



LEVTECH

User Manual



USB to RS485 CONVERTER
LSP-CRS



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PREFACE

Thank you for selecting our isolated signal converter splitter.

This User Manual contains information needed for proper installation, operation, and maintenance of your product. A thorough understanding of these simple instructions will help you get the most of your product.

This document should be read thoroughly, and the safety instructions described in this manual should be followed carefully. If you have questions or concerns about the operation and maintenance of this product, please contact our customer support.

Should a problem arise with the product, check if you followed the installation steps correctly. If the problem persists, contact an authorized Levtech dealer or our customer support.

All information in this User Manual is based on the latest product information available at the time of printing approval. Levtech reserves the right to make changes at any time without notice and without incurring any obligation.

Please always keep this manual together with the isolator as a reference to everyone who uses this product.

Document Revisions

Date	Version Number	Document Changes
03-11-2021	1.0	Initial draft
04-13-2021	2.0	Overall improvements
04-15-2021	3.0	Application examples added
04-22-2021	4.0	New images and formatting

Approvals

This document requires following approvals:

Name	Title
Levi Mihaly	General Manager

1. INTRODUCTION

1.1. General Information

This manual is the designated User Manual for the installation, safe operation, and maintenance of your product. It is divided into nine chapters covering general information, safety instructions, how to safely install and operate the product, maintenance, warranty, and contact information.


All personnel involved in the installation, operation, and maintenance of this equipment should read and understand this manual, particularly its safety instructions. Substandard performance and longevity, property damage, and personal injury may result from not knowing and following these instructions.


In order to ensure long product life, Levtech recommends that you utilize the product and perform maintenance by correctly following the instructions described in this guide. The manufacturer's warranty does not cover any damage resulting from the neglect of these instructions.

Levtech assumes no liability for damage caused by operation contrary to what is specified in this operating manual.

1.2. Support and Services

For information about further questions that are not answer in this manual, additional materials, and support, please contact:

 Lueta Nr. 319, Romania

 +40758576007

 office@levtech.ro

 www.levtech.ro

1.3. Disposal Remarks



DO NOT dispose of the outboard motor with domestic waste!

Electronic devices have to be disposed of according to the regional directives on electronic and electric waste disposal. In case of further questions, please consult your supplier. The supplier may take care of proper disposal.



2. SAFETY INSTRUCTIONS

2.1. Symbols

 WARNING	This symbol indicates information that, if ignored, could result possibly in personal injury or even death due to incorrect handling.
 CAUTION	This symbol indicates information that, if ignored, could possibly result in personal injury or physical damage due to incorrect handling.
NOTICE	Indicates information considered important, but not hazard-related.

2.2. Receipt and unpacking

Unpack the device without damaging it and check whether the device type corresponds to the one ordered. The packing should always follow the device until this has been permanently mounted.

2.3. Environment

Avoid direct sunlight, dust, high temperatures, mechanical vibrations and shock, and rain and heavy moisture.

2.4. Mounting

- Only technicians who are familiar with the technical terms, warnings, and instructions in the manual and who are able to follow these should connect the device.
- Mounting and connection of the device should comply with national legislation for mounting of electric materials, i.e. wire cross section, protective fuse, and location. Descriptions of input / output and supply connections are shown in this installation guide and on the side label.
- Use this device only in accordance with this instruction manual, as well as all applicable local and national laws and regulations. Only allow this device to be installed, operated, maintained, repaired, etc. by others who have also read and understood the user manual.
- Do not allow minors, untrained personnel, or personnel suffering from physical or mental impairment that would affect their ability to follow this manual to install, operate, maintain, or repair this device.
- Any untrained personnel who might be near the device while it is in operation **MUST** be informed that it is dangerous and fully instructed on how to avoid injury during its use.

 WARNING

To avoid the risk of electric shock and fire, the safety instructions of this guide must be observed and the guidelines followed.

2.5. Cleaning

When disconnected, the device may be cleaned with a cloth moistened with distilled water.

 WARNING

- The specifications must not be exceeded, and the device must only be applied as described in the following.
- Do not use the device near water or moisture.
- Do not install near any heat sources such as radiators, stoves or other heaters that produce heat.
- To prevent ignition of the explosive atmospheres, disconnect power before servicing and do not separate connectors when energized and an explosive gas mixture is present.
- Do not mount or remove devices from the power rail when an explosive gas mixture is present.
- Before the commissioning of the device, this installation guide must be examined carefully, and only qualified personnel (technicians) should install this device.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

 CAUTION

To avoid the risk of explosion due to electrostatic charging of the enclosure, do not handle the units unless the area is known to be safe, or appropriate safety measures are taken to avoid electrostatic discharge.

3. DESCRIPTION

This USB to RS485 converter is designed for industrial use and it makes a half-duplex RS485 connection. With its metal housing this converter is highly recommended for factory environment, but it is also suitable for any other industrial installations. This converter is powered through the USB plug and no external power supply is required. Using the high performance industry proven FT232 processor from FTDI, the converter ensures optimum reliability and performance. This product is designed to applications where a constant communication needed between devices, it ensures a stable communication and protects the PC from spikes and over voltages on the bus.

4. FEATURES

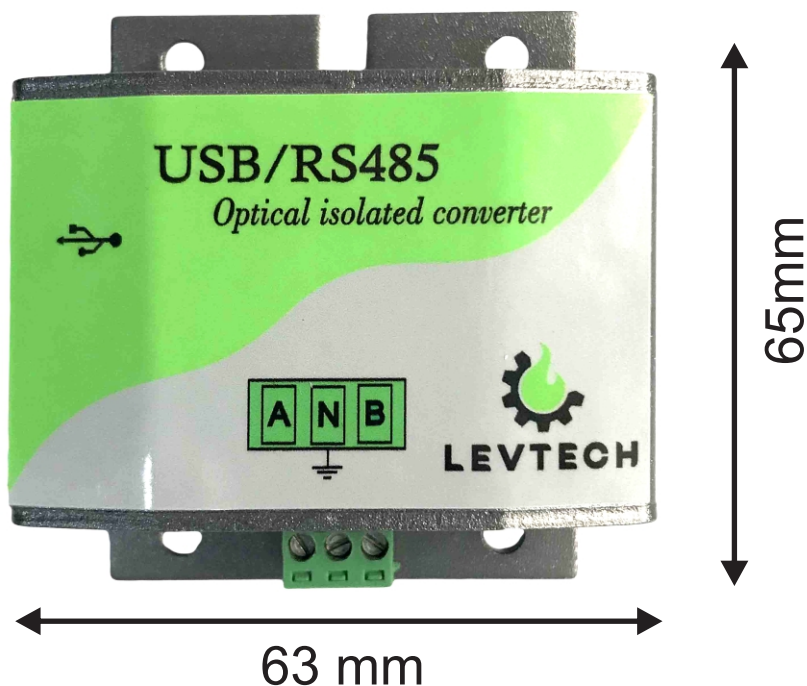
- Optical isolated
- Two-way communication (USB to RS485 / RS485 to USB)
- Input over voltage protection
- Short circuit protection
- USB 2 compatible
- Visual indicator LED for RX and TX
- Supply voltage from the USB
- FTDI chip
- Wall mountable aluminium case
- Plug and Play
- 2500 V isolation



5. SPECIFICATIONS

Power Supply	
Supply Voltage	5VDC (Powered from USB)
Power Consumption	<100mW
Reverse-Polarity Protection	Yes
Enclosure	
IP Rating	IP20
Dimensions (L x D x H)	65 x 63 x 25.5 mm
Weight	75g
Mounting	Wall mountable case with 4 screws
Maximum Cable Cross	2.5mm ² (max.)
Environmental Conditions	
Ambient Temperature Range	-20 ~ +50°C
Storage Temperature Range	-40 ~ +80°C
Humidity Level	0 ~95% RH at 40°C, no condensation
Other	
Processor	FTDI FT232
Power loss	1 W
Isolation	2500 VDC
Electro static protection	15KV EDS
Surge protection	500W/sec
Connection length	Up to 1200 m long
Baud rates	Up to 115200 Bps
Connectors	Standard USB B female 2-wire Rs485
Signals	A, B, GND
Termination resistor	Yes
OS Compatibility	Windows XP32/64-bit, WinCE, Linux, Windows XP Embadded, Windows 7 32/64-bit, Windows 10, Windows11

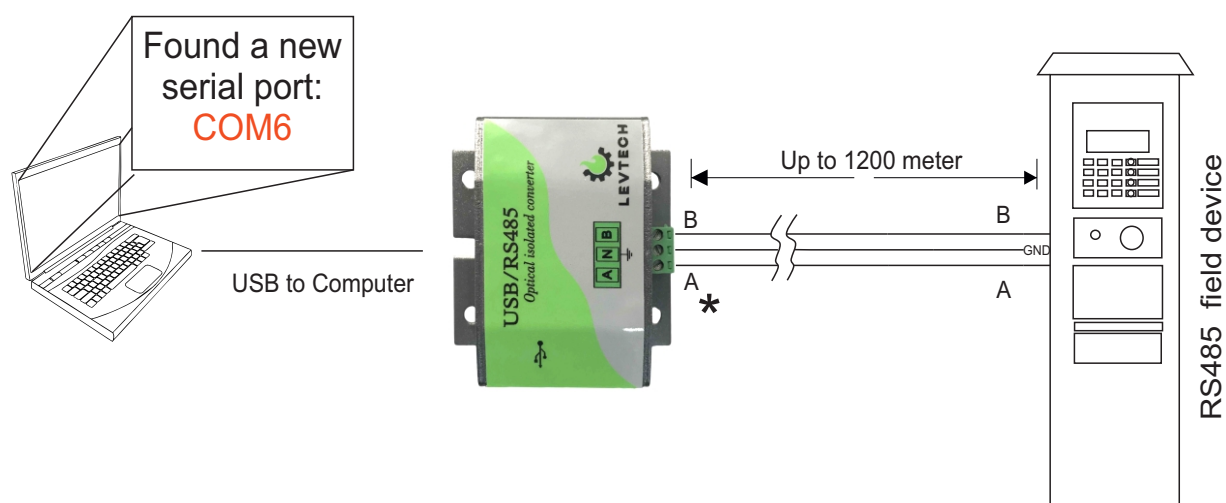
6. DIMENSIONS



7. CONNECTION

After connecting the converter to the PC, the driver will be installed automatically and a virtual COM port will appear which acts in the same way as a serial COM port interface.

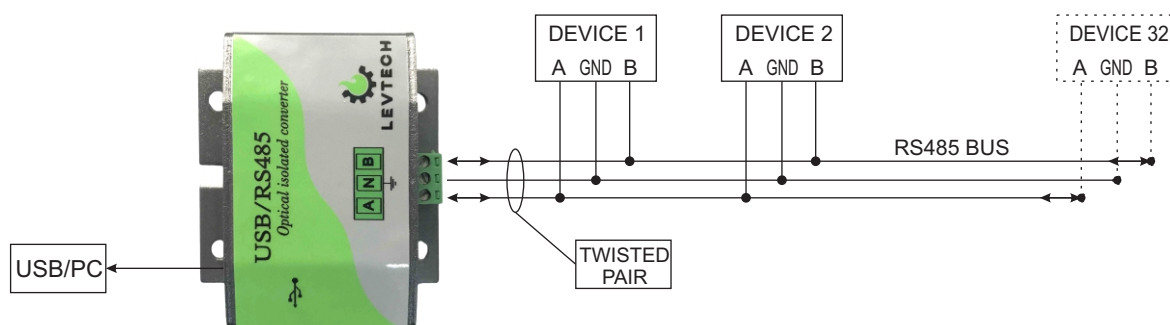
If the driver does not install automatically, you can download it from here (<https://www.ftdichip.com/Drivers/D2XX.htm>). The COM port number can be changed with any available COM port number. It can act as a Modbus master for industrial communication and control implementation.



***In case of faulty communication, connection A and B must be swapped.**

7. CONNECTION

Connecting the devices in serial, a shielded twisted pair cable is recommended for wiring. The shield must be grounded or connected to the common terminals of all devices in the network. Up to 32 devices can be connected on the serial bus.



Connection of multiple devices in RS485 BUS

The naming of the data lines of different devices may vary depending on the manufacturer. Check your product description for data terminals names. In the case of a faulty working, you should swap the two data lines (A and B).

The ground terminal (N) must be connected to all corresponding terminals of all network devices. This ensures that you have the same potential in all devices. On our product the middle pin is the grounding - N.

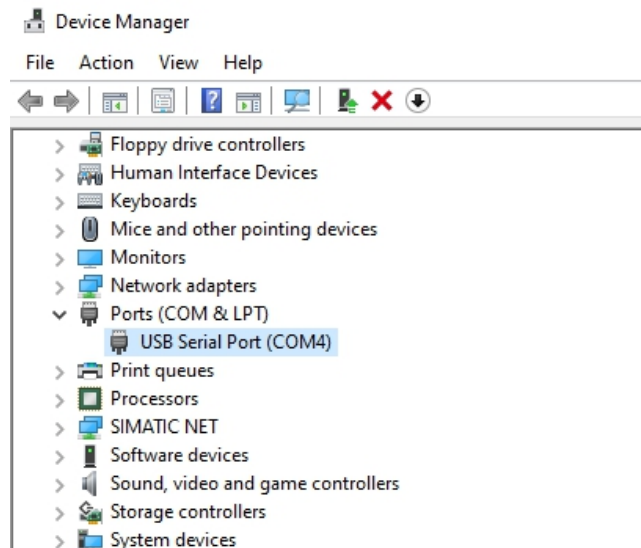
The USB driver of the LSP-CRS converter can result conflicts with other connected devices in the computer (mouse or any other USB devices). In this case, follow the steps below to solve the problem:

- Open the Device Manager in your computer (**Control Panel / System / Hardware / Device Manager / Ports (COM & LPT)** or just search it in your start menu by typing „Device manager” in the searching line)
- Find your faulty USB device
- Click on it with the right mouse button
- Select „Properties”
- Select „Port settings”
- Click on „Advanced...” button
- Uncheck the „Serial Enumerator” option

8. APPLICATION

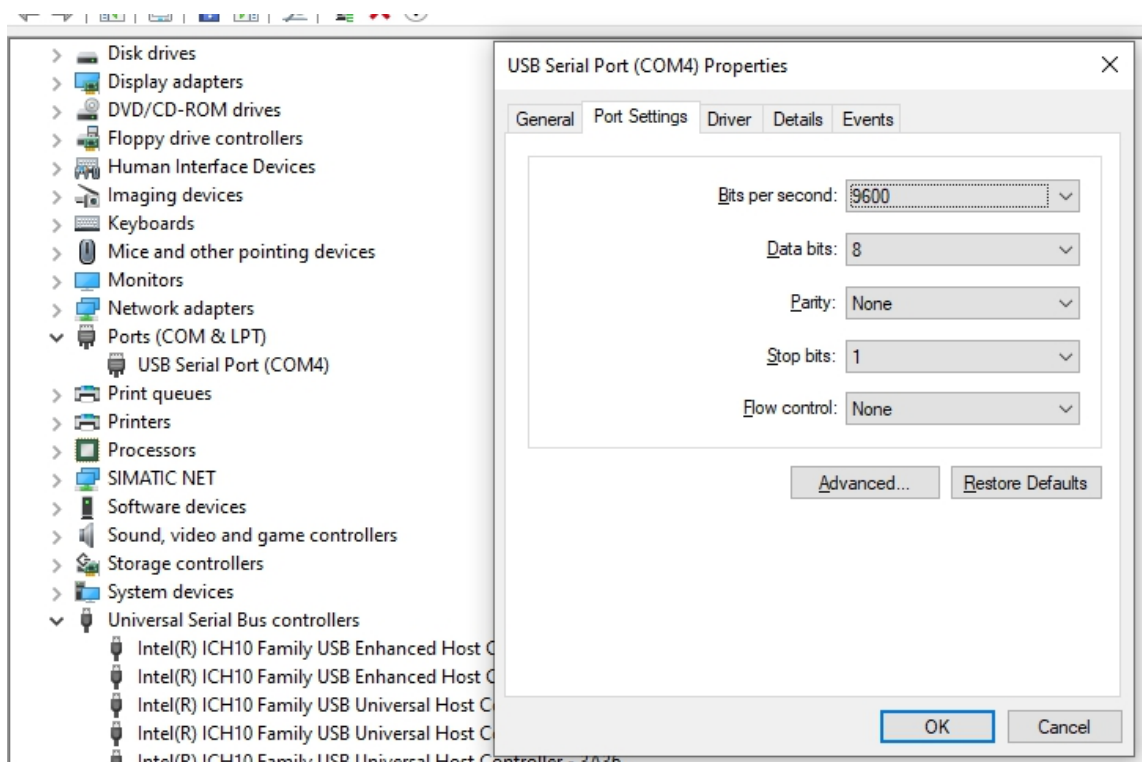
WINDOWS 10

After connecting the device to the computer, we can check its status and change its settings in the Device Manager. Windows 10 will automatically detect the FTDI chip and install its driver. The RS485 to USB converter appears as COM Port in the list at **Ports (COM & LPT) / USB Serial Port (COM "X")**.



Device Manager at Windows 10

Double Click on the **USB Serial Port** and the **Properties** window will appear where you can change the device port settings then click OK.



9. OPERATION AND MAINTENANCE

9.1. Operation

This isolator requires no user adjustments during commissioning. It comes with factory calibration ready for use.

If the isolator fails to operate, check for bad connections. In the unlikely event of the isolator not working, it should be returned to the supplier for repair or replacement.

9.2. Maintenance

Levtech suggests a quick check for terminal tightness and general unit condition. Always adhere to any site requirements for programmed maintenance.

10. WARRANTY DISCLAIMER

Levtech (“The Company”) makes no express, assumed or legal warranties (including any warranty of merchantability or of fitness for a particular purpose) concerning any goods or services sold by the company. The company disclaims all warranties arising from any course of dealing or trade usage. Any buyer of goods or services from the company acknowledges that there are no warranties implied by custom or usage in the trade of the buyer and of the company. Moreover, any prior dealings of the buyer with the company do not imply that the company warrants the goods or services in any way.

Any buyer of goods or services from the company agrees with the company that the sole and exclusive remedies for breach of any warranty concerning the goods or services shall be for the company, at its option, to repair or replace the goods or services or refund the purchase price. The company shall in no event be liable for any consequential or incidental damages even if the company fails in any try to remedy defects in the goods or services, but in this case, the buyer shall be entitled to no more than a refund of all monies paid to the company by the buyer for the purchase of the goods or services.

Any cause of action for breach of any warranty by the company shall be barred unless the company receives from the buyer written notice of the alleged defect or breach within ten days from the earliest date on which the buyer could reasonably have discovered the alleged defect or breach.

11. CONTACT INFORMATION



OPENING HOURS

Mon-Fri 8:00 AM - 18:00 PM
Sat 9:00 AM - 14:00 PM



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<https://www.levtech.ro/>

SOCIAL MEDIA



Levtech



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@levtech_s_p

COMPANY DATA

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SRL

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BCR BANK