User Manual

ADA-I9211
USB to RS-232 Converter

Contents

1. GENERAL INFORMATION

Thank You for purchasing of **CEL-MAR Company** product. This product has been produced and completely tested by us.
If any questions or problems arise during installation or use of this product, please do not hesitate to contact Technical Support at +48 41 362-12-46 or e-mail support@cel-mar.pl.

1.1. WARRANTED INFORMATION

ADA-I9211 converter is covered by a two year warranty on parts and operation from date of sale. In case of being damaged it will be repair or the damaged component will be replace. The warranty does not cover damage caused from improper use, materials consumption or any unauthorized changes. If the product does not function (is damaged), or not operate in accordance with the instructions, will be repaired.
All warranty and no warranty repairs must be returned with paid transport and insuring to the **CEL-MAR Company.**
CEL-MAR Company under no circumstances won't be responsible for ensuing damage from improper using the product or as a result of random causes: the lightning discharge, the flood, the fire and the like.
CEL-MAR Company is not be held responsible for damages and loss including: loss of profits, loss of data, pecuniary losses ensuing from using or the impossibility of using this product.
In specific cases **CEL-MAR Company** discontinue all warranties and in particular do not follow the user manual and do not accept terms of warranty by the user.

1.2. GENERAL CONDITIONS FOR SAFE USE

The device should be installed in a safe and stable places (eg, electroinstallation cabinet), the powering cable should be arranged so as not to be exposed to trampling, attaching, or pulling out of the circuit.
Do not put device on the wet surface.
Do not connect devices for nondescript powering sources,
Do not damage or crush powering wires.
Do not make connection with wet hands.
Do not adapt, open or make holes in casings of the device!
Do not immerse device in water or no other liquid.
Do not put the fire opened on device sources: candles, an oil lamps and the like.
Complete disable from the supply network is only after disconnecting the power supply circuit voltage.
Do not carry out the assembly or disassembly of the device if it is enabled. This may result to short circuit and damage the device.
The device can not be used for applications that determine human life and health (eg. Medical).

1.3. CE LABEL

The CE symbol on CEL-MAR device means compatibility with Electromagnetic Compatibility Directive **EMC 2014/30/WE.** Declaration of Conformity is delivered with purchased converter.

1.4. ENVIRONMENTAL PRESERVATION

This sign on the device inform about putting expended device with other waste materials. Device should send to the recycling. (In accordance with the act about the Electronic Appliance Expended from day 29 of July 2005)

1.5. SERVICE AND MAINTENANCE

ADA-I9211 converter doesn't require a servicing and a maintenance.
Technical support is available at number +48 41 362-12-46 in 8.00-16.00, from Monday to Friday or e-mail support@cel-mar.pl.

1.6. PACK CONTENTS

ADA-I9211 converter, user manual, CE declaration.

2. PRODUCT INFORMATION

2.1. PROPERTIES

- Conversion of USB to RS-232 standard,
- Compliant with USB1.1 and USB 2.0 standard,
- Baud rate (bps): 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400, 460800, 921600,
- PROFIBUS baud rate (bps): 300 bps, 600 bps, 1200 bps, 2400 bps, 4800 bps, 9600 bps,19200 bps, **93750**(230400) bps, **187500**(460800) bps, **500000**(921600) bps,
- Transparent for all protocols: MODBUS, DNP, PROFIBUS and other,
- Any format of byte defined with the specification of RS232 interface,
- Power supply from the USB port,
- Interface casing,
- RS-232 interface – DSUB-9M (male) connector,
- USB interface – cable with USB connector type A,
- Casing dimensions (W x D x H): D-SUB09 - 58 x 33/20 x 16 mm.; OBD – 64,5 x 48 x 24 mm.

2.2. DESCRIPTION

ADA-I9211converts USB standard to RS-232 without interfering in the format of transmitted data. Converter to communicate with RS-232 interface devices uses transmission lines as **Rx, Tx, RTS, CTS, DTR, DSR, DCD, RI and GND (ground)** and it is automatically detected by the computer system after connecting to USB socket (Plug&Play device). This converter doesn't require external power supply (it is powered from USB bus) and it uses asynchronism baud rate up to 921600 kbps.

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ADA-I9211 supports drivers for Windows 98, ME, 2000, XP, 2003, Vista, Win7, 2008, Win8, Win10, Win11 and installation will add the additional COM port about the next free number, witch can be used as standard COM port. It is virtual COM port therefore some software use DOS can work improperly.
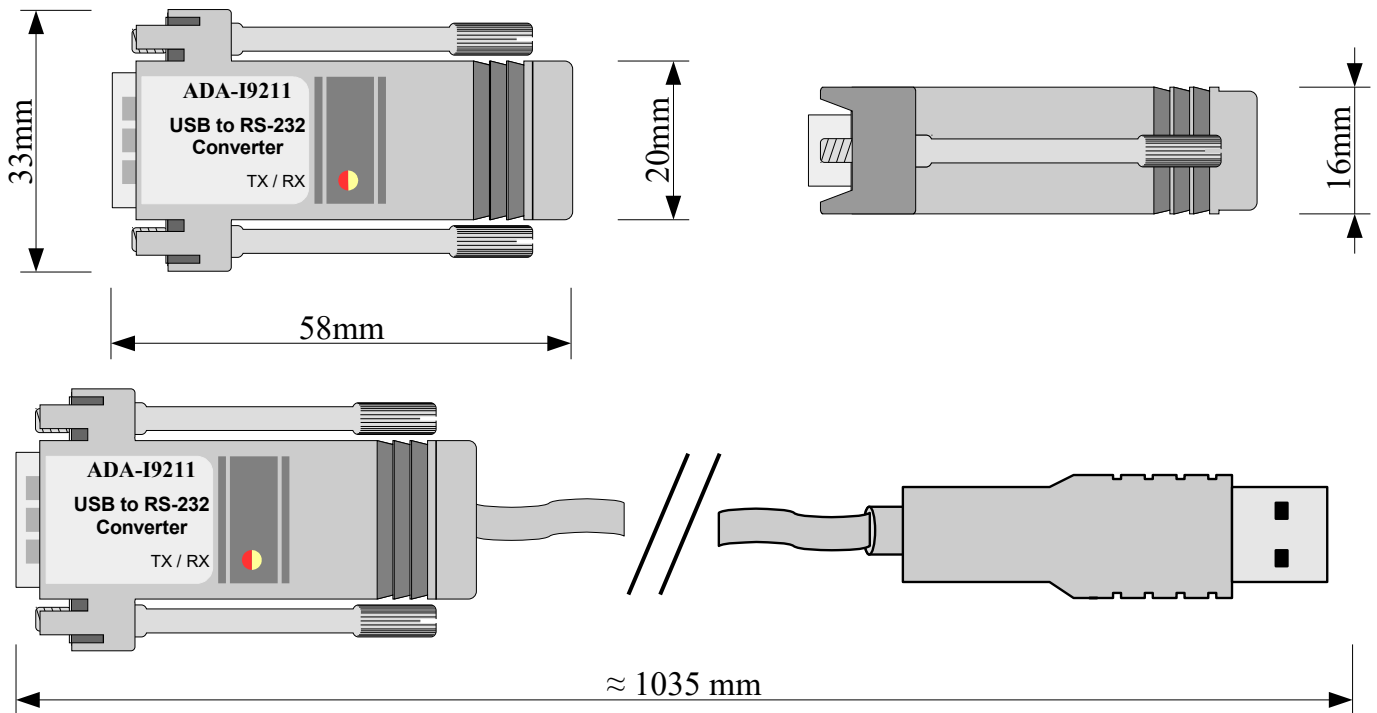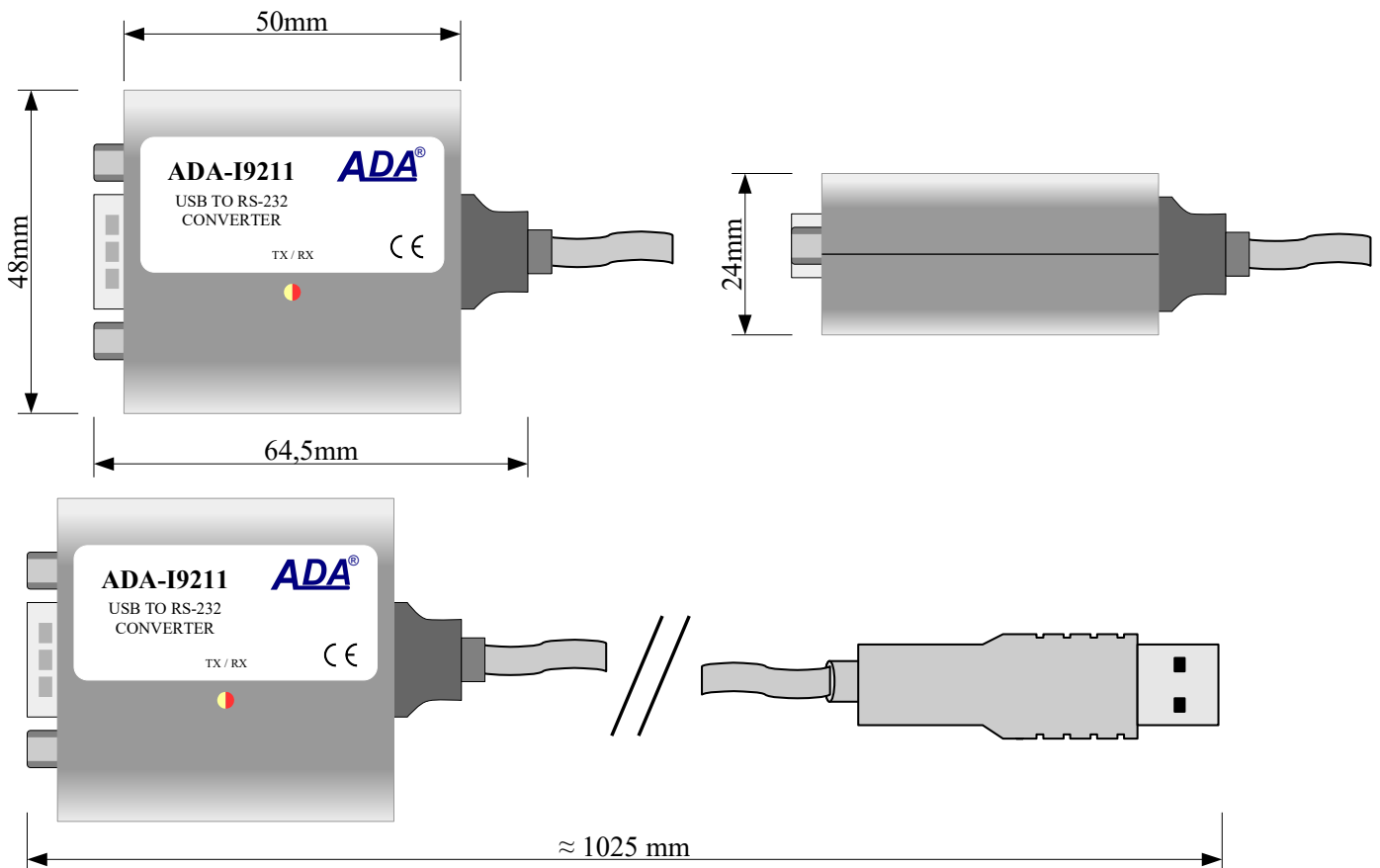
Fig. 1. ADA-I9211-1 view.

Fig. 1a. ADA-I9211-2 view.

2.3. SUPPORTED OPERATING SYSTEMS

For ADA-I9211 converter are available virtual serial port drivers for operating systems:
- Windows: 98, ME, NT, 2000, XP, Vista, 7, 2008, 8, 8.1, 10, 11; Windows CE
- Windows Server: 2003, 2008 R2, 2012 R2, 2016
- Linux: from Ubuntu 11.10, kernel 3.0.0-19 drivers built into the system kernel
- Raspbian - Raspberry Pi
- Mac: OS X 10.3 to 10.8, OS X 10.9 and higher.

3. INSTALLATION

This chapter will show you correctly connection of the ADA-I9211 to USB and RS-232 interface.

3.1. CONVERTER CONNECTION TO RS-232 INTERFACE OF DEVICE
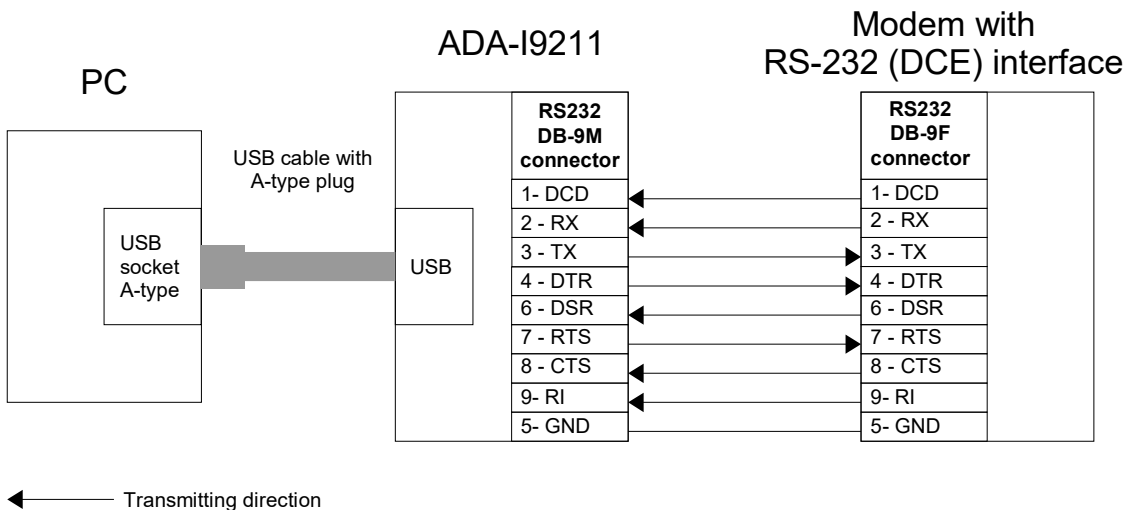
Connection should be done in use of shielded cable (RS232 extender) ended DB-9M male plug, max. lengths up to 15m.
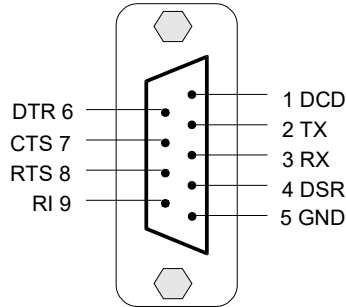
Fig. 2 Signal configuration of RS-232 interface nn converter DB-9M (mail) connector.
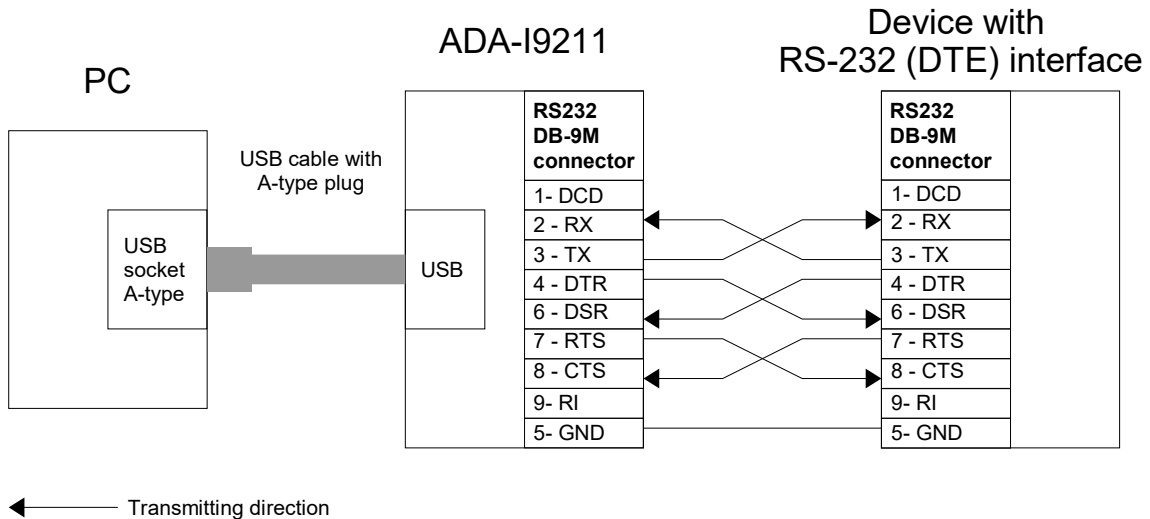
Fig. 3 Converter connection to DTE type device (e.g. PC) with RS-232 interface

Fig. 4 Converter connection to DCE type device (e.g. modem) with RS-232 interface

3.2. CONNECTION CONVERTER TO COMPUTER USB INTERFACE

ADA-I9211 converter has USB cable with A type connector for easy connection to computer.

3.3. POWER SUPPLY

ADA-I9211 converter is fed from USB port.

4. DRIVERS INSTALLATION IN SYSTEM WINDOWS

To install the drivers, download the ada_usb.zip file from the ADA-I9211 converter website
(https://cel-mar.pl/en/usb_rs232_i9211.htm), located in the **Downloads** tab. Then unpack it and run the Windows driver installer
ADAUSBDRV.exe and follow the installer's instructions.
Drivers and deinstaller for Windows 98, ME, 2000, XP, 2003, Vista, Win7, 2008, Win8, Win10 will be installed.
Connect the converter to the computer's USB port and continue following the installation wizard's instructions.

4.1. DRIVERS INSTALLATION IN SYSTEM WINDOWS 10/11 VIA INTERNET

To install drivers for ADA-I9211 in Windows 10/11, connect the converter to the USB port and wait until the system downloads the
latest drivers from the Internet and installs them.

4.2. EXAMPLE DRIVER INSTALLATION IN WINDOWS 7 SYSTEM

Download the ada_usb.zip file with Windows drivers from the website of the ADA- I9211 converter
(https://cel-mar.pl/en/usb_rs232_i9211.htm) for the baud rates:
a/ Standard
b/ Profibus (only for Windows XP, Vista, 7)
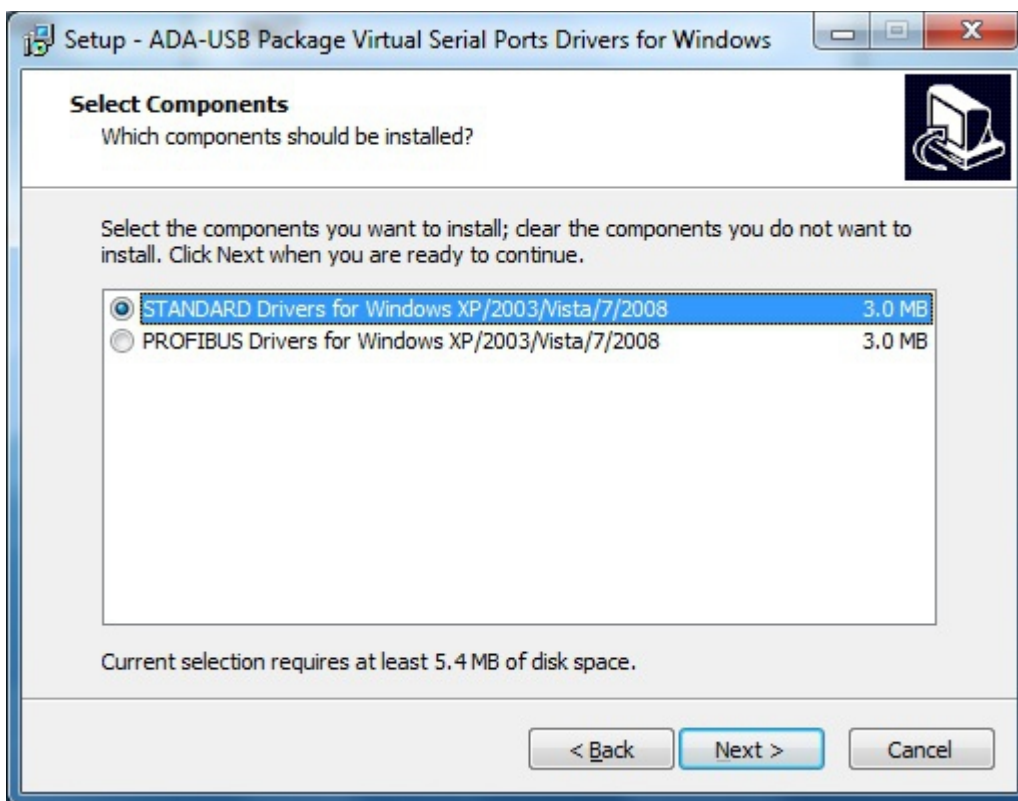Unpack it and run the **ADAUSBDRV.exe** installer.
After running the installer, the wizard installation window will appear.

ATTENTION ! !
DRIVERS INSTALLATION SHOULD BE MADE FROM ADMINISTRATOR ACCOUNT
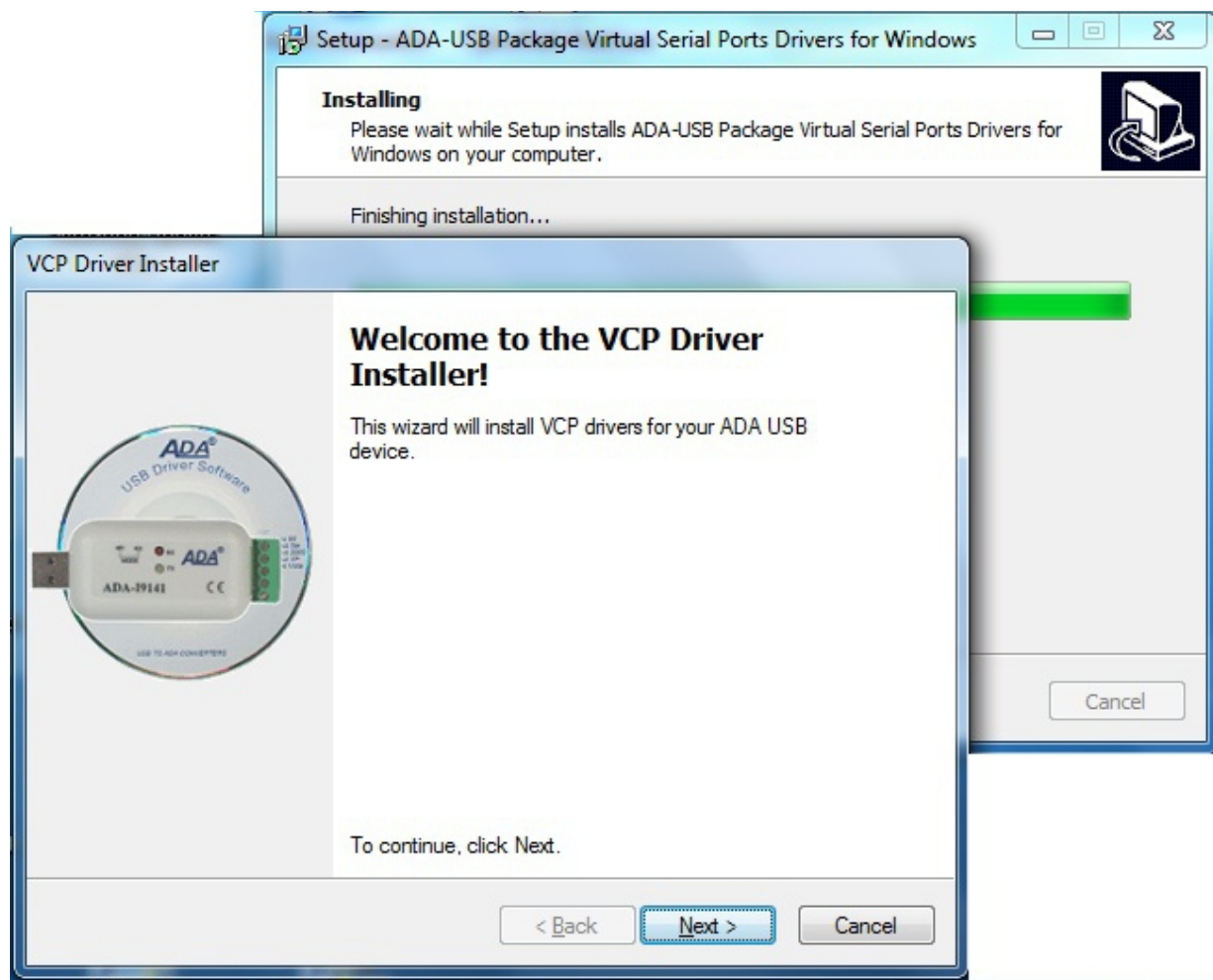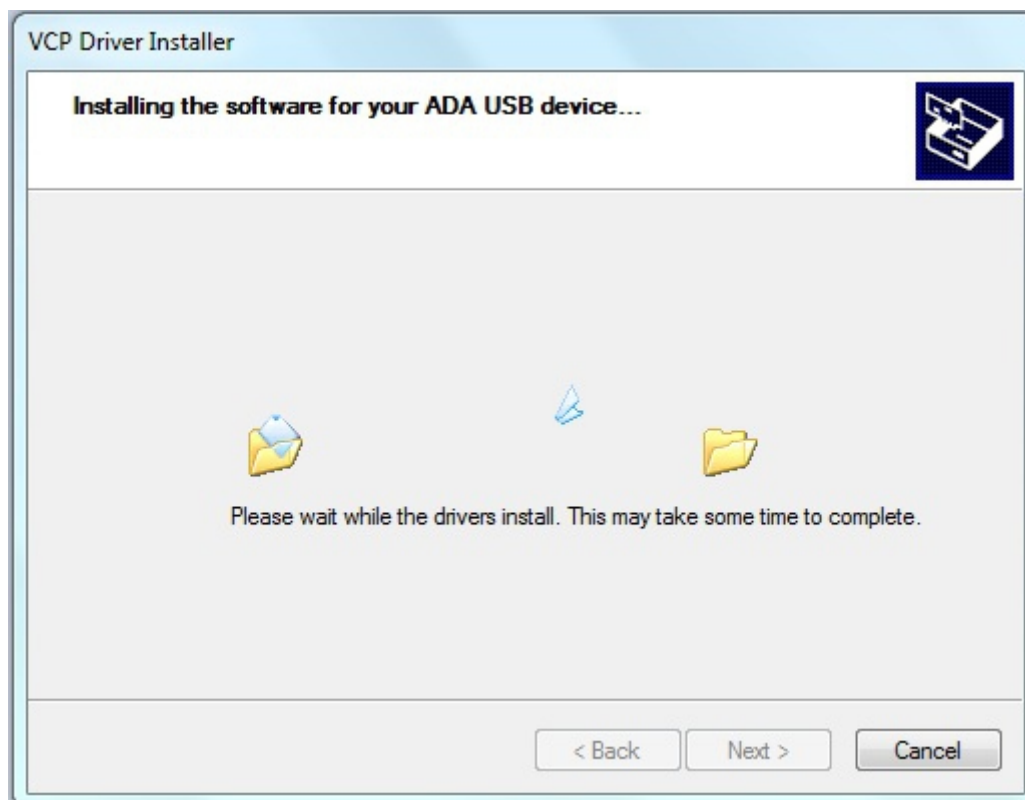

Press **[Next]**

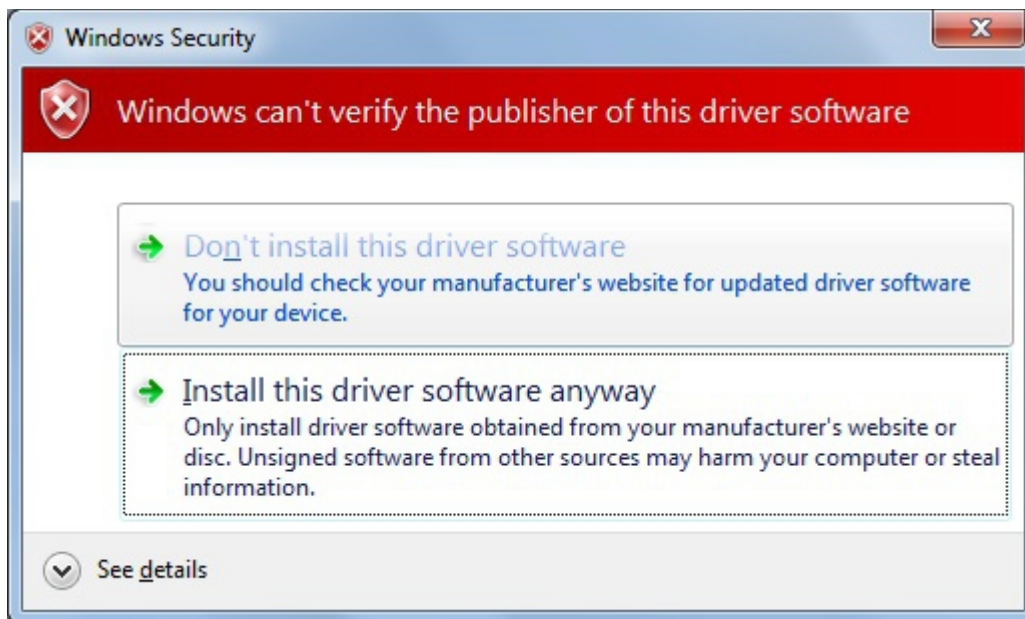Select STANDARD Drivers and press **[Next]**
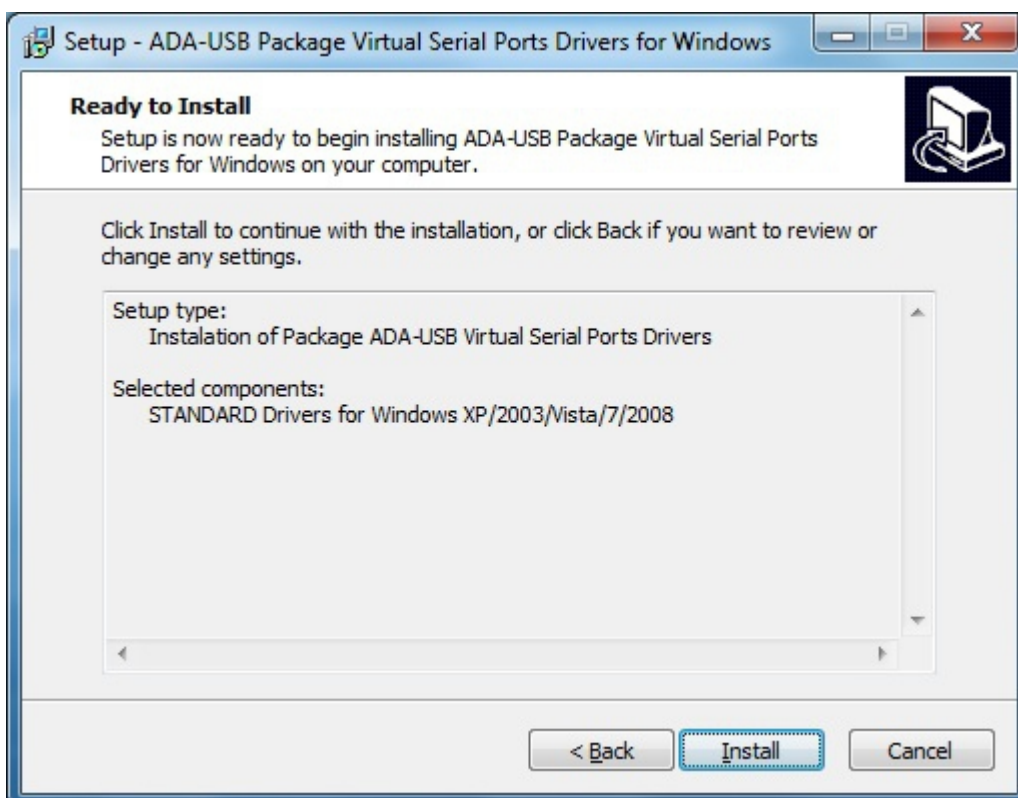
Press **[Install]**

Press **[Next]**, will be installed Drivers for USB Bus.

Press **[Install this driver software anyway]**. Installation of drivers for USB Bus will start.
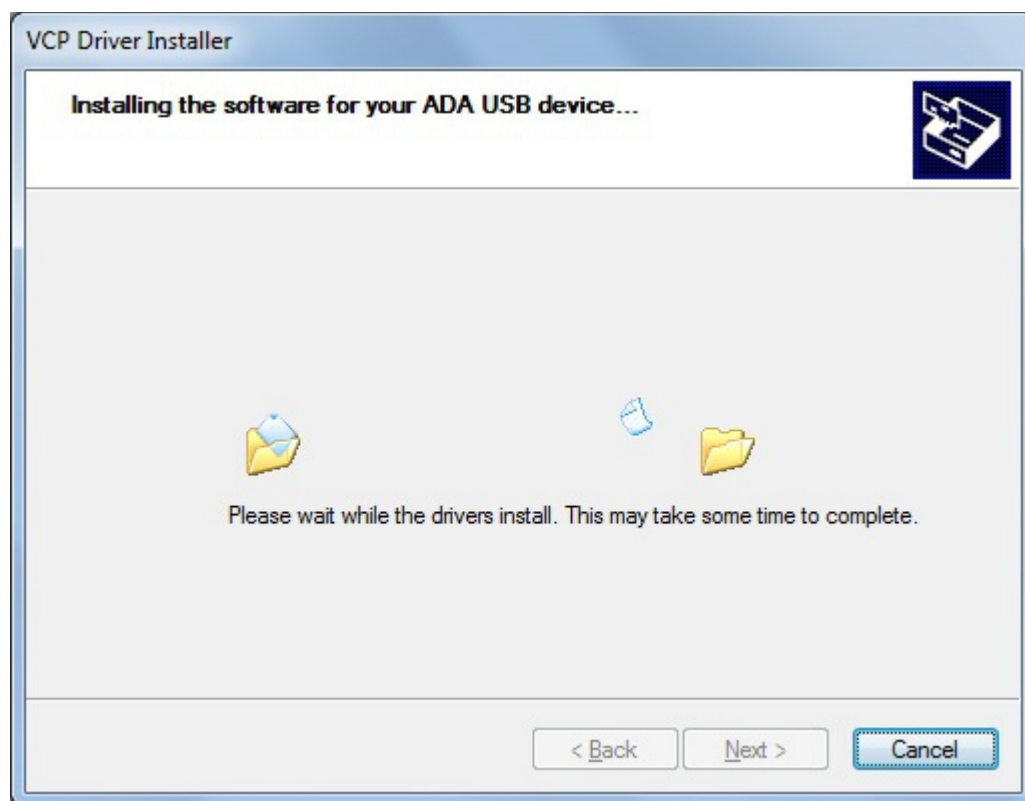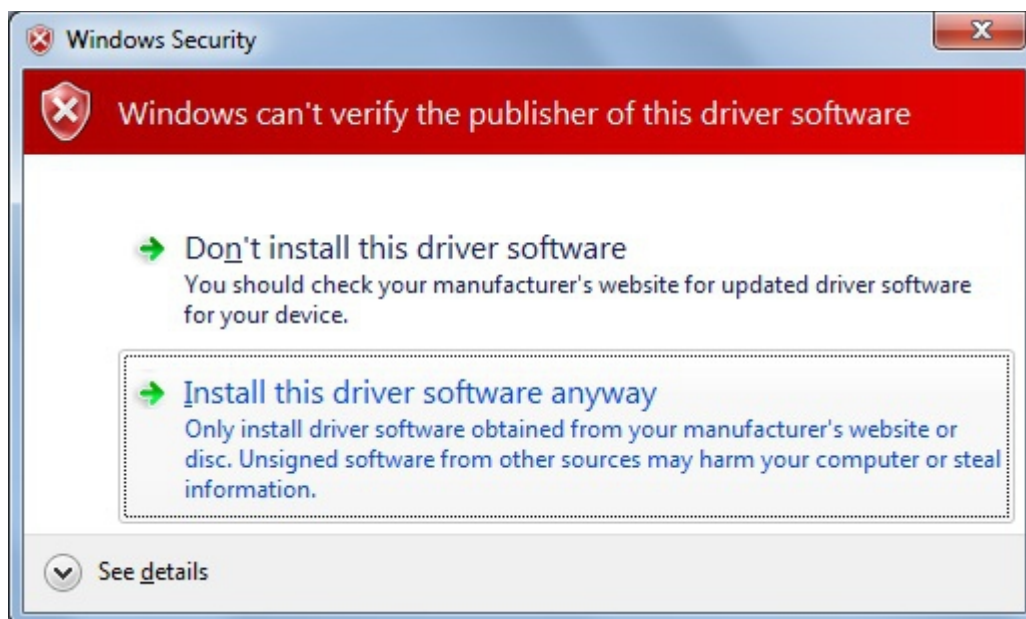
Press **[Install this driver software anyway]**. Installation of drivers for Virtual Port will start.

Press **[Finish]**
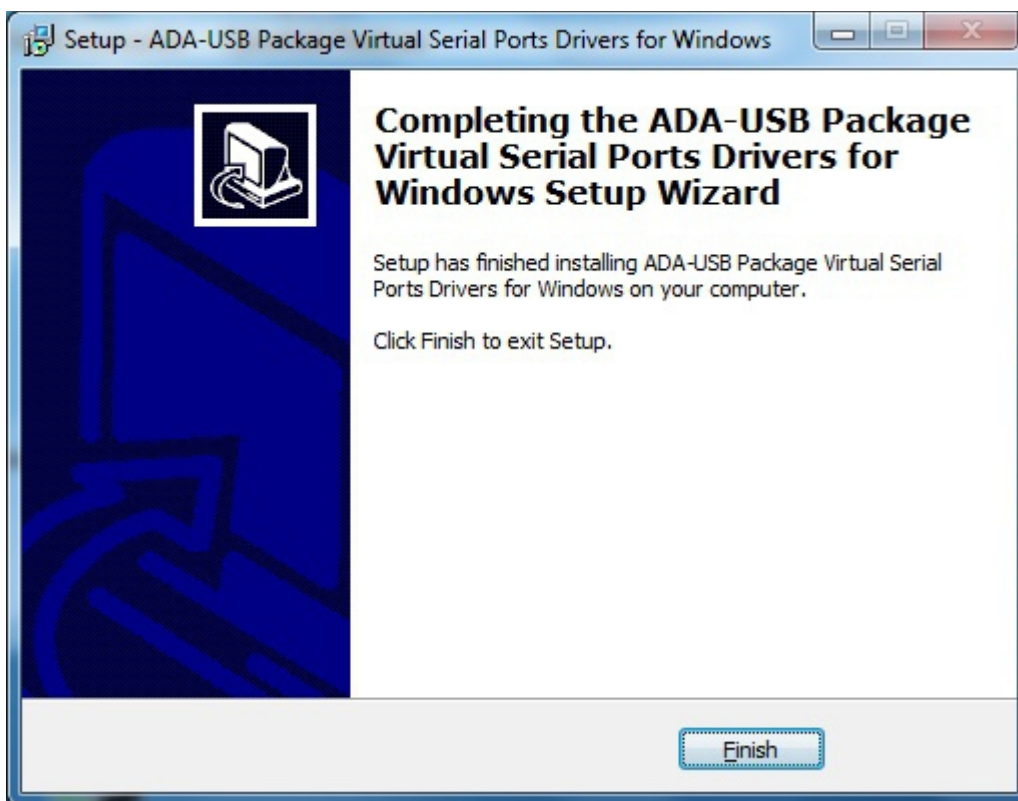
Press **[Finish].**
The driver for ADA-I9211 have been installed. This can be checked in "Uninstall or change a program"

Now you can connect ADA-I9211 to computer port.
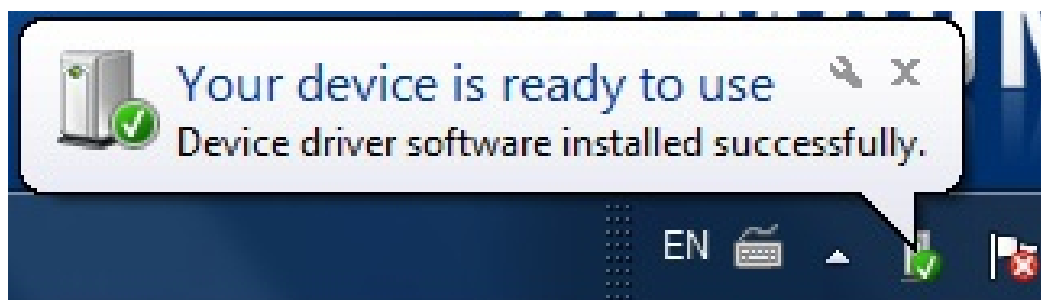
After connection will appear the Tool tip with [Your device is ready to use]. To see the details press the Tooltip, and will appear information window where you can see which COM port was assigned to converter.
After this installation, RS232 port of ADA-I9211 converter is available in the system as normal COM port. You have to remember about specified baud rate for communication.
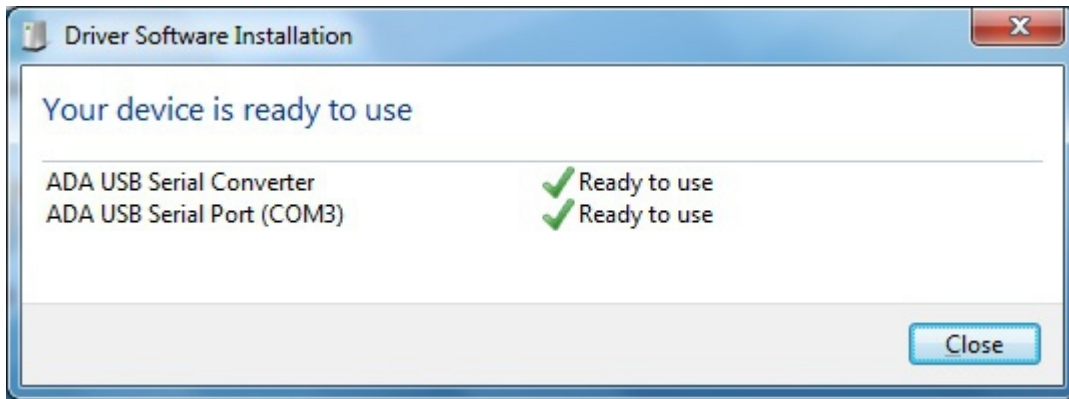
If during installation you selected driver for Standard baud rates you would be able to use:
 300 bps, 600 bps, 1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps, 38400 bps, 57600 bps, 115200 bps, 230400 bps, 460800 bps, 921600 bps.

If during installation you selected driver for Profibus baud rates you would be able to use:
300 bps, 600 bps, 1200 bps, 2400 bps, 4800 bps, **9600** bps,**19200** bps, **9375 0**bps (if you select 230400bps), **187500** bps (if you select 460800bps), **500000** bps (if you select 921600bps).

5. DRIVER UNINSTALLATION
5.1. DRIVER UNINSTALLATION IN WINDOWS SYSTEMS

Uninstalling drivers in Windows XP/ 2003/ Vista/ 7/ 8/ 10/ 11 should be done as follows:

a/ disconnect converter from computer,

b/ login as the **Administrator**,

c/ select menu *Start > Setting > Control Panel > Add > Remove Programs,*

d/ select
Windows Driver Package – CEL-MAR ADA – Virtual USB Serial Port,
or
Windows Driver Package – FTDI CDM Driver Package – VCP Driver,

e/ press [Change / Remove], Virtual USB Serial Port driver will be uninstalled,

f/ select
Windows Driver Package – CEL-MAR ADA – USB Serial Converter,
or
Windows Driver Package – FTDI CDM Driver Package – Bus/D2XX Driver,

g/ press [Change / Remove], driver converter of USB Bus will be uninstalled,

h/ after uninstallation reboot the computer.

5.1.1. EXAMPLE DRIVER UNINSTALLATION IN WINDOWS 7 SYSTEMS

Windows 7 system driver uninstallation have to be done according follow steps:

a/ disconnect converter from computer,

b/ login as the **Administrator***,*

c/ select menu *Start > Control Panel > Programs > Uninstall*,

d/ select from *Windows Driver Package – CEL-MAR ADA – Virtual USB Serial Port,*

e/ press *[Uninstall/Change]*, Virtual USB Serial Port driver will be uninstalled
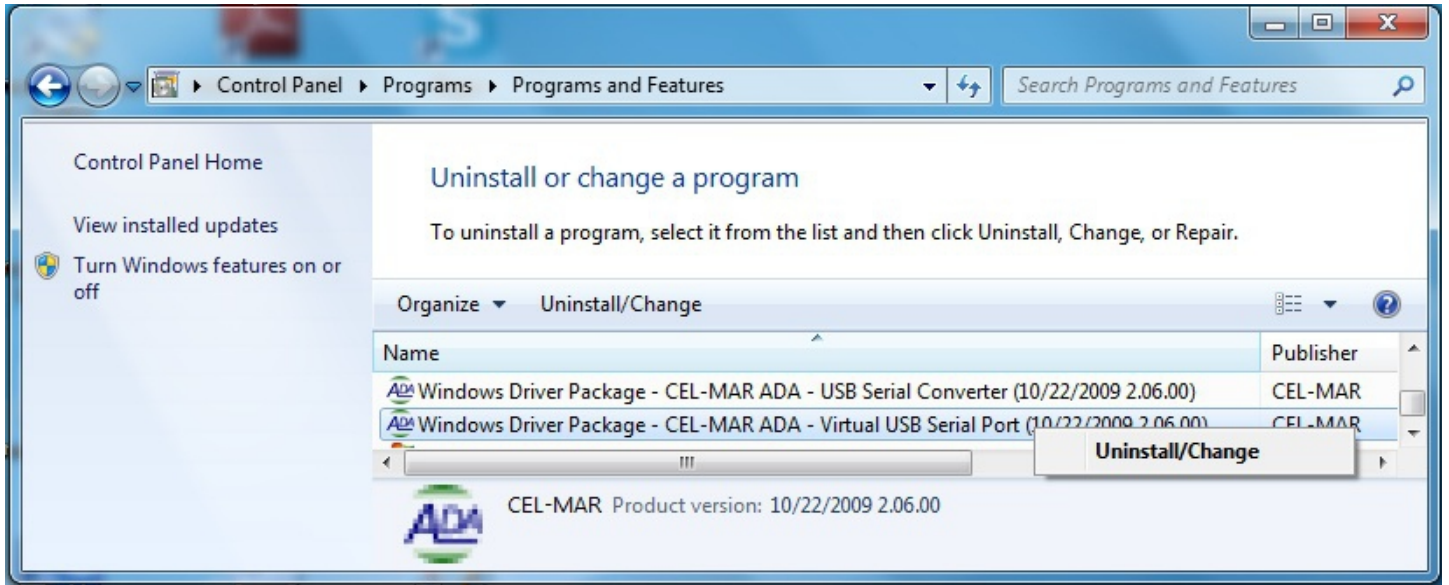
f/ select from the list **Windows Driver Package – CEL-MAR ADA – USB Serial Converter**
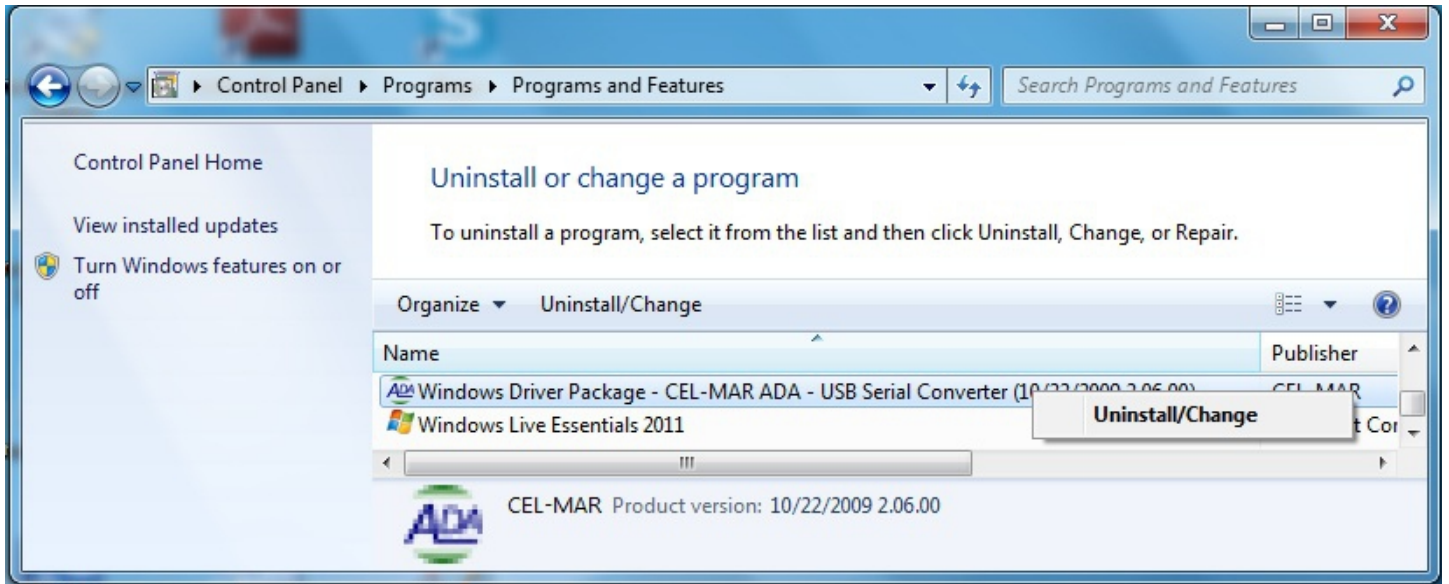
g/ press **[Uninstall/Change],** driver converter of USB Bus will be uninstalled,

h/ after uninstallation reboot the computer.

5.2. EMERGENCY DRIVER UNINSTALLATION

If there are problems with property operation of drivers or converter, and or on computer was installed drivers other devices this type, an operating system should be cleaned (files&entries in system registers) by the use of special software. This can be done after uninstallation descried in point 5.1.

5.2.1. EMERGENCY DRIVER UNINSTALLATION IN WINDOWS XP/2003/Vista/7/2008

Emergency driver uninstallation in Windows XP/2003/Vista/7/2008 system, have to be done according follow steps:

a/ disconnect converter from computer,

b/ login the **Administrator** account,

c/ after unpacking the **ada_usb.zip** file (see section 4), from **Windows\Win-XP-2003-Vista-7-2008_2.06\CDMUninstaller** folder, run the **uninstall.bat,**

e/ after finishing, reboot the computer.

6. USING

After property connection according to section above you can start using the converter. During the data transmission LEDs should blink, they indicate appropriately:

LED	Description
Tx – yellow	Data transmitting form ADA-I9211 via RS-232 port to a RS-232 device.
Rx – red	Data receiving from RS-232 Device connected to RS232 the converter port.

LED ON - status signal equal 1 logical
LED OFF - status signal equal 0 logical.

6.1. BAUD RATE SELECTION FOR PROFIBUS COM PORT

For setting correct **Profibus** baud rate (after installation "**Virtual Por**t" driver for **Profibus**) in application using virtual port COM follow table below.

Setted baud rate [bps]	Actual baud rate [bps] Profibus
230400	**937500**
460800	**187500**
921600	**500000**

6.2. COM PORT SELECTION HIGHER THAN COM9

If virtual port COM of converter will install in Windows as COM10 or higher than in application using this port should be typed COM port address as: \\.**COM10**.

7. RS232 INTERFACE – PIN DESCRIPTION OF D-SUB9-MALE SOCKET

Pin DB-9 connector	SIGNAL	DESCRIPTION	ADA-I9211
1	DCD	Data Carrier Detect	Receiver
2	Rx	Transmitted Data	Receiver
3	Tx	Received Data	Transmitter
4	DTR	Data Terminal Ready	Transmitter
5	GND	Signal ground	GND
6	DSR	Data Set Ready	Receiver
7	RTS	Request To Send	Transmitter
8	CTS	Clear To Send	Receiver
9	RI	Ring Indicator	Receiver

8. VERSIONS

ADA-I9211 - ☐

Housing type:

D-SUB09   **1**

OBD   **2**

Order example:
Product symbol: **ADA-I9211-1**
1 – Housing D-SUB09

9. SPECIFICATION

TECHNICAL DATA		
Transmission Parameters		
Interface	**USB**	**RS-232**
Connector	USB A-type (male)	DSUB-9M (male) connector
Line length	up to 5m with additional cable	up to 15 m
Maximum number of connected devices	1	1
Transmission line	Standard extension USB cable A-A type	DB9F/DB9M multi-wire cable 9x0,34 shielded
Standards	USB1.1, USB2.0	EIA-232, CCITT V.24
Maximum baud rate	up to 921,6 kbps (Standard) / up to 500 kbps (Profibus)	
Transmission type	Asynchronism half duplex or full duplex,	
Optical Signalization	• RX – red LED received data on RS232 port • TX – yellow LED transmitted data on RS232 port	
Electrical Parameters		
Power requirements	from USB port	
Power Cable	Not applicable	
Power	< 0,5 W	
Protection from reverse power polarization	Not applicable	
Galvanic Isolation	No	
Optoisolation	No	
Electromagnetic compatibility	Resistance to disruptions according to PN-EN 6100-6-1 norm. Emission of disruptions according to PN-EN 6100-6-3 norm.	
Safety requiring	According to PN-EN 61010-1 norm.	
Environment	Commercial and light industrial.	
Environmental Parameters		
Operating temperature	0 ÷ 50°C	
Humidity	5 ÷ 95% - non-condensing	
Storage temperature	-10 ÷ 50°C	
CASING		
Dimensions (W x D x H)	D-SUB09 - 58 x 33/20 x 16 mm. OBD – 64,5 x 48 x 24 mm.	
Material	ABS/PE	
Degree of casing protection	IP20	
Weight	0,05 kg	
Implementation of Standard	Not applicable	
Location during work	Free	
Mounting method	Not applicable	

Dear Customer,

Thank you for purchasing **CEL-MAR Company** product.
We hope that, this user manual helped in connecting and starting **ADA-I9211 converter.**
We also wish to inform You, that CEL-MAR Company is a manufacturer of the widest selection of data communications products in the world in applications such as: data transmission converters in RS232, RS485, RS422, USB, Current Loop, Fibre-Optic and Ethernet Converters and many others.
We welcome your feedback so please contact us to tell how you like our products and how we can satisfy you present and future needs.

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