

User's Guide

I. Summary

In order to communicate between various standard series ports of computers, external equipments, or intelligent instruments, we must convert these signals first. This converter is compatible with RS-232C and RS-485 standard. It is able to convert RS-232 signal to RS-485 balanced differential signal and extend the communication distance to 1.2km. It is passive and doesn't require external power. It uses a particular pump to gain power from RS-232 signals (RTS, DTR, TXD) without initializing the RS-232 series interface. An internal transceiver and particular circuit automatically controls the data stream direction instead of handshake signals (such as RTS, DTR, etc.). When works in RS-232 half-duplex mode, the software keeps the same function under RS-485 without any change. The transmission rate of 300-115200bps is capable of applying between host computers, host computer and its external equipments and forms point to point, point to multi-points network. It is widely used in industrial automation, door safe, all-in-one-card, car parking, ATM, bus charge, eatery sell out, staff attendance management, and highway toll gate etc.

This guide is suitable for two models:

- STM485-S (Standard)
- STM485-C (Commercial version)
- STM485-I (Industrial version)

II. Features

1. Interface: Compatible with EIA/TIA RS-232C standard and RS-485 standard.
2. Electronic interface: At the side of RS-232 is a DB9 female (hole-type) connector. At the side of RS-485 is a DB9 male (needle-type) connector, with connection board.

3. Working mode: Asynchronous, half-duplex, differential transmission.
4. Transmission media: Twisted pair or shielded twisted pair (STP).
5. Transmission rate: 300-115200bps.
6. Mechanical dimension: 95mm*33mm*17mm
7. Working environments:
 0-70°C (STM485-C), -20-85°C (STM485-I),
 relative humidity 5% to 95%.
8. Transmission distance: 1200m(RS-485), 5m (RS-232).

III. Connector and signal definition

1. RS-232C connector definition:

DB9 female	RS-232C signal
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

2. RS-485 connector definition:

PIN number	DB9 Male	RS-485 connection board
1	D-/B	D+/A
2	D+/A	D-/B
3	---	GND
4	---	+5V~+12V
5	GND	
6	+5V~+12V	
7	---	
8	---	
9	---	