TS8000

DeviceNet Option
8000/DN/00

HA471506 Issue 1

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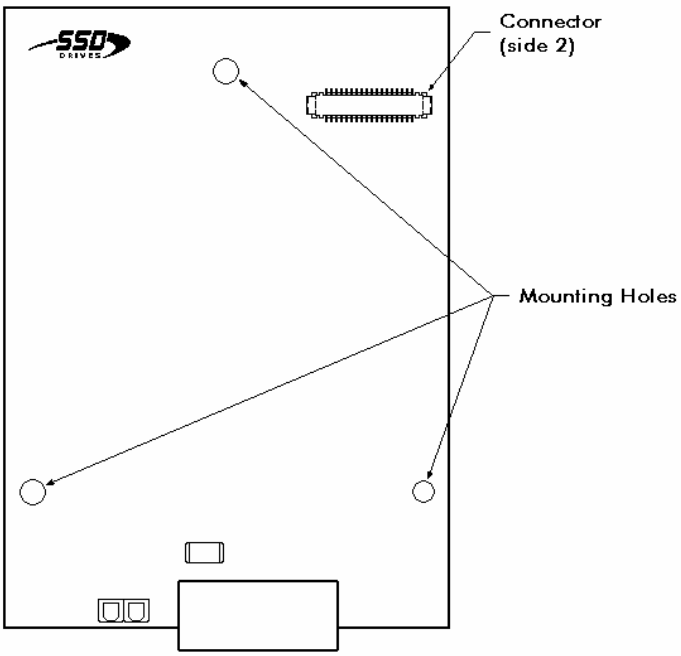
Product Overview



- **Configured with DSI8000 software.**
- **Digitally isolated DeviceNet Port** capable of communicating with any DeviceNet master.
- **Powered and configured from TS8000 operator interface terminals.**
- **Installation and connection hardware included with card.**

General Description

The TS8000 expansion card slot provides a high-speed parallel architecture that extends the functionality and flexibility of the TS8000 series HMI. This approach allows the TS8000 series to evolve concurrently with the latest advances in communication standards, without sacrificing performance. This high bandwith channel has significantly greater throughput when compared to the traditional (external) serial gateway approach.

The 8000/DN/00 option card is easily installed by removing the rear cover of the TS8000 operator interface, attaching the card using three screws and connecting a single cable. Adding this card gives the operator interface a DeviceNet communications port. It is built with digital isolation to protect the operator interface from the DeviceNet network, and vice versa. It provides the ability to communicate to any high speed DeviceNet master device. A connector housing is provided to function as a strain relief for the wires that terminate into the five position connector. The connector is pluggable for easy removal of the TS8000 operator interface from the DeviceNet network, without disturbing communications with other devices on the bus.

Safety Information

All safety related regulations, local codes and instructions that appear in the manual or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not use the controller to directly command motors, valves, or other process actuators not equipped with safeguards. To do so can be potentially harmful to persons or equipment in the event of a fault to the controller.

Contents Of Package

The option card will come shipped with the following additional equipment:

- 8000/DN/00 option card with pluggable connector.
- Bus cable (attached to option card).
- Hardware mounting packet.

Specifications

The following specifications pertain to the TS8000 series option cards. SSD Drives retains the right to modify specifications at any time, without prior notice.

Power Requirements

Power is supplied to the option card from the main board of the TS8000 operator interface.

Communications

DeviceNet Port: Format and baud rates are software programmable up to 500kb.

- Protocol: DeviceNet slave.
- Port Isolation: 1000vDC for 1 minute.

Environmental Conditions

Operating Temperature Range: 0 to 50 deg C.

Storage Temperature Range: -20 to 80 deg C.

Operating and Storage Humidity: 80% maximum relative humidity (non-condensing) from 0 to 50 deg C.

Altitude: Up to 2000 meters.

Construction

Installation Category I, Pollution Degree 2.

Installation Requirements

Card must be installed inside the rear cover of a TS8000 series HMI with the hardware provided.

Installation Instructions

The following specifications pertain to the TS8000 series option cards. SSD Drives retains the right to modify specifications at any time, without prior notice.

Caution – Risk Of Electric Shock: The inverter board, attached to the mounting plate, supplies the high voltage necessary to operate the backlight. Touching the inverter board may result in injury. Please exercise caution while working inside of the unit.

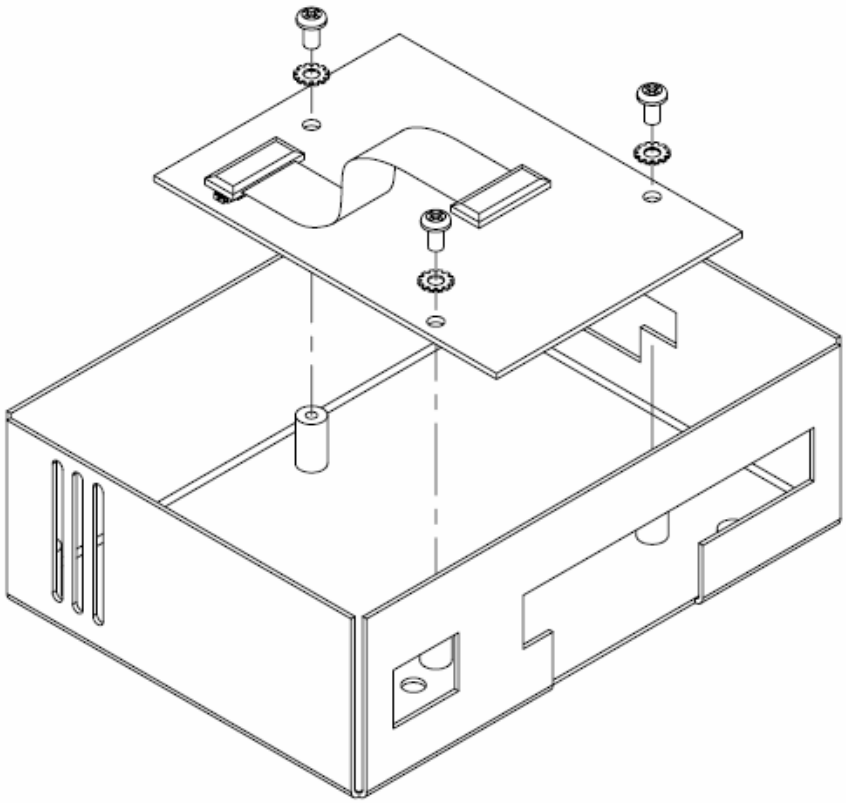
Caution: The circuit board contains static sensitive components. Before handling the operator interface without the rear cover attached, discharge static charges from your body by touching a grounded bare metal object. Ideally, handle the operator interface at a static controlled, clean workstation. Do not touch the surface areas of the circuit board. Dirt, oil, or other contaminants may adversely affect circuit operation.

Each TS8000 option card comes with a cable for communication and three screws for attaching the option card to the inside of the TS8000's rear cover.

To install the option card, remove all power and I/O communication cables from the unit. The TS8000 – Getting Started manual (HA471056U001) contains instructions for removing the rear cover. Refer to the "Battery And Timekeeping" section.

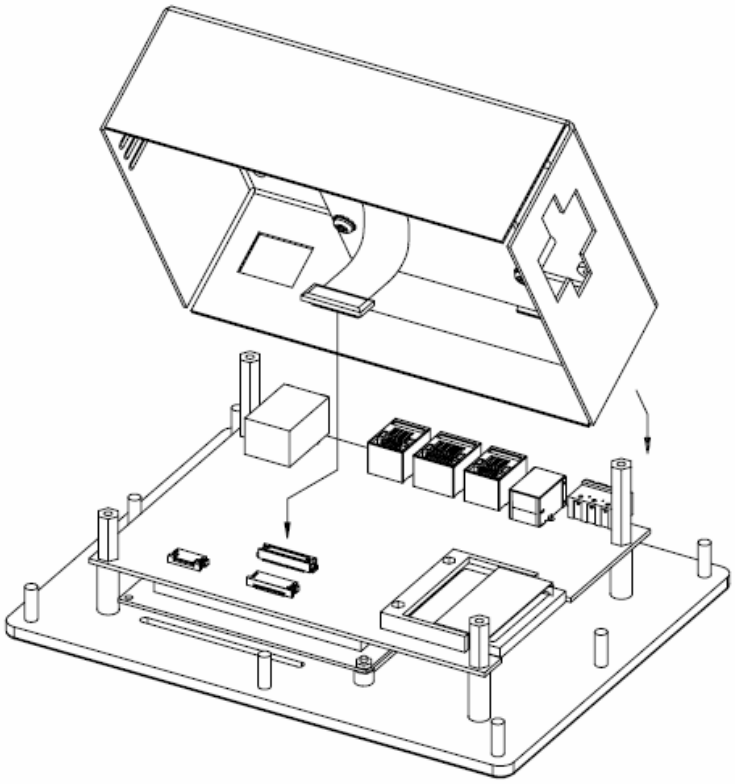
Using the three screws provided, connect the option card to the rear cover as shown in Figure 1 below.

Figure 1



Connect the cable from the option card to CN11 on the main board of the TS8000 as shown in Figure 2. Be sure that both ends of the cable are firmly seated into their appropriate connector housings.

Figure 2



Carefully replace the rear cover by reversing the instructions for removing the rear cover.

The Option Card Label

Place the option card label on the rear cover in the space indicated by the dashed lines and labeled "COMMS EXPANSION MODULE".

Power Supply Requirements

The option card draws all of its power form the main board of the TS8000 HMI. The specifications of the TS8000 account for the power needs of the option card.

Communications

The following specifications pertain to the TS8000 series option cards. SSD Drives retains the right to modify specifications at any time, without prior notice.

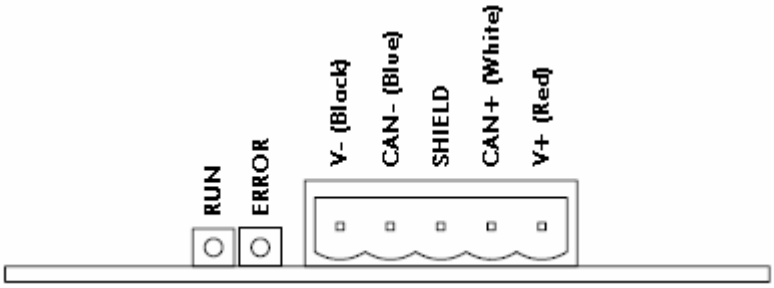
Configuring An Option Card

The option card is configured using DSI8000 software. DSI is included in the software CD that comes packaged with each unit, or is also available from SSD Drives. Updates to DSI8000 are posted on the SSD Drives website as they are made available. By configuring the option card using the latest version of DSI8000, you are assured that the unit has the most up-to-date feature set. DSI software can configure the option card through the RS-232 PGM port, USB port, Ethernet Port, or the CompactFlash socket.

DeviceNet Port Protocols

The option card has one DeviceNet port. Currently, this port may be configured for the DeviceNet slave protocol. Port pin-outs are shown in Figure 3 below.

8000/DN/00 Port Pin-Outs



Shield Connection

Position 3 of the pluggable connector is provided for optional shield connections. This position is available only to tie shield wires together, or to earth ground. There is no internal connection to earth ground. The SHLD position is not to any internal circuitry of the option card, or the TS8000.

DC Voltage Connection

Position 5 of the pluggable connector is provided for optional 24vDC connections. This position is available only to tie 24vDC wires together, or to earth ground. The option card neither provides 24vDC power nor uses 24vDC power through this connection. The V+ position is not to any internal circuitry of the option card, or the TS8000.

The TS8000 has one RS-422/485 port. This port can be configured to act as either RS-422 or RS-485, depending upon the user's needs.

Software / Unit Operations

The following specifications pertain to the TS8000 series option cards. SSD Drives retains the right to modify specifications at any time, without prior notice.

LEDs

The green "RUN" LED will illuminate when the option card establishes communications with a DeviceNet master node. The red "ERROR" LED will illuminate if no communications have been established with other DeviceNet masters.

Troubleshooting The Option Card

If for any reason you have trouble operating, connecting, or simply have questions concerning your new TS8000 option card, contact SSD Drives technical support.

Limited Warranty

SSD Drives warrants the goods against defects in design, materials, and workmanship for the period of 12 months from the date of delivery on the terms detailed in SSD Drives Standard Conditions of Sale IA058393C.

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UK
SSD Drives Ltd
New Courtwick Lane
Littlehampton
West Sussex BN17 7RZ
Tel: +44 (0)1903 737000
Fax: +44 (0)1903 737100

CANADA
SSD Drives Inc
880 Laurentian Drive
Burlington
Ontario L7N 3V6
Tel: +1 (905) 333 7787
Fax: +1 (905) 632 0107

CHINA
SSD Drives Ltd
Room 1603, Hua Teng Edifice
302# Jin Song San Qu
Chaoyang District,
Beijing 100021
P.R. China

DENMARK
SSD Drives AB
Enghavevej 11
DK-7100
Vejle
Tel: +45 (0)70 201311
Fax: +45 (0)70 201312

FRANCE
SSD Drives SAS
15 Avenue de Norvège
Villebon sur Yvette
F-91953 Courtaboeuf Cedex
Paris
Tel: +33 - 1 69 18 51 51
Fax: +33 - 1 69 18 51 59

GERMANY
SSD Drives GmbH
Von-Humboldt-Strasse 10
64646 Heppenheim
Tel: +49 (6252) 798200
Fax: +49 (6252) 798205

ITALY
SSD Drives SPA
Via Gran Sasso 9
20030 Lentate Sul Seveso
Milano
Tel: +39 (0362) 557308
Fax: +39 (0362) 557312

SWEDEN
SSD Drives AB
Montörgaten 7, SE-302 60
Halmstad
Tel: +46 (0)35-17 73 00
Fax: +46 (0)35-10 84 07

U.S.A.
SSD Drives Inc
9225 Forsyth Park Drive
Charlotte
North Carolina 28273
Tel: +1 (704) 588 3246
Fax: +1 (704) 588 3249

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