

PC3000

**DEVICENET SLAVE
FIELD BUS CARD
MODULE**



Installation guide

The information in this guide is an extract taken from the
PC3000 Installation Handbook part no. HA022231



PC3000/VERSION3/ meets the requirements of the European Directives on Safety and EMC. It is the responsibility of the installer to ensure the safety and EMC compliance of any particular installation. The following information is given in addition to the information in the installation and operating instructions to help with this general requirement.

Version compatibility

The module is Version 3 but may be used in existing Version 2 and Version 1 racks. It is designed to be used with the LCM-PLUS and firmware version 3.20 or higher.

It is not possible to use the library with earlier versions of the firmware or with a simple LCM.

Description

The PC3000 DeviceNet Slave module provides one isolated communications channel. It can be used in any of the first five slots in a PC3000 main rack. More than one module can be mounted in the rack and the only limitation is that they must be mounted to the right (higher slot address) of any ICM, or other Lbus modules.

The module comprises a motherboard that carries a plug-on COM-DNS DeviceNet. The motherboard provides:-

- physical mounting for the module, connectors and diagnostics LEDs
- power supply
- Lbus interface to the DNS module's dual port memory

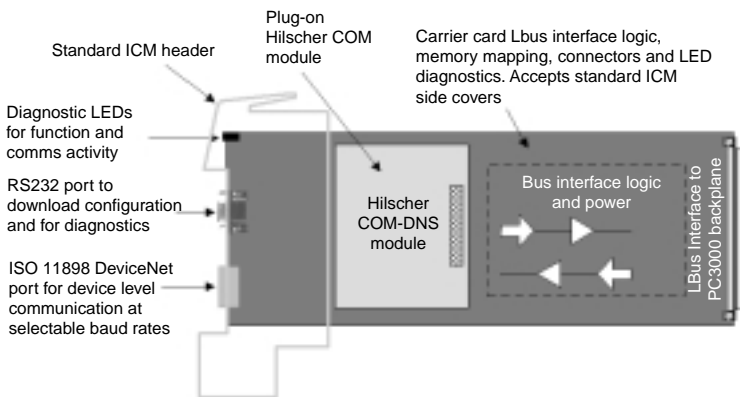


Figure 1 Module layout

Cleaning

Isopropyl alcohol may be used to clean the labels, do not use water or water based products or they will become illegible.

A mild soap solution may be used to clean the exterior surfaces of this product.

Module identification

Module may be identified by means of a label visible through the top of the detachable fascia carrying the text COM.

Additionally, a label fitted to the side of the module carries details of the serial number etc. The product code is included and should read:-

PC3000/COMM/VERSION3/DEVICENET/SLAVE

Connections

User connection to the module is via two connectors at the front of the module. A 9 way D-type for configuration and diagnostics and a 5 way CombiCon connector for the DeviceNet network.

Configuration port

The top connector is a male and is an unisolated RS232 configuration port. It is for connection to a computer running the configuration software for download and diagnostics.

Pin No.	Function
2	Tx
3	Rx
5	Common

Table 1 Configuration port connections

DeviceNet port

The bottom connector is a 5 way CombiCon connector and is the isolated ISO 11898 DeviceNet port. The actual network connection to remote instruments is via standard DeviceNet cable, which contains both the signal and the power.

Pin No.	Function
1	0V external power
2	CANL - data line low
3	Shield
4	CANH - data line high
5	24V external power

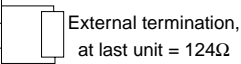


Table 2 DeviceNet port connections

Configuration options

There is no hardware configuration necessary on this module. There are jumpers on the mother board for setting interrupt levels and test features but the module is shipped with the necessary jumpers fitted and these should not be altered.

Location

The module must be located in the main rack in one of the first five I/O positions starting on the left. It must also be fitted to the right of any standard COM/PORTS4 modules.

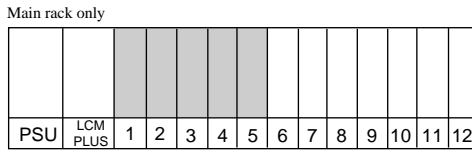


Figure 2 Module location

Specification

This card performs the function of a DeviceNet Slave.

Technical data

- DeviceNet Slave connection Potential-free ISO 11898 interface
- Transmission rates Max 500 Kbaud
- Configuration connection Potential-linked RS232 interface
- Host interface 510 byte dual port memory
- Consumed data 255bytes
- Produced data 255bytes
- Diagnostics LED's and via RS232 port
- Operating temperature 0-55 degrees

Connectors and Cables

Configuration and Diagnostics

An RS232 9way D-type female to 9 way D-type female cable is available for configuration and dignostics. The Hilscher part number is KAB-SRV. The wiring details are shown in Figure 3.

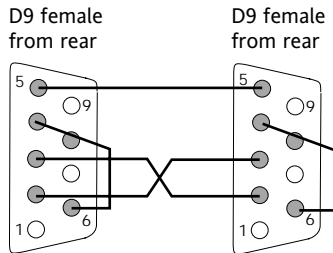


Figure 3 Configuration/diagnostic cable

DeviceNet

The DeviceNet connection is via a five-way 5.08 pitch male CombiCon connector mounted on the PCB. The cable, therefore, terminates in a matching female connector. A wide variety of such connectors are available with screw-less terminals, spring leaf and rising clamp terminals. They are also available with strain relief features and with cables entering at the side or at the rear. A typical simple connector with screw clamp terminals would be the Weidmuller product, part number BLZ 5.08/5.

The cables are specified by the Open DeviceNet Vendor Association (ODVA). A suitable cable for trunk lines is belden type 3082A and, for drop lines, is Belden type 3084A.

DIAGNOSTICS

There are four LED's on the front of the module to provide information about the module operations. These are shown in Table 3.

Note: With the current release of this module, the LED's do not conform to the DeviceNet standard and the differences are shown in Table 5.

Label	Colour	Function		
F	Red	NET	See Table 5	
R	Green	RUN	On	Communication running
			Flashing non-cyclic	Parameter error
			Off	Communication stopped
1	Green	RDY	On	COM ready
			Flashing cyclic	Bootstrap loader active
			Flashing non-cyclic	Hardware or system error
			Off	Hardware error
0	Green	MOD	See Table 5	

Table 3 Diagnostic LED's

DeviceNet Specification				PC3000 Implementation
Function	Colour	State	Explanation	
NET	Red	On	Critical link failure	Red LED F On
		Flashing	Connection time out	Red LED F flashing
		Off	Device not powered	Red LED F Off
	Green	On	On-line, link ok	Red LED F Off
		Flashing	On-line, not connected	Red LED F Off
		Off	Device not powered	Red LED F Off
MOD	Red	On	Unrecoverable fault	Green LED 0 off
		Flashing	Minor fault	Green LED 0 Off
		Off	No power	Green LED 0 Off
	Green	On	Normal operation	Green LED 0 On
		Flashing	Configuration failure	Green LED 0 flashing
		Off	No power	Green LED 0 Off

Table 4 LED non-conformance details

Hardware requirement

The software support for the DeviceNet module requires the installation of a 128K RAM card in the second RAM slot of the LCM-PLUS. This is the rearmost position behind the EPROM card.

IMPORTANT

**The downloadable function blocks require a 128K
RAM card installed in the LCM-PLUS.**

Deliverables

The PC3000 function blocks that support this module for the DOS PS tool come in the form of a downloadable function block library on a single 3 1/2" diskette. The files supplied on the diskette must be copied to the relevant directories on the computer running the DOS version of PC3000 programming software. The Windows version of the tool WinPS already has the necessary FIELDBUS library to support this module.

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