User's Manual for USB/RS232 Full-line Isolation Converter

Model: **U-232G**

Overview:

U-232G is a full-line isolator converter used for the transformation from USB interfaces to RS232

interfaces. Controlled by the drivers running on the computer, it emulates the computer's USB interface to

be a traditional RS232 serial port (commonly known as COM port), thus realizing utilization of existing

programming software, communication software, monitoring software and some other application software.

It obtains the operating power source via the USB interface and therefore needs no external power supply.

It has LED indicator lights for all RS232 signals to indicate the operating mode of the interface.

U-232G is an industrial-grade product originally designed for industrial application. All RS232 interface signals are subject to photoelectric isolation. An industrial-grade chip with ESD protection is employed. The power circuit has an overcurrent protection circuit.
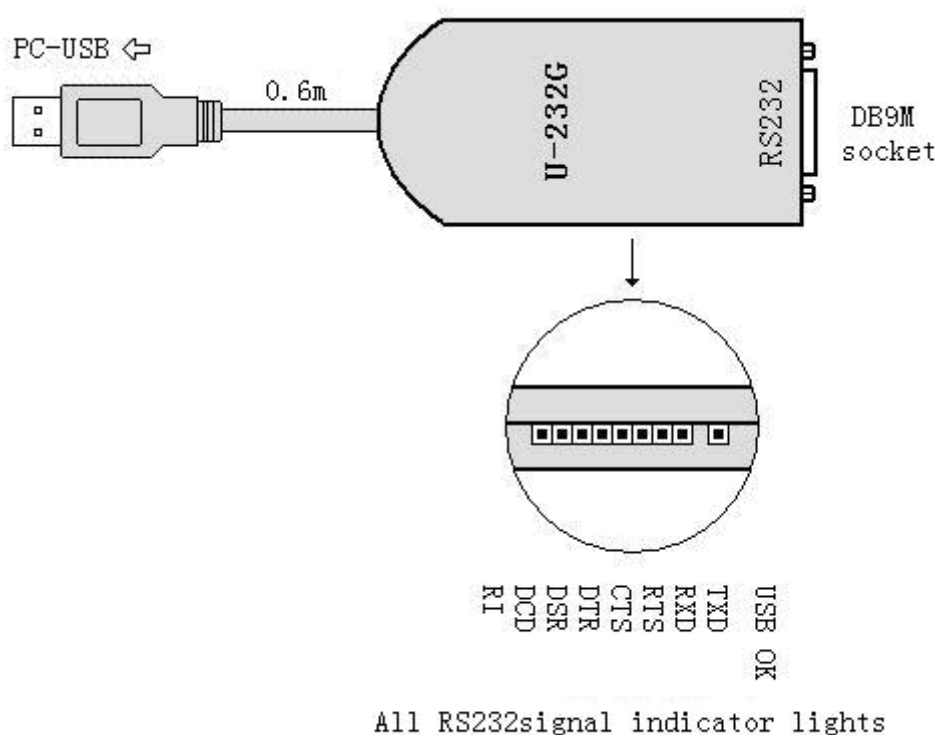
The RS232 interface of U-232G is a standard DTE interface (DB9M pin standard, identical with the RS232 serial port sockets of computers). The signals are arranged as follows:

Pin No.	Name of signal	Description
1	DCD	Carrier signal
2	RXD	Receive data
3	TXD	Transit data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	MODEM Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indication

U-232G realizes very perfect emulation of RS232 serial port and is even able to conduct hardware I/O operations directly. With it, it seems that application programmers were visiting a physical RS232 port.

U-232G supports a majority of traditional PLC programming cables, which is an essential difference with the similar products on the market. See the Appendix below for the results of tests in which U-232G is connected with various programming cables of traditional RS232 interfaces for communication with PLC.

External structure of U-232G:

All RS232signal indicator lights

Properties and technical indicators:

● Supporting U-232G operating systems: Win98/2K/XP/Vista, MAC OS-9/X, Linux 2.40 and greate

● Completely compatible with USB V2.0 and USB CDC V1.1 codes.

- Isolation voltage: 1000VDC (3500VDC at most. To get an isolation voltage of larger than 1000VDC, statement is necessary)

- RS232 interface and USB interface have ±15kV electrostatic discharge shock protection.

- It is powered on via the USB bus and has an electricity consumption of about 100mA and overcurrent protection.

- Baud rate: self-adapting 300bps～1Mbps standard baud rate

- UART data layout supported by it: data bit: 5, 6, 7 and 8; stop bit: 1, 1.5 and 2; check bit: O, E, M, S and N

- It has all RS232 signal indicator lights: TXD, RXD, RTS, CTS, DTR, DSR, DCD and RI

- Each PC can support 127 pieces of U-232G at most.

- Working temperature: -40～+85℃

- Length of USB cable: 0.6m; color: black

Method of use:

U-232G programming cable can be used only when USB device drivers are installed. The drivers are all on the CD sold with the product. Please see the instructions on the driver CD for the specific installation method.

After completion of installation of the drivers, the USB OK indicator light on the isolation converter will light up and a COM port corresponding to U-232G will appear in Device Manager of Windows. It is necessary at this time to select COM port in the application software. The method of use after that is identical with that of traditional RS232 interface.

If the drivers have not been installed or not installed successfully, or U-232 fails, the USB OK indicator light will be out.

Appendix:

The test data of successful communication between PLC and U-232G which is connected with traditional PLC programming cables (Win2000/XP operating system)

PLC	Traditional programming cable	Version of programming software
Mitsubishi FX series	SC-09	FXGP/WIN V1.0, GPP V4.0, GX-Developer
Mitsubishi A series	SC-09	GPP V4.0, GX Developer
Panasonic FP0, FP1, FP3	AFP8550/8513	FPSOFT V1.1
Omron full line PLC	FS-CIF02 and XW2Z-200S	CX-Programmer V1.2
Siemens LOGO！	PC-CABLE	LOGO! Soft V4.0
Siemens S7-200	PC/PPI	STEP7 Micro/WIN V4.0
Siemens S7-300	PC/MPI	STEP7 V5.3
GE 90-30 series PLC	IC690ACC901	CIMPLICITY ME V5.0
Delta DVP series PLC	DVPACAB230	WPLSoft V2.03
A-B SLC series	1747-PIC	FPSOFT V1.0