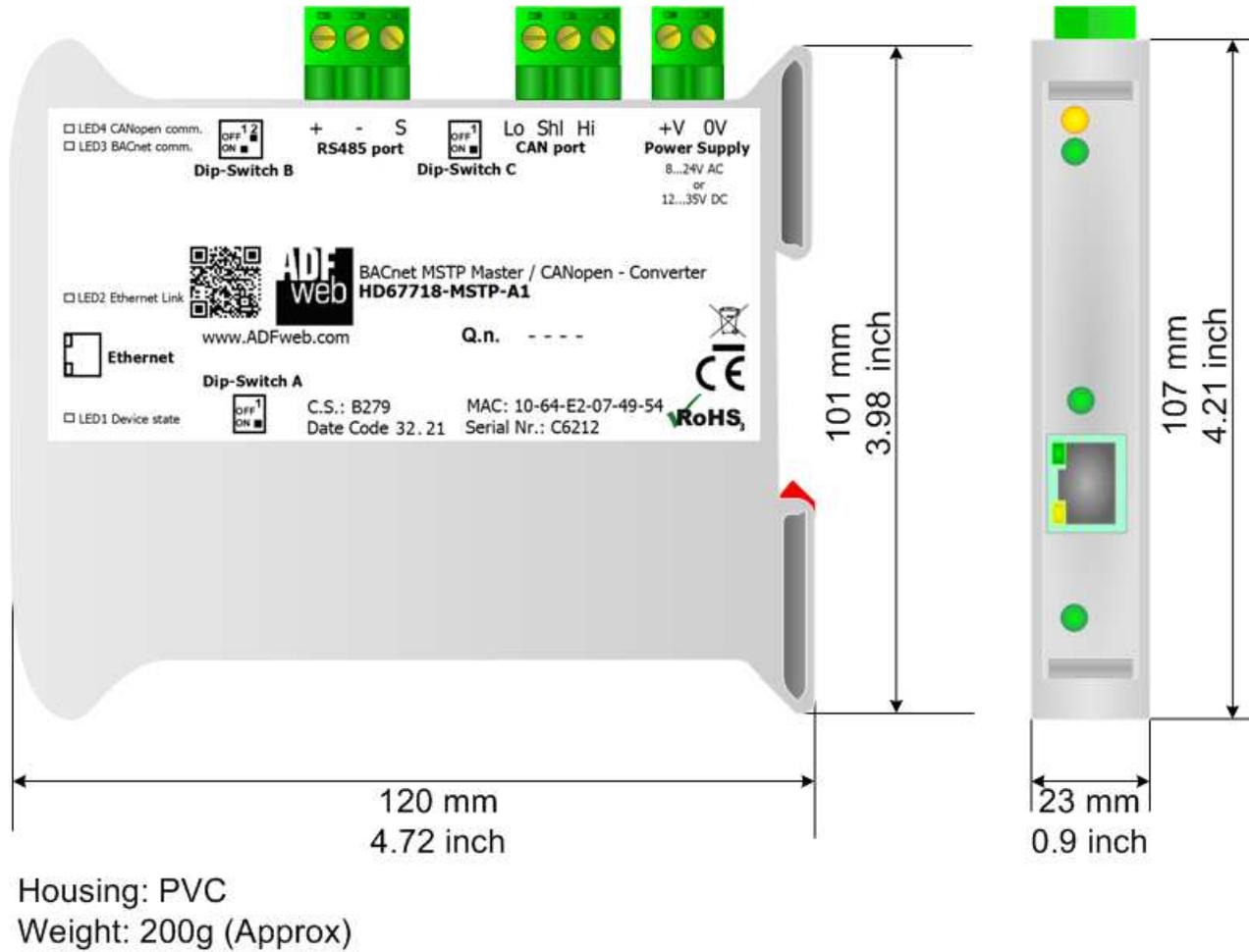
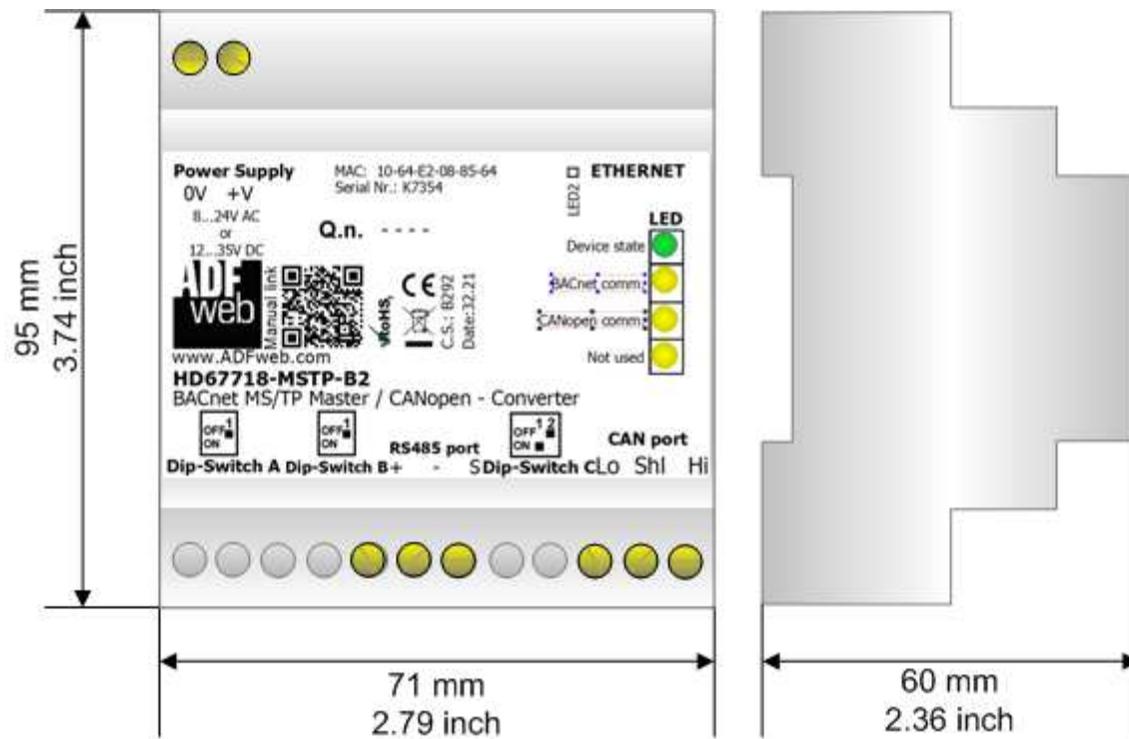


Figure 10b: Mechanical dimensions scheme for HD67718-MSTP-A1



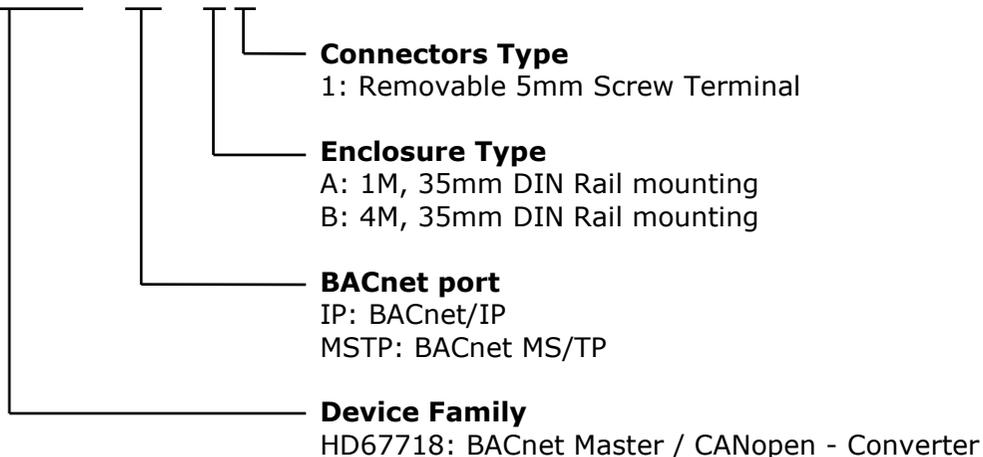
Housing: PVC  
 Weight: 200g (Approx)

Figure 10c: Mechanical dimensions scheme for HD67718-MSTP-B2

**ORDERING INFORMATIONS:**

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

**HD67718 - xxx - xx**



- Order Code: **HD67718-IP-A1** - BACnet/IP Master / CANopen – Converter
- Order Code: **HD67718-MSTP-A1** - BACnet MS/TP Master / CANopen – Converter
- Order Code: **HD67718-MSTP-B2** - BACnet MS/TP Master / 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](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.



**ADFweb.com S.r.l.**  
Via Strada Nuova, 17  
IT-31010 Mareno di Piave  
TREVISO (Italy)  
Phone +39.0438.30.91.31  
Fax +39.0438.49.20.99  
[www.adfweb.com](http://www.adfweb.com)

