

Manual of FX-485AW

FX-485AW is the upgrading product of products such as FX-232AW, FX-232AWC, FX-232AWC-H. It is developed, produced and named by Deyang Foustar Electronic Company. Mitsubishi company does not have this kind of product. In the applications of PLC of Mitsubishi's FX series and PC communications, commonly used SC-09 communications cable programming or FX-232AW communication module, which only supports close-up communications, generally 10 meters. FX-485AW is a production dedicated to Mitsubishi FX series PLC programming I (RS422) to RS485/232 interface module which developed by Deyang four-star electronic company. It can transform PLC programming (RS422) into the second-tier long-distance signals RS485 Tunnel, the largest communications range of up to two kilometers, the internal use of photoelectric isolation design and built-in anti-jamming anti-lightning surge protection circuit, especially for the poor industrial environment.

At the same time the Four-star Electronic design the RS232 interface in the FX-485AW to meet the PLC and PC close communication and entirely replace FX-232AW, FX-232AWC, FX-232AWC-H, SC-09, which make the usage more convenient.

Main technical parameters:

- suit PLC: Mitsubishi FX0N/FX1N/FX2N/FX3U series PLC, do not support the Series A and Q Series PLC

• Power: 5 VDC, 60mA.max, It programmed by the PLC power supply, the internal circuit has overcurrent protection

• PLC programming and FX-485AW mouth of the RS485/232 interface photoelectric isolation voltage: 1000 VDC (up to 3000 VDC, required statement when orders)

• communication rate: FX-485AW own communication rate:

RS485 I: 0 ~ 500 Kbps arbitrary baud rate adaptive;

RS232 I: 0 ~ 230 Kbps arbitrary baud rate adaptive

•greatest distance: RS485 population: 2,000 meters (9.6 Kbps); 1,000 meters (115.2 Kbps)

RS232 I: 15 m

• interface protection:

Power Interface: overcurrent protection; RS422 interfaces: ± 15KV anti-static protection and Zener of the anti-surge protection;

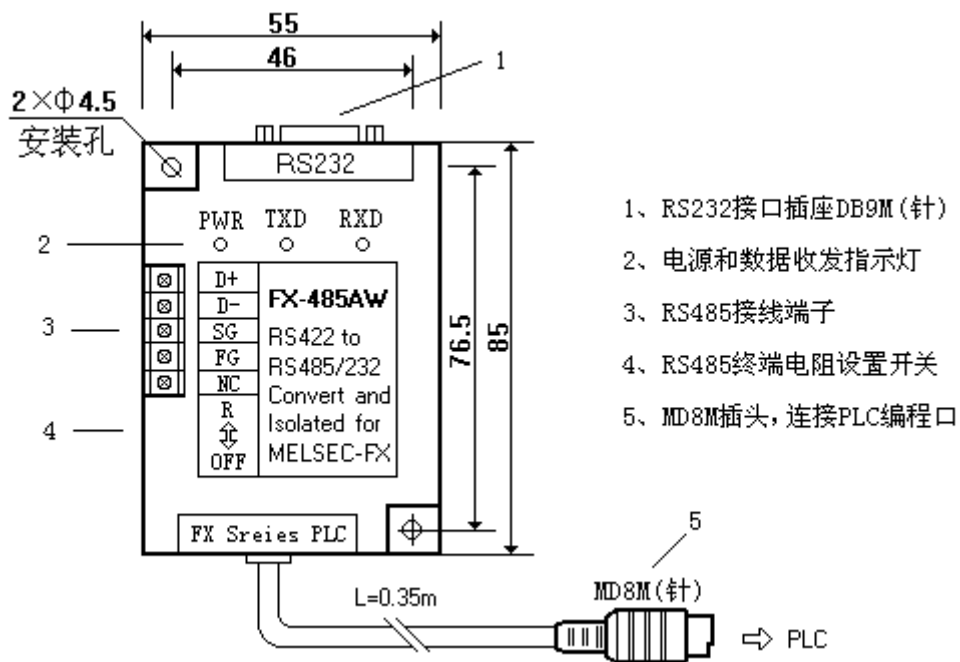
RS232 interfaces: ± 15KV anti-static protection and Zener of the anti-surge protection; RS485: ± 15KV anti-static protection, 500 W TVS anti-lightning (Surge) protection and the prevention of over-voltage 60 V for the restoration of self-protection

• RS485 integrated terminal and bias resistors, send and receive data indicator light

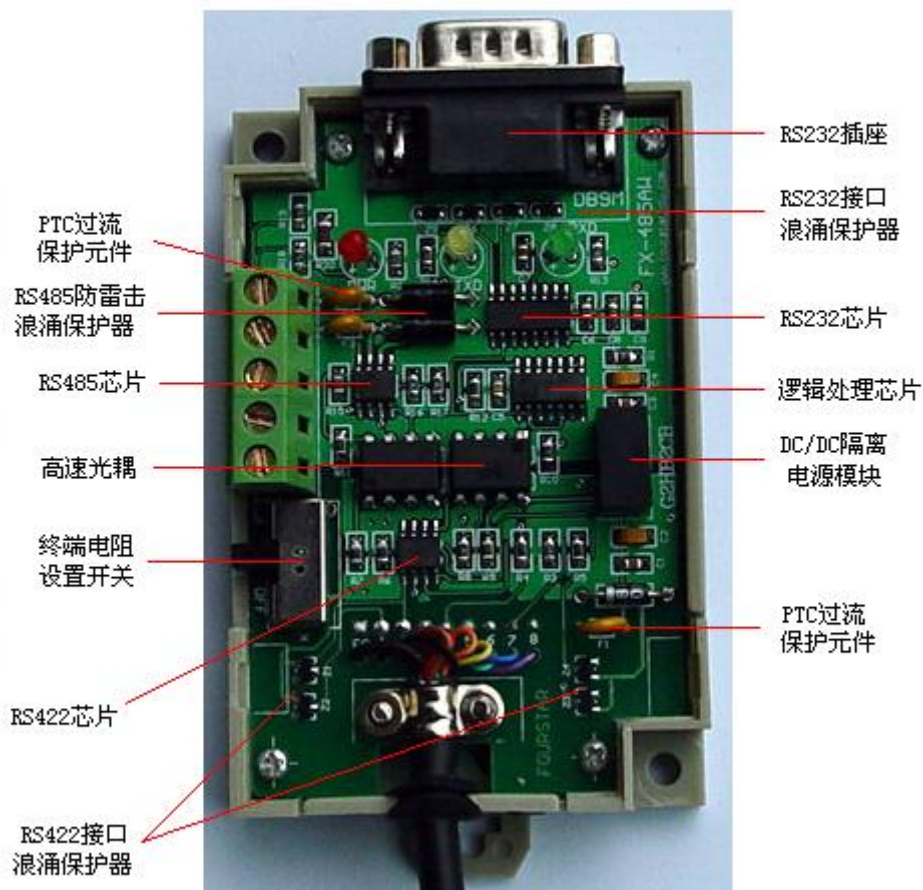
• temperature: -40 ~ +85 °C, relative humidity: 5% to 95% non-condensing

• Dimensions: 85 × 55 × 25 (L × W × H), standard installation guide

Products shape and definition video signals:



FX-485AW内部电路结构



RS232-pin socket definition signal

Number of Pin	Name of sigal
1	unused
2	RS232 signal reception
3	RS232 signal sent
4	unused, and then six short

5	RS232 signal to
6	did not use, and 4 shorted to
7	did not use, and 8 shorted to
8	unused, and seven short to
9	unused

RS485 Connection definition signal

Name of terminal	Name of sigal
D +	RS485 signals are
D-	RS485 negative signal
SG	RS485 signal to
FG	shielding to (the chassis)
NC	Air Terminal

Indicator:

PWR: power indicator light, light up when the power is normal.

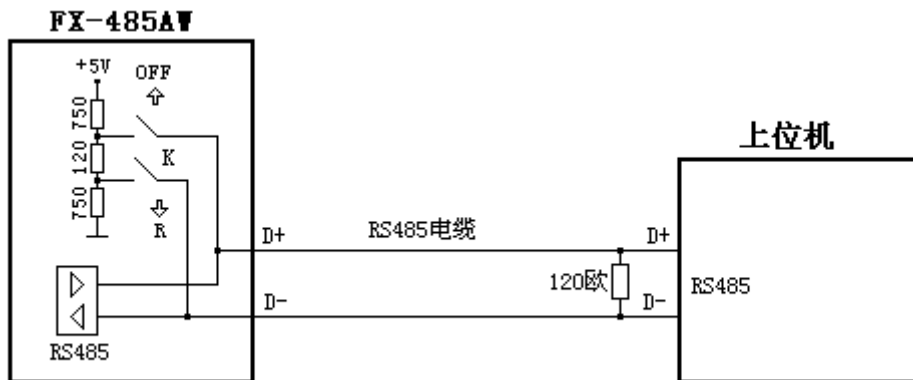
TXD: PLC send data at the flashing, when not sent out.

RXD: PLC receive data at the blinking, no reception off.

Terminal resistance switch:

FX-485AW in the left side of a RS485 terminal resistance setting switch, when the switch transferred OFF location within the terminal disconnect the resistance, when the switch transferred R position within the access terminals 120 Resistivity Europe.

Long-distance communications, in order to eliminate or reduce the reflected signal to the RS485 bus access to both start and finish terminal resistance, generally speaking, when more than 50 meters from the access terminals should to be resistance. As shown below:



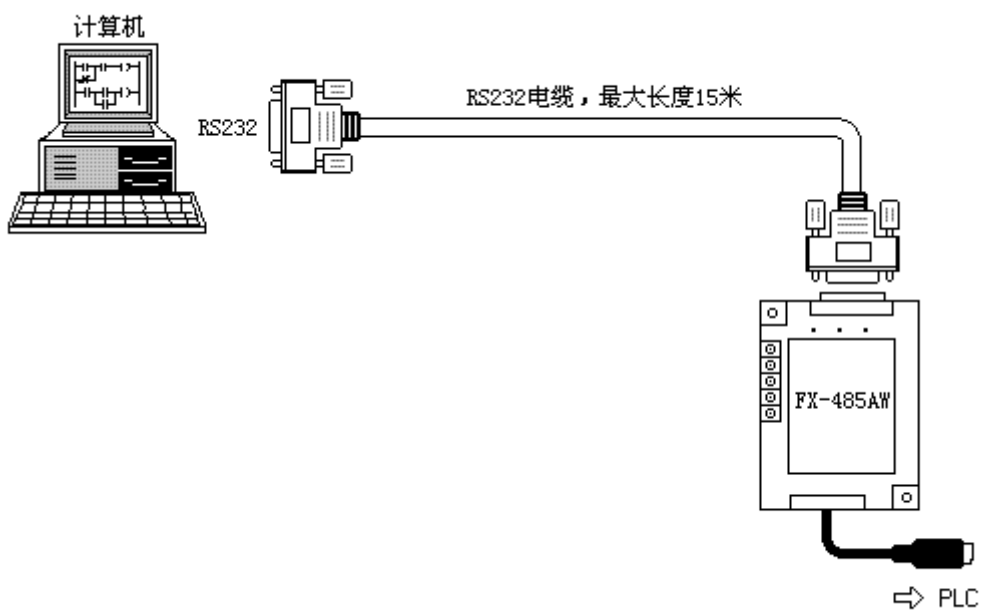
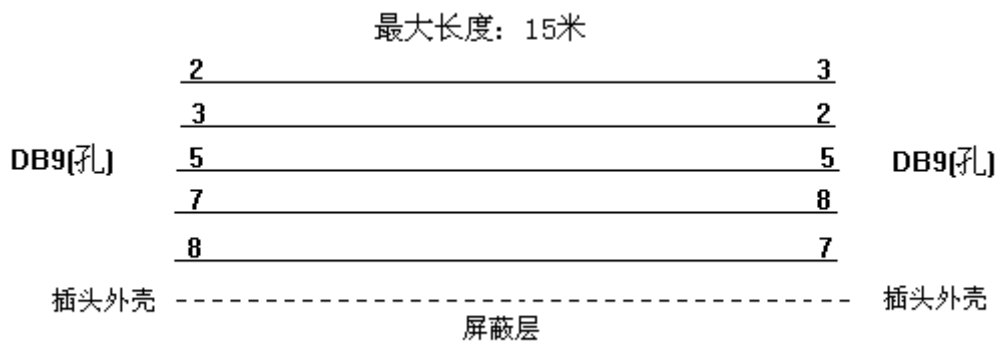
FX-485AW Application

to use FX-485AW is very simple, just plug the radio MD8M into PLC programming, and its work by the PLC power supply programming mouth, this product is based on binary bit-transparent and arbitrary baud rate automatic transmission Adaptation,so there is no need for any of the settings for PLC communication mouth original programming of any communication protocol. PC can use RS485 or RS232

interfaces with the computer, touch screen, and other industrial equipment, support software programming, configuration software and monitoring software.

1. How to use RS232 interface connector PC:

The RS232 interface on the FX-485AW can be connected to the nearest the RS232 interface on PC, users need to press a self-made map RS232 communication cables, maximum length of 15 m



If the computer only has USB port, connecting PLC after via USB to RS232 conversion. Recommend the use of Four-star Electronic USB to RS232, Model: USB-CIF31.

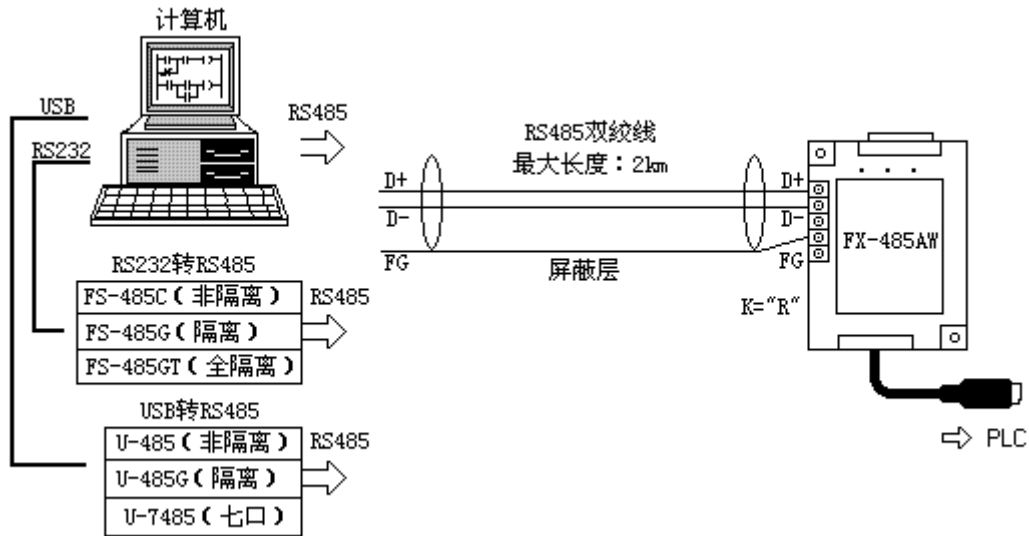
2.How to use RS485 interface connector to connect PC:

The use of FX-485AW on the RS485 interfaces can connect the PC RS485 interfaces for long-distance communications, the greatest distance from the use of the baud rate varies: 9.6 Kbps maximum communication distance of 2,000 meters; 115.2 Kbps maximum distance of communication 1000 meters.

Communication lines using ordinary unshielded twisted pair (cross-sectional area of not less than 0.35 mm²). Cable shield to be received FX-485AW the FG (shield) terminal.

General characteristics	Norms
Type	unshielded twisted pair
Conductor cross-sectional area	24AWG (0.35mm ²) or more coarse
Cable capacitance	<60pf / m
Impedance	100 Ω ~ 120Ω

PC's RS485 interface can be: the PC itself comes with RS485 interfaces, slot-RS485 interface board, RS232/RS485 converters, USB/RS485 converters, some products have built-in terminal resistance, the need to end resistance Setting switch transferred "R" position, some built-in terminal does not require the user resistance to external terminals 120 Resistivity Europe.



Recommended the Four-star Electronic conversion of the following:

RS232/RS485 converters Model:

FS-485C: no external power supply, non-isolated, anti-lightning.

FS-485G: from the RS232 side 5 VDC power supply, RS232 and RS485 signal signal isolation, anti-lightning.

FS-485GT: 9 ~ 40VDC-voltage power supply, power supply and RS232, power and RS485, RS232 and RS485-wide quarantine, prevention of lightning.

USB/RS485 converters Model:

U-485: USB mouth electricity, non-isolated, anti-lightning.

U-485G: USB mouth power supply, isolated, anti-lightning.

U-7485: USB to seven RS485, USB mouth electricity, non-isolated, anti-lightning, even seven PLC.

FX-485AW and can not support the use of multiple PLC programming RS485 network composed of mouth, because the programming interface can not set up the communication protocol addresses of the PLC in order to achieve multiple PLC RS485 communication between the use FXxx-485-BD Interface Board.

FX-485AW on the RS232 port and RS485 interface can only use one, do not support other at the same time.