Datasheet

ADA-I9140

USB to RS-485 / RS-422 converter

Transmission line	USB standard cable	Twisted cable 1-pair, 2- pair or 4-pair, UTP Cat.5e, shield inside large interferences STP Cat. 5e.
Standards	USB1.1, USB2.0	EIA-485, CCITT V.11,
Max. baud rate	up to 921,6 kbps (Standard) / up to 1500 kbps (Profibus)	
Transmission type	Asynchronous, half duplex or full duplex,	
Optical Signalization	PWD – green LED (power supply) RX - red LED data reception on RS-485/RS-422 port, TX - yellow LED data transmission on RS-485/RS-422 port, RTS - yellow LED condition of RTS line, CTS - yellow LED condition of CTS line, DTR - yellow LED condition of DTR line, DSR - yellow LED condition of DSR line,	
Electrical Parameters		
Power requirements	from USB of Computer	
Power Cable	USB cable	
Power	< 1W	
Protection from reverse power polarization	Not applicable	
Galvanic Isolation	1kV= or 3kV= between signal line RS-485/RS-422 and USB	
Optoisolation	2,7kV= between signal line USB and RS-485/RS-422	
Electromagnetic compatibility	Resistance to disruptions according to the standard PN-EN 55024. Emission of disruptions according to the standard PN-EN 55022.	
Safety requiring	According to the PN-EN60950 norm.	
Environment	Commercial and light industrial.	
Environmental Parameters		
Operating temperature	0 ÷ 50°C	
Humidity	5 ÷ 95% - non-condensing	
Storage temperature	-20 ÷ 70°C	
Casing		
Dimensions (W x D x H)	92mm x 21mm x 57mm.	
Material	ABS	
Degree of casing protection	IP30	
Weight	< 0,10 kg	
Implementation of Standard	Not applicable	
Location during work	Free	
Mounting method	Not applicable	

APPLICATION

ADA-I9140 converts USB to RS-485/RS-422 standard without interference of data format and it is automatically detected by PC system (Windows/ Linux/ Mac OS) after connecting to USB network (Plug&Play device). Converter transmits RX, TX signals and two additional RTS, CTS or DTR, DSR set by SW2 microswitch.

For communication with other devices ADA-I9140 uses data transmission line like:

RX+,RX-,TX+/DATA+,TX-/DATA- (RS-485/422),
CTS+/DSR+,CTS-/DSR-,RTS+/DTR+,RTS-/DTR- (RS-422)

There is also the possibilities of looping the DTR with DSR signal or RTS with CTS signals.

This converter doesn't require external power supply (it is powered from USB bus) and it uses asynchronous baud rate up to 921,3 kbps (drivers for STANDARD baud rate) / 1500000 bps (drivers for PROFIBUS baud rate). The converter has implemented overvoltage protection RS485/RS422 interface, 2,7kV= optoisolation in signal channel between USB and RS-485/422 interface and 1kV= or 3kV= galvanic isolation. USB cable with A-type plug enables simple connection to a computer and on other side simple connection the RS485/422 Bus provide plug-in screw terminal block.
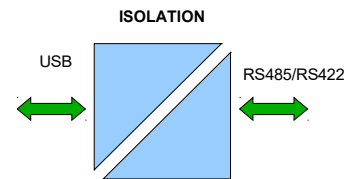
Together with the ADA-I9140 we provide the drivers, which after installation, create in operating system additional COM port on the next free number e.g. COM3. It can be use as standard COM port but it isn't hardware port but virtual, create in Windows system. This is the reason why some applications running in DOS and use this port, can operate improperly.
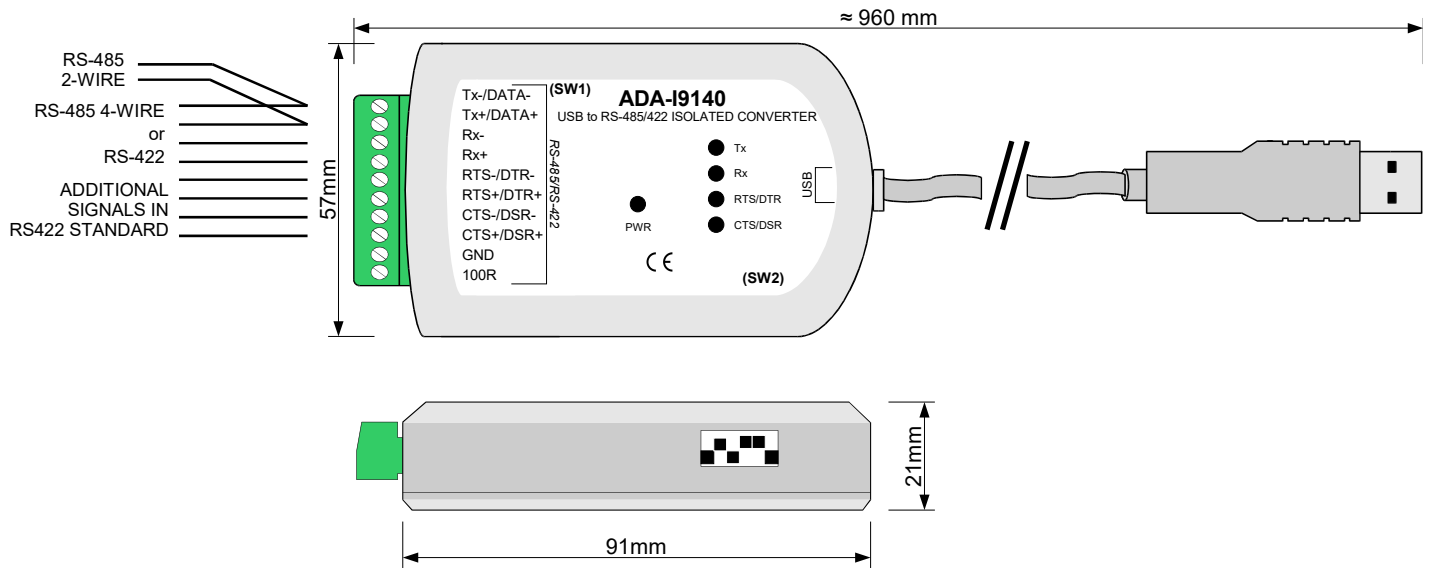
GALVANIC ISOLATION

ISOLATION

USB   RS485/RS422

TECHNICAL DATA

Transmission Parameters		
Interface	**USB**	**RS-485/RS-422**
Connector	USB cable with A-type connector	Screw terminal block, max. wire Ø 1mm^2
Max. Line length	Up to 5m	1200 m (depend on baud rate)
Max. number of connected device	1	32

DIMENSIONS AND CONNECTION

RS-485
2-WIRE

RS-485 4-WIRE
or
RS-422

ADDITIONAL
SIGNALS IN
RS422 STANDARD

57mm

(SW1)

RS-485/RS-422

Tx-/DATA-
Tx+/DATA+
Rx-
Rx+
RTS-/DTR-
RTS+/DTR+
CTS-/DSR-
CTS+/DSR+
GND
100R

ADA-I9140
USB to RS-485/422 ISOLATED CONVERTER

● Tx
● Rx
● RTS/DTR
● CTS/DSR

● PWR

USB

CE

(SW2)

≈ 960 mm

21mm

91mm

VERSIONS

ADA-I9140 - ☐ **-** ☐

Signals:

Tx, Rx	**1**
TX,RX, additionally DTR, DSR or RTS, CTS	**2**

Galvanic isolation:

1kV=	**2**
3kV=	**3**

Order example:

Product symbol: **ADA-I9140-1-2**

1 – signals: Tx, Rx,

2 – galvanic isolation 1kV=.