



Port-Powered RS-232 to RS-485 Converter, DB25F to DB25M

Product Code IC1478A-F

This port-powered two-channel RS-232 to RS-485 converter converts the TD and RD RS-232 lines to balanced half-duplex RS-485 signals. The unit is powered from the RS-232 data and handshake lines whether the lines are high or low. An external power supply can be connected to two pins on the RS-485 connector if no handshake lines are available.

RS-232 Side:

Connector: DB-25 Female.

Signals: Passes through pins 2 (TD) and 3 (RD). Pins 4 (RTS) and 5 (CTS) are tied together. Pins 20 (DTR), 6 (DSR), and 8 (CD) are tied together.

RS-485 Side:

Connector: DB-25 Male.

Signals: Half-duplex two-wire operation only. Automatic control circuit enables driver only when transmitting. Receiver is disabled when transmitting to prevent echo back to RS-232 device. Can transmit up to 4000 feet at 115.2k baud.

Power Requirements:

No external power required if two RS-232 output handshake lines are available. External 12VDC can be applied to pins on the RS-485 side between pins 25 (+) and 12 (GND) if handshake lines are not available.
35mA current draw maximum under normal operation when externally powered.

NOTE: When using an external supply, the supply should be connected only to specifically labeled power inputs (power jack, terminal block, etc.). Connecting an external power supply to the handshake lines may damage the unit. Contact technical support for more information on connecting an external power supply.

Dimensions:

2.20" x 2.16" x 0.64" (5.59 x 5.49 x 1.63 cm)

Connections and Operation:

To DB-25 RS-232 DTE device:

DB25S	RS-232 DTE DEVICE
2	2
3	3
4	4
20	20
7	7

Can use 25 pin straight through cable.

To DB-25 RS-232 DCE device:

DB25S	RS-232 DCE DEVICE
2	3
3	2
5	5
6 or 8	6 or 8
7	7

Can use 25 pin cable that crosses pins 2 & 3.

To RS-485 device or network:

DB25P	OUT TO RS-485 NETWORK
2	DATA A (-)
14	DATA B (+)
7	SIG. GND

Pin one is also connected straight through from the RS-232 side to the RS-485 side so that the shield can be passed through to earth ground if desired. It is recommended that shielded cable be used and that the shield be connected to earth ground at one point in the system.

Although this model uses the handshake lines to power the converter, no handshaking is required to control the RS-485 driver. The RS-485 driver is automatically enabled during each spacing state on the RS-232 side. During the marking or idle state, the RS-485 driver is disabled and the data lines are held in the marking state by the 4.7K ohm pull-up and pull-down resistors. The value of these resistors may need to be changed to a different value when termination is used in order to maintain the proper DC bias during the idle state.

There is an internal connection to prevent data transmitted from the RS-232 port from being echoed back to the RS-232 port. The connection can be cut to have the receiver always enabled. (See Figure 1.) After the connection is cut, a jumper wire from pin 18 to pin 21 can be installed to disable the receiver during transmission.

Model Number:	IC1478A-F
Description:	Port-Powered RS-485 Converter
Type:	Light industrial ITE equipment
Standards:	EN 50082-1 (IEC 801-2, IEC 801-3, IEC 801-4) EN 50081-1 (EN 55022, IEC 1000-4-2) EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11) ENV 50204 EN 55024

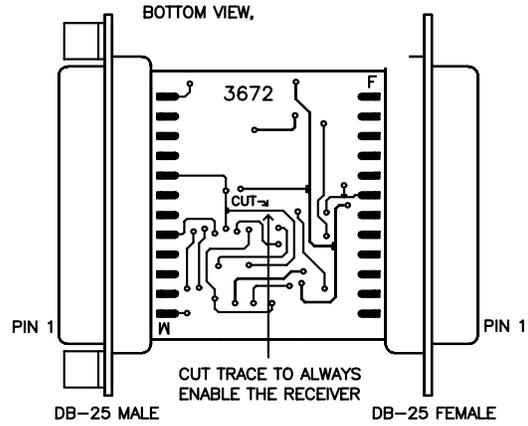


Figure 1

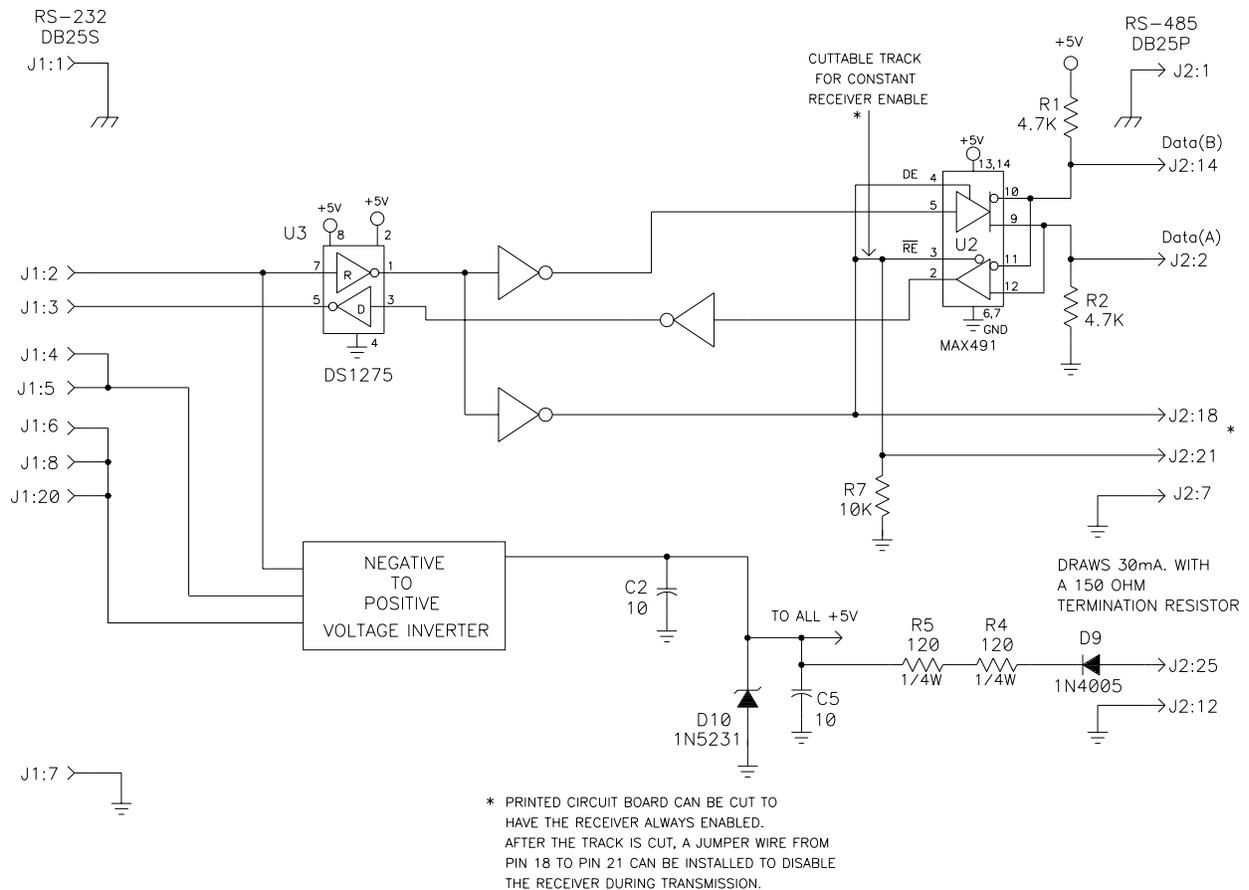


Figure 2