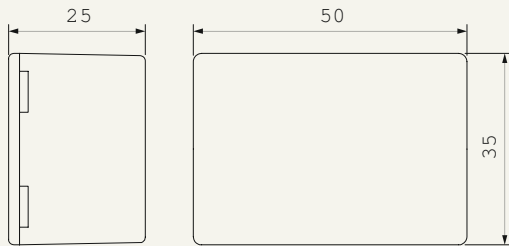# KKU

USB converters to:
RS-485FD, RS-485HD, RS-232
fiber-optic ST, USB (isolated)

GENERAL CHARACTERISTIC

Converters are equipped with FTDI232 circuit and are applicable to Power System Protection Equippment.

KKU-1 is USB-to-fiber optic converter. It enables to connect the PC computer to protection and control devices equipped with fiber-optic ports. It fullfils both phisical and software layer (device is supported by FTDI232 interface). After installation the virtual COM-PORT appears in computer operating system.

KKU-2 is USB-to-RS-485HD communication port converter (halfduplex A, B). It enables to connect the PC computer to protection and control devices equipped with RS-485HD ports. It fullfils both phisical and software layer (device is supported by FTDI232 interface). After installation the virtual COM-PORT appears in computer operating system.

KKU-3 is USB-to-RS-485FD communication port converter (fullduplex TA, TB, RA, RB). It enables to connect the PC computer to protection and control devices equipped with RS-485FD ports. It fullfils both physical and software layer (device is supported by FTDI232 interface). After installation the virtual COM-PORT appears in computer operating system.

KKU-4 is USB-to-RS-232 communication port converter. It enables to connect the PC computer to protection and control devices equipped with RS-232 ports. It fullfils both physical and software layer (device is supported by FTDI232 interface). After installation the virtual COM-PORT appears in computer operating system.

KKU-5 is USB-to-TTL(3/5 V) channel converter. The converter is intended to be used by IT engineers and embedded programmers. It fullfils both physical and software layer (device is supported by FTDI232 interface). The KKU-5 converter enebles to connect the PC computer to embedded systems. After installation the virtual COM-PORT appears in computer operating system.

KKU-6 is USB-to-TTL(3/5 V) channel converter with 5V terminals led out. The converter is intended to be used by IT engineers and embedded programmers. It fullfils both physical and software layer (device is supported by FTDI232 interface). The KKU-6 converter enebles to connect the PC computer to embedded systems. It provides 5V supply voltage. After installation the virtual COM-PORT appears in computer operating system.

KKU-7 is converter providing galvanic isolation of USB port. It is equipped with 5V/500 mA power supply, which ensures galvanic isolation between the PC computer and connected device. Thanks to built-in voltage converter, no additional power supply is needed. The converter provides data transmission with maximum baud rate up to 12 Mb/s (full speed). The converter is fully t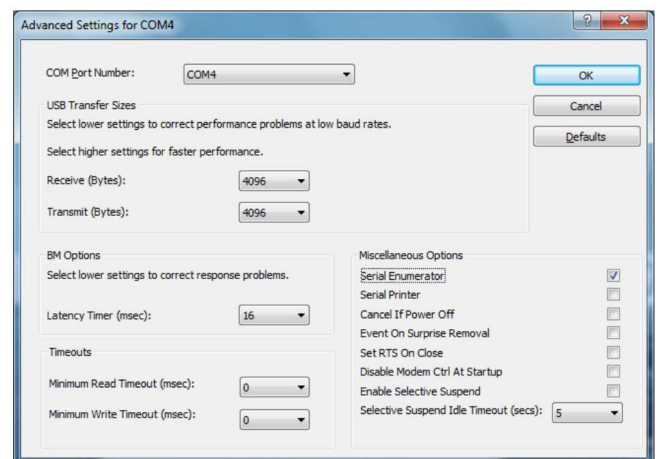ransparent for the devices to which it is connected. It needs no installation of drivers and configuration. The installation of KKU-7 is necessary in case of powering devices by different voltage levels. The converter provides protection against overvoltages. It also provides signal gain at long transmission lines.

TECHNICAL DATA

Rated supply voltage	5V by USB
Izolacja izolatora USB	2500V
Dimensions	35x25x50
Weight	0,05kg
Materiał obudowy	ABS

PRINCIPLE OF OPERATION

After the connection of the USB cable to the computer, the operating system detects new device. For the first connection of the converter it is required to instal the driver provided on CD. The manufacturer of the drivers is FTDI. Drivers can be also downloaded from www.ftdichip.com (FTDI-232). Properly installed drivers makes new virtual COM port appearance. The device and port number can be seen in device menager. In case of long frames and significant time intervals the FTDI driver settings should be modified by setting larger buffer times. Configuration window is shown on figure below.

USB driver configuration