

# User Manual

Revision 1.005  
English

## Multi-drop Fiber Optic Converter RS232/RS485 to Optic Fiber Single/Double Loop

(Order Code: HD67033M - HD67034M  
HD67035M - HD67036M)

### Benefits and Main Features:

- Low cost
- Resistant to harsh environmental specifications
- Isolation between Power Supply, Optic Fibres and serial line
- Mountable on Rail DIN
- Industrial temperature range:  
-40°C / 80°C (-40°F / 176°F)



HD67033M



HD67034M

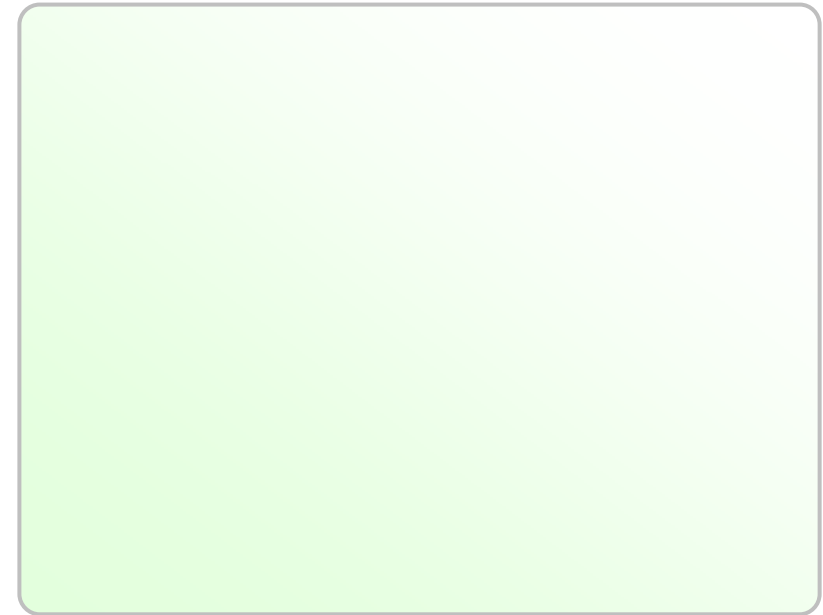


HD67035M



HD67036M

Similar  
Products



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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.

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**REVISION LIST:**

Revision	Date	Author	Chapter	Description
1.001	15/01/2009	FI	All	Change figure 5,6,7
1.002	08/10/2009	FI	All	Change figure 1,2,3,4,5,6,7
1.003	20/11/2009	FI	All	Change Dip Settings description
1.004	06/07/2010	Ft	All	Revision
1.005	24/06/2011	FI	All	Revision

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**CONNECTION SCHEME:**

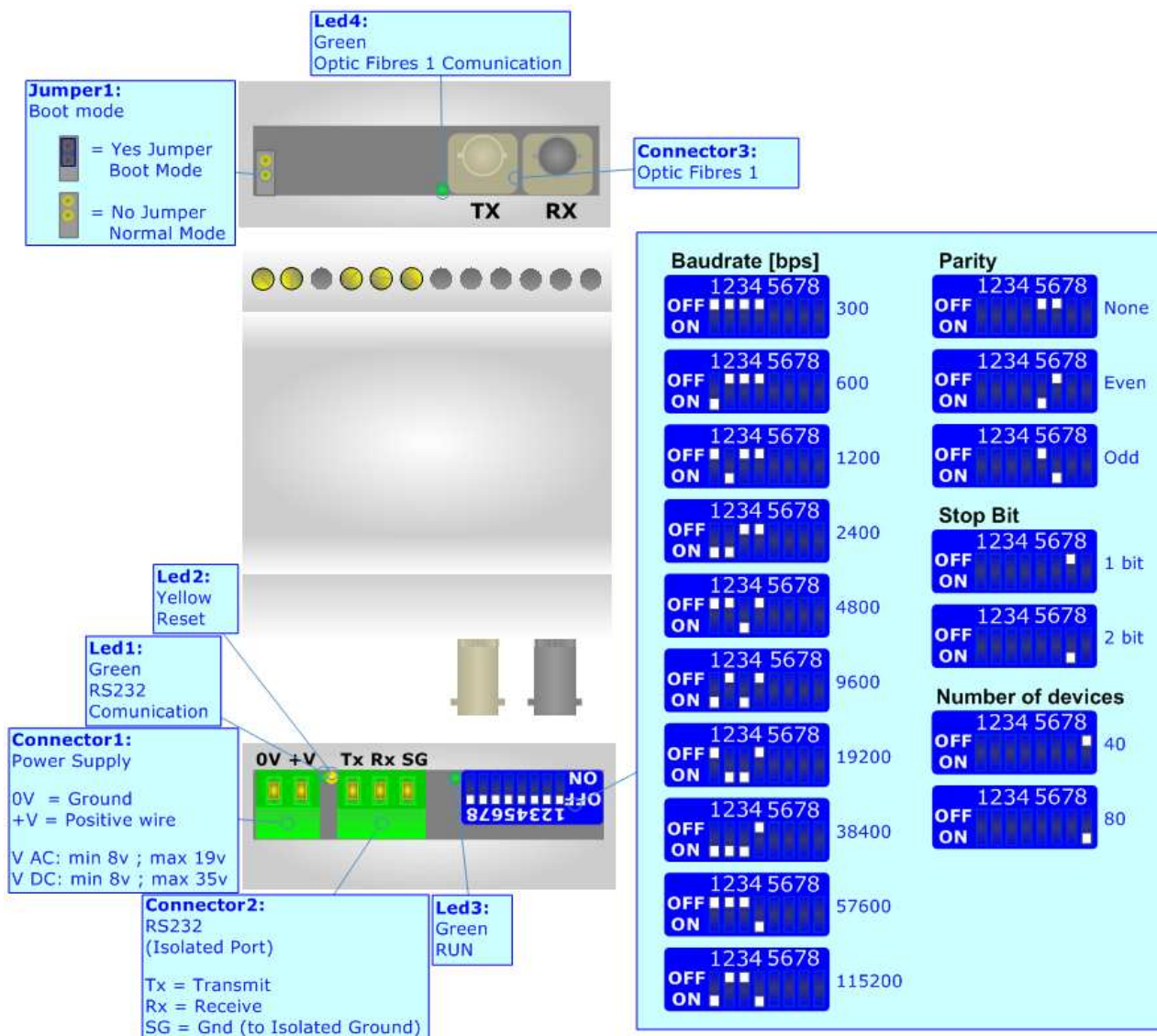


Figure 1: Connection Scheme for HD67033M

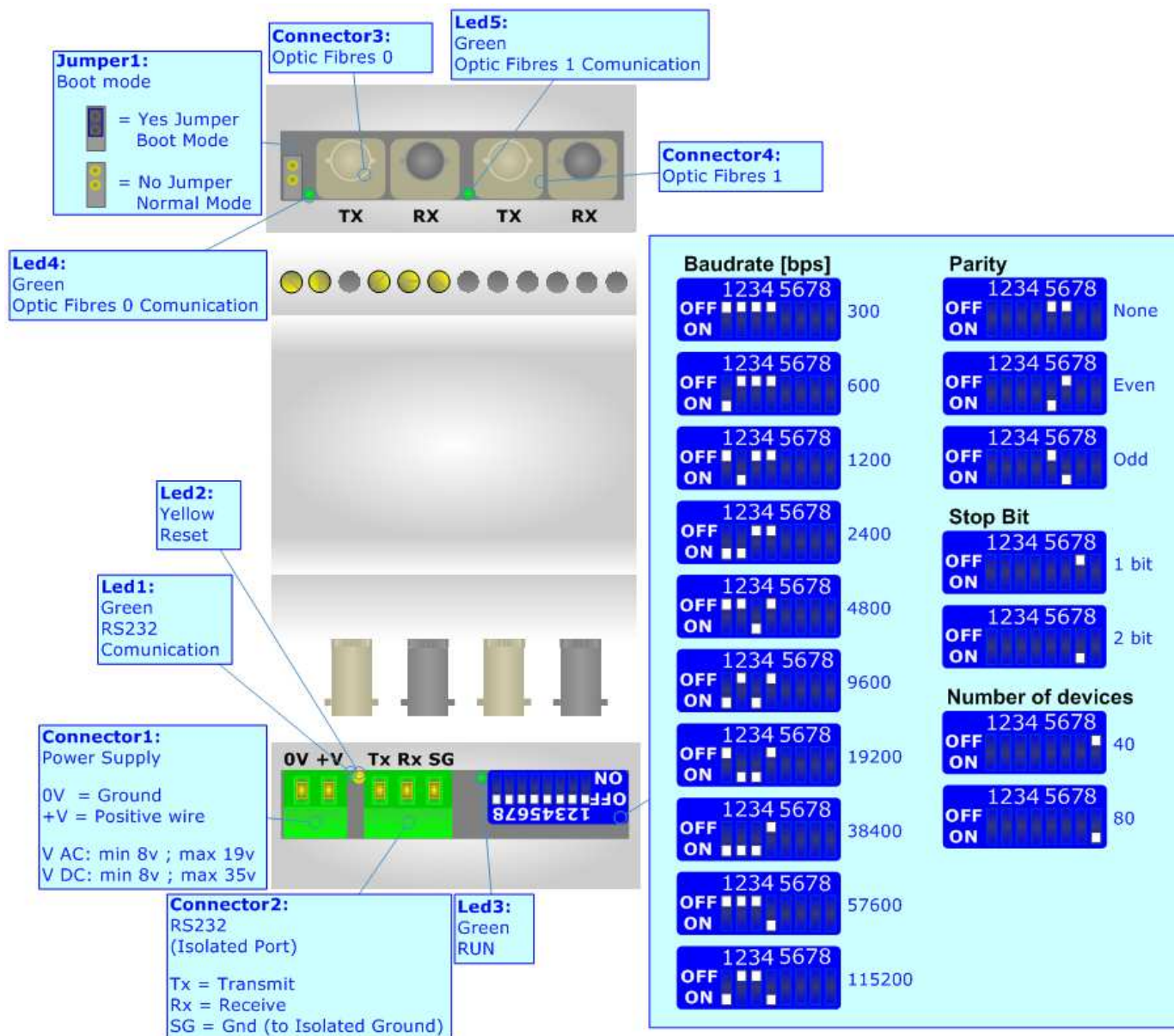


Figure 2: Connection Scheme for HD67034M

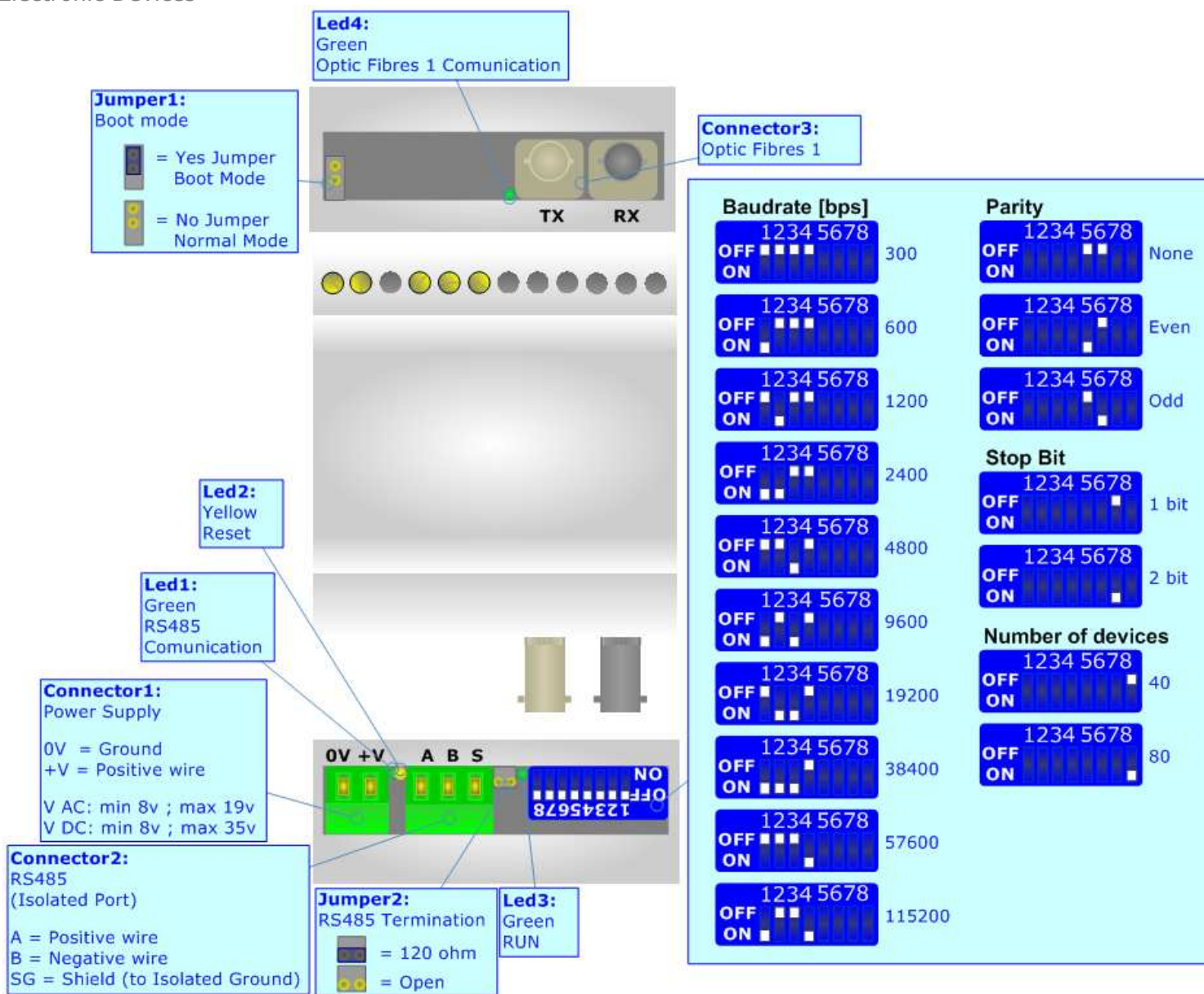


Figure 3: Connection Scheme for HD67035M

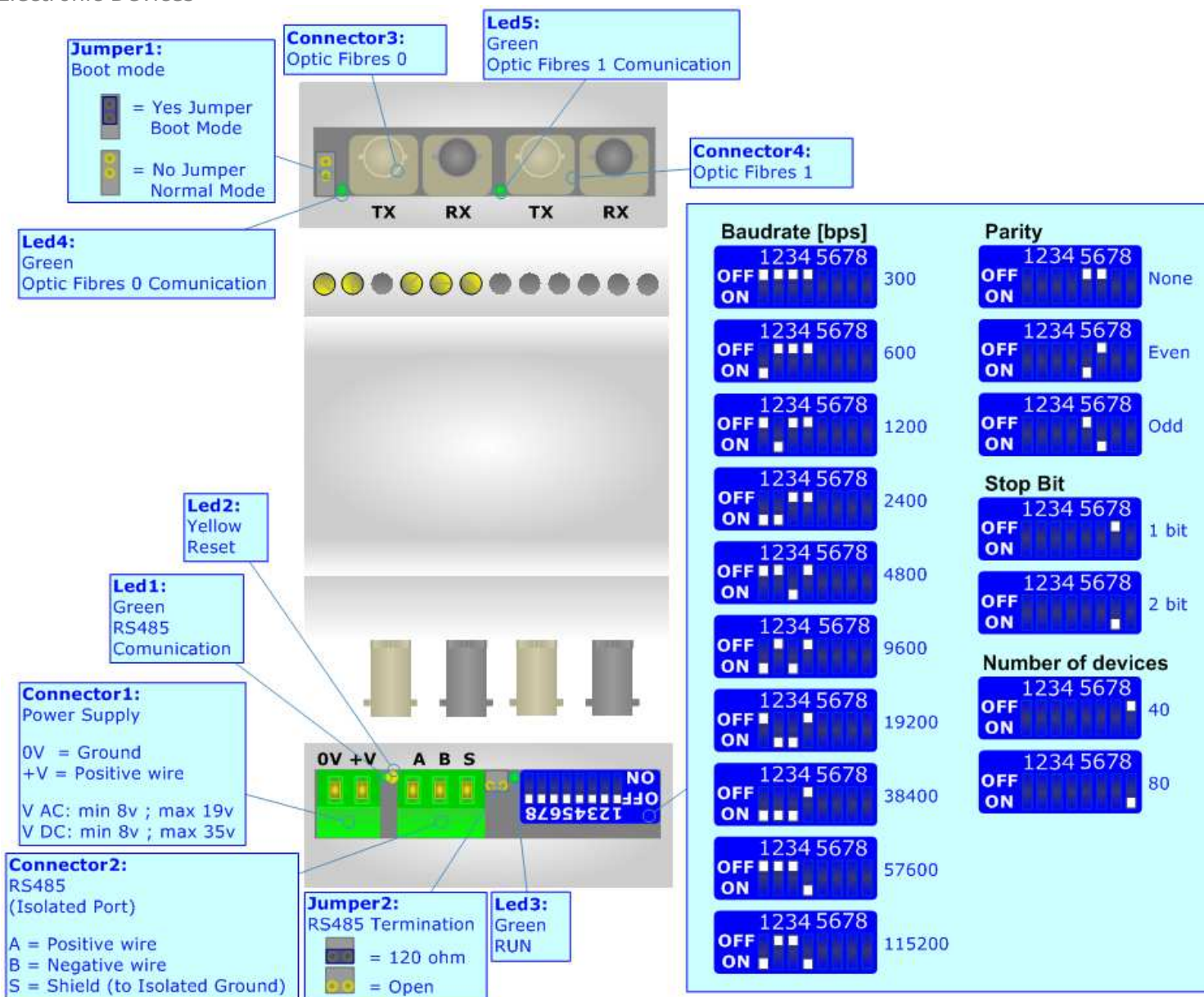


Figure 4: Connection Scheme for HD67036M



## CHARACTERISTICS

These devices allow the following characteristics:

- Baud rate, Parity and Stop Bit of Serial (RS232/RS485) changeable with Dip-Switch;
- Isolation between Power Supply, Optic Fiber, RS232/RS485;
- Mountable on 35mm Rail DIN;
- Single or double Fiber loop connection;
- Industrial temperature range -40°C / 80°C.

**POWER SUPPLY:**

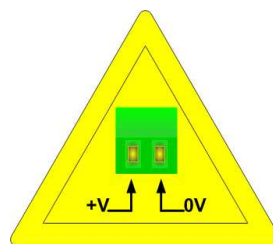
The devices can be powered at 8...19V AC and 8...35V DC. The consumption is the same for all the codes. For more details see the two tables below.

VAC 		VDC 	
Vmin	Vmax	Vmin	Vmax
8V	19V	8V	35V

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67033M	4
HD67034M	
HD67035M	
HD67036M	

**Caution: Not reverse the polarity power**



HD67033M  
 HD67034M  
 HD67035M  
 HD67036M



## DIP SETTINGS:

For setting the baud rate, the parity and the stop bit of Serial line it is necessary to use the Dip-Switch present in the device.

- From Dip 1 to Dip 4 it is possible to set the Speed of the Serial line according to the following table:

Speed [bps]	Dip 1	Dip 2	Dip 3	Dip 4
300	OFF	OFF	OFF	OFF
600	ON	OFF	OFF	OFF
1200	OFF	ON	OFF	OFF
2400	ON	ON	OFF	OFF
4800	OFF	OFF	ON	OFF
9600	ON	OFF	ON	OFF
19200	OFF	ON	ON	OFF
38400	ON	ON	ON	OFF
57600	OFF	OFF	OFF	ON
115200	ON	OFF	OFF	ON

- With Dip 5 and Dip 6 it is possible to set the Parity of the Serial line according to the following table:

Parity	Dip 5	Dip 6
None	OFF	OFF
Odd	ON	OFF
Even	OFF	ON

- With Dip 7 it is possible to set the Stop Bit of the Serial line according to the following table:

Stop Bit	Dip 7
One	OFF
Two	ON

- With Dip 8 it is necessary to set the maximum number of devices (HD6703X) that are connected in the chain of fiber optic:  
NOTE: every device in the same chain of fiber optic must have the Dip 8 with the same settings.

Max Dev. #	Dip 8
Up to 40	OFF
Up to 80*	ON

\*For a number greater than 80 devices in the same chain please ask to us: [support@adfweb.com](mailto:support@adfweb.com)

**EXAMPLES:**

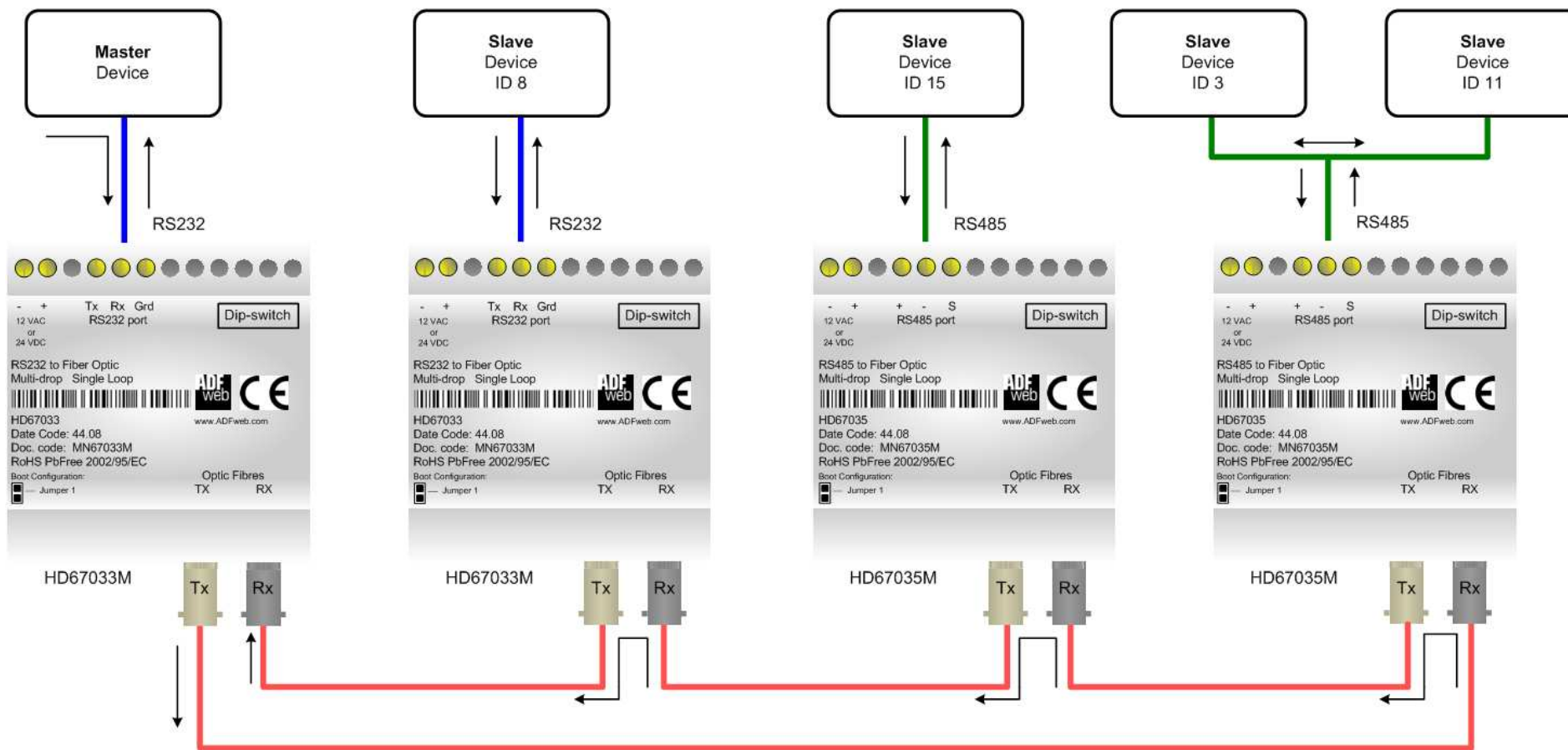


Figure 5: Single Loop application

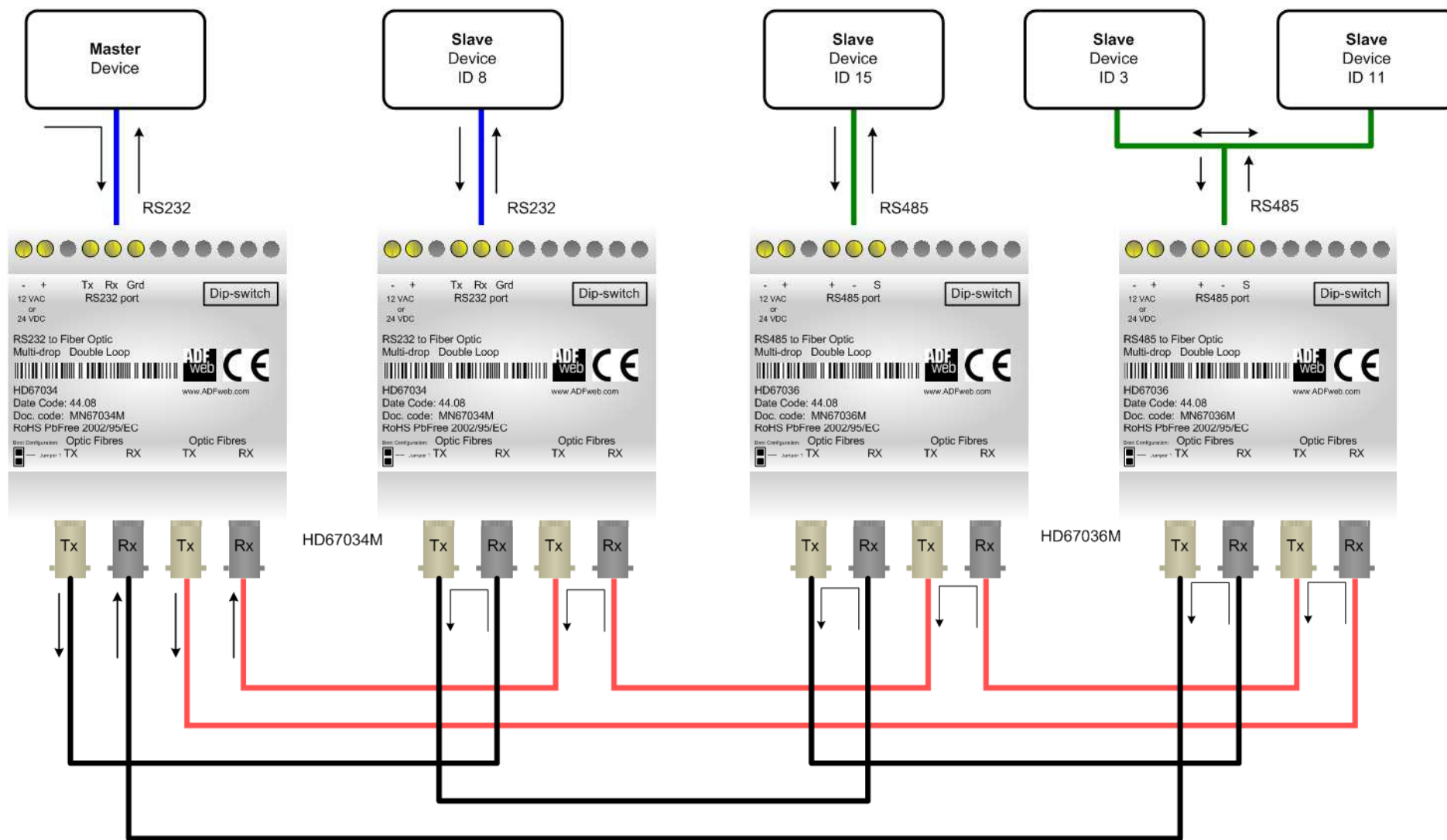


Figure 6: Double Loop application

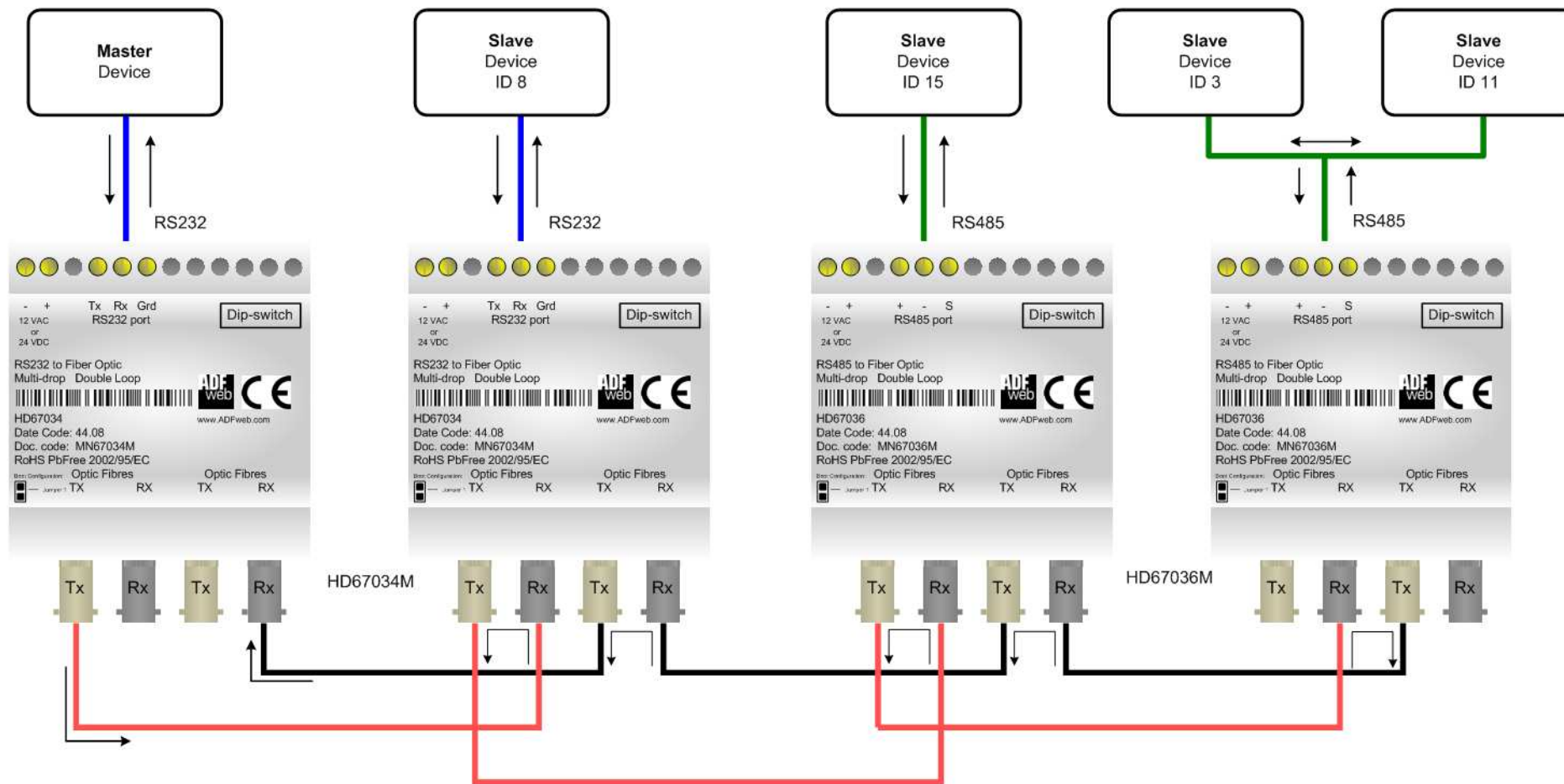


Figure 7: Linear application

**FUNCTION MODES:**

For all these devices (HD67033M – HD67034M – HD67035M – HD67036M) it is possible to update the microprocessor program. Therefore there are two functions to select from the “Boot Jumper” (for more info see the Connection Scheme of the desired product):

- **NORMAL MODE** (factory setting, without Boot Jumper): with this setting the HD67033M, HD67034M, HD67035M, HD67036M is able to function as a converter RS232/RS485 to Fiber Optic and the opposite;
- **BOOT MODE** (with Boot Jumper): the “Boot Mode” is activated when the device is turned on. Eventual program updates are available on the site [www.adfweb.com](http://www.adfweb.com) .

The updating can be done through RS232 or RS485. In both modes it is necessary to Turn OFF the device and then insert the Boot Jumper.

**CHARACTERISTICS OF THE CABLES:**

The connection from RS232 socket to a serial port must be made with a cable with these characteristics:

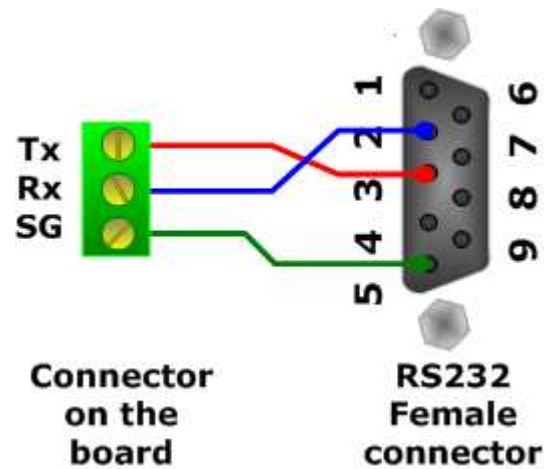


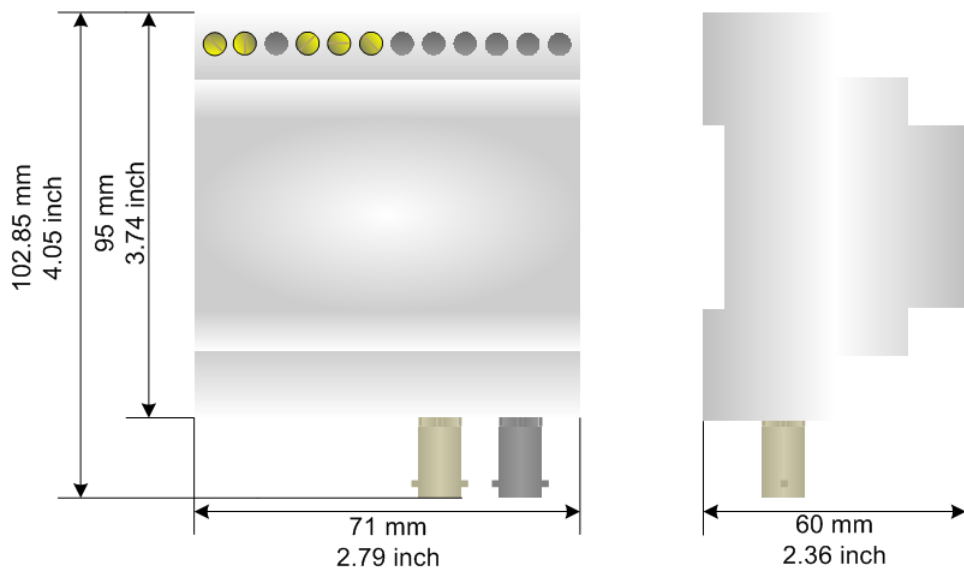
Figure 8: RS232 connection

It is recommended that the cable not exceed 15 meters.

The connection from the RS485 socket to the Personal Computer for updating the program must be made with a converter RS485 to USB or RS485 to RS232. For more details see the following links:

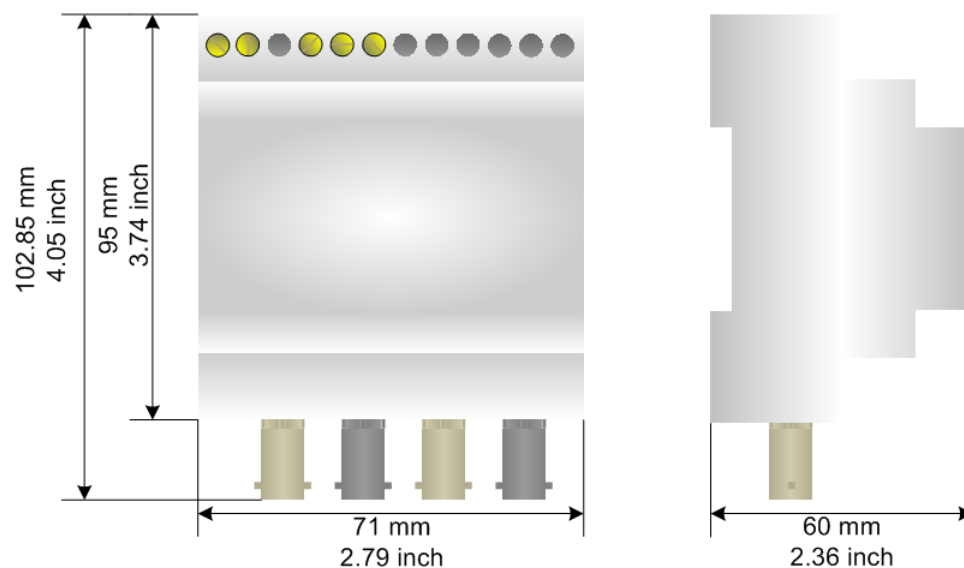
- [www.adfweb.com?Product=HD67118](http://www.adfweb.com?Product=HD67118) for the RS232 to RS485 converter;
- [www.adfweb.com?Product=HD67119](http://www.adfweb.com?Product=HD67119) for the RS485 to USB converter.

**MECHANICAL DIMENSIONS:**



Housing: PVC  
Weight: 200g (Approx)

Figure 9: Mechanical dimensions scheme for HD67033M - HD67035M



Housing: PVC  
Weight: 200g (Approx)

Figure 10: Mechanical dimensions scheme for HD67034M - HD67036M

**ORDER CODES:**

- Order Code: **HD67033M** - Multi-drop RS232 to Fiber Optic Single Loop  
Order Code: **HD67034M** - Multi-drop RS232 to Fiber Optic Double Loop  
Order Code: **HD67035M** - Multi-drop RS485 to Fiber Optic Single Loop  
Order Code: **HD67036M** - Multi-drop RS485 to Fiber Optic Double Loop

**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: **AC34021** - Patch Cable Optic Fibres ST/ST 2 Mts  
Order Code: **AC34022** - Patch Cable Optic Fibres ST/ST 10 Mts  
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



### 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:

- 1) 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.
- 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
HD67121	Gateway CANopen / Canopen	<a href="http://www.adfweb.com?product=HD67121">www.adfweb.com?product=HD67121</a>
HD67001	Gateway CANopen / Modbus – RTU Master	<a href="http://www.adfweb.com?product=HD67001">www.adfweb.com?product=HD67001</a>
HD67505	Gateway CANopen / Modbus – Ethernet TCP	<a href="http://www.adfweb.com?product=HD67505">www.adfweb.com?product=HD67505</a>
HD67134	Gateway CANopen / DeviceNet	<a href="http://www.adfweb.com?product=HD67134">www.adfweb.com?product=HD67134</a>
HD67117	CAN bus Repeater	<a href="http://www.adfweb.com?product=HD67117">www.adfweb.com?product=HD67117</a>
HD67316	CAN bus Analyzer	<a href="http://www.adfweb.com?product=HD67316">www.adfweb.com?product=HD67316</a>