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Industrial Electronic Devices

User Manual

Revision 2.000
English

Gateway / Bridge
Modbus TCP Server to Protocol Pfeiffer

(Order Code: HD67025)

for Website information:
www.adfweb.com?Product=HD67025

for Price information:
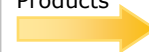www.adfweb.com?Price=HD67025

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

Modbus TCP   Ethernet 10/100

Slave

HD67025
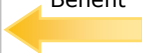
Master

Pfeiffer Protocol   Pfeiffer Protocol
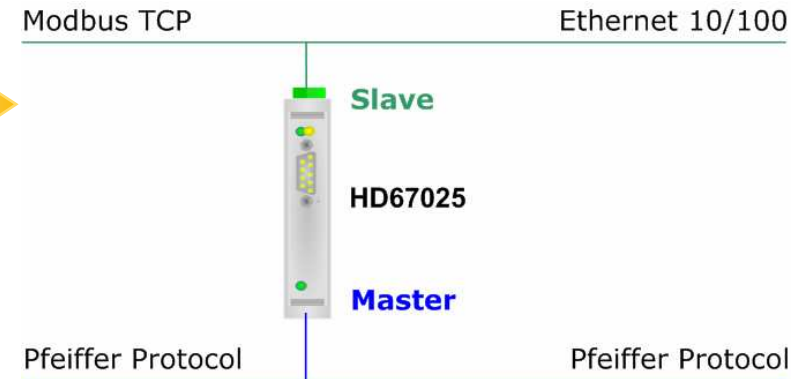
Similiar Products

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

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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
1.000	25/01/2007	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

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CHARACTERISTICS:

The Gateway Modbus TCP slave to Protocol Pfeiffer 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 Pfeiffer 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 Protocol Pfeiffer.

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USE OF COMPOSITOR SOFTWARE SW67025:

INTRODUCTION

When launching the SW67025 the following window appears:
(The SW67025 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)
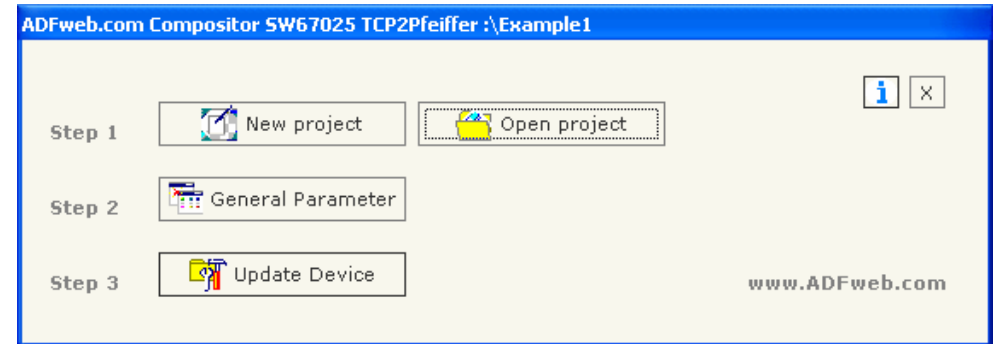

Figure 1: Main window for SW67025

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: Inser the IP address of TCP device;
➢ Port: insert the number of communication port.
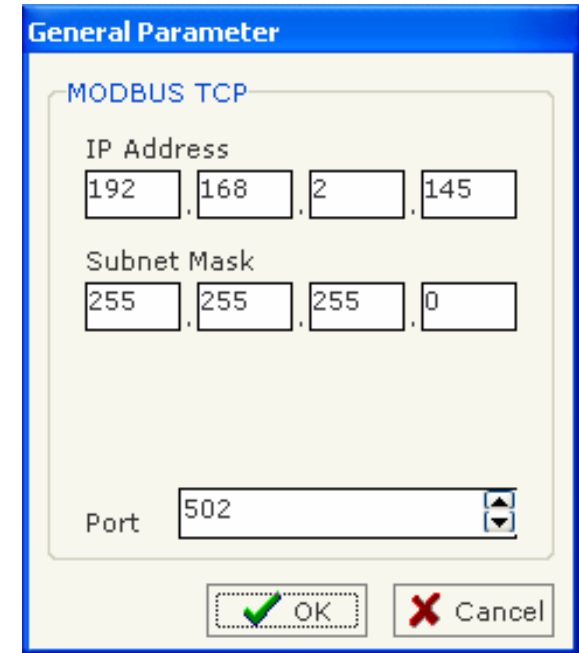
Figure 2: General Parameter window

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**.**

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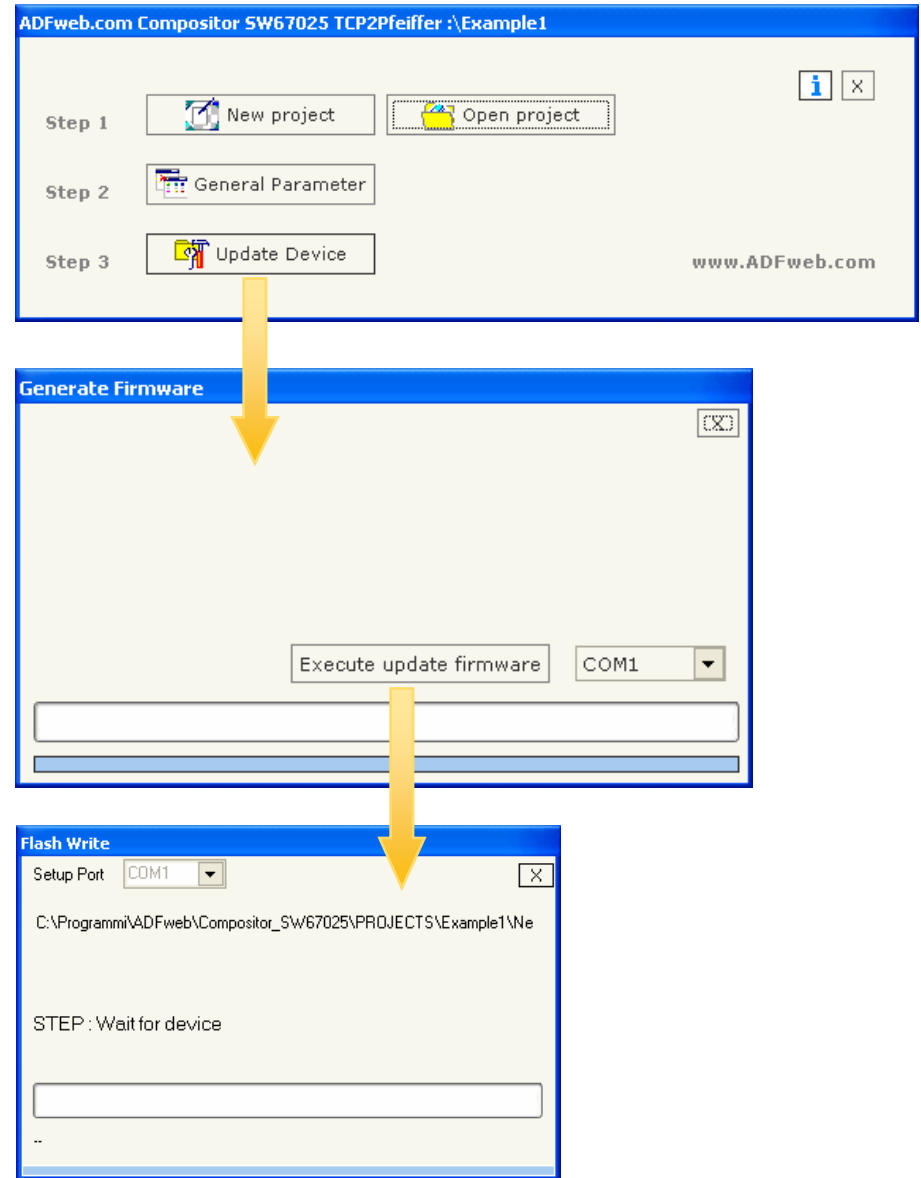
PARAMETER INTERFACING WITH PFEIFFER:

N° parameters of ModBUS	N° parameters of Pfeiffer	Description	ModBUS function Read	ModBUS function Write	ModBUS register type
001	001	Pre-selection heating ON-OFF	1	5	Coil Status
002	002	Standby ON/OFF	1	5	Coil Status
004	004	Run-up time monitoring, ON/OFF	1	5	Coil Status
009	009	Error acknowledgement	-	5	Coil status
010	010	Pumping station ON/OFF	1	5	Coil Status
012	012	Venting enable ON/OFF	1	5	Coil Status
013	013	Pre selection brake ON/OFF	1	5	Coil Status
023	023	Motor Turbopump ON/OFF	1	5	Coil Status
024	024	Configuration output K1;0=switchpoint attained; 1=TMS regulation; 2=var. switchp	4	6	Holding Register
025	025	Operations mode backing pump; 0=non-stop; 1=intermittent; 2=switch on delayed	4	6	Holding register
026	026	Operations mode TMP 0=final rot. Speed op.; 1=rot. Speed setting m.	4	6	Holdin Register
027	027	Gas mode 0=heavy invert gases; 1=other gases	4	6	Holding Register
028	028	Remote operations mode 0=standard; 1=remote priority; 2=remote error acknowl	4	6	Holding register
029	029	Drive unit operations mode OFF=max; ON=reduced power intake	1	5	Coil Status
030	030	Venting mode 0=controlled venting; 1=no venting; 2=venting "ON"	4	6	Holding Regster
032	032	Configuration heating output 0=Heat/TMS operations; 1=Sealing gas valve control	4	6	Holding Register
035	035	Configuration accessories ON/output 1	4	6	Holding register
036	036	Configuration accessories ON/output 2	4	6	Holding Register
055	055	Configuration analog output 1 0=rot speed; 1=Power; 2=Current	4	6	Holding Register
300	300	Unit remote controlled, not choosable by < >	1	-	Coil Status
301	301	Oil deficiency turbopump	1	-	Coil Status
302	302	Rotation switch point attained	1	-	Coil Status

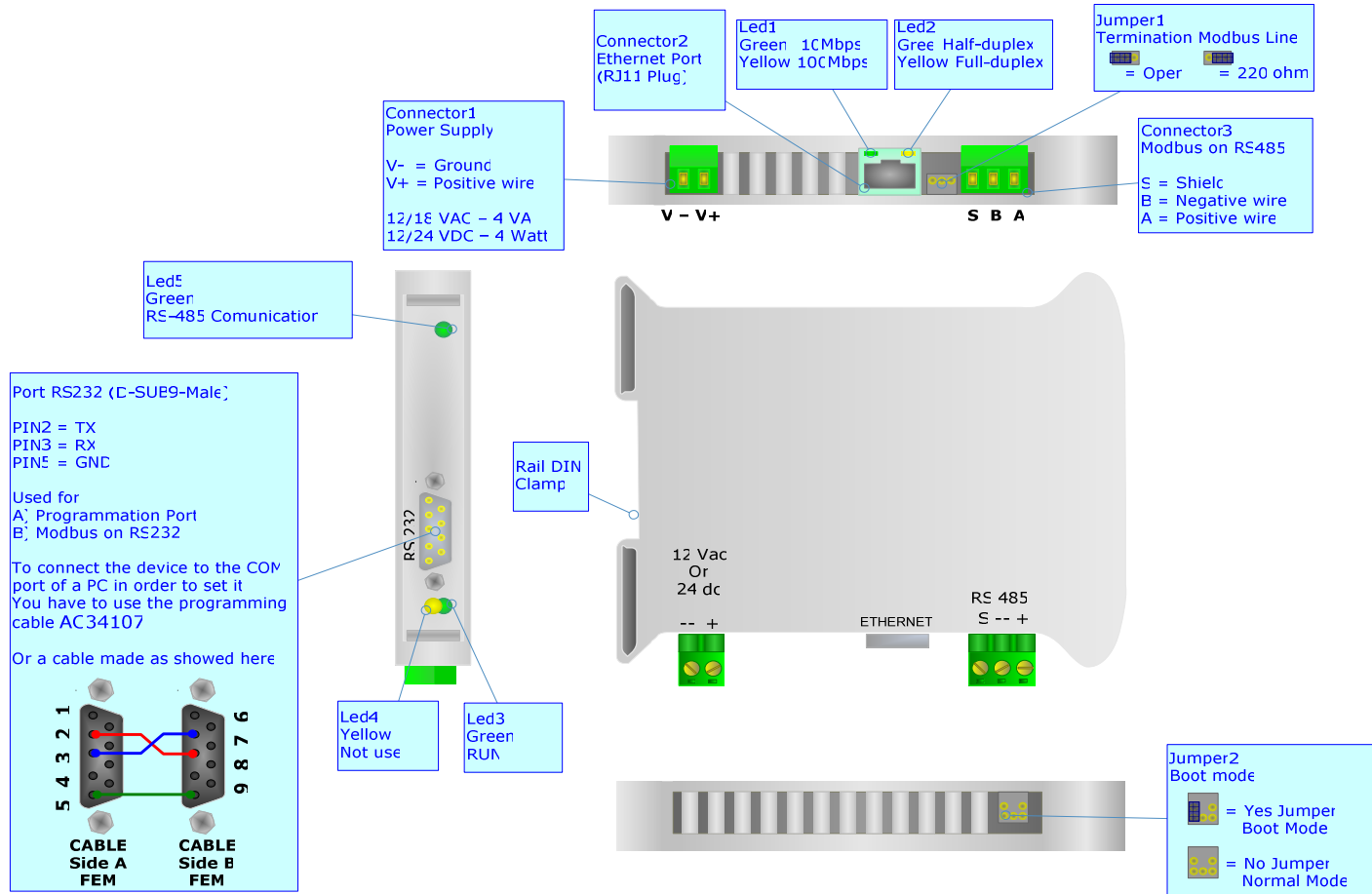|					
3030	303	Actual error code "no Err", "Errxxx", "Wrnxxx"	4**	-	Holding Register
304	304	Over temperature Electronic drive unit	1	-	Coil Status
305	305	Over temperature turbopump	1	-	Coil Status
306	306	Set rotation speed attained	1	-	Coil Status
307	307	Turbopump accelerates	1	-	Coil Status
3080	308	Set rotation speed TMP in Hz	4*	-	Holding Register
3090	309	Actual rotation speed TMP in Hz	4*	-	Holding Register
3100	310	Motor current TMP in A	4*	-	Holding Register
3110	311	Operatinghours TMP in h	4*	-	Holding Register
3120	312	Software verson electronic drive unit	4**	-	Holding Register
3130	313	Motor voltage TMP in V	4*	-	Holding Register
3140	314	Operating hours electronic drive unit	4*	-	Holding Register
3150	315	Final rotation speed TMP in Hz	4*	-	Holding Register
3160	316	Motor power TMP in W	4*	-	Holding Register
3190	319	Cycle counter	4*	-	Holding Register
3310	331	Heating TMS, actual value in °C	4*	-	Holding Register
333	333	TMS regulator engaged ON/OFF	1	-	Coil Status
3340	334	Maximum TMS temperature occurred in °C	4*	-	Holding Register
335	335	Heating type 0=conventional heating; 1=TMS	4	-	Holding Register
3490	349	Unit type electronic drive unit	4**	-	Holding Register
3600	360	Error storage, Position 1 (last error occurring)	4**	-	Holding Register
3610	361	Error storage, Position 2	4**	-	Holding Register
3620	362	Error storage, Position 3	4**	-	Holding Register
3630	363	Error storage, Position 4	4**	-	Holding Register
3640	364	Error storage, Position 5	4**	-	Holding Register
3650	365	Error storage, Position 6	4**	-	Holding Register
3660	366	Error storage, Position 7	4**	-	Holding Register
3670	367	Error storage, Position 8	4**	-	Holding Register
3680	368	Error storage, Position 9	4**	-	Holding Register
3690	369	Error storage, Position 10	4**	-	Holding Register
7000	700	Maximum run-up in mins	4*	16*	Holding Register
7010	701	Rotation speed switchpoint in %	4*	16*	Holding Register
7040	704	TMS heating temperature set value in °C	4*	16*	Holding Register
7070	707	Rotation speed set value in rotation speed setting operations in °C	4*	16*	Holding Register
708	708	Drive power set in %	4	6	Holding Register

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7100	710	Pmin for backing-pump interval operations [W]	4*	16*	Holding Register
7110	711	Pmax for backing-pump interval operations [W]	4*	16*	Holding Register
717	717	Rotation speed set value at standby operations (%)	4	6	Holding Register
7190	719	Rotation speed switchpoint2 in %	4*	16*	Holding Register
720	720	Venting frequency as a % of the final rotation speed of the TMP	4	6	Holding register
7210	721	Venting time in s	4*	16*	Holding Register
7770	777	Specific nominal rotation speed [Hz]	4*	16*	Holding Register
7970	797	Unit address	4*	16*	Holding Register

* =it is necessary write in 2 registers

**=it is necessary write in 3 registers

Unit address is up to 254 because there isn't a broadcast.

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CONNECTION SCHEME:

Connector2
Ethernet Port
(RJ11 Plug)

Led1
Green 10Mbps
Yellow 100Mbps

Led2
Green Half-duplex
Yellow Full-duplex

Jumper1
Termination Modbus Line

= Open   = 220 ohm

Connector1
Power Supply

V- = Ground
V+ = Positive wire

12/18 VAC – 4 VA
12/24 VDC – 4 Watt

Connector3
Modbus on RS485

S = Shield
B = Negative wire
A = Positive wire

V – V+   S B A

Led5
Green
RS-485 Comunication

Port RS232 (D-SUB9-Male)

PIN2 = TX
PIN3 = RX
PIN5 = GND

Used for
A) Programmation Port
B) Modbus on 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

Rail DIN
Clamp

RS 232

12 Vac
Or
24 dc

-- +   ETHERNET   RS 485
                                S -- +

CABLE
Side A
FEM

CABLE
Side B
FEM

Led4
Yellow
Not use

Led3
Green
RUN

Jumper2
Boot mode

= Yes Jumper
   Boot Mode

= No Jumper
   Normal Mode

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### 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.

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MECHANICAL DIMENSIONS:

Housing: PVC
Weight: 200g (Approx)
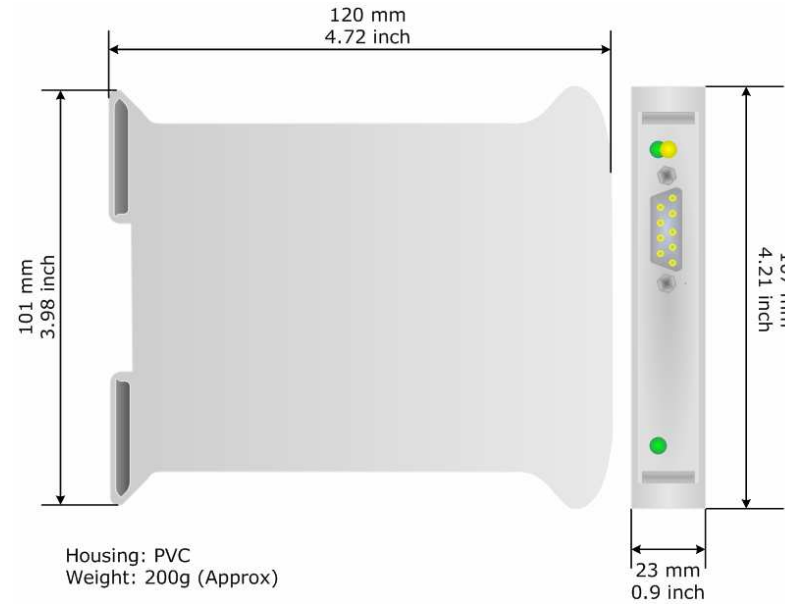
ORDER CODE:

Order Code: **HD67025**   -   Gateway – Modbus TCP Server to Modbus RTU Master

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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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