

# Important Product Information

## READ THIS INFORMATION FIRST

**Product: Series 90™-30 DeviceNet Master Module**

Catalog Number: IC693DNM200-AB  
Firmware ID: Version 1.18  
Boot Firmware Revision 1.00  
EDS File: Version 1.04 "9030Master.eds"  
Field Update Kit: N/A- initial release

The Series 90-30 DeviceNet Master Module supercedes the HE693DNT250 master module for new applications. It may also be retrofitted into existing applications of the HE693DNT250 master module, but its functional differences must be taken into account (see "Operating Notes").

### Compatibility

- Compatible with any Series 90-30 CPU except IC693CPU321 and IC693CPU340. Configuration size is limited for CPU311/313/331, as described on the next page.
- Requires release 8.0 CPU firmware. The latest Release 10 is recommended, if available for the particular CPU.
- Requires CIMPLICITY® Machine Edition Logic Developer PLC version 3.0 plus the appropriate service pack or special (or a version later than 3.0).
- Not compatible with the VersaPro™, Control, or Logicmaster™ programming software.
- The Series 90-30 Hand-Held Programmer (IC693PRG300) cannot be used to configure this module.

### Upgrades

This release of the DeviceNet module firmware replaces all previous versions. It is backward compatible with all previous firmware and hardware versions of the Series 90-30 DeviceNet modules, IC693DNM200 and IC693DNS201. A field upgrade kit is orderable in disk form from the factory and is available as a free download from the GE Fanuc website. [www.gefanuc.com](http://www.gefanuc.com).

### Operating Notes

#### Limits on the Size of the Total Configuration

The number and type of slave devices and the amount of data they can exchange with the master may be limited by the CPU memory available. The amount of CPU memory available for the DeviceNet configuration depends on the CPU model being used, the version of the CPU firmware, the number and type of other modules in the configuration, the number and type of slave devices configured, and the amount and type of communication in progress with an external programmer or HMI devices.

With Logic Developer-PLC, the size of the current configuration can be read by selecting "Data View" for the hardware configuration and adding the sizes of the components listed. LD-PLC does not allow configurations to exceed 65,535 bytes. The size of the DeviceNet configuration is also limited by the size of the user configuration space for the models listed below:

<b>CPU 311/313</b>	<b>4,736 bytes available</b>
<b>CPU 331</b>	<b>4,673 bytes available</b>

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## Migrating from the HE693DNT250 Module

If the IC693DNM200 Series 90-30 DeviceNet Master Module will be used to replace a HE693DNT250 master module in an existing application, the following differences must be taken into account:

- **Configuration:** The HE693DNT250 module must be configured via its serial port before adding it to the rack configuration of the PLC. No such initial module configuration is required for the IC693DNM200, all configuration is done using the programmer.
- **Slave Status Reporting:** The HE693DNT250 reports slave status (called “Online Status”) in four words of %AI memory. The IC693DNM200 DeviceNet Master reports slave status in 64 contiguous bits of any reference memory as configured, default location is %I.
- **Additional Status Information:** The IC693DNM200 DeviceNet Master has three additional words of optional status information: server status, CAN status, and firmware revision. See the *Series 90-30 DeviceNet Modules User’s Manual* (GFK-2196) for more information.
- **Explicit Messaging:** When sending an explicit message with the HE693DNT250 module, the message must be created in a block of %R memory, then the block’s starting location and length must be moved into 4 words of %AQ memory, and finally the “Send Explicit Message” bit in the Output Data Assembly must be set. Errors are reported in bits in the Input Data Assembly.

When sending an explicit message with an IC693DNM200 DeviceNet Master Module, the message is built in a block of memory, then a COMMREQ is issued to send the message. Errors are reported in the COMMREQ status word and in Word 5 of the response

- **Block Move Function:** The IC693DNM200 has no equivalent to the “Block Move” configuration parameter (used for backward compatibility between newer and older versions of the HE693DNT250).
- **Fault Reporting:** Fault reporting in the IC693DNM200 can be disabled to match the behavior of the HE693DNT250.
- **Serial Port Functionality:** The RS-485 port on the HE693DNT250 is used to supply configuration information to the module prior to PLC rack configuration. The RS-232 port on the IC693DNM200 DeviceNet Master Module is used for firmware upgrades.

## Fixed for This Release

A DeviceNet bus may have power supplied externally. If external power to the bus was turned off, earlier versions of the DeviceNet Master Module did not reestablish communications with devices on the bus when the external power was reapplied. To restore communications, it was necessary to cycle power to the PLC. Upgrading both the DeviceNet Master Module and the DeviceNet Slave Module to firmware release 1.18 resolves this problem.

## Restrictions and Open Problems

1. A brownout condition on bus power may cause a slave to time out while waiting for communications from the master.  
Recommendation: increasing the device acknowledge timeout to 5 seconds may help in the case of a single brownout. If there are multiple back-to-back brownouts, it may be necessary to completely cycle bus power to reinitialize both master and slave modules.
2. The DeviceNet Master module logs a fault in the IO fault table that displays as “Module Fault – eeprom fault”. This fault should be “Runtime Error” as described in Chapter 5, section “Faults Reported to the I/O Fault Table” of GFK-2196.
3. The reply data from a Get Module Header CommReq may indicate old status error code : Main = 4, Additional = 0x13, even when the system is running correctly.
4. The slave module’s IDLE bits in the Server Status Word are not updating.  
Recommendation: To accurately check the server idle state, use a Commreq to read the server status.
5. If an odd number of bytes is sent to a Series 90-30 DeviceNet Slave IC693DNS201 in an explicit message for placement into a word oriented memory, the upper byte of the last word has random data placed in it.  
Recommendation: The application should mask off the upper byte of the incoming data in this circumstance.