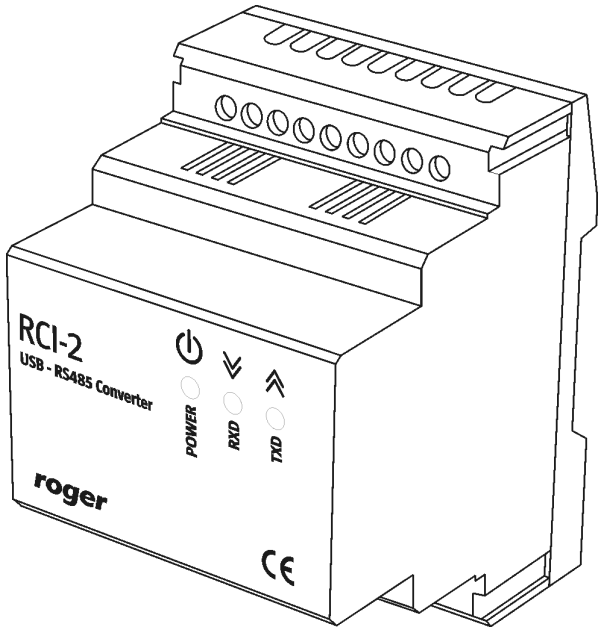
Roger Access Control System

Communication interface RCI-2 v1.0

Firmware version: 1.0.2

Document version: Rev. A



1. DESCRIPTION AND SPECIFICATION

RCI-2 interface allows communication with RS485 serial devices using USB PC port. Generally, interface is dedicated for use in RACS access control system however because it appears in PC as virtual com port it can be use for communication with other devices as well however it is necessary to test RCI-2 in dedicated scenario first and then make decision.
RCI-2 offers galvanic isolation which makes that PC computer is electrically separated from the devices connected to RS485 bus. Flow control method implemented in RCI-2 utilizes time based formula; interface switches automatically to TRANSMIT mode upon receiving data from PC; interface returns automatically to RECEIVE mode after approx. 2 ms from the moment when last bit is send out.

Table 1. Specification	
Parameter	Value
Supply voltage	Nominal 12VDC (10-15VDC allowed) and 5VDC from USB port
Current consumption	Average 20mA@12VDC and 40mA@5VDC (USB port)
Max. baud rate	230,4 kbit/s
Max. RS485 transmission range	1200m (for 9600kbits/s)
Environmental class (according to EN50131-1)	Class I, indoor general conditions, temperature: +5°C to +40°C, relative humidity: 10 to 95% (no condensation)
Dimensions (H x W x D)	62 x 85 x 73 mm; 3,5 DIN rail standard units
Weight	100 g
Certificates	CE

2. INSTALLATION

2.1 Terminals and connection diagram

Table 2. RCI-2 terminals	
Terminal	Function
12V	Positive power supply
GND	Negative power supply (ground) and reference potential for RS485 bus
A	RS485 bus, line A
B	RS485 bus, line B
USB	PC connection socket USB-B type

RCI-2 enclosure is dedicated for mounting on DIN35 rail. The installation place should provide adequate protection and easy access to connection terminals and ports. Example of connection to RACS system is showed on fig. 1. The device is supplied from 12VDC voltage (acceptable voltage range 10-15VDC) which can be taken from access control system or from separate power supply source. In the second case it is necessary to make an additional electrical connection (bridge) between both grounds (power supply and RACS system); this connection can be made using any small diameter wire.

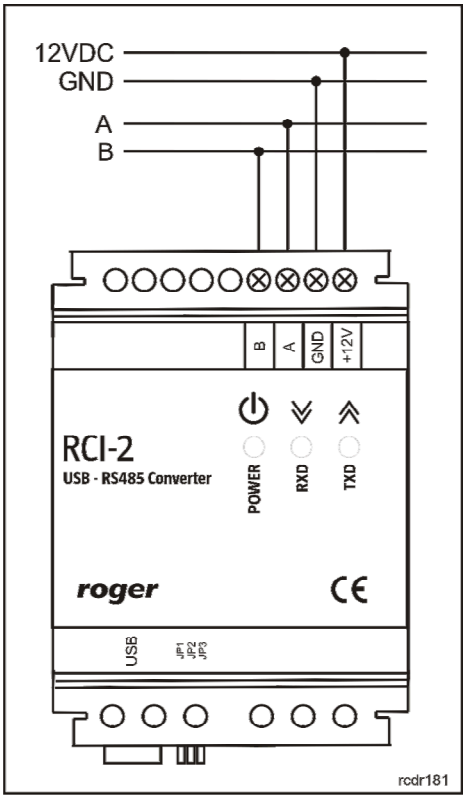


Fig.1 Connection RCI-2 to RACS system

2.2 Driver installation

Please install RCI-2 driver (available for download at www.roger.pl) before first connection of device to the computer. Driver works in Windows XP and newer (x86 and x64 versions). When connecting first time interface to computer, select please option not connect with Windows update and install drivers automatically. After this operation, interface is ready for use and system shows new serial port emulated via RCI-2.

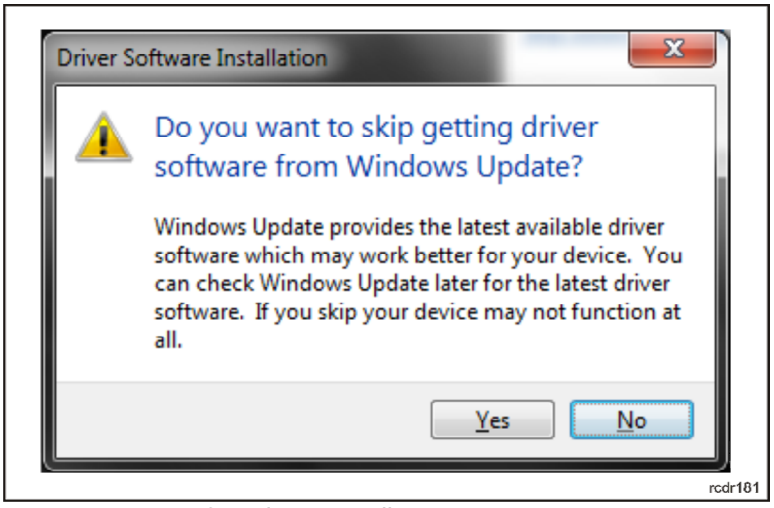


Fig.2 Interface driver installation

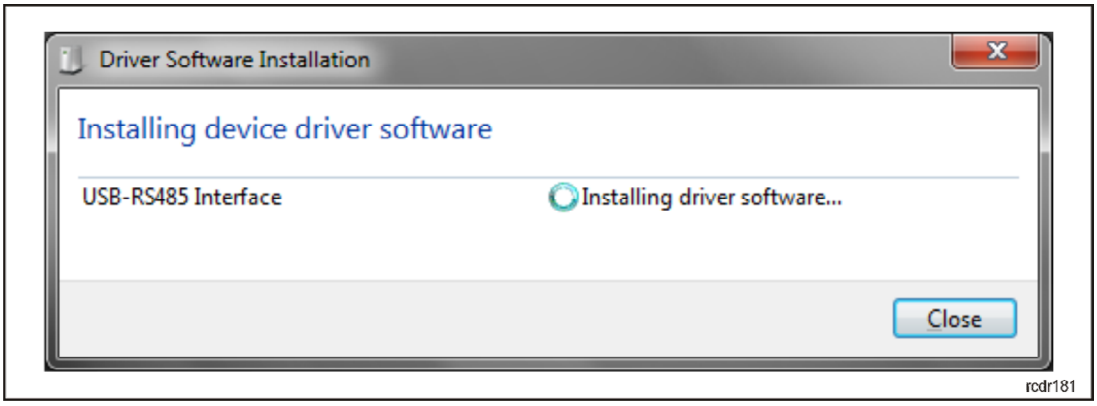


Fig.3 Interface driver installation

2.3 LED Indicators

Interface is equipped with three LED indicators, the meaning of which has been described in the table below.

Table 3. LED Indicators

Symbol	Name	Color	Description
⏻	POWER	Orange	Indicates connection to USB
⩓	TXD	Green	Indicates data transmitted to RS485
⩔	RXD	Red	Indicates data received from RS485

2.4 Firmware update procedure

RCI-2 firmware can be updated using PC computer. In this case, please:

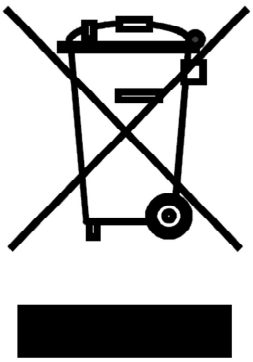
- Place jumper J0 and connect interface to USB PC
- Launch RogerISP software and choose port: HID (RCI-2 v1.0)
- Select file with firmware (*.bin extension) and press program button
- Please following program commands
- Once the process is finished disconnect device from computer and remove jumper

3. ORDERING INFORMATION

Table 4. Ordering information	
Product	Description
RCI-2	USB-RS485 communication interface

4. PRODUCT HISTORY

Table 5. product history		
Product version	Released	Description
1.0.2	VI 2013r.	The first commercial version of product



This symbol placed on a product or packaging indicates that the product should not be disposed of with other wastes as this may have a negative impact on the environment and health. The user is obliged to deliver equipment to the designated collection points of electric and electronic waste. For detailed information on recycling, contact your local authorities, waste disposal company or point of purchase. Separate collection and recycling of this type of waste contributes to the protection of the natural resources and is safe to health and the environment. Weight of the equipment is specified in the document.

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