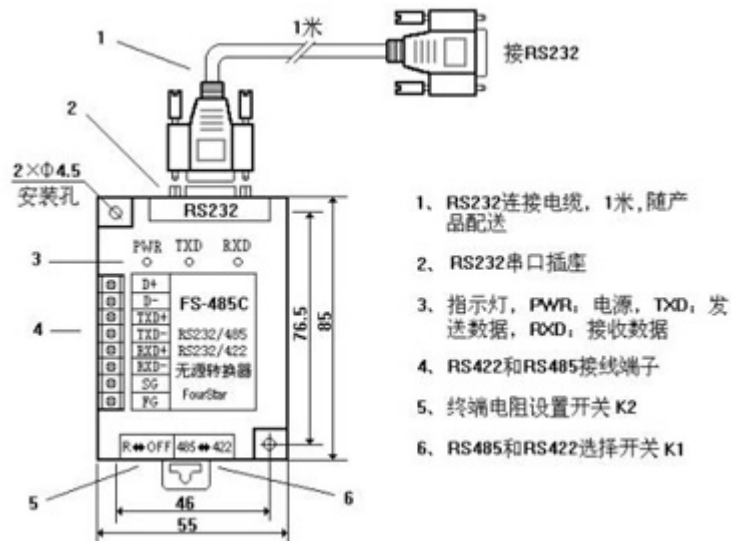**FS-485C**

RS232/RS485/422 no-power converters Manual

FS-485C is RS232 to RS485 converter to realize communication conversion from RS232 to RS485 and RS422. The power of this product directly from RS232 serial port without additional power. Use the unique zero-delay automatic sending and receiving conversion technique and baud rate adaptive technique. Plug-and-play, suit for all software, the efficient circuit ensure that the communication range is up to 2km, and in the high resistance state when not sending data. Support multi-point communication, which is different from other similar cheap products in market. There is a built-in anti-static anti-lightning circuit in the product. Uniquely with power and sending/receiving indicator lights, the shape is the industrial structure of standard rail installation.

Technical details:

1, applies to all standard RS232 serial port, only use TXD, RXD, GND

2, output is the four-wire full-duplex RS422 interfaces and second-line half-duplex RS485 interfaces

3, needn't external power

4, use the shielded twisted pair whose sectional area is over 0.5 mm2 as communication lines

5, the largest communication distance is 2km (9600 bps)

6, the largest number of network site is128.

7, the greatest communication rate is 115.2 Kbps, baud rate adaptive

8, a transient voltage suppression, can withstand the transient over-voltage whose power is up to 600 W and electrostatic discharge impact

9, temperature: -20 ~ 70 ℃

10, installation: installation of 35 mm standard rail and the bolt hole

11, Dimensions: $85 \times 55 \times 25$

Products' shape and definition of video signals:

RS232 socket（DB9M）signal definition

Pin number	Signal-name	description
1	+5V	External connect 5V assistant power supply，or don't use it
2	RXD	RS232 signal receive
3	TXD	RS232 signal send
4	DTR	Get data terminal ready，have short connected with 6
5	GND	Signal ground
6	DSR	Get data device ready，

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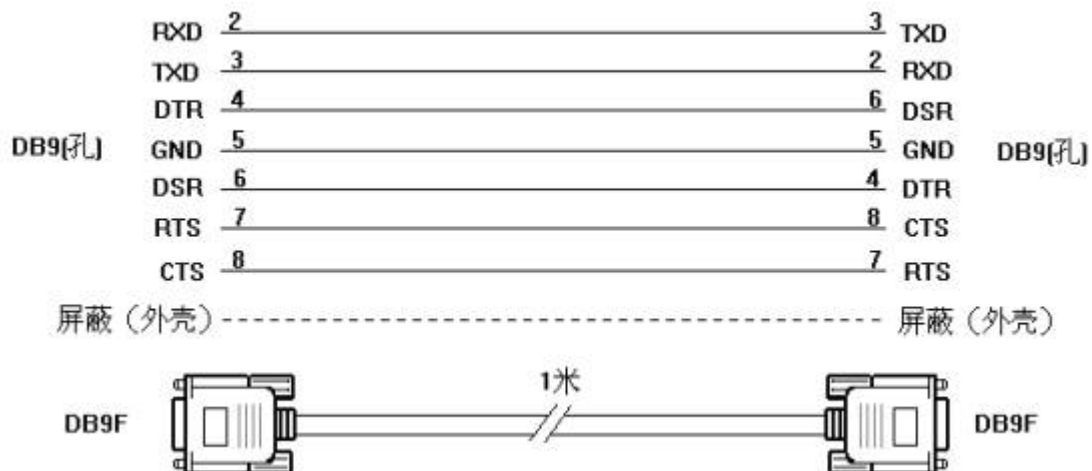|		
		have short connected with 4
7	RTS	Request to send，have short connected with 8
8	CTS	Allow to send，have short connected with 7
9	Not be used	Not be used

Signal definition of RS485/422 connection

Signal-name	description
D+	RS485 signal is positive
D-	RS485 signal is negative
TXD+	RS422 signal sending positive
TXD-	RS422 signal sending negative
RXD+	RS422 signal receiving

	positive	
RXD-	RS422 signal receiving negative	
SG	Signal ground	
FG	Shielding ground （chassis ground）	

link of FS-485C and the RS232 interface of equipment:

FS-485C can connect any RS232 serial interface, the RS232 socket of this product is defined by standard DTE interface. cable can be used to connect standard DCE interface. A crossover cable is needed for the DTE interface such as computer, as shown below , and this cable is incidental with the product. For other RS232 mouth witch didn't array as standard signals, users should link sending to receiving, receiving to sending.
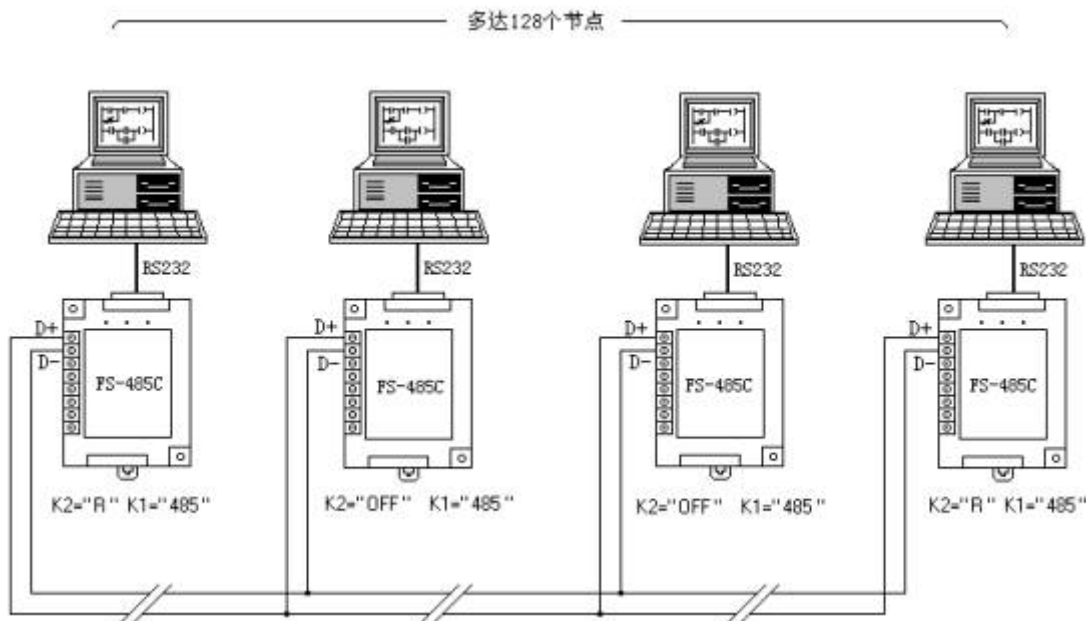

The application of products:

FS-485C can be used for point-to-point communications and multi-point communications. Except for linking several other RS485/422 interfaces, it can also make as many as 128 RS232 interfaces compose of RS485 or RS422 communication network, its communication range is up to 2km. The addresses of each nodes are determined by the internal procedures of the equipment. Please connect the shield to the "FG" terminal of products when using shielded twisted pair,.

1, second-line half-duplex RS485 communication network:

Turn the RS485 and RS422 selection switch K1 of FS-485C converters to "485", the terminal resistance setting switch K2 on FS-485C of   network's terminal and start to "R", the terminal resistance setting switch K2 on other FS-485C of the network to "OFF".

2, 4-wire full-duplex RS422 communication network

Turn the RS485 and RS422 selection switch K1 of FS-485C converters to "422", the terminal

resistance setting switch K2 on FS-485C of   network's terminal and start to "R", the terminal resistance

setting switch K2 on other FS-485C of the network to "OFF".