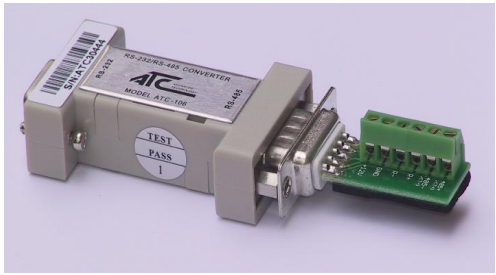
Model ATC-106N
RS-232 to RS-485 Interface Converter

User's Manual



1.0 General Description

The ATC-106N is a 2 channel non-power SD Control RS-232 to RS-485 interface converter.ATC-106N can convert the TD and RD signals of RS-232 into balanced half-duplex RS-485 signals.

2.0 Specifications

2.1 Interface

Conforms to EIA RS-232 and RS-485 standards

2.2 Connectors and signals

The ATC-106N has a DB-9 female connector on the RS-232 side and DB-9 male connector or a terminal block connector on the RS-485 side.

RS-232 Side:

Connector: DB-9 Female.

Signals: Use Pins 3 (TD also called SD) and 2 (RD) Pins 7 (RTS) and 8 (CTS) are tied together Pins 4 (DTR), 6 (DSR), and 1 (CD) are tied together.

RS-485 Side: Connector: DB-9 male connector or 6 position terminal block -- 485+.485-.+5V.GND .

2.3 Data Rate : 300 to 115.2 KBPS, up to 4,000 feet at 19,200 BPS.

2.4 Sending Control

ATC-106N does not need RTS to control the RS-485 driver. The RS-485 driver is automatically enabled during each spacing state of SD line (also called TD) on the RS-232 side. The ATC-106N has an internal connection to prevent data transmitted from the RS-232 port from being echoed back to the RS-232 port. The ATC-106N is used as a two wire (half duplex) RS-485 Converter.

2.5 Operating Distance

Data Rate (KBPS): 19.2 9.6 4.8 2.4

Maximum Distance (feet): 4,000 6,000 8,000 10,000 (using 24 AWG wire)

2.6 Power

ATC-106N is powered from the RS-232 data TD or handsh-ake lines. It will try to get its power from RTS or DTR (at least +5.5V or -5.5V in the quiescent state). If there are no RS-232 control signals (DTR or RTS) available. ATC-106N will get power from the data input TD pin (at least -5.5V in the quiescent state). For this kind of power stealing devices , the sufficient power is needed to operate the device. In some case maybe no handshake lines are available and the TD can not drive ATC-106N, then an external 5VDC/40mA power supply can be connected to two terminals on the RS-485 connector between terminals +5VDC and GND .

2.7 Dimensions : 88mmx33mmx17mm

2.8 Environment : 0° to 50° C, 5% to 95% relative humidity

2.9 Connection Diagram

3.0 ATC-106N connecting other RS-485 device

ATC-106N RS-485 device

DB-9 Male

PIN1(485-)---------- 485-

PIN2(485+)----------485+