

## RS-485/422/232 to Optical Fiber Converter

### 1 Usage

Boshika RS-232/485/422 to optical fiber converter is used to realize serial communication via optical fiber, and extend the communication distance. Boshika invented port-powered RS - 232 to optical fiber converter, and the world's smallest fiber optic converter. With optical fiber transmission medium, it prevents electromagnetic interference, resistance to high isolation voltage, lightning, etc. Optical fiber converters are widely used in industrial process control, distributed data acquisition, etc, especially power automation, traffic control and other departments.

### 2 the hardware installation

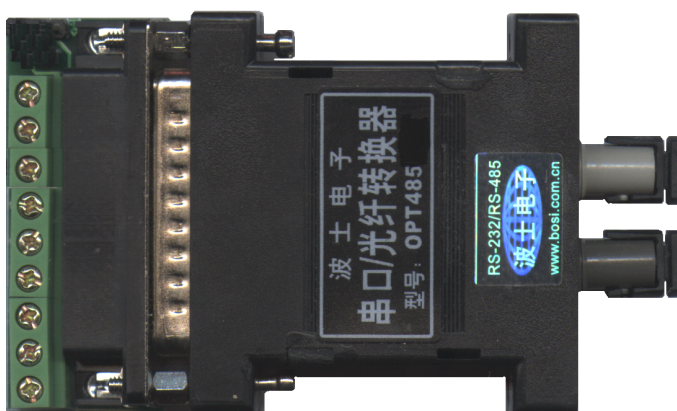
OPT485 is multimode fiber converter.OPT485S is single-mode fiber converter .Their shape is DB-25/DB-25 dongle size, including male DB-25 at one side (RS - 485, RS - 422, RS – 232). Using a pair of ST fiber connectors at the other side. OPT485 [S] need external dc 5V power supply (< 100 mA).

### 3 performance characteristics

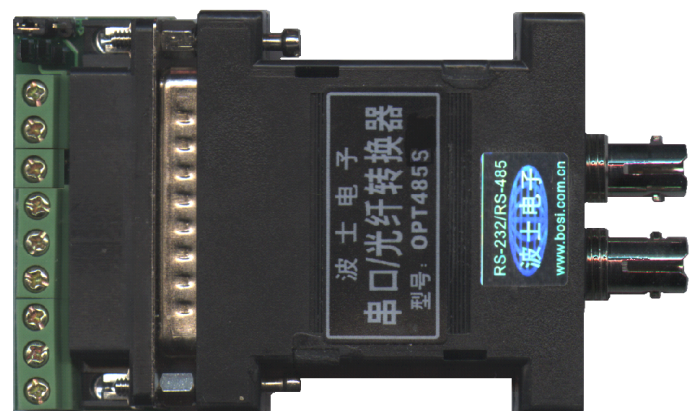
OPT485 [S] series of RS-232 / RS-485/422 to optical fiber converters have the highest baurate of 115.2 Kbps. Without any initialization Settings! Unique zero delay automatic TXD-RXD exchange technology ensures that suitable for all software

socket	ST	plug	Female DB-9 RS-232 terminals (RS-485、RS-422)
media	Multi-mode,Single-mode fiber	Size,weight	DB-25/25 Dongle、90 gram
protocal	RS-232, RS-485、RS-422	distance	4Km (OPT485) 、40Km (opt485s)
Wave length	820nm (Multi-mode) OPT485	Fiber diameter	50/125、62.5/125、100/140um
	1300nm(Single-mode) OPT485S		

### 4、Appearance figure



**OPT485**  
(Multi-mode)



**OPT485S**  
(Single-mode)

## Appendix: Male DB-25 Terminal pins assignment

for half-duplex RS-485 :

5	6	16	22
RS-485(+A)	RS-485(-B)	+5V	GND

For full-duple RS-422 :

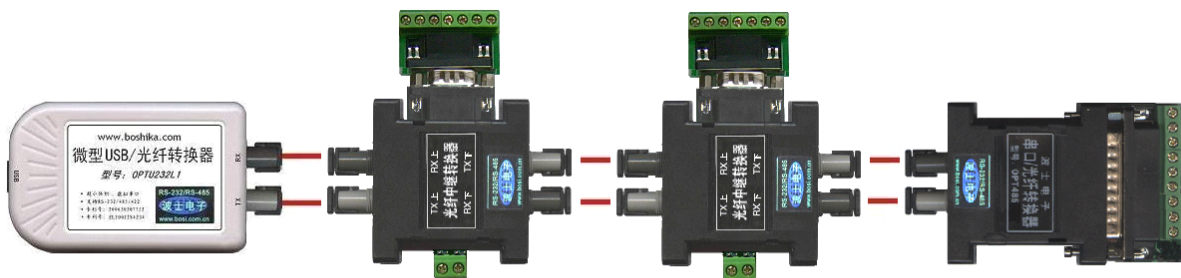
5 (RS-422)	6 (RS-422)	8 (RS-422)	9 (RS-422)	16	22
T+(+A)	T-(-B)	R+(+)	R-(-)	+5V	GND

For RS-232

11	12	16	22
rxd	txd	+5V	GND

Note: Pin 22 is GND of RS-232/485/422 signals, also of the power supply.

OPT485 [S] has unique zero delay automatic RXD-TXD exchange technology for RS-485, so it can be tested directly with simple method: 1、 supply two OPT485 with power respectively, 2, connect optical fiber from TXD to the other OPT485's RXD fiber port ; connect optical fiber from RXD to the other OPT485's TXD. 3 supply positive voltage to RS-485(+A and - B) of one OPT485 (0.6 to 5V), when + A battery anode, - B connect battery cathode then the other OPT485 appears positive voltage on RS-485(+A and - B) 4 on the contrary ,for negative voltage , that is ,when -B battery cathode, + A connect battery anode then the other OPT485 appears negative voltage on RS-485(+A and - B)



USB、串口 光纤多机通信图

Only for OPT485S (Single-mode) has a jump set :  
 for <500 meter J3=半(—)  
 for >500 meter J3=全 (— —)  
 OPT485 has no jump set.

