

**Model ATC-106A**  
**RS-232 to RS-485 Interface Converter**  
**User's Manual**



**1.0 General Description**

The ATC-106A is a 2 channel non-power SD Control RS-232 to RS-485 interface converter. ATC-106A 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-106A 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 (RD) and pin 2(TD also called SD) 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

4 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-106A 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-106A has an internal connection to prevent data transmitted from the RS-232 port from being echoed back to the RS-232 port. The ATC-106A 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-106A is powered from the RS-232 data TD or handshake 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-106A 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-106A, 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-106A connecting other RS-485 device**

ATC-106A RS-485 device

DB-9 Male

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

PIN7(485+)-----485+