

SPC1031-KB Isolated USB-to-Serial Module

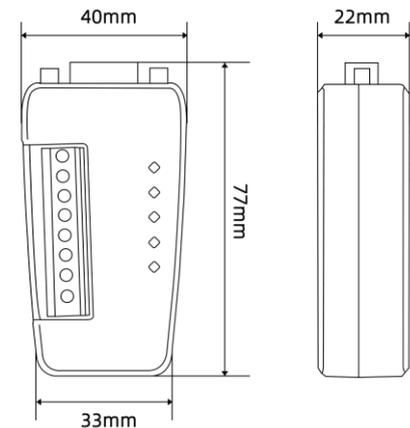
User Manual



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I. Precautions

- Under no circumstances should this product be operated beyond its design limit state;
- This product is powered by USB, DC5V;
- This product should be installed in a safe place, and the maximum temperature tolerance of the shell is +85 °C;
- When used in a strong magnetic interference environment, it is recommended to use shielded cables for signal lines;
- It is strictly prohibited to disassemble, modify or repair this product without authorization;
- Pay attention to the wiring method of this product, ensure correct wiring, and avoid damaging the product;
- Before installation and use, please carefully read this manual. If you have any questions, please contact our technical support personnel or refer to relevant technical guidance videos;
- During use, our company is not responsible for any damage to components other than this product.
- Please download the latest electronic version of the materials. The content of this manual is for reference only. We will continuously improve the user experience. If there are any changes in technical parameters, we will not notify you separately.



II. Product Dimensions

- Product dimensions: **77mm (L) X 40mm (W) X 22mm (H)**
- Housing made of industrial-grade flame-retardant plastic.

III. Operating Environment

- Do not expose this product to high or low temperature environments;
- There shall be no strong vibration, impact, high current, spark or other electromagnetic induction effects in the surrounding environment;
- The usage environment should not contain flammable or explosive substances, and there should be no harmful substances that have a serious corrosive effect on metal and plastic parts;
- Do not use or store in harsh environments, as it may affect the electrical performance of the product.

IV. After-Sales Service

We are committed to providing you with comprehensive after-sales service and warranty policy. The product warranty period is one year. During the warranty period, if the product fails due to non-human factors, we will provide free repair or replacement service. Damage caused by violation of operating regulations and requirements will require payment of parts cost and repair fee. After the warranty period expires, we continue to provide technical support and assistance. During this period, replacement parts are provided at cost price.

V. Application Fields



Industrial Automation



Programming debugging



smart home



access control system

· Product Introduction

The SPC1031-KB is a practical USB-to-serial port module. Its core function is to bridge the gap between a computer's USB interface and a physical serial port, enabling data conversion between the two and facilitating communication between different devices.

The module features three built-in level conversion chips, enabling flexible conversion between USB and RS232, RS485, and TTL levels. Compatible with Windows, Linux, and Mac OS, it connects easily and is convenient to use. Its flame-retardant plastic housing enhances safety during use.

The module's internal circuitry is meticulously designed, with optimized impedance matching in key signal paths to minimize signal attenuation during high-speed data transmission. The module also features a built-in 200mA auto-recovery fuse, which automatically disconnects when current exceeds 200mA, protecting both your device and the USB port.

· Technical Parameters

Basic Parameters	
Input Interface	PC: USB 2.0
Output Interface	Device: RS232,RS485, TTL Serial Signal
Interface Chip	FT232 FTDI Chip
Communication Distance	RS232: 15m (typical) RS485: 1200m (typical)
Operating Mode	RS232 Asynchronous Full-Duplex RS485 Asynchronous Half-Duplex Differential
Transmission Rate	RS232/RS485:1Mbps, TTL:3M
Power Supply	USB port, DC 5V
Current Consumption	≤100mA
Intelligent Burnout Protection	Built-in 200mA resettable fuse
Protection Rating	RS232: ±15kV ESD RS485: 600W TVS
Load Capacity	Supports point-to-multipoint, 485:1 with 32, 232:1 pairs 1
Compatibility	Supports Windows XP, Windows 7/8/10/11, Linux, and Mac OS
Isolation Voltage	Internal: No isolation
Environmental Conditions	
Operating Temperature	-20°C~+60°C
Storage Temperature	-40°C~+85°C
Relative Humidity	10%~90%RH (non-condensing)
Atmospheric Pressure	80kPa~106kPa

· Indicator Description

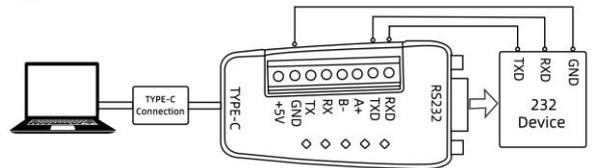
Indicator Mark	Function Description
PWR	The power indicator is steady on when the USB port is connected to a PC and powered.
USB	The indicator flashes when the PC is sending data to the device.
TTL	TTL Interface LED - Flashes when receiving data
RS485	The indicator flashes when the RS485 port receives data.
RS232	The indicator flashes when the RS232 port receives data.

· Terminal Description

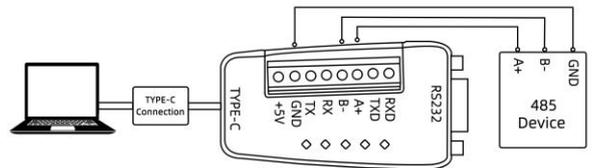
Terminal Mark	Function Description
RS232	DB9 male connector 2-pin RXD, 3-pin TXD
RXD	RS232 data receiver
TXD	RS232 data transmitter
A+	RS485 communication signal positive
B-	RS485 communication signal negative
RX-	TTL data receiver, 3.3V level
TX	TTL data transmitter, 3.3V level
GND	Negative power supply terminal or RS485 or RS232 shield connection or TTL common terminal
+5V	+5V power input when no USB power is supplied
TYPE-C	Type-C connector, connects to USB via a converter cable

· Wiring and indication

① USB to 232 Mode



② USB to 485 Mode



③ USB to TTL Mode

