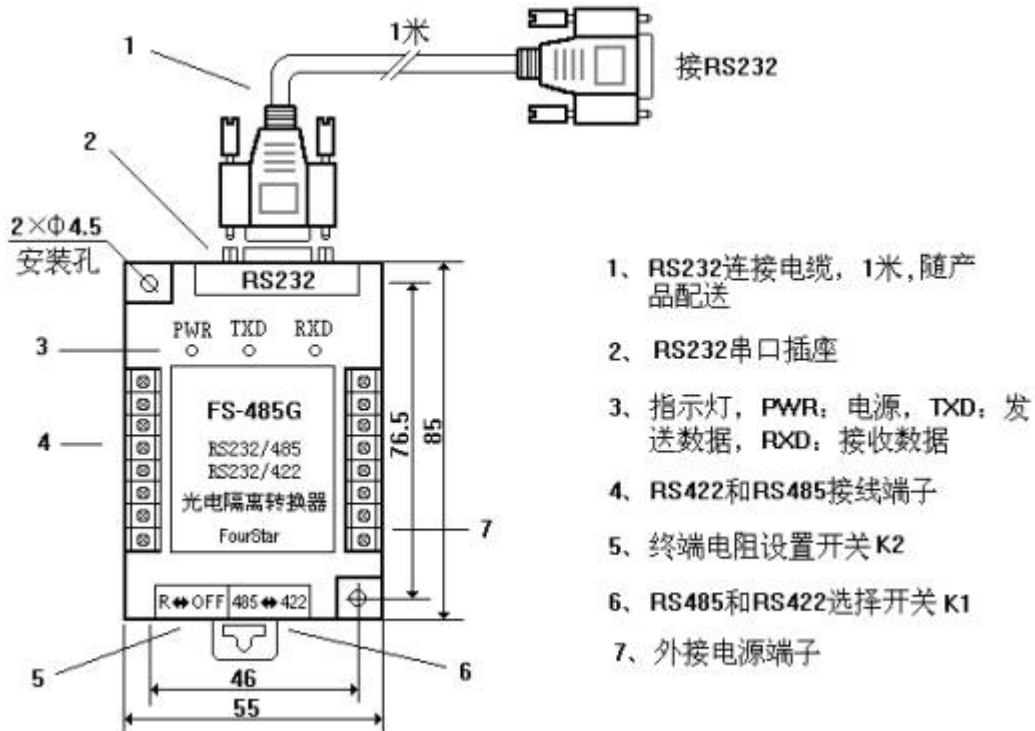**FS-485G**

RS232/RS485/422 high-speed light-isolated converters Manual

FS-485G is to realize communication conversion from RS232 to RS485 and RS422. This product

needs to externally connect 5V DC. There are DC / DC isolated power modules and high-speed isolated in

the product to respectively realize the isolation of the power and signal. Use the unique zero-delay

automatic sending and receiving conversion technique and baud rate adaptive technique. Plug-and-play,

suit for all software, 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, need to externally connect a 5VDC, 100mA power

4, photoelectric isolated voltage: 1000VDC（up to 3000VDC，statement is needed when ordering）

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

6, the largest communication distance is 1.8km（9.6Kbps）、1km（19.2Kbps），need TXD、RTS、DTR

power supply，the greatest communication distance is no more than 100m when only TXD supply power

7, the largest number of network site is 128.

8, the greatest communication rate is 230 Kbps, baud rate adaptive

9, a transient voltage suppression, can withstand the transient over-voltage whose power is up to 600 W

and electrostatic discharge and lighting strikes impact

10, temperature: -20 ~ 70 ℃

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

12, Dimensions: 85 × 55 × 25

Products' shape and definition of terminal signals:

1、RS232连接电缆，1米，随产品配送

2、RS232串口插座

3、指示灯，PWR：电源，TXD：发送数据，RXD：接收数据

4、RS422和RS485接线端子

5、终端电阻设置开关K2

6、RS485和RS422选择开关K1

7、外接电源端子

Signal definition of connection terminal

| RS485/422 terminal（left）		Power terminal（right）	
Signal-name	description	Signal-name	description
D+	RS485 signal is positive		Not be used
D-	RS485 signal is negative		Not be used
TXD+	RS422 signal sending positive		Not be used

TXD-	RS422 signal sending negative		Not be used
RXD+	RS422 signal receiving positive		Not be used
RXD-	RS422 signal receiving negative		Not be used
SG	RS485/422 signal ground	+5V	External connect the anode of 5v power supply
FG	Shield ground （chassis ground）	GND	connect the cathode of power supply

signal definition of RS232（DB9pin）socket

Pin number	Signal name	description
1	+5V	External connect the anode of 5V power supply
2	RXD	RS232 signal receive
3	TXD	RS232 signal send
4	Not be used	Not be used ，short with 6 already
5	GND	RS232 signal ground（power ground）
6	Not be used	Not be used ，short with 4 already
7	Not be used	Not be used ， short with 8 already
8	Not be used	Not be used ， short with 7 already
9	Not be used	Not be used

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

FS-485G 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.
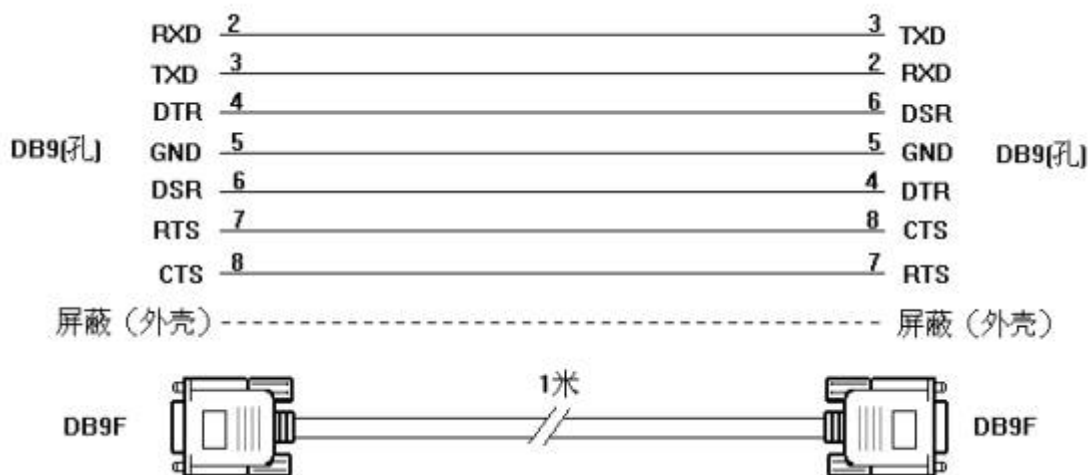

The application of products:

FS-485G 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 3km（4800bps）、2km（9600bps）. 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-485G converters to "485", the terminal

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

setting switch K2 on other FS-485G of the network to "OFF".
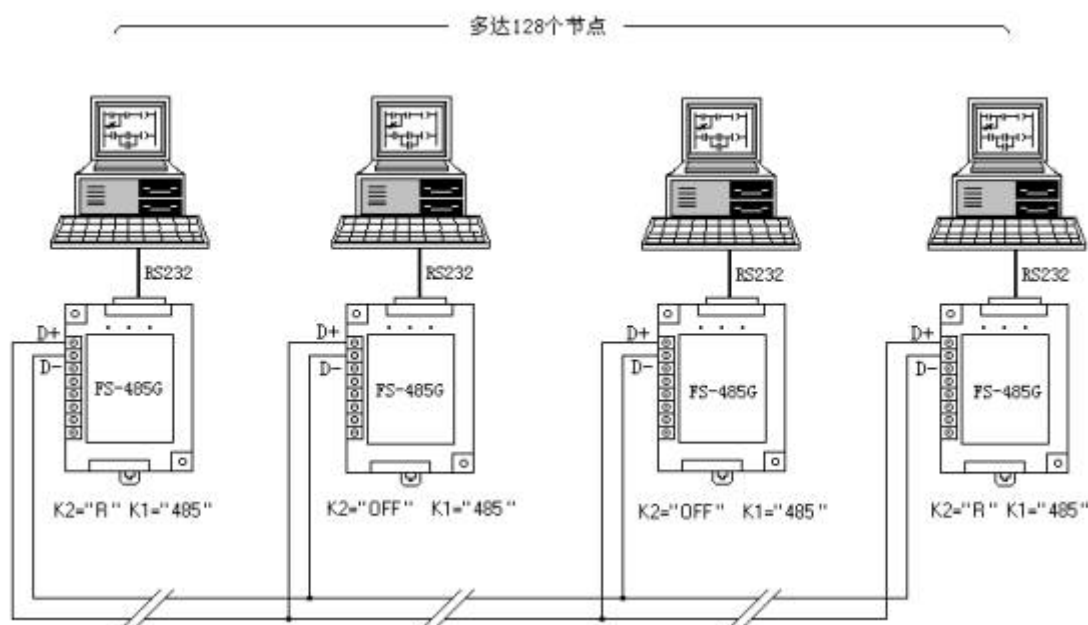
2, 4-wire full-duplex RS422 communication network

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

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

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

多达128个节点

主机　　　　从机　　　　从机　　　　从机

K2="R"　K1="422"　　　K2="OFF"　K1="422"　　　K2="OFF"　K1="422"　　　K2="R"　K1="422"