FS-485GT

power Interface 3-end isolated RS232/RS485/422 converters Manual

FS-485GT is a RS232 to RS485 and RS422 isolated converters particularly suitable for industrial applications, there are two DC / DC isolated power modules and high-speed isolated in the product and realize isolation between the power and RS232, RS485/422, RS232 and RS485/422, use the 9 ~ 40 VDC wide voltage to supply power, regardless of voltage jitter's impact of communication. 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.

Because the power, RS232 and RS485/422 of FS-485GT are all isolated, regardless the working power of FS-485GT is taken from the RS232's equipment or the RS485/422's equipment, or external connected alone, it can guarantee the isolation between RS232 and RS485/422.

Technical details:

1, interface standard: TIA/EIA-RS232C、TIA/EIA-RS485/422，RS232 only use TXD, RXD, GND three wire

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

3, 9 ~ 40 VDC external power supply, power consumption is <1 W

4, photoelectric isolated voltage: power to RS232 and RS485/422:1000VDC

RS232 to RS485/422: 1000VDC（up to 3000VDC，statement is needed when ordering）

5, transmission medium: ordinary twisted pair: sectional area is 0.5 mm2, distributed capacitance <60 pf / m, impedance is 120 Ohm

6, work methods: RS485 half-duplex transparent transmission or RS422 full-duplex transparent transmission.

7, the largest communication distance is 3km (4800 bps), 2km (9600 bps), 1.2km (115.2 Kbps)

8, 32 nodes can be linked to RS485/422

9, baud rate is 0 ~ 230 Kbps Adaptive

10, interface protection:

RS485/422: ± 15KV anti-static protection, 600 W anti-lightning (anti-surge) protection and the prevention

of 60 V sustained over-voltage's restoration protection.
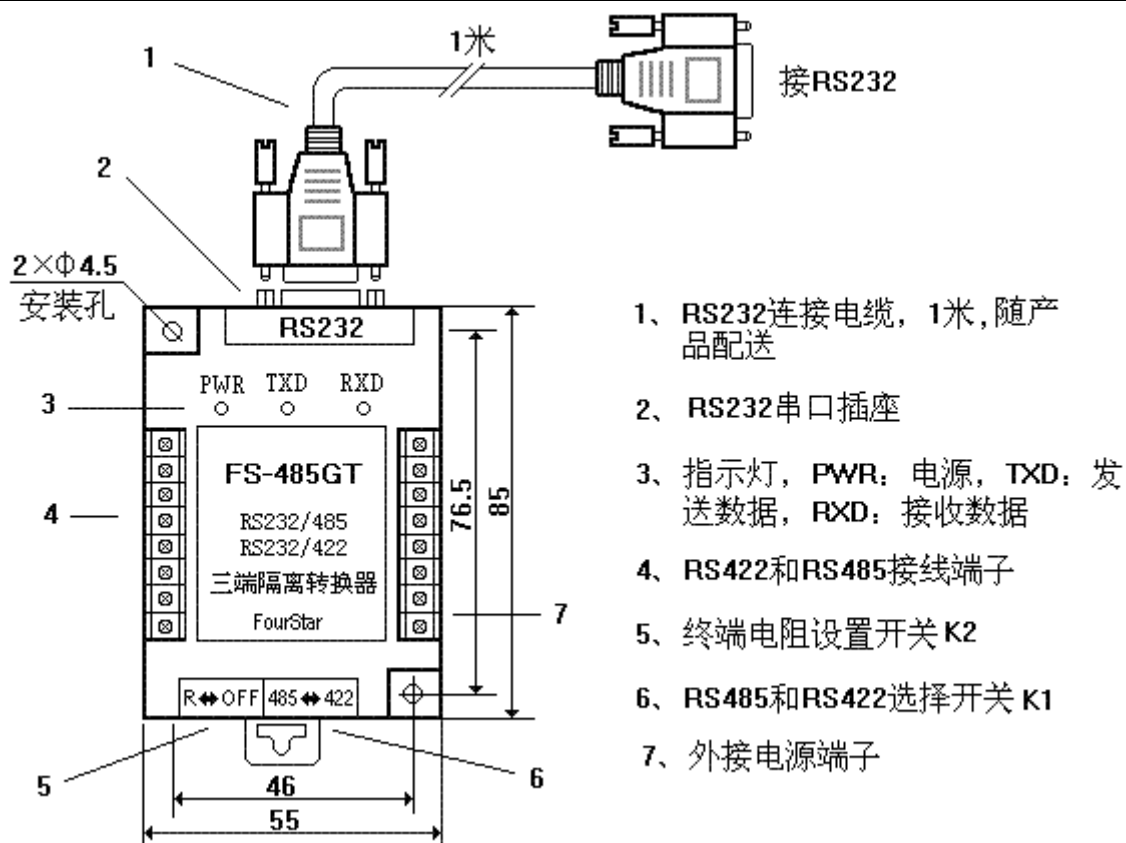
RS232 interface: ± 15KV anti-static protection

Power interface: Overcurrent protection

11, temperature: -20 ~ 70 ℃

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

13, 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	+9～40V	External connect the anode of power supply
FG	Shield ground （chassis ground）	0V	connect the cathode of power supply

RS232

Pin number	Signal-name	description
1	Not be used	Not be used
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
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-485GT and the RS232 interface of equipment:

FS-485GT 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.

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DB9[孔]    RXD  2 ————————— 3  TXD    DB9[孔]
           TXD  3 ————————— 2  RXD
           DTR  4 ————————— 6  DSR
           GND  5 ————————— 5  GND
           DSR  6 ————————— 4  DTR
           RTS  7 ————————— 8  CTS
           CTS  8 ————————— 7  RTS
     屏蔽（外壳）-------------------- 屏蔽（外壳）

                         1米
  DB9F  [====]//[====]  DB9F
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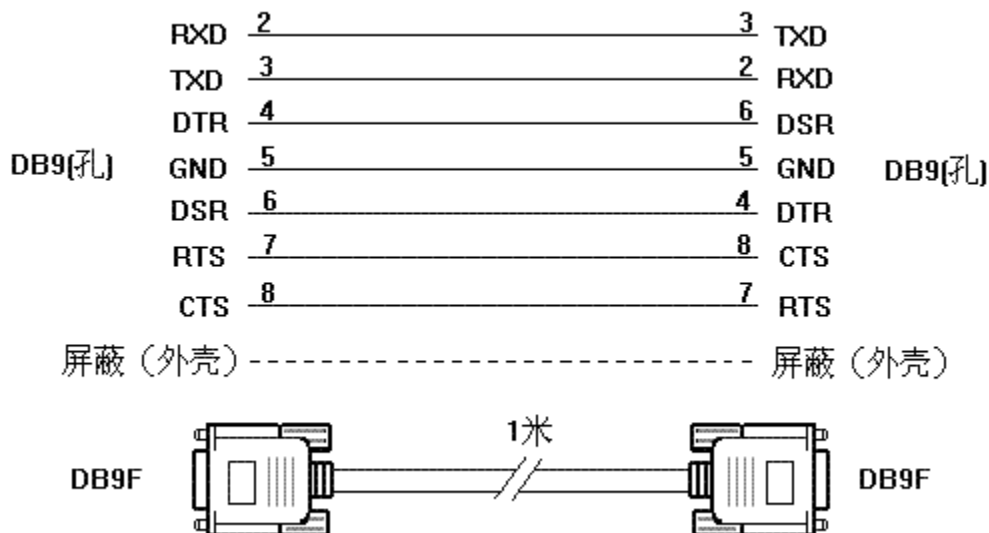
The application of products:

FS-485GT 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 32 RS232 interfaces compose of

RS485 or RS422 communication network, its communication range is up to 3km（4800bps）、2km

（9600bps），1.2km（115.2Kbps）. 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,.
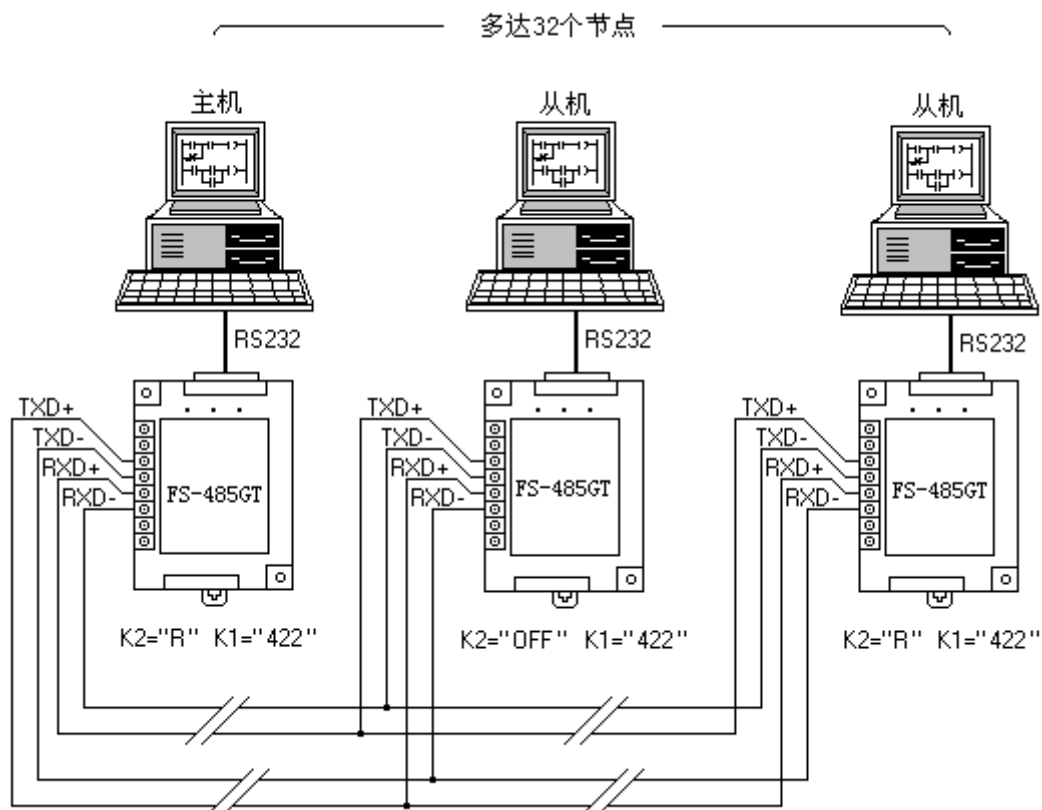
1, second-line half-duplex RS485 communication network:

Turn the RS485 and RS422 selection switch K1 of FS-485GT converters to "485", the terminal resistance setting switch K2 on FS-485GT of network's terminal and start to "R", the terminal resistance setting switch K2 on other FS-485GT of the network to "OFF".
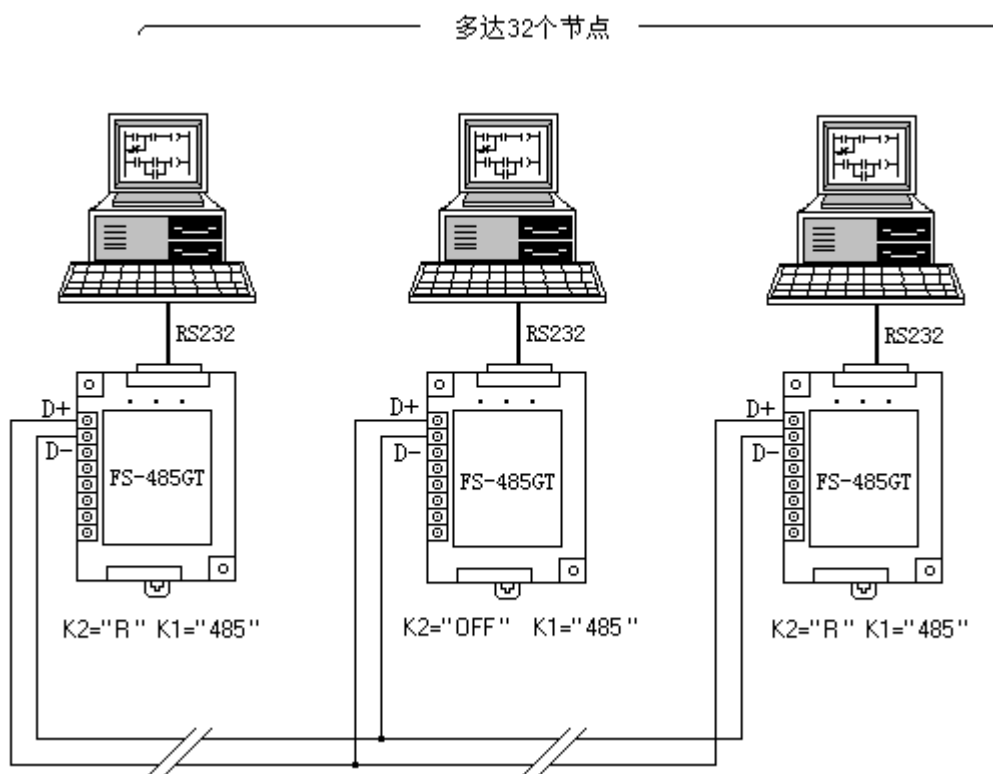
2, 4-wire full-duplex RS422 communication network

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

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

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

With RS232 Cable