# User Manual

Revision 1.103
English

## CAN / Ethernet - Converter

(Order Code: HD67048 – HD67048M)

for Website information:
www.adfweb.com?Product=HD67048
www.adfweb.com?Product=HD67048M

for Price information:
www.adfweb.com?Price=HD67048
www.adfweb.com?Price=HD67048M

## Benefits and Main Features:

▶ Mountable on Rail DIN

▶ TCP/UDP protocols changeable with software

▶ Very easy to configure

▶ Wide supply input range

▶ Galvanic isolation between two buses

▶ Industrial temperature range:

-40 °C / 85°C (-40°F / 185°F)

HD67048

HD67048M

Similiar Products

For others Gateway / Adapter:
**Ethernet to**
See also the following link:
www.adfweb.com?Product=HD67213          (**J1939**)
www.adfweb.com?Product=HD67503          (**CANopen**)
www.adfweb.com?Product=HD67506          (**Modbus RTU**)
www.adfweb.com?Product=HD67513          (**CAN**)
www.adfweb.com?Product=HD67563M         (**PROFIBUS**)

For others Converter / Adapter:
**RS232 to RS485**
See also the following link:
www.adfweb.com?Product=HD67118

**USB to RS485**
See also the following link:
www.adfweb.com?Product=HD67119

Do you have an your customer protocol?
See the following link:
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

| | ADFweb |
|---|---|

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**INDEX:**

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> Related to the product you own

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**REVISION LIST:**

| Revision | Date | Author | Chapter | Description |
|---|---|---|---|---|
| 1.001 | 01/07/2009 | Ml | All | Revision |
| 1.002 | 06/07/2010 | Ft | All | Revision |
| 1.100 | 10/12/2010 | Dp | All | Revision |
| 1.101 | 26/08/2011 | Fl | All | Revision |
| 1.102 | 21/09/2011 | DP | All | Revision |
| 1.003 | 18/02/2013 | Nt | All | Added new chapters |

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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 are required for each individual application, legal and safety regulation. The same applies also when using accessories.

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

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

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

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

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

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**CONNECTION SCHEME:**

**Connector1:**
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V

**Jumper1:**
Termination CAN Line

= Open   = 120 ohm

**Connector2:**
CAN port
(Isolated Port)

H0 = High wire
Shl0 = Shield (to Isolated Ground)
L0 = Low wire

0V +V    H0 Shl0 L0

**Led3:**
Green
Link Ethernet

**Connector3:**
Ethernet Port
(RJ45 Plug)

**Led4:**
Green
Device State

**Connector4:**
RS232 Port (D-SUB9-Male)

PIN2 = TX
PIN3 = RX
PIN5 = GND

Used for:
 - Programmation Port

To connect the device to the COM port of a PC in order to set it you have to use the programming cable AC34107 or a cable made as showed here:

1 2 3
4 5

6 7 8
9

CABLE Side A FEM

CABLE Side B FEM

Rail DIN Clamp

Power Supply port

-- +

Isolated DeviceNet port

H0 Shl0 L0

**Jumper2:**
Functioning Mode

= Yes Jumper Boot Mode

= No Jumper Normal Mode

**Led2:**
Yellow
Transmit CAN frame

**Led1:**
Green
Receive CAN frame

*Figure 1: Connection scheme HD67048*

![ADFweb logo]
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**Jumper2:**
Functioning Mode

= Yes Jumper
Boot Mode

= No Jumper
Normal Mode

**Jumper1:**
Termination CAN Line

= Open    = 120 ohm

**Connector2:**
CAN port
(Isolated Port)

H0 = High wire
Shl0 = Shield (to Isolated Ground)
L0 = Low wire

**Led2:**
Yellow
Receive
CAN
frame

**Led1:**
Green
Transmit
CAN
frame

L0 Shl0 H0

-- +

Power
Supply
port

Isolated
DeviceNet
port

L0 Shl0 H0

**Connector4:**
RS232 Port (D-SUB9-Male)

PIN2 = TX
PIN3 = RX
PIN5 = GND

Used for:
- Programmation Port

To connect the device to the COM
port of a PC in order to set it you
have to use the programming cable
AC34107 or a cable made as
showed here:

**Connector1:**
Power Supply

0V  = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V

0V +V

**Led4:**
Green
Device State

**Led3:**
Green
Link Ethernet

**Connector3:**
Ethernet Port
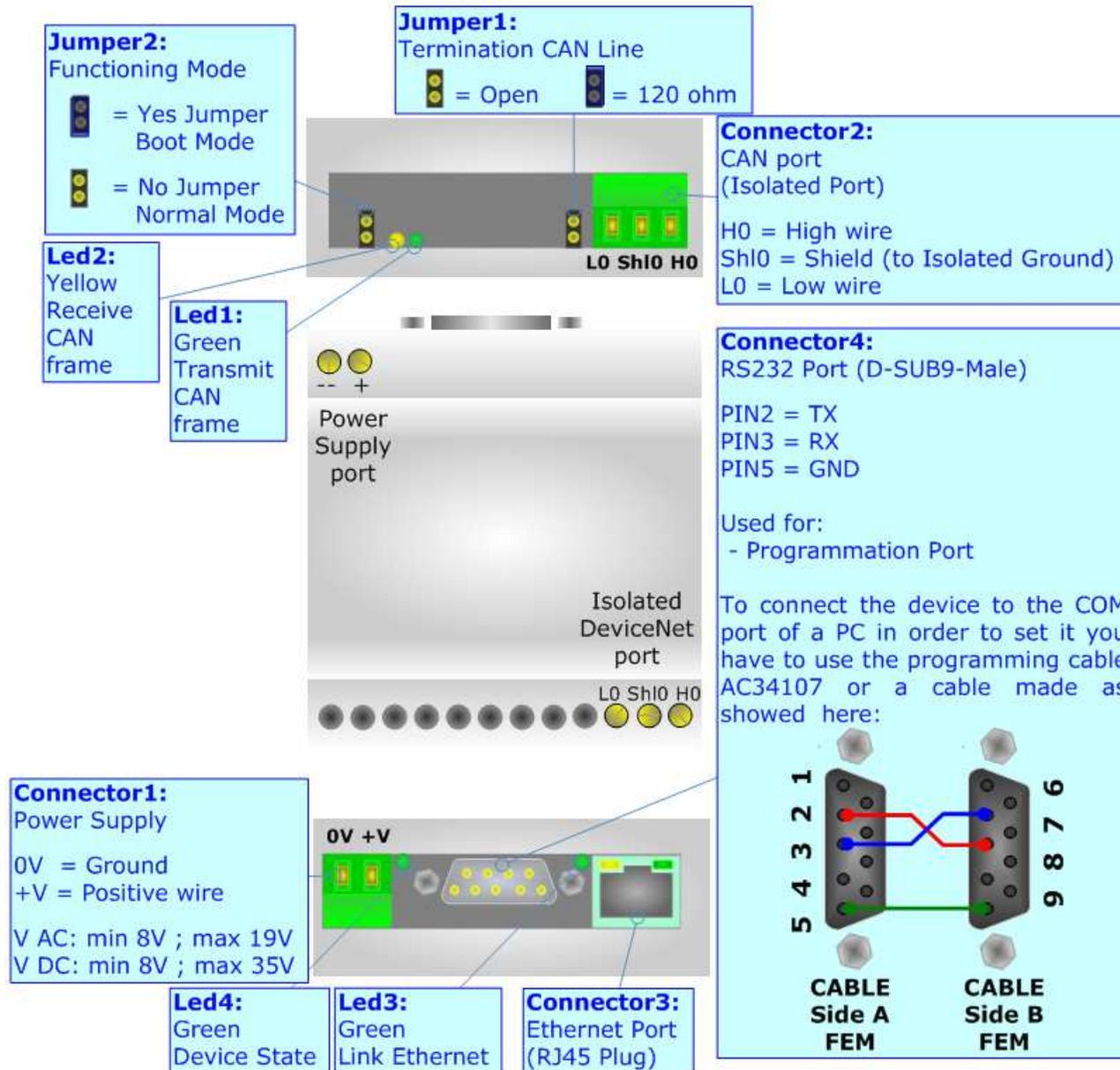(RJ45 Plug)

CABLE
Side A
FEM

CABLE
Side B
FEM

*Figure 2: Connection scheme for HD67048M*

**INTRODUCTION:**

The CAN / Ethernet Converter is a powerful,  flexible and economic instrument that can be used with systems based on CAN bus and Ethernet.


**CHARACTERISTICS:**


The configurable CAN from/to Ethernet Gateway allows the following characteristics:

- TCP/UDP Ethernet protocols changeable with software;
- Two-directional information between Ethernet and CAN bus;
- Electrical isolation between two buses;
- Power supply of 8…19 VAC or 8…35 VDC;
- 35mm Rail DIN mounting;
- Temperature range -40°C to 85°C.


**CONFIGURATION:**


You need Compositor SW67048 software on your PC in order to perform the following:

- Define the parameter of the CAN bus;
- Define the parameter of the Ethernet;
- Update the Firmware and/or the Project.

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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** |
| **HD67048** | **8V** | **19V** | **8V** | **35V** |
| **HD67048M** | | | | |

Consumption at 24V DC:

| Device | Consumption [W/VA] |
|---|---|
| HD67048 | 4 |
| HD67048M | |

**Connector1:**
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V
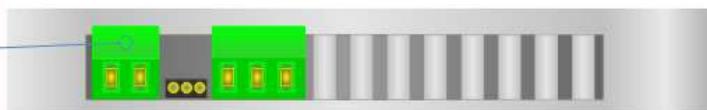
**Connector1:**
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V

**Caution:  Not reverse the polarity power**

0V ⌐ ⌐ +V

+V ⌐ ⌐ 0V
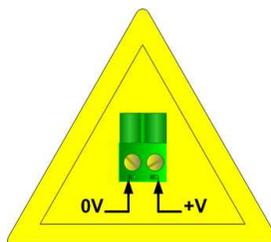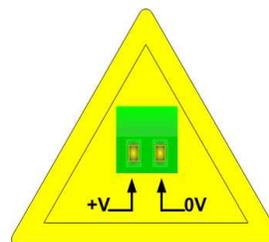
HD67048                    HD67048M

**FUNCTION MODES:**

The devices have got two functions mode depending of the position of the 'Jumper2':

- The first, without Jumper, is used for the normal working of the device.

- The second, with Jumper, is used for upload the Firmware.

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

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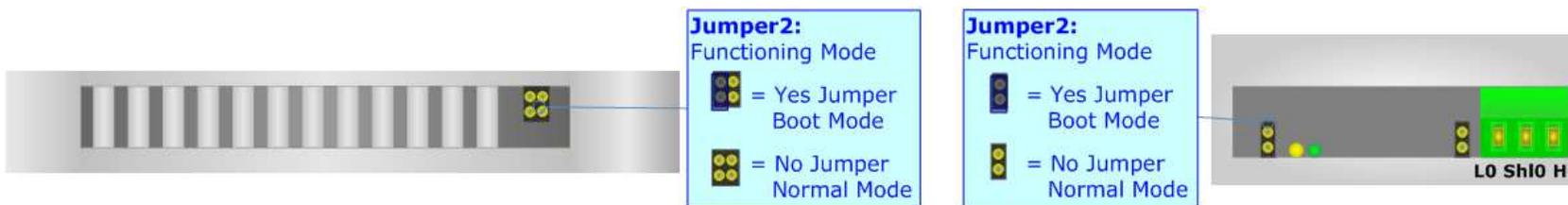
**LEDS:**

The device has got three green LEDs, and one yellow LED, 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: Transmit CAN frame | Change state when transmit a CAN frame | Off |
| 2: Receive CAN frame | Change state when receive a CAN frame | Off |
| 3: Link Ethernet | **On:** Ethernet cable connected<br><br>**Off:** Ethernet cable disconnected | **On:** Ethernet cable connected<br><br>**Off:** Ethernet cable disconnected |
| 4: Device State | Slow flashing | Fast flashing |
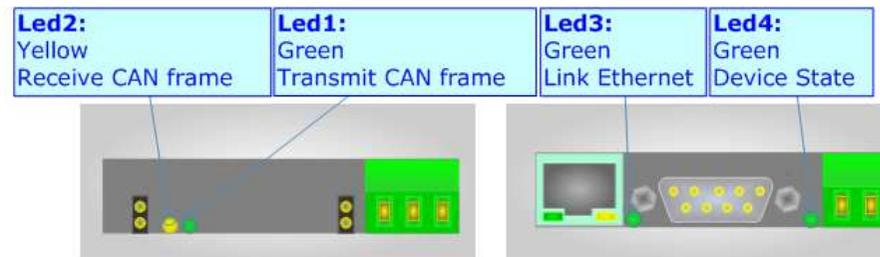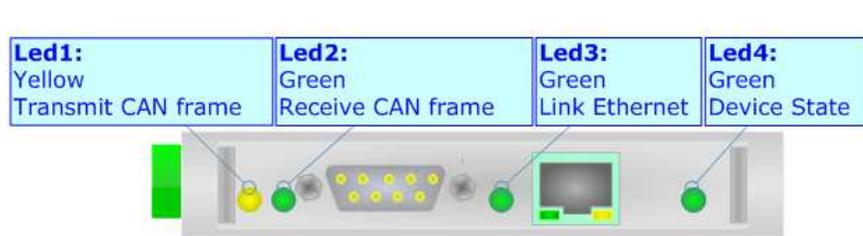
**USE OF COMPOSITOR SW67048:**

To configure the Gateway, use the available software that runs with Windows, called SW67048. It is downloadable on the site www.adfweb.com and its operation is described in this document.

When launching the SW67048 the right window appears (Fig. 3).

*Figure 3: Main window for SW67048*

**NEW PROJECT / OPEN PROJECT:**

The "**New Project**" button creates the folder which contains the entire device configuration.
A device configuration can also be imported or exported:

➢ To clone the configurations of a Programmable CAN from/to Ethernet Gateway 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 Project**";
➢ When a new project is created or an existent project is open, it will be possible to access the various configuration sections of the Software.

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**SET COMMUNICATION:**

This section defines the fundamental communication parameters of two buses, CAN and Ethernet.
By pressing the "**Set Communication**" button from the main window for SW67048 (Fig. 3) the window "Set Communication" appears (Fig. 4).
The window is divided in two sections, one for the CAN Bus and the other for the Ethernet.

The means of the fields for CAN Bus are:
  ➢ In the field "**Baud rate**" the baud rate for the CAN Bus is defined;
  ➢ If the field "**CAN Bus 2.0A**" is checked, the CAN with a CobID of 11Bit is used; otherwise if the field "**CAN Bus 2.0B**" is checked the CAN with a CobID of 29Bit is used.

The means of the fields for Ethernet are:
  ➢ In the field "**IP ADDRESS**" insert the IP address of the Gateway;
  ➢ In the field "**SUBNET Mask**" insert the Subnet Mask;
  ➢ In the field "**GATEWAY**" insert the default Gateway. To enable the Gateway is needed to click on the checkbox;
  ➢ In the field "**IP ADDRESS DESTINATION**" insert the IP address of the device that receives the CAN frames packed in an Ethernet frame;
  ➢ In the field "**Port**" insert the number of port;
  ➢ If the field "**TCP**" is checked the Ethernet protocol used is the TCP, otherwise if the field "**UDP**" is checked the Ethernet protocol used is the UDP;
  ➢ If the field "**Enable Multiframe in Ethernet**" is checked the Gateway can send or receive in a single Ethernet frame more CAN frames. A single Ethernet frame can contain up to twenty CAN frames or the CAN frames that arrive within 5 ms after the first. Otherwise a single CAN frame is put in an Ethernet frame and sent.
  ➢ If the "**Client/Server**" field is checked the gateway can works like client TCP and/or server TCP (only if TCP option is checked);
  ➢ If the "**UDP Broadcast**" field is checked the gateway send the UDP packet in broadcast on the network (only if UDP option is checked).



*Figure 4: "Set Communication" window*

**PING DEVICE:**

If it is necessary to do a Ping on the net, before pressing the "**Ping Device**" button insert a value in the right field and then press the button.

![ADFweb logo] Industrial Electronic Devices

## UPDATE VIA SERIAL

By pressing the "**Update Device**" button from the main window for SW67048 (Fig. 3) the window "Update Firmware from Serial (RS232)" appears (Fig. 5).
In order to load the parameters or update the firmware in the device, follow these instructions:

- Turn off the Device;
- Connect the Null Modem Cable form your PC to the Gateway;
- Insert the Boot Jumper (For more info see Fig. 1 or Fig. 2);
- Select the COM port and press the "**Connect**" button;
- Turn on the device;
- Check the BOOT Led. It must blink quickly (For more info see Fig. 1 or Fig. 2);
- 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 Boot jumper;
- Disconnect the RS232 Cable;
- Turn on the device.

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

![Note icon] 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 HD67048/HD67048M device.

![Warning icon] Warning:
If the Fig. 6 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 serial is connected between the PC and the device;
- Try to repeat the operations for the updating;
- If you are using a dongle try with a native COM port or change the dongle;
- Try with another PC.



*Figure 5: "Update Device" windows*



*Figure 6: "Protection" window*

**CHARACTERISTICS OF THE CABLES:**

**ETEHRNET:**
The connection with Ethernet socket must be with a Ethernet Cable with a RJ45 Plug.

**RS232:**
The connection from RS232 socket to a serial port (example one from a personal computer) must be made with a Null Modem cable (a serial cable where the pins 2 and 3 are crossed).

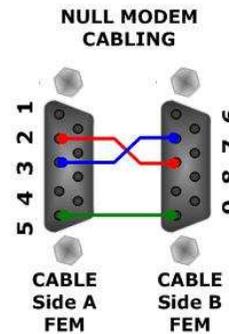It is recommended that the RS232C Cable not exceed 15 meters.



*Figure 7: Null modem cabling*

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**ETHERNET PROTOCOL**

ETHERNET FRAME TO BE SENT TO OUR GATEWAY WITH "CAN 2.0A" FIELD CHECKED AND "ENABLE MULTIFRAME IN ETHERNET" DISABLED

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1 ÷ 2 | Cob_ID |
| 3 ÷ 10 | Data (Byte 3 is the higher, byte 10 is the lower) |
| 11 | Number of Byte to send (0x00÷0x08) |

If the "Number of Byte to send" has got a value less than 0x08 the byte of Data unused must be put with value 0x00.

Example:
We want to write in CAN network a frame with the following characteristics: Cob_ID=0x201; Data=0x0123456789ABCDEF; Number of Byte to send=8.

So the string of hexadecimal numbers to be send to our Gateway is: [02][01][01][23][45][67][89][AB][CD][EF][08]

ETHERNET FRAME TO BE SENT TO OUR GATEWAY WITH "CAN 2.0B" FIELD CHECKED AND "ENABLE MULTIFRAME IN ETHERNET" DISABLED

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1 ÷ 4 | Cob_ID |
| 5 ÷ 12 | Data (Byte 5 is the higher, byte 12 is the lower) |
| 13 | Number of Byte to send (0x00÷0x08) |

If the "Number of Byte to send" has got a value less than 0x08 the byte of Data unused must be put with value 0x00.

Example:
We want to write in CAN network a frame with the following characteristics: Cob_ID=0x01FECA02; Data=0x0123456789AB0000; Number of Byte to send=6.

So the string of hexadecimal numbers to be send to our Gateway is: [01][FE][CA][02][01][23][45][67][89][AB][00][00][06]

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**ETHERNET FRAME TO BE SENT TO OUR GATEWAY WITH "CAN 2.0A" FIELD CHECKED AND "ENABLE MULTIFRAME IN ETHERNET" ENABLED**

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1 | Number of CAN frames in Ethernet frame |
| 2 ÷ 3 | Cob_ID |
| 4 ÷11 | Data (Byte 4 is the higher, byte 11 is the lower) |
| 12 | Number of Byte to send (0x00÷0x08) |

If the "Enable Multiframe in Ethernet" field is checked the first byte of the frame contain the numbers of CAN frames to be sent in CAN network. If this byte is bigger than one, the bytes 2÷12 are repeated for every CAN frame. If the "Number of Byte to send" has got a value less than 0x08 the byte of Data unused must be put with value 0x00. A single Ethernet frame can contain up to 20 CAN frames or the frames that arrived within 5 ms after the first.

Example:

We want to write in CAN network two frames with the following characteristics:
    Frame 1: Cob_ID=0x201; Data=0x0123456789ABCDEF; Number of Byte to send=8;
    Frame 2: Cob_ID=0x202; Data=0x0102030405060000; Number of Byte to send=6.

So the string of hexadecimal numbers to be send to our Gateway is:
[02][02][01][01][23][45][67][89][AB][CD][EF][08][02][02][01][02][03][04][05][06][00][00][06]

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**ETHERNET FRAME TO BE SENT TO OUR GATEWAY WITH "CAN 2.0B" FIELD CHECKED AND "ENABLE MULTIFRAME IN ETHERNET" ENABLED**

The Bytes that compose the frame are these:

| Byte Number | Description |
|:---:|:---|
| 1 | Number of CAN frames in Ethernet frame |
| 2 ÷ 5 | Cob_ID |
| 6 ÷13 | Data (Byte 6 is the higher, byte 13 is the lower) |
| 14 | Number of Byte to send (0x00÷0x08) |

If the "Enable Multiframe in Ethernet" field is checked the first byte of the frame contain the numbers of CAN frames to be sent in CAN network. If this byte is bigger than one, the bytes 2÷14 are repeated for every CAN frame. If the "Number of Byte to send" has got a value less than 0x08 the byte of Data unused must be put with value 0x00. A single Ethernet frame can contain up to 20 CAN frames or the frames that arrived within 5 ms after the first.

Example:

We want to write in CAN network two frames with the following characteristics:
 Frame 1: Cob_ID=0x01FECA02; Data=0x0123456789ABCDEF; Number of Byte to send=8;
 Frame 2: Cob_ID=0x01FEBA04; Data=0x0102030405060000; Number of Byte to send=6.

So the string of hexadecimal numbers to be send to our Gateway is:
[02][01][FE][CA][02][01][23][45][67][89][AB][CD][EF][08][01][FE][BA][04][01][02][03][04][05][06][00][00][06]

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ETHERNET FRAME THAT CONTAIN **CAN** FRAMES ARRIVED IN THE GATEWAY WIT "CAN 2.0A" CHECKED AND "ENABLE MULTIFRAME IN ETHERNET" DISABLED

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1÷2 | Cob_ID |
| 3÷10 | Data (Byte 3 is the higher, byte 10 is the lower) |
| 11 | Number of Data Byte (0x00÷0x08) |

If the "Number of Data Byte" has got a value less than 0x08 the byte of Data unused has the value 0x00.

Example:
The Gateway receives a CAN frame with the following characteristics: Cob_ID=0x201; Data=0x0123456789ABCDEF; Number of Data Byte=8.

So the string of hexadecimal numbers that we send in Ethernet is: [02][01][01][23][45][67][89][AB][CD][EF][08]


ETHERNET FRAME THAT CONTAIN **CAN** FRAMES ARRIVED IN THE GATEWAY WIT "CAN 2.0B" CHECKED AND "ENABLE MULTIFRAME IN ETHERNET" DISABLED

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1÷4 | Cob_ID |
| 5÷12 | Data (Byte 5 is the higher, byte 12 is the lower) |
| 13 | Number of Data Byte (0x00÷0x08) |

If the "Number of Data Byte" has got a value less than 0x08 the byte of Data unused have the value 0x00.

Example:
The Gateway receives a CAN frame with the following characteristics: Cob_ID=0x01FECA02; Data=0x0123456789AB; Number of Data Byte=6.

So the string of hexadecimal numbers that we send in Ethernet is: [01][FE][CA][02][01][23][45][67][89][AB][00][00][06]

**ETHERNET FRAME THAT CONTAIN CAN FRAMES ARRIVED IN THE GATEWAY WIT "CAN 2.0A" CHECKED AND "ENABLE MULTIFRAME IN ETHERNET" ENABLED**

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1 | Number of CAN frames in Ethernet frame |
| 2÷3 | Cob_ID |
| 4÷11 | Data (Byte 3 is the higher, byte 10 is the lower) |
| 12 | Number of Data Byte (0x00÷0x08) |

If the "Enable Multiframe in Ethernet" field is checked the first byte of the frame contain the numbers of CAN frames to be sent in CAN network. If this byte is bigger than one, the bytes 2÷12 are repeated for every CAN frame. If the "Number of Data Byte" has got a value less than 0x08 the byte of Data unused has the value 0x00. A single Ethernet frame can contain up to 20 CAN frames or the frames that arrived within 5 ms after the first.

Example:

The Gateway receives a two CAN frames with the following characteristics:
Frame 1: Cob_ID=0x201; Data=0x0123456789ABCDEF; Number of Byte to send=8;
Frame 2: Cob_ID=0x202; Data=0x0102030405060000; Number of Byte to send=6.

So the string of hexadecimal numbers that we send in Ethernet is:
[02][02][01][01][23][45][67][89][AB][CD][EF][08][02][02][01][02][03][04][05][06][00][00][06]

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**E**THERNET **FRAME THAT CONTAIN** CAN **FRAMES ARRIVED IN THE** G**ATEWAY WIT** "CAN 2.0B" **CHECKED AND** "E**NABLE** M**ULTIFRAME IN** E**THERNET**" **DISABLED**

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1 | Number of CAN frames in Ethernet frame |
| 2÷5 | Cob_ID |
| 6÷13 | Data (Byte 6 is the higher, byte 13 is the lower) |
| 14 | Number of Data Byte (0x00÷0x08) |

If the "Enable Multiframe in Ethernet" field is checked the first byte of the frame contain the numbers of CAN frames to be sent in CAN network. If this byte is bigger than one, the bytes 2÷14 are repeated for every CAN frame. If the "Number of Data Byte" has got a value less than 0x08 the byte of Data unused has the value 0x00. A single Ethernet frame can contain up to 20 CAN frames or the frames that arrived within 5 ms after the first.

Example:

The Gateway receives a two CAN frames with the following characteristics:
      Frame 1: Cob_ID=0x01FECA02; Data=0x0123456789ABCDEF; Number of Byte to send=8;
      Frame 2: Cob_ID=0x01FEBA04; Data=0x010203040506; Number of Byte to send=6.

So the string of hexadecimal numbers that we send in Ethernet is:
[02][01][FE][CA][02][01][23][45][67][89][AB][CD][EF][08][01][FE][BA][04][01][02][03][04][05][06][00][00][06]

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**ETHERNET FRAME THAT CHANGE THE BAUDRATE ON THE CAN BUS SIDE**

The Bytes that compose the frame are these:

| Byte Number | Description |
|---|---|
| 1 | 0xFF (Fixed) |
| 2 | 0x50 (Fixed) |
| 3 | 0x41 (Fixed) |
| 4 | 0x52 (Fixed) |
| 5 | 0x41 (Fixed) |
| 6 | 0x4D (Fixed) |
| 7 | 0x42 (Fixed) |
| 8 | 0x41 (Fixed) |
| 9 | 0x55 (Fixed) |
| 11 | 0x44 (Fixed) |
| 12 | New Baudrate |
| 13 | Flash New Baudrate in Flash |

New baudrate is the value of new baudrate for the CAN. The possible values are:
- 1 → 20Kbit/s
- 2 → 50Kbit/s
- 3 → 100Kbit/s
- 4 → 125Kbit/s
- 5 → 250Kbit/s
- 6 → 500Kbit/s
- 7 → 800Kbit/s
- 8 → 1000Kbit/s
- 9 → 22.22Kbit/s

Flash New Baudrate in Flash is used to save or not the new baudrate in Flash. The possible values are:
- 0 → Don't save
- 1 → Save in Flash

Example:
We want to change the baudrate of the CAN to 500Kbit/s and save this value in Flash, so the string to send is:
[FF][50][41][52][41][4D][42][41][55][44][06][01]

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**REMOTE TRANSMIT REQUEST (RTR) FRAME**

It is possible to send or receive Remote Frames. For doing that it is necessary to use the fifth bit of the field "Number of Byte to send" if you want to send a CAN frame to the network from Ethernet, and also in the Ethernet frame sent by the gateway when a CAN frame arrives the field "Number of Data Byte" contain in the fifth bit the in formation of the Remote Frame.
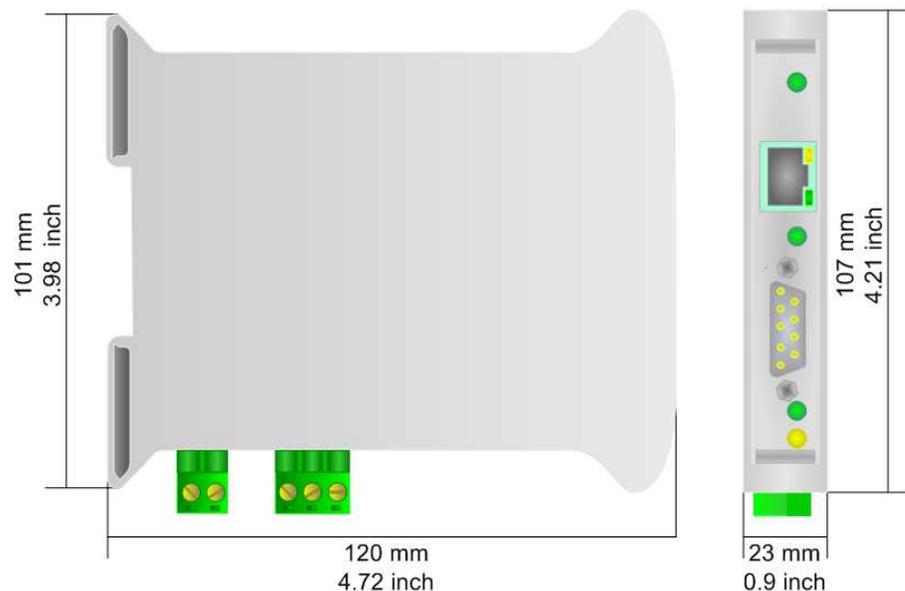
If this bit is at 1 means that the frame is a Remote Frame, otherwise, if is at 0, means that is a normal frame.

Examples:

1) We want to write in CAN network a frame with the following characteristics: Cob_ID=0x201; RTR bit active.
   So the string of hexadecimal numbers to be send to our Gateway is: [02][01][00][00][00][00][00][00][00][00][10]

2) The Gateway receives a two CAN frames with the following characteristics:
   Frame 1: Cob_ID=0x01FECA02; Data=0x0123456789ABCDEF; Number of Byte to send=8;
   Frame 2: Cob_ID=0x01FEBA04; RTR bit active.

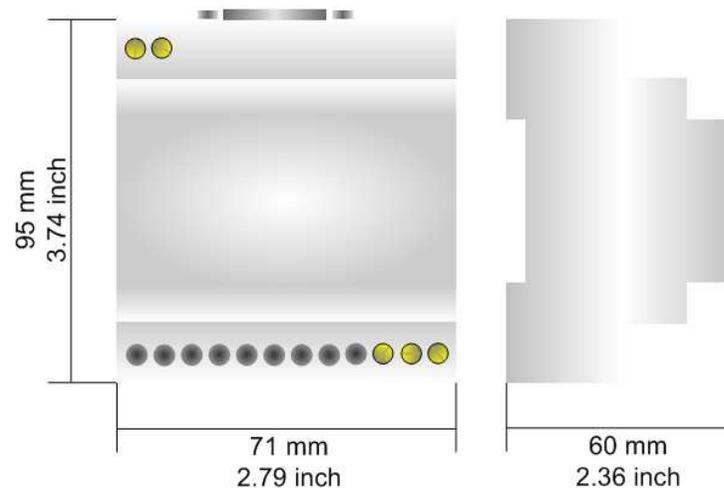   So the string of hexadecimal numbers that we send in Ethernet is:
   [02][01][FE][CA][02][01][23][45][67][89][AB][CD][EF][08][01][FE][BA][04][00][00][00][00][00][00][00][00][10]

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**MECHANICAL DIMENSIONS:**



*Figure 10: Mechanical dimensions scheme for HD67048*

Housing: PVC
Weight: 200g (Approx)



*Figure 11: Mechanical dimensions scheme for HD67048M*

Housing: PVC
Weight: 200g (Approx)

**ORDER CODE:**

Order Code: **HD67048**    -    CAN / Ethernet - Converter

Order Code: **HD67048M**   -    CAN / Ethernet - Converter (Different enclosure)

**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: **AC34104**    -    European Input - Power Supply 230V AC 50Hz – 12 V DC

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**DISCLAIMER**

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

**OTHER REGULATIONS AND STANDARDS**

**WEEE INFORMATION**

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

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

**RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE**

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

**CE MARKING**

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

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

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

**PRODUCTS AND RELATED DOCUMENTS:**

| Part | Description | URL |
|------|-------------|-----|
| HD67118 | Converter RS232 to RS485 Isolated | www.adfweb.com?Product=HD67118 |
| HD67119 | Converter USB 2.0 to RS485 Isolated | www.adfweb.com?Product=HD67119 |
| HD67316 | CAN, CANopen, J1939, DeviceNet, NMEA2000 Analyzer | www.adfweb.com?Product=HD67316 |
| HD67507 | Gateway Modbus TCP Server to RTU Master | www.adfweb.com?Product=HD67507 |
| HD67510 | Gateway Modbus TCP Client to RTU Slave | www.adfweb.com?Product=HD67510 |