

Model ATC-101

RS-232 to RS-422 Interface Converter

User's Manual



1.0 General Description

The Model ATC-101 is a non-power RS-232 to RS-422 interface converter. The Model ATC-101 has a DB9 Female connector for the RS-232 Interface and a 6 screw terminals connector or DB9 Male connector for the RS-422 differential input and output interface.

MODEL ATC-101 can convert the TD and RD signals of RS-232 into balanced full-duplex RS-422 signals.

2.0 Specifications

2.1 Interface : Conforms to EIA RS-232C and RS-422 standards

2.2 Connectors and signals

The MODEL ATC-101 has a DB-9 female Connector on the RS-232 side Have a DB9 Male connector or a terminal block connector on the RS-422 side.

RS-232 Side:

Connector: DB-9 Female Signals: Use Pins 3 (TD) and 2 (RD). Pins 7 (RTS) and 8 (CTS) are tied together Pins 4 (DTR), 6 (DSR), and 1 (CD) are tied together.

RS-422 Side:

Connector: DB9 Male connector--PIN1 (T-) PIN2 (T+) 、 PIN3 (R+) 、 PIN4 (R-) , 6 position terminal block -- +12V, GND, T+, T-, R+, R- Signals: Full-duplex 4-wire operation only Driver and

Receiver are enabled all the time.

2.3 Transmission : Asynchronous full duplex over 4 wires (two twisted pairs)

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

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

MODEL ATC-101 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. MODEL ATC-101 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 data TD can not drive MODEL ATC-101, then an external 5VDC/40mA power supply can be connected to two terminals on the RS-422 connector between terminals +5VDC and GND .

2.7 Dimensions: 88mmx33mmx17mm

2.8 Environment : -25° to +70° C, 5% to 95% relative humidity

3.0 Installation

3.1 RS-232 and RS-422 Interface

The RS-232 interface is a DB-9 female connector. Four wire lines between the interface converter and the RS-422 equipment must be two twisted pairs. The wire marked is T+ signal, will be connected with R+ of another RS-422 equipment. The wire marked is T- signal, will be connected with R- of another RS-422 equipment. The wire marked is R+ signal, will be connected with T+ or of another RS-422 equipment. The wire marked is R- signal, will be connected with T- or of another RS-422 equipment. Some times, GND to GND line is also

3.2 Connection Diagram

3.21 Model ATC-101 connecting ATC-101

Model ATC-101	Model ATC-101
T- -----	R-
T+ -----	R+
R+ -----	T+
R- -----	T-

3.22 Model ATC-101 connecting other RS-422 device

Model ATC-101	RS-422 Device
T- -----	R-
T+ -----	R+
R+ -----	T+
R- -----	T-