SW485C

RS-232 to RS-485/422 Converter

Introduction:

The SW485C is an industrial grade bi-directional port-powered RS232 to RS485 or RS422 converter in a 9 pin format. It can convert any standard full duplex RS232C port to any two-wire balanced half duplex RS485 port or four-wire balanced full duplex RS485 or RS422 port. In simple terms, it will convert any RS232 signal to a RS485 or RS422 signal and vice versa. The unit is powered from the RS232 data lines. It also supports data direction auto-turnaround. Therefore, no external power or flow control is required. The data direction auto-turnaround automatically enables the RS485/RS422 driver when data is present on the RS232 side making the device plug-and-play, requiring no software drivers. The SW485C has a DB9 female connector on the RS232 side and either a DB9 male connector or 5 bit terminal block on the RS485/RS422 side.

Packing List:

SW485C is shipped with following items.

1. SW485C × 1
2. Separate terminal block(DB9F to 5 bit) × 1
3. User manual × 1

Features:

1. Plug-and-Play, small volume, easy installation
2. Port-powered, high efficiency obtain electricity, can also worked on 3 lines
3. RS-232 to RS-485 or RS-232 to RS-422
4. Lowest consumption
5. Automatic send data control, auto distinguish and sense direction adopt data transfer
6. Auto sense serial signal rate, zero delay automatic transmit

Pinout Configuration:

RS-232 port adopts DB9F (Female), by the adapter (DB9F to 5 bit terminal block adapter), can select RS485 or RS422 mode, and no power supply Input.
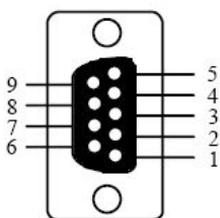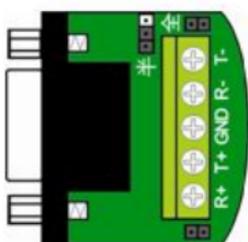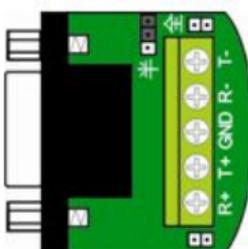

DB9F (Female/hole)　　　DB9F to 5 bit terminal block
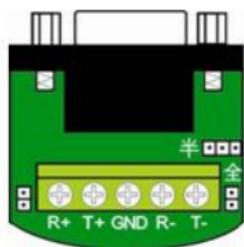
	2	TXD
	3	RXD
RS-232 (DB9F)	5	GND
	1,4,6	Interconnection
	7,8	Interconnection

For RS485 mode(3 bit slip stitch setup for "half-duplex" 半):

R+	For 485+
T+	Choice either
GND	Signal ground
R-	For 485-
T-	Choice either

For RS422 mode(3 bit slip stitch setup for "full-duplex" 全):

R+	RS422 RX+
T+	RS422 TX+
GND	Signal ground
R-	RS422 RX-
T-	RS422 TX-

Specifications:

Standards: EIA RS-232C, RS-485,RS-422 standard

RS-232 signal: TX, RX, GND

RS-422 signal: T+, T-, R+, R-, GND

RS-485 signal: D+, D-, GND

Working mode: Asynchronism, point to point or multi point, 2 wire half-duplex,4 wire full duplex

Baud rate: 300~115200bps, auto test serial signal rate detect signal speed automatically, zero delay time

Flow control: Data direction auto-turnaround, no flow control is required

Transfer distance: RS-485/422 side:1.2Km,115200bps

RS-232 side: no less than 5m

Max number of drops: 128 nodes

Optical isolation: 2500V

Port protect: 1500W surge protection,15KV ESD protection

Connector: RS-232 side DB9 female

RS-485/422 side DB9M(DB9F to 5 bit terminal block)

Power

Power input: No power supply need, powered from TXD, RTS,DTR

Consumption: Static less than 10mA, dynamic less than 40mA

Environment

Operating temperature: -10°C to 60°C

Storage temperature: -40°C to 85°C

Humidity: 5% to 95%(no condensation)

Appearance

Dimensions: 95.0mm×33.0mm×16.5mm

Material: Plastic(shell)

Weight: 50g

Warranty: 5 years

Approvals: FCC,CE,RoHS approvals

Applications:

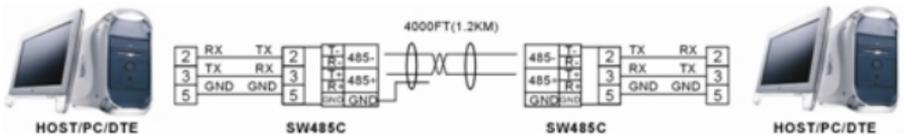**1. RS232 to RS485 mode option:**

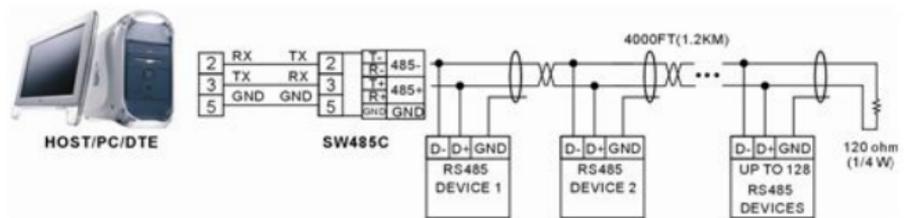**Figure 1: Extending the RS232 data distance in RS485 mode**

Figure 2: Master/Slave multi-drop configuration in RS485 mode
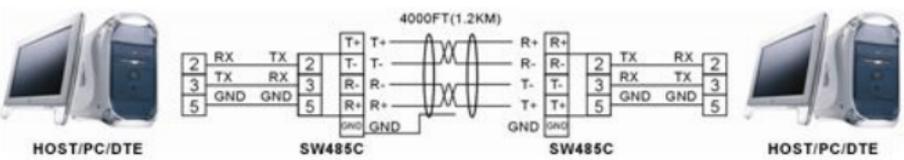
2. RS232 to RS422 mode option:

Figure 3: Extending the RS232 data distance in RS422 mode
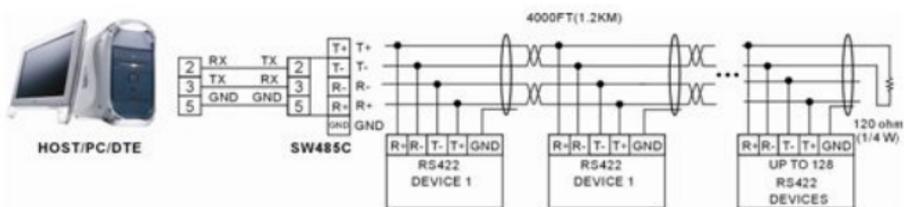

Figure 4: Master/Slave multi-drop configuration in RS422 mode

Application Field：

Point to point communication, industrial gathering and disperse distribution system, all kinds of remote control and measurement system, POS, banking, insurance, stocking, canteen meal selling system, transport billing system, all kinds of PLC, digital power meter, gas meter.

Troubleshooting instructions:

1. RS232 to RS485 mode option:

Configure jumper settings to place two SW485C converters in RS232 to RS485 mode. Perform a loop back test on a pair of SW485C converters. Using figure 1, attach the two SW485Cs to two serial ports on a PC and using two instances of a HyperTerminal program send a character from one and see if it echoes to the other. This will test both transmit and receive functions of the converter in RS485 mode.

2. RS232 to RS422 mode option:

Configure jumper settings to place one SW485C converter in RS232 to RS422 mode. Perform a loop back test on one SW485C converter. Tie signals T+ to R+ and T- to R- of the SW485C. Attach the converter to the serial port on a PC and using HyperTerminal send a character from one and see if it echoes to the other. This will test both transmit and receive functions of the converter in RS422 mode.

Certifications:

3onedata

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