User Manual

Revision 2.002
English

RS232 / RS485 - Converter

(Order Code: HD67118)

for Website information:
www.adfweb.com?Product=HD67118

for Price information:
www.adfweb.com?Price=HD67118

Benefits and Main Features:

▶ CS485Plus is a fast converter from serial RS232 to the serial line RS485 Half/Duplex.

▶ Suitable for supervision software SCADA/HMI and the connection to a Personal Computer.

▶ Microprocessor for queue data control.

▶ Electrical isolation.

▶ MAX baud rate 115K.

▶ External dip-switch for Baud Rate and Parity configuration

Suitable for Heavy supervisor

HD67118

Similiar Products

For others Converter / Adapter:
RS232 / RS485
See also the following link:
www.adfweb.com?Product=HD67119

Ethernet / RS232 / RS485
See also the following link:
www.adfweb.com?Product=HD67120

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

INDEX:

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

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REVISION LIST:

Revision	Date	Author	Chapter	Description
1.005	19/06/2005	Ddt	All	Documentation code changed
1.006	22/06/2007	Av	All	Revision
1.007	26/06/2007	Av	All	Revision
2.000	08/10/2007	Av	All	New document format
2.001	25/05/2010	Ml Dp	All	Revision
2.002	15/02/2013	Nt	All	Added new chapters

WARNING:

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TRADEMARKS:

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SECURITY ALERT:

GENERAL INFORMATION
To ensure safe operation, the device must be operated according to the instructions in the manual. When using the device 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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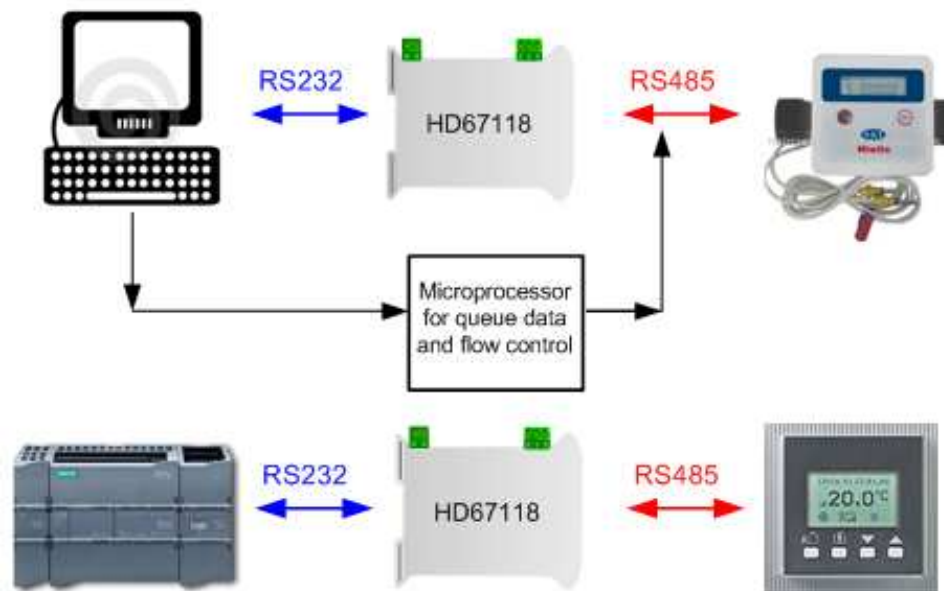
FUNCTION SCHEME:

Figure 1: Function scheme for HD67118

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CONNECTION SCHEME:

Connector1:
Power Supply

0V = Ground
+V = Positive wire

12 VAC (min 10v ; max 19v) – 4 VA
24 VDC (min 10v ; max 35v) – 4 Watt

Jumper1:
Termination RS485 Line

= Open   = 220 ohm

Connector2:
RS485
(Isolated)

S = Shield (to Isolated Ground)
B = Negative wire
A = Positive wire

Led3:
Green
RUN

0V +V   S B A

Connector4:
Port RS232 (D-SUB9-Male)

PIN2 = RX
PIN3 = TX
PIN5 = GND

Used for:
A) Programmation Port
B) RS232

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:

CABLE   CABLE
Side A   Side B
FEM   FEM

Rail DIN
Clamp

Led2:
Yellow
RS-232
Comunication

Led1:
Green
RS-485
Comunication

-- +   S B A

Jumper2:
Boot mode

= Yes Jumper
Boot Mode

= No Jumper
Normal Mode

Figure 1: Connection scheme for HD67118

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CHARACTERISTICS:

The CS485Plus is a speedy converter to the serial line 232/485 HALF DUPLEX, with automated control of the line directions.
The control by microprocessor with 16 bits makes it particularly suitable for supervisor software and the connection to a Personal Computer:

- ➢ Electrical isolation between RS232C and RS485;
- ➢ Baud Rate and Parity changeable switches accessible externally;
- ➢ Mountable on Rail DIN;
- ➢ MAX Baud Rate 115.200 bps;
- ➢ Temperature range -40°C to 85°C;
- ➢ EMS   EN 61000-6-2.

POWER SUPPLY:

Recommended Power Supply	
VDC	VAC
24v	12v

VDC		VAC	
Vmin	Vmax	Vmin	Vmax
10v	35v	10v	19v

Caution: Not reverse the polarity power.

0V   +V

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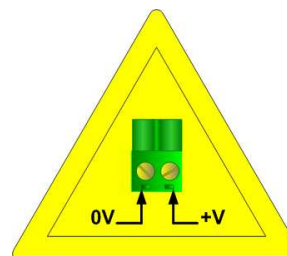
SET COMMUNICATION PARAMETERS:

Configurable Parameters:
  ➢ Baud Rate;
  ➢ Parity;
  ➢ Bit Stop.
Fixed Parameters:
  ➢ 1 Bit Start;
  ➢ 8 Bit Data.

The switches for setting the "Baud Rate", the "Parity" and the "Bit Stop" are on the front panel of the device (switches numbers 1,2,3,4,5,6).
The switches numbers "7" and "8" are not influential.

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SET SWITCHES BAUD RATE:

Switches n° 1, 2, 3:

BAUD RATE (bps)	Dip 1	Dip 2	Dip 3
1200	OFF	OFF	OFF
2400	ON	OFF	OFF
4800	OFF	ON	OFF
9600	ON	ON	OFF
19200	OFF	OFF	ON
38400	ON	OFF	ON
57600	OFF	ON	ON
115200	ON	ON	ON

SET SWITCHES PARITY:

Switches n° 4, 5:

PARITY	Dip 4	Dip 5
NO PARITY	OFF	OFF
EVEN PARITY	ON	OFF
ODD PARITY	OFF	ON

SET SWITCH BIT STOP:

Switch n° 6:

BIT STOP	Dip 6
1	OFF
2	ON

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FUNCTION MODES:

For the device HD67118, it is possible to update the microprocessor program. Therefore there are two functions to select from the boot jumper:
  ➢ NORMAL MODE (factory setting, without BOOT jumper): with this setting the HD67118 is able to function as a converter 232/485;
  ➢ BOOT MODE (with BOOT jumper): the boot mode is activated when the HD67118 is turned on. Eventual program updates are available on the site www.adfweb.com.

When the run LED blinks at frequency of about 1 second, the device functions well.

The RX232 and RX485 LEDs monitor the activity on the line (reception of 1 byte).

Note: if the RX232 and RX485 LEDs stay on permanently, it means that there is a problem in the transmission of the data.

CHARACTERISTICS OF THE CABLES:

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.

The connection with the RS485 socket must be done with a twisted and shielded cable.

The terminal resistor must be inserted when the CS485Plus is at the end of the line, using the Terminator jumper.
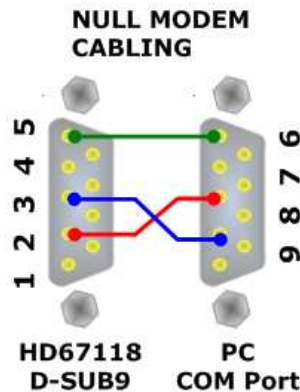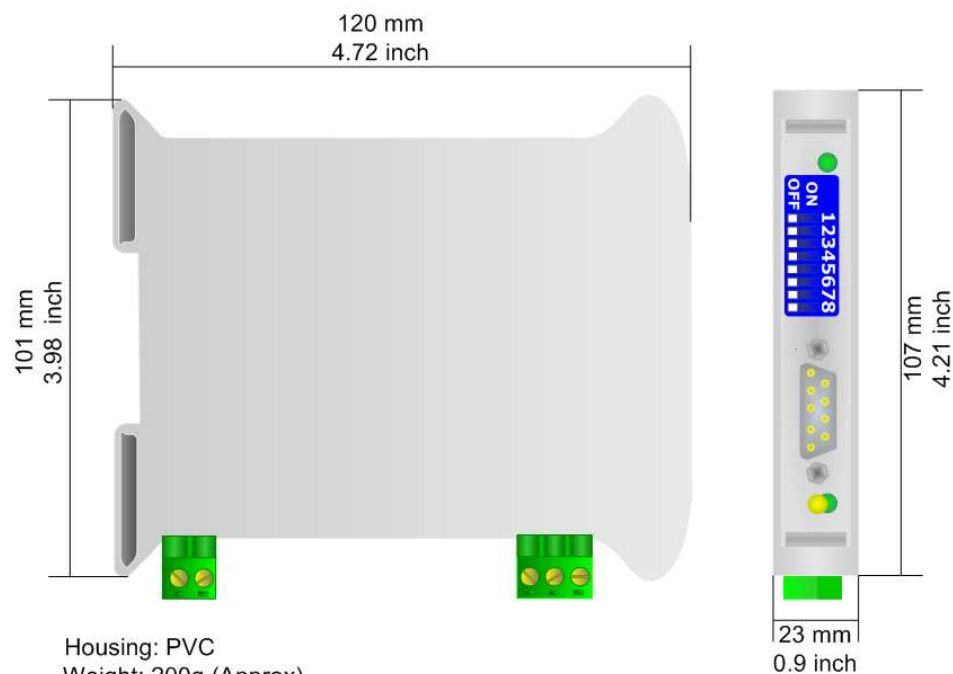

Figure 2: Null modem cabling

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MECHANICAL DIMENSIONS:

Figure 3: Mechanical dimensions scheme

ORDER CODE:

Order Code: **HD67118** -   RS232 / RS485 - Converter

ACCESSORIES:

Order Code: **AC34107** -   Null Modem Cable Fem/Fem DSub 9 Pin 1,5 m

Order Code: **AC34114**   - Null Modem Cable Fem/Fem DSub 9 Pin 5 m

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

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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 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
HD67120	Converter Ethernet to RS232/RS485	www.adfweb.com?product=HD67120
HD67119	Converter USB 2.0 to RS485 Isolated	www.adfweb.com?product=HD67119
HD67507	Gateway Modbus TCP Server to RTU Master	www.adfweb.com?product=HD67507
HD67510	GatewayModbus TCP Client to RTU Slave	www.adfweb.com?product=HD67510