

GFK-1997
New In Stock!
~~GE Fanuc Manuals~~

<http://www.pdfsupply.com/automation/ge-fanuc-manuals/operator-interface/GFK-1997>

operator-interface
1-919-535-3180

Control Station CE II QuickStart

www.pdfsupply.com

Email: sales@pdfsupply.com

ControlStation CEII Communication Module Quick Install Guide

Profibus Adapter
DeviceNet Adapter

February 2002
GFK-1997

All rights reserved. No part of this publication may be reproduced in any form or by any electronic or mechanical means, including photocopying and recording, without permission in writing from GE Fanuc Automation.

Disclaimer of Warranties and Liability

The information contained in this manual is believed to be accurate and reliable. However, GE Fanuc Automation assumes no responsibilities for any errors, omissions or inaccuracies whatsoever. Without limiting the foregoing, GE Fanuc Automation disclaims any and all warranties, expressed or implied, including the warranty of merchantability and fitness for a particular purpose, with respect to the information contained in this manual and the equipment or software described herein. The entire risk as to the quality and performance of such information, equipment and software is upon the buyer or user. GE Fanuc Automation shall not be liable for any damages, including special or consequential damages, arising out of the use of such information, equipment and software, even if GE Fanuc Automation has been advised in advance of the possibility of such damages. The use of the information contained in the manual and the software described herein is subject to GE Fanuc Automation's standard license agreement, which must be executed by the buyer or user before the use of such information, equipment or software.

Notice

GE Fanuc Automation reserves the right to make improvements to the products described in this publication at any time and without notice.

© 2002 GE Fanuc Automation All rights reserved. ControlStation CE II, CE II are trademarks of GE Fanuc Automation. Any other trademarks referenced herein are used solely for purposes of identifying compatibility with the products of GE Fanuc Automation.

We want to hear from you. If you have any comments, questions, or suggestions about our documentation, send them to the following email address:
doc@gefedmonton.ge.com.

INTRODUCTION	6
Installing the Communication Module	7
MAINTENANCE	9
PROTECTIVE ENCLOSURE	11
Connecting the protective enclosure.....	12
PROFIBUS CARD.....	13
Profibus card components.....	14
Status LEDs	15
Module status LED.....	16

Network status LED	16
Board Address Jumpers	17
Profibus FieldBus Network Connector	18
FieldBus Host Connector	19
Design Specifications	20
DEVICENET CARD	21
DeviceNet card components	22
Status LEDs	23
Module Status LED	24
Network Status LED	25
Module Address Jumpers	26

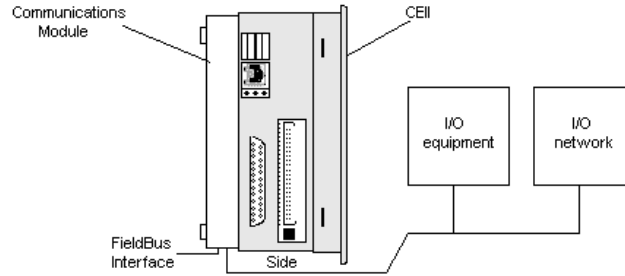
Table of Contents	5
Network Power Jumpers	27
DeviceNet Network Connector.....	28
FieldBus Host Connector	29
Design Specifications.....	30
TROUBLESHOOTING	31
INDEX.....	34

Introduction

Congratulations on your purchase of a Communication Module for the ControlStation CE II. The following adapters are available:

- Profibus (IC752PBMU01)
- DeviceNet (IC752DNMU01)

A communication module provides an interface to an I/O network.

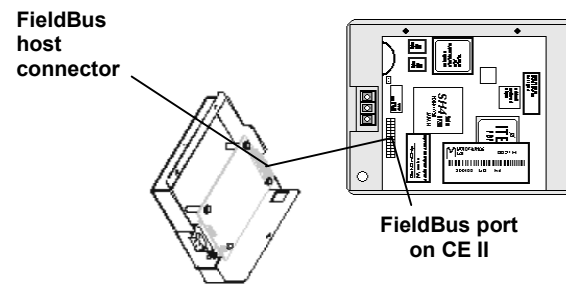


Installing the Communication Module

Warning: To avoid personal injury ensure power is disconnected from the CE II prior to installing the unit. Always use anti-static precautions when accessing internal components of a CEII.

Note: Installation applies to both Profibus and DeviceNet.

1. Remove rear cover from the CE II.
2. Make use of the tab on the side of the unit of the protective enclosure to orient the module.
3. Plug the FieldBus host connector on the Communication Module into the FieldBus port on the CE II.



4. Use the small cutout in the side of the module to sight the connectors mating.

The Communication Module fits on the back of the CE II and is connected by three screws: two on the back and one on the top.

Maintenance

To ensure your safety and enhance the performance and durability of your Communication Module, ensure that the following precautions are taken:

- Do not install or store the unit in dusty environments or expose unit to direct sunlight.
- Excessive vibrations or sudden shocks may damage the unit. Do not install the unit where it may be subjected to excessive vibrations or shocks.
- Do not install the unit near high temperature equipment or where the temperature will exceed its specified range or in areas where dramatic changes in temperatures occur.
- To avoid dangerous shock, short circuit or malfunction of the unit, do not allow water, liquids or metal particles to enter the unit.
- To clean the unit, use a soft cloth moistened with a gentle cleansing solution. Do not use abrasive or

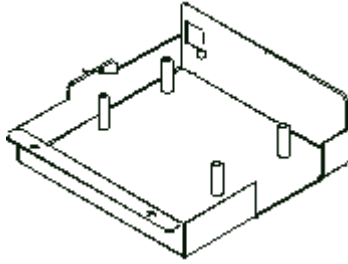
toxic cleansers as these may damage to the unit's surface.

- To avoid harmful damage to the unit or dangerous shock hazards, ensure that the power supply to the CE II is fully disconnected prior to installation of the Communication Module.
- To prevent injury or damage, design your system so that machinery will not malfunction due to a communication fault between the unit and other devices.

Caution: No user serviceable parts inside. To avoid dangerous shock hazards, leave servicing to a certified GE Fanuc repair agent only. Visit the GE Fanuc website (www.gefanuc.ge.com), or call toll free 1-800-GEFANUC for information on an authorized GE Fanuc retailer in your area.

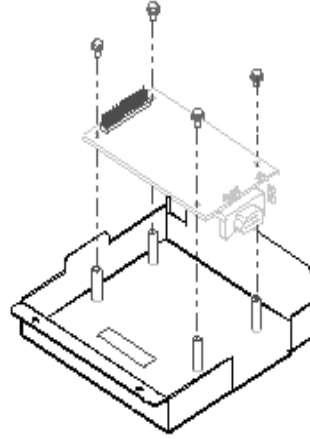
Protective Enclosure

A protective enclosure covers the FieldBus card protecting the card from harmful environmental elements.



Connecting the protective enclosure

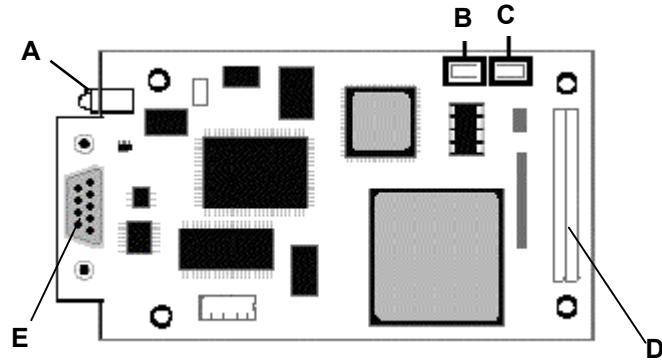
The Communication Module comes with four installation screws allowing the FieldBus card to be attached to the protective enclosure.



Profibus Card

The Profibus card (IC752PBMU01) is the active component of the Communication Module and acts as a master on the Profibus network. It contains a FieldBus card designed to connect the CE II to a Profibus network.

The following diagram illustrates the placement of major components on the Profibus card.



Communication Module

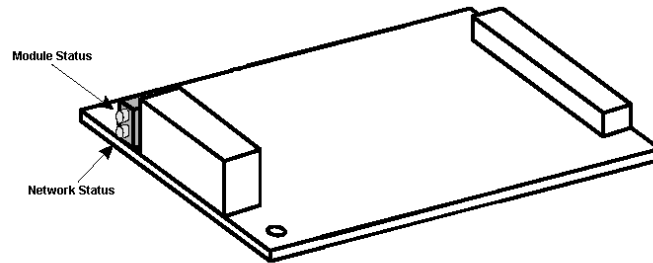
GFK-1997

Profibus card components

- A. **Status LEDs:** Indicates the status of the module. (see *Status LEDs*).
- B. **BA1:** Module address jumper. Jumper BA1 selects the board address of the Profibus FieldBus card (see *Board Address Jumpers*).
- C. **BA2:** Module address jumper. Jumper BA2 selects the board address of the Profibus FieldBus (see *Board Address Jumpers*).
- D. **FieldBus Host Connector:** For connection to the CE II (see *FieldBus Host Connector*).
- E. **Profibus Network Connector:** For connection to the network(see *Profibus Network Connector*).

Status LEDs

The Profibus FieldBus card is equipped with two LEDs including the Module Status LED and the Network Status LED as described in the tables on the following pages.



Module status LED

LED Status	Description
Off	Interface closed.
Solid red	Interface opened, at least one slave device is faulted.
Amber	Interface opened, Data Exchange – clear mode.
Solid Green	Interface opened, Data Exchange ,pde. Mp slave device errors.

Network status LED

LED Status	Description
Off	Offline.
Solid red	Online, bus error (baud rate, or wiring problems.
Solid green	Online, no physical layer or data link errors.

Board Address Jumpers

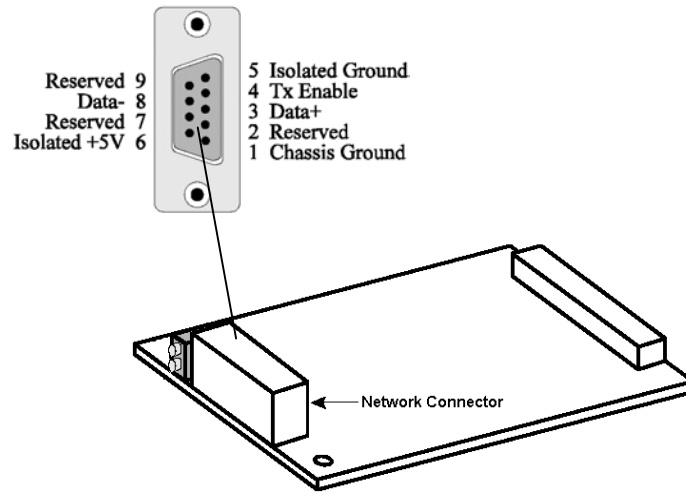
The configuration settings of the Board Address Jumpers are illustrated in the following table.

BA1	BA2	I/O Address
On	On	Module Address 3 (Default as shipped)
On	Off	Module Address 2
Off	On	Module Address 1
Off	Off	Module Address 0

Note: The default address is pre-configured in the factory for ControlStation CE II application of CIMPLICITY Machine Edition projects. To avoid system malfunction, do not alter the default settings.

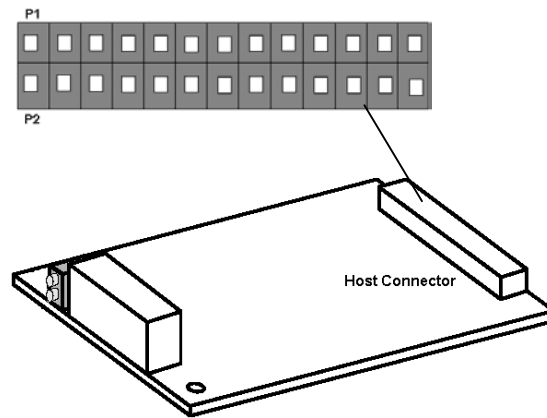
Profibus FieldBus Network Connector

The Profibus FieldBus card has a DB9 socket connection.
The pin-out is as follows:



FieldBus Host Connector

The Profibus card attaches to a CE II unit via a 26-pin FieldBus connector (see *Installing the Communication module*).



Design Specifications**Network:**

Cable	Profibus Type A and Type B Compatible
Isolation	1000 VAC RMS for 1 sec
Protocol	Profibus DP
Data Rate	All baud rates from 9600 bps to 12 Mbps with auto baud rate detection
Termination	External termination required at the end of the network cable.

Environmental:

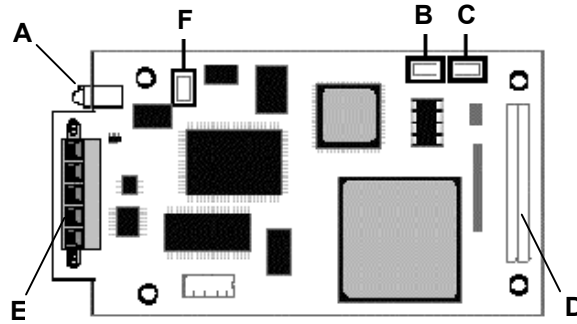
Storage Temperature	-40°C to 85°C
Operating Temperature	0°C to 60°C
Operating Humidity	5% to 90% (non-condensing)

Note: The Communication Module does not affect the cut-out dimensions of the CE II, but increases the depth requirement by 3 inches. For more information on the CE II panel cutout, see *GFK-1885*.

DeviceNet Card

The DeviceNet card (IC752DNMU01) is the active component of the Communication Module and acts as a master on the DeviceNet network. It contains a FieldBus card designed to connect the CE II to a DeviceNet network.

The following diagram illustrates the placement of major components on the DeviceNet card.



Communication Module

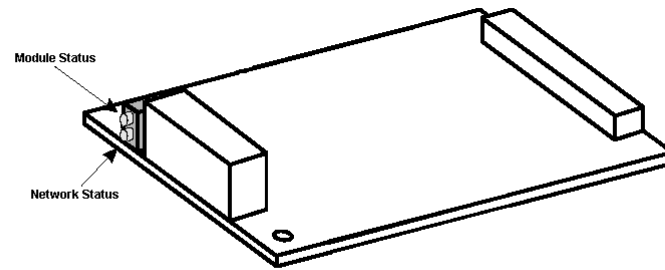
GFK-1997

DeviceNet card components

- A. **Status LEDs:** Indicates the status of the module (see *Status LEDs*).
- B. **BA1:** Module address jumper. Jumper BA1 selects the board address of the FieldBus interface (see *Board Address Jumpers*).
- C. **BA2:** Module address jumper. Jumper BA2 selects the board address of the FieldBus interface (see *Board Address Jumpers*).
- D. **FieldBus Host Connector:** For connection to the CE II (see *FieldBus Host Connector*).
- E. **DeviceNet Network Connector:** 5-pin network interface connection (see *DeviceNet Network Connector*).
- F. **Network Power Jumper** Selects the source of the power used for the optically isolated section of the network interface (see *Network Power Jumpers*).

Status LEDs

The DeviceNet FieldBus card is equipped with two LEDs including the Module Status LED and the Network Status LED as described in the tables on the following pages.



Module Status LED

LED Status	Description
Off	No power, or hard / soft reset asserted.
Flashing Red	Recoverable configuration fault. (Invalid firmware, OEM date or personality data.)
Solid Red	Hardware error or fatal runtime error.
Flashing Green	No errors, data exchange interface is not open.
Solid Green	No errors, data exchange interface is open.
Amber (Red/Green)	Configuration mode.

Network Status LED

LED Status	Description
Off	Network interface offline. No network power.
Flashing Red	I/O connection(s) in timed-out state or other recoverable fault.
Flashing Green	Device is online, but has no connections.
Solid red	Unrecoverable fault.
Solid green	Online with established connections.

Module Address Jumpers

The configuration settings of the Module Address Jumpers are illustrated in the following table.

Caution: Contact your local GE Fanuc distributor for information on changing the default setting. Do not alter the default settings yourself as your system will malfunction.

BA1	BA2	I/O Address
On	On	Module Address 3 (Default as shipped)
On	Off	Module Address 2
Off	On	Module Address 1
Off	Off	Module Address 0

Note: The default address is pre-configured in the factory for ControlStation CE II application of CIMPLICITY Machine Edition projects.

Network Power Jumpers

The configuration settings of the Network Power Jumpers are illustrated in the following table.

Caution: Contact your local GE Fanuc distributor for information about changing the default setting. Do not alter the default settings yourself, as your system will malfunction.

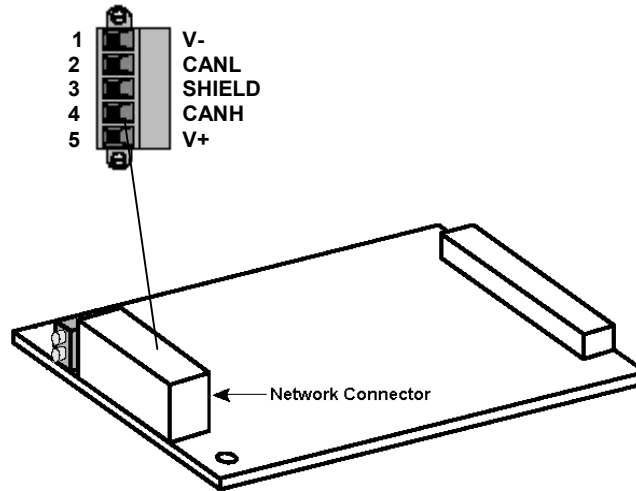
Position	Power Source
1-2	External (5-wire, powered CAN networks).
2-3	Internal (3-wire, non-powered CAN networks).

Notes:

- This jumper must always be installed in the 1-2 position for proper operation with DeviceNet networks.
- The default position is pre-configured in the factory for ControlStation CE II application of CIMPLICITY Machine Edition projects.

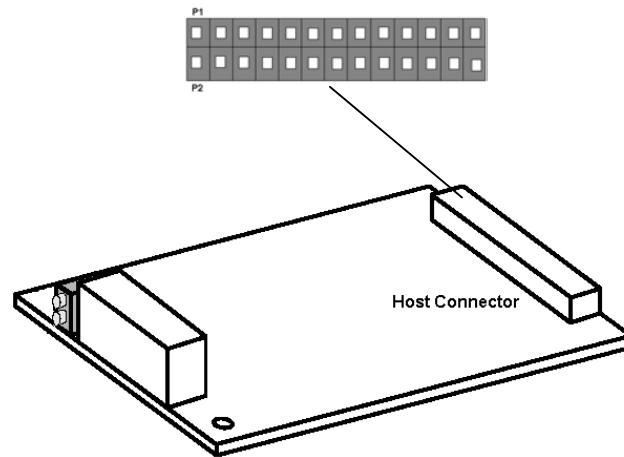
DeviceNet Network Connector

The DeviceNet FieldBus card has a DB5 socket connection.
The pinout is as follows:



FieldBus Host Connector

A FieldBus card attaches to a CE II unit via a 26-pin Field-Bus connector (see *Installing the Communication module*).



Design Specifications**Network:**

Cable	DeviceNet trunk or drop.
Isolation	1000 VAC RMS for 1 second.
Protocol	ISO 11898 physical layer compatible with DeviceNet and other CAN-based protocols.
Data Rate	Supports operation at 125, 250 & 500 Kbaud.
Supported Connection Types	Strobe I/O, Poll I/O, Cyclic I/O, Change-of-State (COS) I/O.
Messaging Type	Explicit.
Termination	External termination required at the end of the network cable.

Environmental:

Storage Temperature	-40° to 85°C
Operating Temperature	0° to 40°C
Operating Humidity	5 to 90% (non-condensing)

Troubleshooting

The following section outlines a number of malfunctions that may occur with the Communication Module and possible solutions to these problems.

Problem: There is no power to the Communication Module.

Solution: Is the FieldBus port on the CE II box properly connected to the FieldBus host connector on the Communication Module?

Problem: The status LEDs are not illuminating.

Solution: Is the Communication Module connected to the CE II?

Solution: Is there a software (ControlStation) configuration error or runtime error.

Problem: A retentive data fault appears on the CE II screen.

Solution: Is the battery on the CE II worn out?

Solution: Is the memory full or has it failed?

Problem: The unit does not fit in the protective enclosure.

Solution: Is anything inside the protective enclosure other than the FieldBus card?

Problem: The FieldBus card rattles inside the protective enclosure.

Solution: Are the screws that connect the card to the enclosure firmly tightened?

Problem: The LEDs indicate that the FieldBus card is failing to communicate on the network.

Solution: Check the wiring connections.

Problem: Devices drop on and off the Profibus network.

Solution: The network is not properly terminated.

Index

- BA1 14, 17, 22, 27
- BA2 14, 17, 22, 27
- board address jumpers
..... 14, 17, 22, 27
- CE II box 7, 32
- Communication Module
..... 6, 7
- connecting 12
- design specifications. 31
- DeviceNet card 21
- DeviceNet card
 components 22
- DeviceNet connector 22
- FieldBus 15, 24
- FieldBus host connector
..... 14, 22
- FieldBus port 7
- GE Fanuc 10, 27, 28
- maintenance 9
- module status LED16,
 25
- network power jumpers
..... 23, 28
- network status LED16,
 26
- Profibus card 13
- Profibus card
 components 14
- Profibus connector 14
- protective enclosure.. 11
- status LEDs14, 15, 22,
 24