User Manual

Revision 2.000
English

Gateway / Bridge Modbus TCP Server to Protocol Advanced Energy

(Order Code: HD67026)

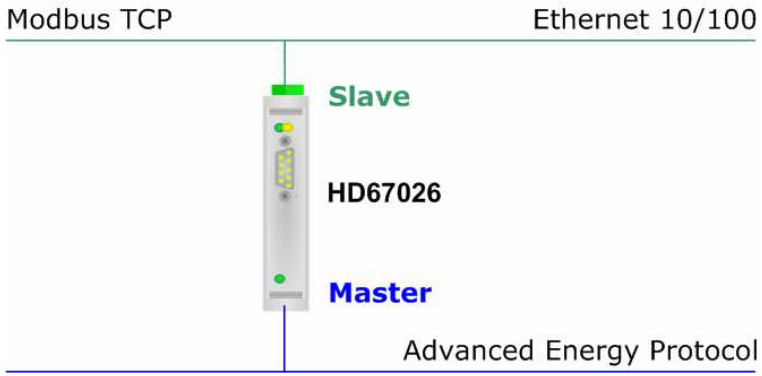
for Website information:
www.adfweb.com?Product=HD67026

for Price information:
www.adfweb.com?Price=HD67026

Benefits and Main Features:

- Very easy to configure
- Low Cost
- Rail mountable
- Wide supply input range
- Galvanic Isolation
- Industrial temperature range: -30°C / 70 °C (-22°F / 158°F)

Logical Scheme



Similiar Products

Benefit

For others products for Modbus:

Modbus TCP Server

See also the following links:
www.adfweb.com?Product=HD67005 (To CANopen)
www.adfweb.com?Product=HD67015 (To CAN)
www.adfweb.com?Product=HD67007 (To Modbus RTU Master)

Modbus TCP Client

See also the following link:
www.adfweb.com?Product=HD67004 (To CANopen)
www.adfweb.com?Product=HD67014 (To CAN)
www.adfweb.com?Product=HD67010 (To Modbus RTU Slave)

Do you have an your customer protocol?
See the following links:
www.adfweb.com?Product=HD67003

Do you need to choose a device? do you want help?
Ask it to the following link:
www.adfweb.com?Cmd=helpme

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

To obtain the most recently updated document, note the "document code" that appears at the top right-hand corner of each page of this document.

With this "Document Code" go to web page www.adfweb.com/download/ and search for the corresponding code on the page. Click on the proper "Document Code" and download the updates.

To obtain the updated documentation for the product that you own, note the "Document Code" (Abbreviated DC on the product's box) and download the updated from our web site www.adfweb.com/download/

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.000	03/04/2007	Av	All	First release version
1.001	22/06/2007	Av	All	Revision
1.002	26/06/2007	Av	All	Revision
2.000	23/07/2007	Av	All	New document format

WARNING:

ADFweb.com reserves the right to change informations 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.

CHARACTERISTICS:

The Gateway Modbus TCP slave to Protocol Advanced Energy is an electronic device which is mountable on a DIN guide. It allows for information to be exchanged between a serial RS485 bus and Ethernet 10/100 bus through the protocols Pfeiffer and ModBUS TCP. This device also includes the following characteristics:

- Power supply 12-24 VAC/DC (3 VA) .
- Opto-isolation RS485.
- RS232
- Mountable on Rail DIN.
- Temperature range -30°C to 70°C .
- EMS EN 61000-6-2 .

The Gateway Modbus TCP slave to Protocol Advanced Energy can be easily configured through the configuration utility which allows for different projects to be handled, saved within your PC and downloaded to the device.

It used for interface ModBUS TCP to ProtocolAdvanced Energy.

USE OF COMPOSITOR SOFTWARE SW67026:

INTRODUCTION

When launching the SW67026 the following window appears:
(The SW67004 is downloadable on the site http://www.adfweb.com/home/download/download.asp this manual is referenced to the last version of the software present on our web site)

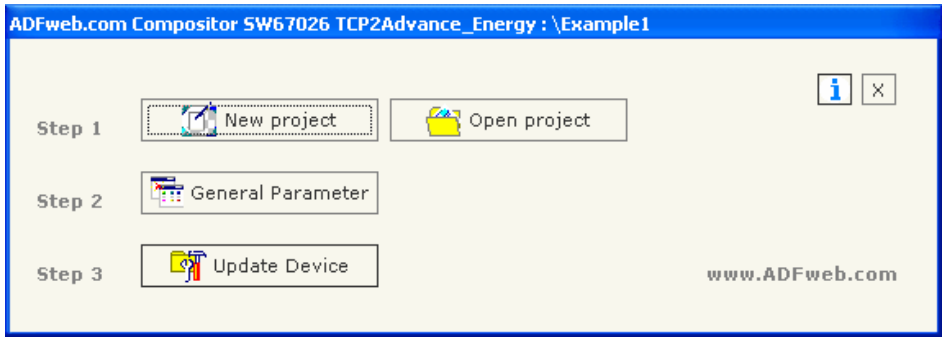


Figure 1: Main window for SW67026

The "New Project" button creates the folder which contains all the project files:

- The project is the complex of files that define a particular configurations of the device *Programmable Modbus TCP to Modbus RTU Gateway*. This file can also be imported and exported.
- To clone the configurations of a *Programmable Modbus TCP to Modbus RTU 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 the project is created or open, it is possible to access the various configuration sections of the device:

- General Parameter,

GENERAL PARAMETER:

This section define the fundamental communication parameter of BUS where the Programmable Modbus TCP is inserted**.**

By pressing the "Set Communication" button, the previous window appears in which the BUS can be set from ModBUS TCP side.

- IP address: Insert the IP address of TCP device;
- Port: insert the number of communication port.
- Baud rate: Insert the baud rate of RS 485.

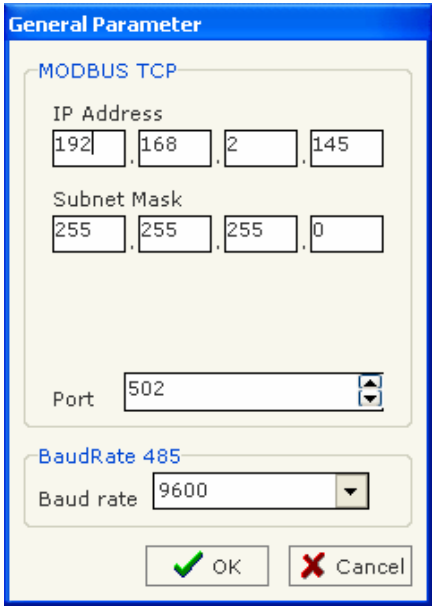
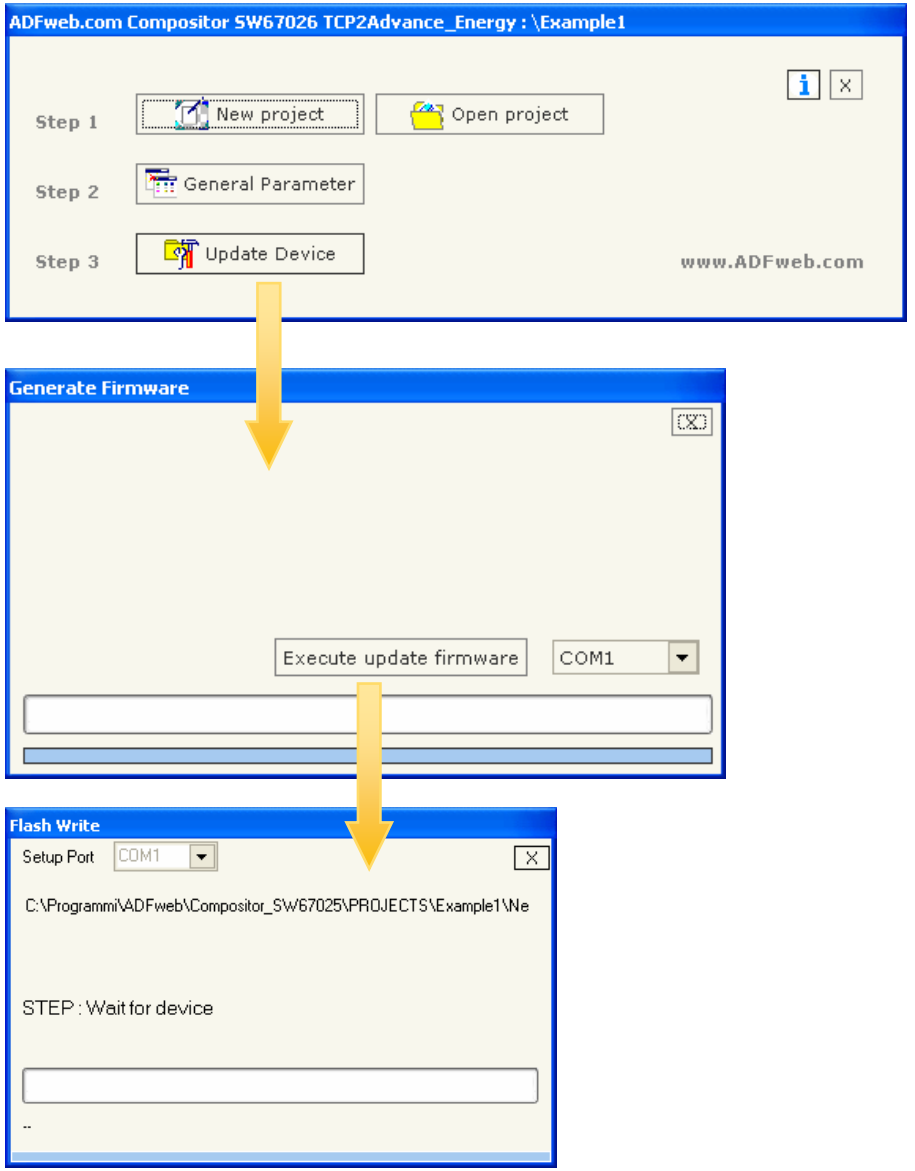


Figure 2: General Parameter window

UPDATE DEVICE:

Once the parameters for downloading are created, click on "Update Device" on the main screen and click again on "Execute Modify File Sx".
Now the update is carried out like our other products, so you need to boot the device via the jumper.
Insert the jumper (see Connection Scheme). Carry out a cycle of power on. The LED 3 will begin to flash.
Select the serial port you would like to carry out the update. Click on "Execute Update firmware". Wait for the action bar to finish. Then remove the jumper and reboot the device.



PARAMETER INTERFACING WITH ADVANCED ENERGY:

Description	Command	Type of register	Address	Value	Read / Write	Register range
Flow rate setting						
Stores the set flow rate in the memory (RAM): The flow rate remains unchanged unless the SRS command is input.	**SFD**	HR	100	0,00-100,00	W	0-10000
Starts the set flow rate change: Starts to change the flow rate to the one set with SFD command.	**SRS**	HR	103	qualsiasi	W	0-10000
Changes the set flow rate: Changes the flow rate immediately after executing this command.	**SDC**	HR	101	0,00-100,00	W	0-10000
Reads the set flow rate.	**RFD**	HR	100/101		R	0-10000
Reads the current output flow rate.	**RFX**	HR	102		R	0-10000
Valve control						
Valve forced-opening	**SVO**	HR	110	1	W	
Valve forced-closing	**SVC**	HR	110	2	W	
Controls the valve: Cancels the valve state set with the SVO and SVC commands.	**SVN**	HR	110	0	W	

Reads the valve state: 0=Control, 1=positive opening, 2=positive closing	**RVM**	HR	110	0-1-2	R	
Reads the valve voltage value: 0 – 100 % output, 100 % = Full power	**RVD**	HR	111	0-100	R	0-100

Mode setting

Changes to the digital mode.	**SDM**	HR	120	1	W	
Changes to the analog mode.	**SAM**	HR	120	0	W	
Reads the mode currently being set: 1 = Analog mode, 0 = Digital mode	**RMD**	HR	120	1-0	R	

Ramping function

Sets the ramping time: Time from the current set value to the new set value.	**SRT**	HR	130	0-999	W	0-999
Reads the set ramping value.	**RRT**	HR	130	0-999	R	0-999

Autozero function

Starts zero point correction.	**SZP**	HR	140	qualsiasi	W	
Initializes (clears) the integrated flow rate: Starts integrating function.	**STC**	HR	150	qualsiasi	W	
Reads the integrating data 1: Reads the integrated flow rate (%).	**RTD**	HR	151		R	

Reads the integrating data 2: Reads the integrated flow rate (%) + integration time (hh:mm:ss).	**RTX**	HR	152		R	

Alarms

Sets the flow rate alarm tolerance.	**SFW**	HR	1100	0-100	W	0-100
Sets the flow rate alarm lock time.	**SFT**	HR	1101	0-99	W	0-99
Activates the flow rate alarm: Turns it on.	**SAF**	HR	1102	0	W	
Deactivates the flow rate alarm: Turns it off.	**SFI**	HR	1102	1	W	
Flow rate alarm set value: Reads the set flow rate.	**RFA**	HR	1103		R	
Reads the flow rate alarm tolerance.	**RFW**	HR	1100		R	
Reads the flow rate alarm lock time.	**RFT**	HR	1101		R	
Reads the flow rate alarm operating condition (ON/OFF).	**RFI**	HR	1102	1-0	R	

Alarmi valve

Sets the valve alarm value.	**SVA**	HR	1200	0-100	W	0-100
Sets the valve alarm tolerance.	**SVW**	HR	1201	0-100	W	0-100
Sets the valve alarm lock time.	**SVT**	HR	1202	0-99	W	0-99
Activates the valve alarm: Turns it on.	**SAV**	HR	1203	0	W	

Deactivates the valve alarm: Turns it off.	**SVI**	HR	1203	1	W
Reads the valve alarm value.	**RVA**	HR	1200		R
Reads the valve alarm tolerance.	**RVW**	HR	1201		R
Reads the valve lock time.	**RVT**	HR	1202		R
Reads the valve alarm operation status (ON/OFF).	**RVI**	HR	1203	0-1	R

Commons allarms

Reads the alarm details. Bit = 0 ➔ Flow rate alarm high Bit = 1 ➔ Flow rate alarm Low Bit = 2 ➔ Valve alarm high Bit = 3 ➔ Valve alarm Low	**RAS**	HR	1300		R
Clears the alarm: Clears the alarm issue information, photo coupler output, and LED blinking.	**SAC**	HR	1300	qualsiasi	W

Alarm state

Reads the error details. Bit = 0 ➔ Communication Error Bit = 1 ➔ None	**RER**	HR	1310		R

Bit = 2 ➔ Eeprom Error Bit = 3 ➔ Zero pint correction error (Auto zero error 1) Bit = 4 ➔ Zero point correction error (Auto zero error 2) Bit = 5 ➔ Flow rate alarm high Bit = 6 ➔ Flow rate alarm high Bit = 7 ➔ Flow rate alarm high					
Clears the error: Clears the error issue information and LED blinking.	**SEC**	HR	1310	qualsiasi	W
ID No. Setting command (*)					
Changes the ID No.	**SID**	HR	2100		W
Reads the ID No. currently being set.	**RID**	HR	2100		R
Read the default addres		HR	2101		W/R
Read general parameters					
Reads the full-scale flow rate for the gas used.	**RFK**	HR2	3000		R
Reads the full-scale value with nitrogen equivalent from the gas used.	**RFS**	HR2	3002		R

Reads the CF value.	**RCF**	HR	3004	R

Broadcast command
Send any command to adress "00" – In this case there aren't a response.

S = Settings Command

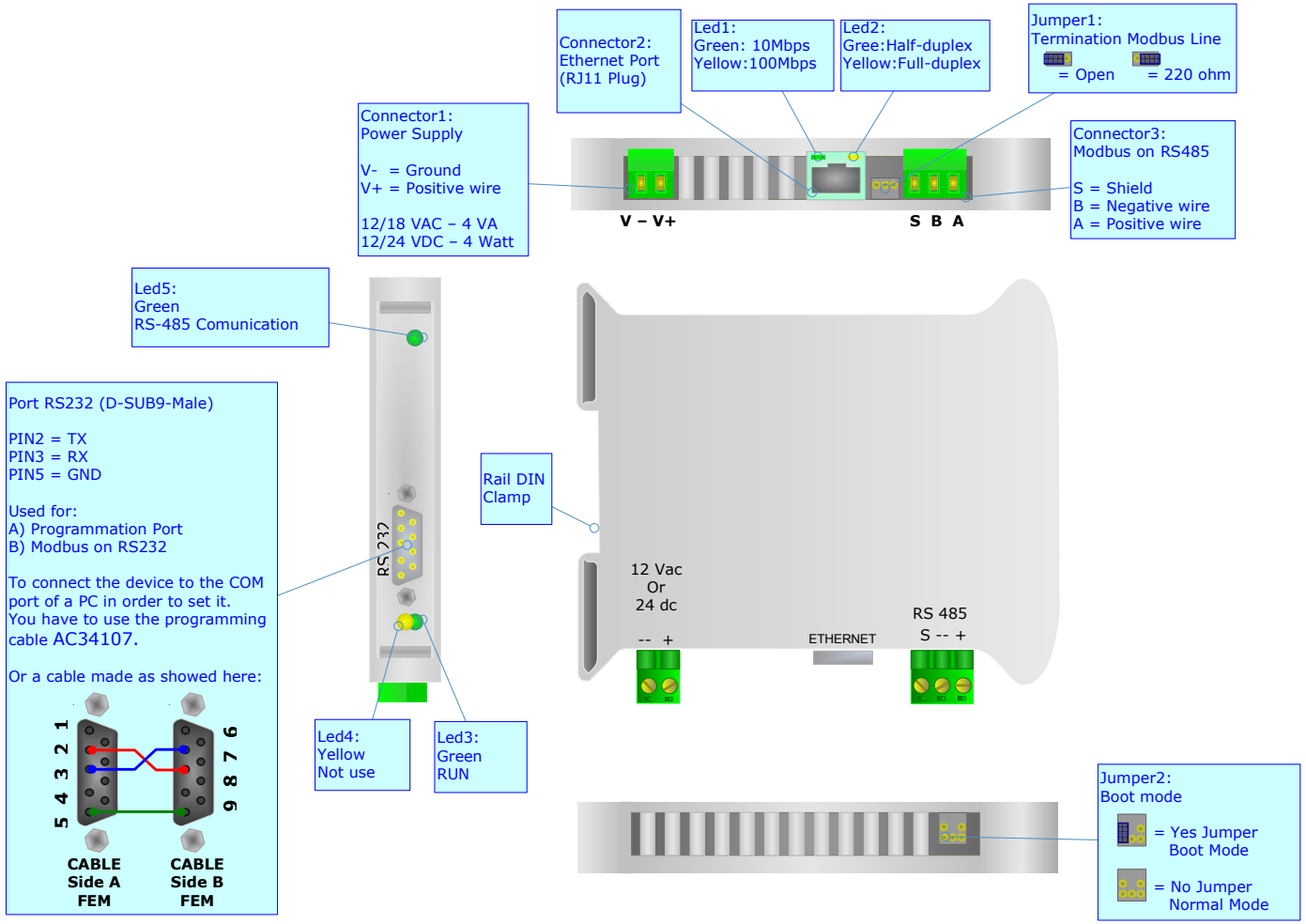
R = Readings Command

(*) = For modbus request inserty the address of the device would you like

I write 1 word, after write the word I write a serial No. in 2101.
For example the serial No.= 12A3456
The serial No. must have a maximum of 20 characters.
I write there in 4 word, I write every characters in ascii code, but I write the ascii code in HEX.

1st word: 0x31 0x32
2nd word: 0x41 0x33
3rd word: 0x34 0x35
4th word: 0x36 0xFF

CONNECTION SCHEME:



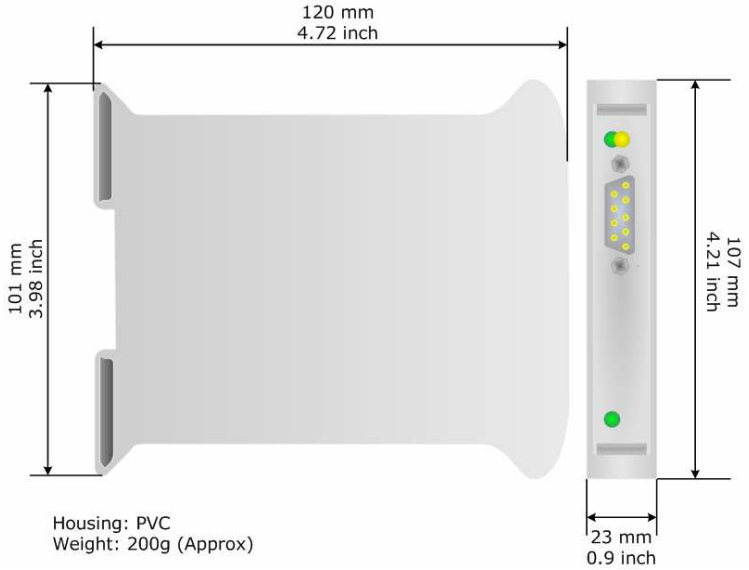
CHARACTERISTICS OF THE CABLES:

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.

DETAILS ABOUT THE ETHERNET CABLE:

Linking of Ethernet connector to a HUB must be carried out by a Category 5E cable. The cable has to conform to the T568 norms relative to connections in cat.5 up to 100 Mbps. The length cannot go beyond 100 meters.

MECHANICAL DIMENSIONS:



ORDER CODE:

Order Code: **HD67026** **-** Gateway – Modbus TCP Server to protocol advanced energy

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

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
HD67007	Gateway Modbus TCP Server to RTU Master	www.adfweb.com?Product=HD67007
HD67010	Gateway Modbus TCP Client to RTU Slave	www.adfweb.com?Product=HD67010