

TS-EN100 Manual





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This revision of the manual is dated

July 11, 2001

All modifications from previous versions are listed in the appendix.

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Limited Warranty

Technologic Systems warrants this product to be free of defects in material and workmanship for a period of one year from date of purchase. During this warranty period Technologic Systems will repair or replace the defective unit in accordance with the following instructions:

- Contact Technologic Systems and obtain a Return Material Authorization (RMA) number and a copy of the RMA form.
- Fill out the RMA form completely and include it and dated proof of purchase with the defective unit being returned. Clearly print the RMA number on the outside of the package.

This limited warranty does not cover damages resulting from lightning or other power surges, misuse, abuse, abnormal conditions of operation, or attempts to alter or modify the function of the product.

This warranty is limited to the repair or replacement of the defective unit. In no event shall Technologic Systems be liable or responsible for any loss or damages, including but not limited to any lost profits, incidental or consequential damages, loss of business, or anticipatory profits arising from the use or inability to use this product.

Repairs made after the expiration of the warranty period are subject to a flat rate repair charge and the cost of return shipping. Please contact Technologic Systems to arrange for any repair service.

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1 Introduction

The Technologic System’s metal enclosure(TS-EN100) is made to hold up to three cards: a Technologic System’s PC/104 Embedded Personal Computer (EPC), the “interface” board, and a PC/104 daughter board. The EPC is PC/104 form factor, which could allow any PC/104 board to be used within the metal enclosure. The “interface” board uses ribbon cables to connect the headers and connectors of the EPC board(s) to the connectors on the back-side of the enclosure. It is also used to supply/regulate power to the enclosed board(s), and for controlling the various LEDs.

The metal enclosure has three mounting holes on the underside of the unit (see Appendix A: Enclosure Visuals) so that entire enclosure can be mounted to a wall, shelf, etc.

The metal enclosure can be used with the following Embedded Personal Computer (EPC) boards:

- TS-2100
- TS-2200
- TS-2800
- An EPC with the TS-SER2
- An EPC with the TS-9100
- An EPC with the TS-9300

2 Standard Headers and Connectors

The back of the metal enclosure has 5 connectors, labeled Ethernet, COM1, COM2, DIO, AUX POWER, and REG. POWER

- **Ethernet:** The Ethernet connector is a standard RJ-45 socket. It can be used to connect a standard 10baseT Ethernet cable into the enclosed EPC.
- **COM1:** This RJ-45 connectors use the pin-outs established by the EIA/TIA 561 specification for RS-232. The TxD, RxD, RTS, CTS, and ground pins are supported for RS-232 communications. In order to support the optional RS-485 communications, pins 1 and 2 are used for RS-485 TX+/RX+ and TX-/RX- (respectively).

RJ45 Pin	Signal
1	RX/TX + (option)
2	RX/TX – (option)
3	Not supported
4	Signal Ground
5	Receive Data
6	Transmit Data
7	Clear to Send
8	Request to Send

Pin 1 is the first pin on the left of the connector when holding the enclosure upright, looking at the back-side of the enclosure.

Figure 1: Com 1 RJ-45 pin outs

- **COM 2:** This RJ-45 connectors use the pin-outs established by the EIA/TIA 561 specification for RS-232. The TxD, RxD, RTS, CTS, and ground pins are supported for RS-232 communications.
The RS-232 com port labeled COM2 supports pins 4 through 8.

Pin 1 is the first pin on the left of the connector when holding the enclosure upright, looking at the back-side of the enclosure.

RJ45 Pin	Signal
1	Not supported
2	Not supported
3	Not supported
4	Signal Ground
5	Receive Data
6	Transmit Data
7	Clear to Send
8	Request to Send

Figure 2: Com 2 RJ-45 pin outs

- **DIO:** this optional feature allows for 8 DIO signals.
- **AUX POWER:** The optional Auxiliary power connector accepts 10 –30V DC when configured with options 1 or 2. This connector can also be used to switch heavy power loads under software control when configured with option 3.
 - **Option 1:** Can be used to power an optional *isolated* DC to DC Power converter to provide internal regulated 5V DC power for the enclosed EPC.
 - **Option 2:** Can be used to power an optional *non-isolated* DC to DC Power converter to provide internal regulated 5V DC power for the enclosed EPC.
 - **Option 3:** An internal relay is used to switch external heavy power loads and is controlled through internal software.
- **Reg. 5V Power:** This is the typical method of providing power to the internal boards. It uses a regulated 5 VDC external power supply.
- **Power Indicator Light:** The LED indicator in the back of the enclosure is the power LED. It is turned on anytime power is applied to the unit.
- **Ground Lug:** The lug labeled with the chassis ground symbol is used for chassis ground.
- **Status LED:** The status LED is located on the front of the board, and is both a Red and Green LED. The Green LED is directly connected to the processor (user) LED of the enclosed EPC. DIO 2, pin 14, controls the Red LED. See you enclosed EPC’s manual for how to control both LED in software.

3 Dimensions

The enclosure itself is 8.4 inches long by 5.9 inches long and 1.9 inches tall. (see appendix A for visuals).

4 Cables

The previous section details the pin assignments of the COM1 and COM2 RJ-45 connectors (see figures 1 and 2). Technologic Systems can provide a cable to connect directly to a P.C.'s com port. See your EPC's manual for more details on how to communicate with the EPC.

Appendix A Enclosure Visuals

Not available at this time.

Appendix B - Manual Revisions

Date	Revision
7.10.01	<ul style="list-style-type: none">• Document Created
7.11.01	<ul style="list-style-type: none">• Added section 4: Cables