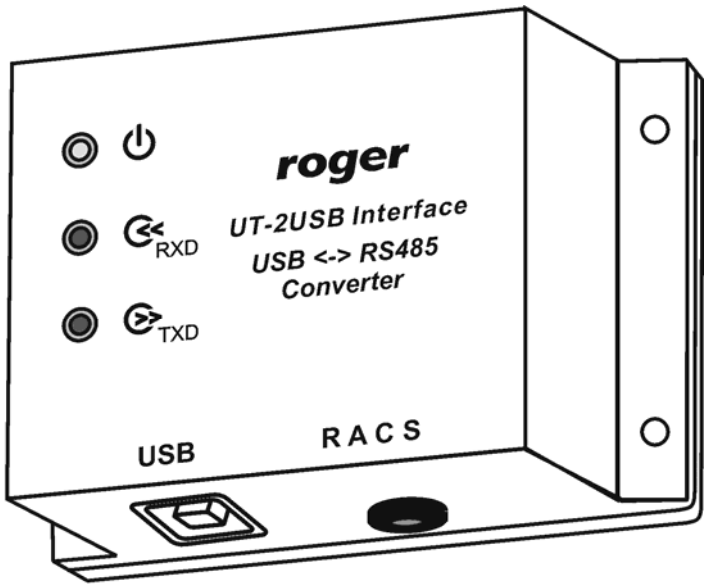
Communication Interface
UT-2USB v1.0



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Installer Manual

General Description

The UT-2USB is a cost-effective module, that allows you to connect your serial RS485 devices (bus) to computer using a USB interface. It features various transmission rates (half duplex) from 0 kbit/s to 115.2 kbit/s and doesn't need any power supply. The UT-2USB is delivered with 1m USB A-B cable required for communication with PC. The connectivity with RS485 bus is carried out through screw terminals.
Although the UT-2USB converter was designed and tested for Roger Access Control System (RACS), anyway it can be used with other applications requiring the high speed (half duplex) serial communications port however in such cases installer must perform adequate tests to ensure that UT-2USB will operate satisfactory in given application. UT-2USB interface can be used for programming of a single PR access controller or for management of a networked access system. Each adapter comes in a black plastic case intended for wall mounting and has two LEDs which indicate data flow through RS485 and one LED for power supply.

The installation of UT-2USB requires two steps: first to make appropriate electrical connections, second to install driver on PC. The UT-2USB driver creates a Virtual COM Port (VSP-Virtual Serial Port or VCP-Virtual Com Port) within the operating system.

Properties

Power supply

The module derives the power from the USB port and doesn't need any external power source.

RS485 Transmission Control

The data transfer on RS485 is automatically done by the converter. Normally, the UT-2USB operates in *receive* mode, which means that all data received by UT-2USB through RS485 lines are shifted to PC. With the first byte of data received from PC, the UT-2USB switches the RS485 interface (lines A and B) into *transmit* mode. The RS485 remains in that mode as long as data is transmitted from PC to RS485, once the PC stops transmission the RS485 lines returns automatically to *receive* mode.

RTS and CTS Lines

Generally, the RTS and CTS lines are dedicated to improve communication between managing computer and RACS access systems which operate with CPR32-SE. The use of RTS and CTS lines in such systems is not obligatory and may be omitted. The RTS and CTS control lines are mostly used with access networks containing 16 or more controllers. When used, both lines must be connected to adequate input and output of the CPR32-SE network controller.

Note: The RTS and CTS control lines are supported by PR Master v4.3 and CPR32-SE v3.0 or higher.

Electrically, the RTS and CTS lines are adjusted to CPR32-SE v3.0 I/O standards (RTS active state is represented by ground voltage level, whereas line voltage above ~4,5 V or line floating keeps line inactive).

LED Indications

LED	Symbol	Color	Function
POWER		Amber	Power supply
TXD		Green	Data send to RS485 comm. bus
RXD		Red	Data received from RS485 comm. bus

Interface Installation

Firstly, a driver installation is required within the operating system to create Virtual COM Port. The UT-2USB interface should be connected to the PC USB port only after driver installation (drivers can be download from www.roger.pl).
The UT-2USB supports Windows 98, Me, XP, VISTA, Windows Server 2003, Linux (kernel 2.4.20 or later), Apple Mac OS 8, 9, Mac OS X.

Install the interface in a dry area, all electrical connections should be carry out while interface is unplugged from the USB port. For connection with PC use the USB A-B cable (delivered with package).

Note: Do not modify USB A-B cable, it is not allowed to cut this cable or extend it with help of others wires inappropriate for USB transmission. It is allowed to use a special USB extension cord, but the total USB cable length may not be longer than 5 meters.

The UT-2USB can be connected to RS485 communication bus in any, arbitrary selected, location. The topology of RS485 communication bus in RACS system is free and may incorporate tree, star or any combination of them. Also, no terminating resistors are required on the ends of communication bus. Please note, that distance between UT-2USB and CPR control panel or any controller may not exceed 1200m.

Extending Communication Distance

The UT-2USB may be used for successful communication on distances up to 1200m. When longer distance is required a UT-3 interface can be used. The use of two UT-3 interfaces creates communication link and extends communication distance by next 1200m. For communication between access networks or controllers located in different buildings or cities the UT-4 interface can be used. The UT-4 interface enables communication with access controller(s) or access networks through 100/10BaseT Ethernet network with TCP/IP communication protocol.

Connection Terminals Assignments		
Name		Function
CTS	For RACS	CTS line to CPR32-SE network controller (optional for PR Master 4.3)
RTS		RTS line to CPR32-SE network controller (optional for PR Master 4.3)
A		RS485 interface, line A
B		RS485 interface, line B
GND		RS485 interface, ground
SHLD		RS485 cable shield

Technical Specification	
Power supply	5 VDC direct from USB Port
Average current consumption	40 mA
Operating temp. range	0...+55º C.
Communication speed	0-115.2 kbit/s
Max. communication distance for USB	5 meters
Max. communication distance for RS485	1200 meters
Relative humidity	10 to 95% (without condensation)
Dimensions	68 x 45 x 23 mm
Weight	~ 35g

Ordering	
UT-2USB	Interface with black plastic case, 1m USB A-B cable

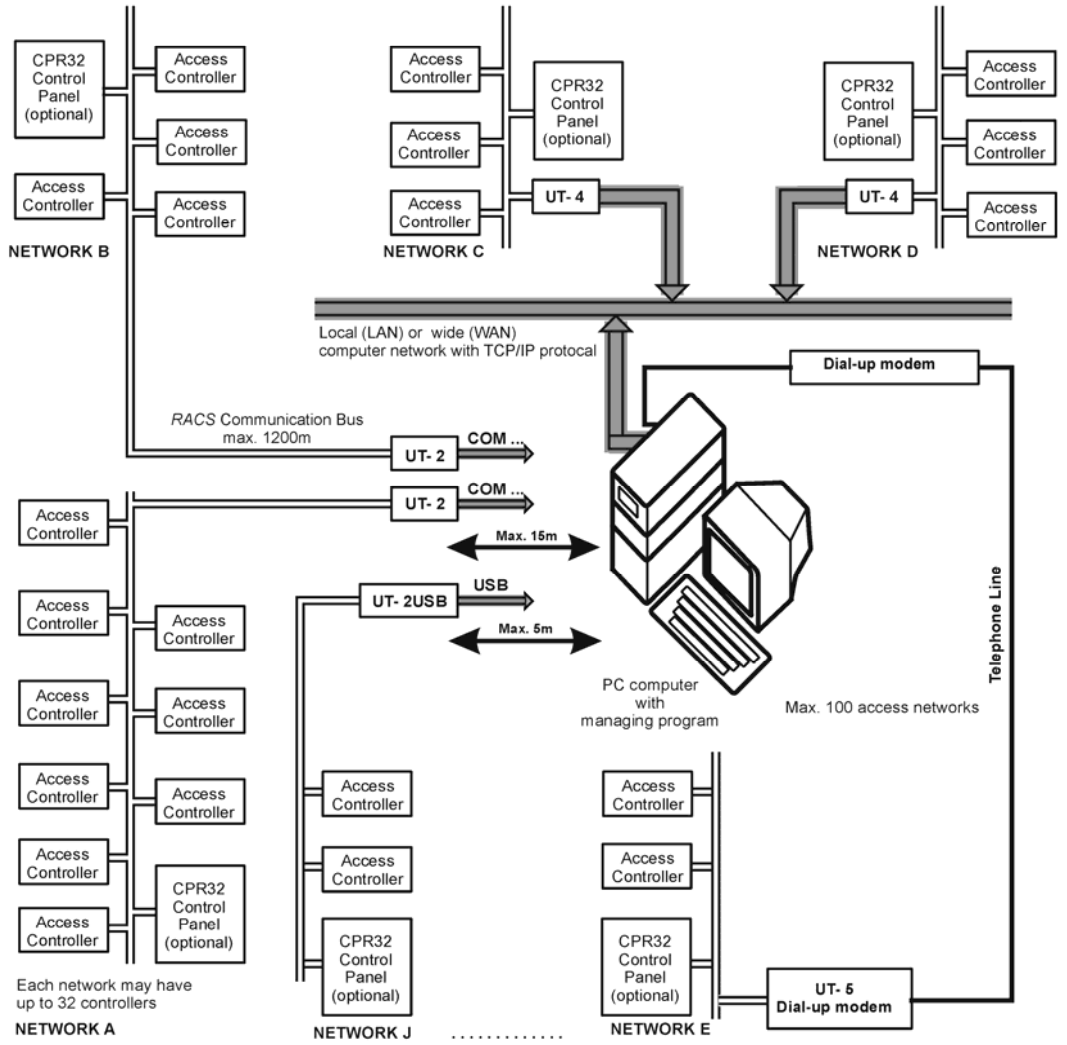
History	
UT-2USB v1.0	Initial product version

The symbol of a crossed-through waste bin on wheels means that the product must be disposed of at a separate collection point. This also applies to the product and all accessories marked with this symbol. Products labeled as such must not be disposed of with normal household waste, but should be taken to a collection point for recycling electrical and electronic equipment. Recycling helps to reduce the consumption of raw materials, thus protecting the environment.

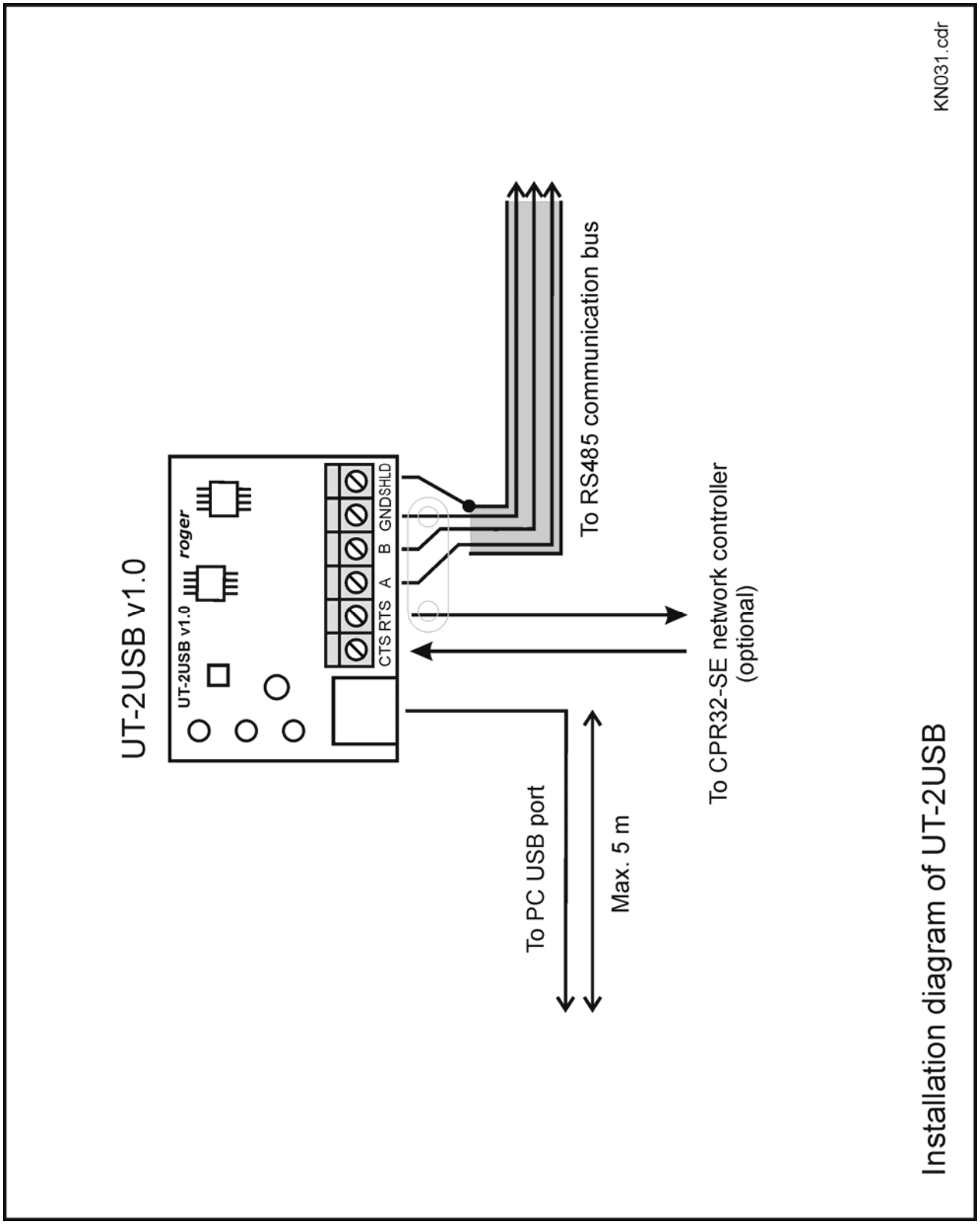
Contact
Roger sp. j.
82-416 Gościszewo
Gościszewo 59
Tel.: 055 272 0132
Fax: 055 272 0133

Roger Access Control System

The structure of RACS



1. Each network requires separate communication channel (COM port, USB port, TCP network or dial-up modem)
2. The maximum cable length between UT-2 communication interface and PC COM can't exceed 15 m.
3. The maximum cable length between UT-2USB communication interface and PC USB can't exceed 5 m.
4. The communication interface (UT-2, UT-2USB, UT-4 or UT-5) can be connected to RACS communication bus in any arbitrary selected location.
5. The maximum cable distance between communication interface and any access controller or CPR32-SE, may not exceed 1200 m.
6. The installation of CPR32-SE network controller is optional in access network.
7. System requires RACS managing software.
8. PC computer may operate in *Online* or *Offline* mode.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Installation diagram of UT-2USB
UT-2USB v1.0
UT-2USB v1.0
roger
CTS RTS A B GND SHLD
To RS485 communication bus
To CPR32-SE network controller
(optional)
To PC USB port
Max. 5 m

Deklaracja Zgodności EC
Declaration of Conformity EC

CE

Producent urządzenia / manufacturer:

ROGER sp.j.

82-416 Gościszewo 59, Poland

deklaruje z pełną odpowiedzialnością, że produkt:
declares under his sole responsibility that the product:

UT-2USB Interfejs komunikacyjny USB-RS485/ Communication interface USB-RS485

nazwa produktu, nazwa handlowa, model / product name, trade name, model

jest zgodny z postanowieniami następujących dyrektyw:
complies to the essential requirements and other relevant requirements of the directive:

Numer dyrektywy / Number of directive		
1.	2004/108/EC (EMC)	Dotyczy / Applicable
2.	99/05/EC (R&TTE)	Nie dotyczy / Not applicable
3.	2006/95/EC (LVD)	Nie dotyczy / Not applicable

oraz z wymienionymi poniżej normami, co zostało potwierdzone przez testy przeprowadzone przez laboratorium notyfikowane:

and is compliant with the following standards and/or other normative documents, what is confirmed by tests in accredited laboratory:

Norma / Normative document	Dyrektywa / Directive	Laboratorium / Laboratory
----------	Kompatybilność elektromagnetyczna/ Electromagnetic compatibility (EMC)	----------
----------	Wyposażenie radiowe i terminali telekomunikacyjnych / Radio directive (R&TTE)	----------
----------	Niskonapięciowe wyroby elektryczne/ Low voltage directive (LVD)	----------

Informacje dodatkowe / Additional information:
Miejsce przechowywania dokumentacji technicznej: Roger Sp.j. 82-416 Gościszewo 59.
The technical documentation is kept by Roger Sp.j. in 82-416 Gościszewo 59, Poland.

Gościszewo 20/07/2007

Miejsce i data wystawienia deklaracji
Place and date of issue of this declaration

Grzegorz Wensker
Dyrektor Techniczny / Technical Manager

roger

RMA Form

ROGER Sp.j.
Gosciszewo 59,
82-416 Gosciszewo,
pomorskie, Poland

Tel.: +48 55 272 0132
Fax: +48 55 272 0133
Tech. Support: +48 55 267 0126
http://www.roger.pl

Please note:
In the unlikely event you experience difficulties with your ROGER product, please contact ROGER's Technical Support Department to resolve the problem.
They may be reached at **+48 55 2670126** or **support@roger.pl** Monday through Friday **8:00 A.M. to 4:00 P.M. (GMT + 1)**. You can also contact the Technical Support Department by **fax** at **+48 55 2720133**.
If it is determined that you need to return the product, the following procedure must be followed to ensure prompt service.

RMA no.

_____

Customer information:

Company Name: ……
Contact Name: ……..
Street: ……
Code, City: ……
Country: ……..
E-mail: ……..
Contact phone: ……..
Fax: ……..

Product information:

Product Name: ……
Serial Number: ……..
Date of Purchase: ……

Reason for return:

☐ Warranty repair:
☐ Repair:
☐ Complaint:
☐ Wrong delivery:
Others: ……

……
(please specify)

Fault description:

what does not work, what is the reason for complaint, what can ROGER do for you ?

……..
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If it is determined that you need to return the product, the following procedure must be followed to ensure prompt service.

1. Any product returned to ROGER must have an RMA number. ROGER will refuse any package that is returned without a valid RMA number.

2. ROGER products cannot be returned for any reason other than defective

3. Defective products will only be accepted in accordance with the ROGER`s warranty requirements.

4. All RMA numbers will be valid for a period of not longer than 14 days.

   Any package send to ROGER after 14 days of issuance will be refused and shipped back to you at additional cost.

5. If you purchased Roger product not directly from Roger company, please return it to the place where you bought it.

6. In order to receive RMA number please fill out the following form.

7. Once the completed form has been received and processed it will be returned to you with a RMA number appended. This is your authority to return the product.

8. Please ensure that this document accompanies the product when it is returned and that a copy is retained such that you can refer to it when requesting an update on the progress of a repair.

9. Use one RMA number per one returned product.

10. Put your RMA number on the shipping/address label

11. Please make sure that you always return product in appropriate packaging together with a RMA form in order to avoid damages during transit, You are advised to get proof of delivery

12. Some repairs may be chargeable and you will receive formal advice if this is the case.

13. If product returned as defective is found **not** to be defective, it will be returned back to the customer at his expenses. In that case the customer will be also charged with costs which may arise after triggering the RMA procedure.

14. If the product is beyond economical repair then the following options will be given:

Scrapped – This will occur automatically if ROGER does not receive a reply to three notices send to the customer at least in 5 days interval.
(There may be some exceptions to this) or if you instruct us during these communications.
Returned – However this will incur shipping charges.

Note: All repairs are dealt with as rapidly as possible although repair time is not guaranteed. Please contact us and we will try our best to suggest an estimated lead-time.

Notes

No.	**Fault description** (filled out by the customer)	**Date of repair** (filled out by the service)
1.		
2.		
3.		
4.		
5.		

Roger Worldwide Limited Warranty

(valid only with proof of purchase and when completely fulfilled)

ROGER Sp.j.
Gosciszewo 59,
82-416 Gosciszewo,
pomorskie, Poland

Tel: +48 55 272 0132
Fax: +48 55 272 0133
Tech. support: +48 55 267 0126
http://www.roger.pl

Please note:
In the unlikely event you experience difficulties with your ROGER product, please contact ROGER's Technical Support Department to resolve the problem. Call us from Monday through Friday **8:00 A.M. to 4:00 P.M. (GMT + 1) or send email: support@roger.pl**.

PRODUCT INFORMATION:

Product Name: .....

.....

.....

Serial Number: .....

Date of Purchase, Purchase receipt: .....

WARRANTY TERMS:

ROGER sp.j. (Roger) Worldwide Limited Warranty is applicable worldwide and supersedes any other warranty.

WARRANTY

This limited warranty extends only to the original purchaser of the Roger product.

WARRANTY DURATION

Roger warrants to You (original purchaser) that for a period of one year (the "Warranty Period") from the date of original purchase, limited by the end of 3 years period starting with the date of manufacture, your Roger Product will be substantially free of defects in materials and workmanship under normal use.

WARRANTY COVERAGE

If the Product proves defective during the Warranty Period please contact Roger Technical Support. BE SURE TO HAVE YOUR PROOF OF PURCHASE ON HAND WHEN CALLING.

If ROGER receives defective product (together with a copy of your original proof of purchase and RMA Number), ROGER will either repair or replace parts which, under normal conditions of use and service, prove to be defective in material or workmanship.

No charge will be made for labor or parts with respect to defects covered by this warranty, provided that the work is done by Roger or a Roger authorized service center.

This warranty does not cover expenses incurred in the transportation, removal or reinstallation of the product, whether or not proven defective.

Replacements or repairs furnished under this warranty are subject to the same terms and conditions of the original warranty.

EXCLUSIONS AND LIMITATIONS

This warranty does not apply if the Product (a) has been altered, except by Roger, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Roger, or (c) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident. In addition, due to the continual development of new techniques for intruding upon and attacking networks, Roger does not warrant that the Product will be free of vulnerability to intrusion or attack.

This warranty does not cover repair or replacement where normal use has exhausted the life of a part or instrument.

ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THE WARRANTY PERIOD. ALL OTHER EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF NON-INFRINGEMENT, ARE DISCLAIMED.

IN NO EVENT WILL ROGER BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, REGARDLESS OF THE THEORY OF LIABILITY (INCLUDING NEGLIGENCE), ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT (INCLUDING ANY SOFTWARE), EVEN IF ROGER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL ROGER' LIABILITY EXCEED THE AMOUNT PAID BY YOU (original purchaser) FOR THE PRODUCT, WITH THE LIMITATION THAT THE AMOUNT CAN NOT BE HIGHER THAN ROGER'S RECOMMENDED ENDUSER PRICE (WHICH IS AVAILABLE ON REQUEST DIRECTLY FROM ROGER).

The foregoing limitations will apply even if any warranty or remedy provided under this Agreement fails of its essential purpose. The terms of this warranty may not be varied by any person, whether or not purporting to represent or act on behalf of Roger.

This warranty represents the full extent of Roger's responsibility. This warranty shall become null and void in the event of a violation of the provisions of this limited warranty.

.....

Date, sign and stamp of the seller

KG/rev.05/EN