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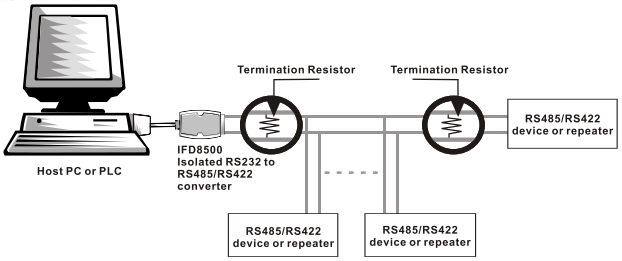
IFD8500 RS232 to RS485/RS422 Isolated Converter

User's Manual



INTRODUCTION:

The IFD8500 is a product which can convert RS232 signals to Rs485/ RS422 differential voltage lines for data transmission。This product let you can easily connect a RS232 only device to another RS485/RS422 equipment without changing any hardware or software。

SPECIFICATIONS :

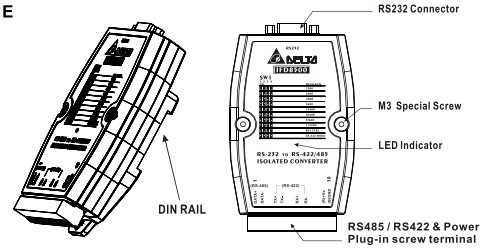
1.Power requirement：+9V — +35Vdc
2.Power consumption：1.2W
3.Isolated voltage：3000Vdc
4.Baud rate(bps)：1200,2400,4800,9600,19200,38400,57600,115200bps
5.RS232 Connector Type：9PIN D-SUB Female
6.RS485/422 Terminal Type：10PIN ， AWG1-#12 to #24 wires accepted
7.Dimension（L x W x H）：4.65in x 2.79in x 0.87in (118mm x 71mm x 22mm)
8.Weight：0.286lb (130 g)

INSTALLATION :

1.ACCESSORY

Mounting Panel x1，
User manual x 1。

2.APPEARANCE



3.DATA FORMAT SETTING：

Set baud rate and data format to control the data flow

Baud rate	SW1 1	SW1 2	SW1 3	SW1 4	Baud rate	SW1 1	SW1 2	SW1 3	SW1 4
1200bps	ON				38400bps	ON			
2400bps	ON				57600bps	ON			
4800bps	ON				115200bps	ON			
**9600bps	ON				RTS Mode	ON			
19200bps	ON				RS422 Mode	ON			

Length	SW2 1	SW2 2	Length	SW2 1	SW2 2
9bit	ON		11 bit	ON	
**10 bit	ON		12 bit	ON	

Notes:**default setting

Calculation for length of data frame：
LENGTH＝START BIT＋DATA LENGTH＋PARITY BIT＋STOP BIT
Ex：DATA LENGTH ＝ 8 bits，None parity，STOP BIT ＝ 1bit
LENGTH ＝ 1＋8＋0＋1 ＝ 10

4.TERMINATION RESISTOR

The action to terminate the cable is system dependent and is affected by the choice of the maximum cable length and signal rate. The length of RS-485 network cable can be extended up to 4000 ft or 1.2km. It is necessary to match the line impedance of network to avoid signal distortion by adding to termination resisters on both ends of RS-485/ RS-422 network cable.

Hint for termination resistor：
a.The longer the length of transmission cable, the worse the signal quality.
b.Two transmission resistors are recommended to install on both ends of the main cable of RS-485/RS-422 network. It's not necessary to add termination resistors on each nodes in the same network.

C.If the transmission wire of RS-485 is using AWG#24 twisted pair cable with 1.2km, We recommend you to use 120 Ohm resistor.

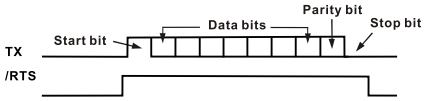
5.WIRING

a.RS232（D-SUB 9PIN）
Pin define：

PIN	Signal Name
1	/DCD
2	RXD
3	TXD
4	/DTR
5	Signal ground

PIN	Signal Name
6	/DSR
7	/RTS
8	/CTS
9	NC(Ring indicator)
PIN 1-4-6 . 7-8 Short on PCB	

Only need TX,RX and GROUND to make this product functional,RS-485 Data flow control signals will be produce by setting SW1、SW2 automatically.
RTS can be use for data flow control signal also,（SW1 setting),
RTS control Timing：



RTS Remain " LOW " when data received

b.Power、RS485/RS422（10PIN terminal）

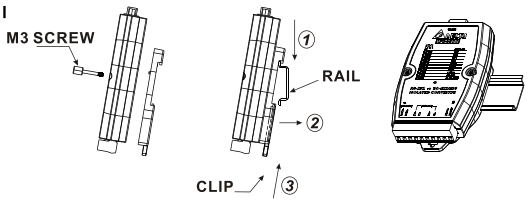
PIN	Signal Name
1	RS485 DATA+
2	RS485 DATA-
3	NC
4	RS422 TX+
5	RS422 TX-

PIN	Signal Name
6	RS422 RX+
7	RS422 RX-
8	NC
9	+Vs(Power)
10	GND(ground)

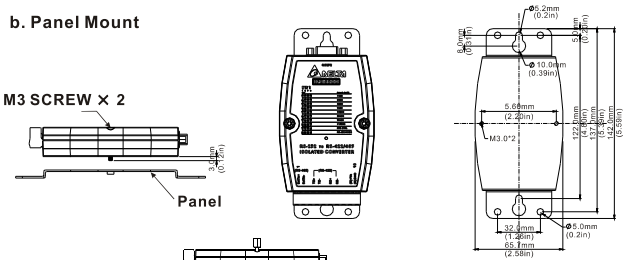
Notes:
1.IFD8500 provides 50Vdc reverse power protection.
2.To reduce interference, it is recommend using twisted pair cable.

6.MOUNTING METHOD

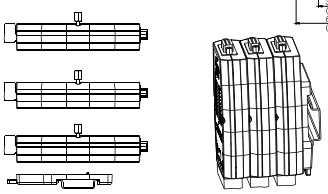
a. DIN Rail



b. Panel Mount



C. Piggy back



OPERATION :

1.LED Display
a.Power on and no data transfer on RS-485/RS-422 bus，Green LED ON。
b.Data transfer form RS-485/RS-422 to RS-232，Red LED FLASH。
c.Data transfer from RS-232 to RS-485/RS-422，Green LED FLASH。

2.Data transfer with Rs485
The RS-485 allows for multiple drivers and receivers on single line, facilitating half duplex communication。Before sending data to RS-485 bus line, Programmer has to make sure there is no data transmit on the bus, else you will lose your data