



Let's communicate

Communication adapter virtual COM port over the USB to multimode optics fiber

ELO E210



Charakteristics

- TxD, RxD signal transmission**
- Transfer speed max. 921,6 kb/s**
- Range max. 2 km (1.25 miles)**
- Alu cover**
- Interference immunity**

Introduction

Nowadays, in PC computing become more popular USB interface against RS232 serial interface because of their robustness and speed. There are converters USB to COM to connect peripherals with old RS232 interface, which altogether with software drivers adds another COM port to the PC so called „Virtual Com Port“, VCP.

E210 converts COM port to a fiber cable over the USB interface.

Use of the adapter

Data transmission over the optics is electromagnetics interference immune and atmospheric electricity immune. Allows maximum protection of the connected device DTE against the potential difference, overvoltage and assures reliable communication. Also, it is difficult to eavesdrop the communication.

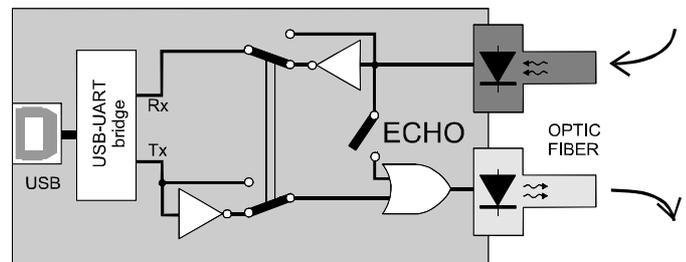
Operation principles

Adapter converts data stream from receiving fiber optics to a RxD signal on the virtual COM port whereas TxD signal from COM port is transmitted to a transmitting fiber optics. No other signals are transmitted. Data transmission is indicated by two LED diodes in both direction.

Adapter has two switches. A **IDLE switch** allows to change signal polarity in fiber optics. Switched to „LIGHT“ position, idle state is represented by „1“ in the fiber, i.e. optical transmitter lights. „DARK“ position results „0“ state in the optical cable while is in idle state. „LIGHT“ mode can be used to detect breakdown on the data path even in idle state, so it can be used in safety systems.

An **ECHO Switch** allows choose the mode of the optical connection between two-point or ring mode of the operation. An „OFF“ position is intended for connection of two adapters as described in previous paragraph; while „ON“ position sends data received from optics not only to COM port, but copies it to the transmitting optics too. It allows all members on this ring optical network to receive the data packet. Communication protocol must handle data collisions.

Block diagram



Specification

Electrical parameters

Interface	USB 2.0 full-speed (12Mb/s)
USB connector	type B - female
Communication mode	full duplex

Optical parameters

Wave length	820 nm, multimode
Optical fibre	50/125 nebo 62.5/125nm
Connectors	ST
Max. data rate	921 600 b/s
Max. range	2 km

Others

Supply	from USB interface
Consumption Dark/Light	max. 50 / 90 mA
Dimension: width	55 mm
length	80 mm
height	20 mm
Weight	80 g
Stocking temperature	- 10° to +55 °C
Working temperature	+ 0° to +50 °C
Humidity	0 – 85% (non-condensing)