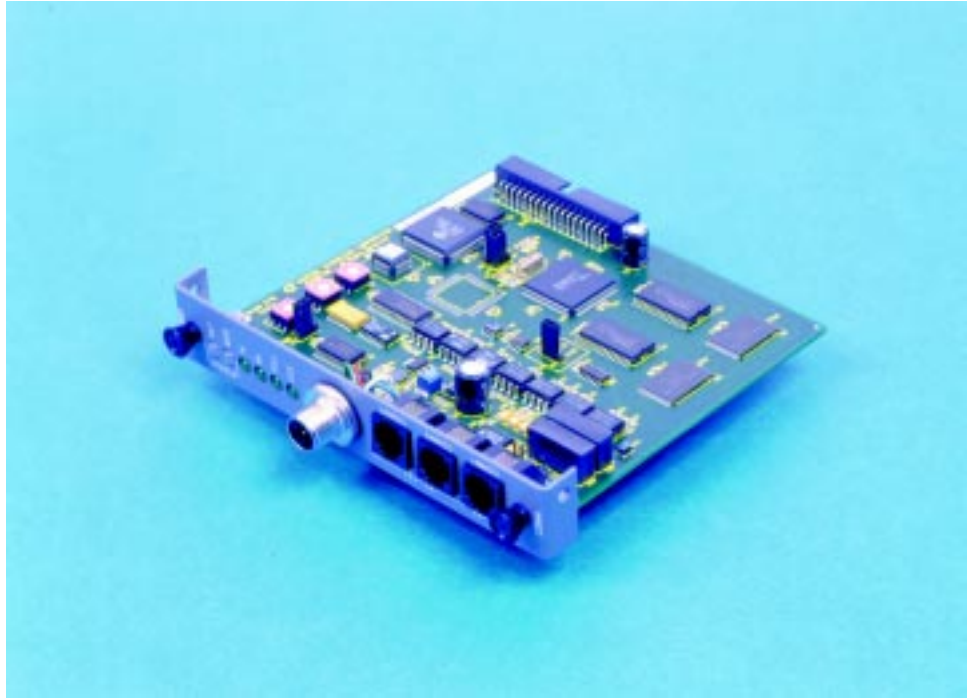


## Model 2716D DeviceNet™ Module

### Intelligent Network Communications Module



The model 2716D DeviceNet Module adds DeviceNet network support to Control Technology's automation controllers. DeviceNet is a low-cost, open network standard that provides for reduced system complexity and significant reductions in wiring costs. DeviceNet allows different industrial devices such as a CTC controller and devices from other manufacturers (sensors, actuators, et al.) to work together on a single network. DeviceNet may also provide communications links between subsystems or system-level components. The results are improved control communications between devices and important device-level diagnostics.

The 2716D can be configured as a DeviceNet master, DeviceNet slave, or as both master and slave on the same network. In master mode, Control Technology's DeviceNet Configurator software is used to create a network configuration and load it into the 2716D master residing on a model 2700 series automation controller. The master module then establishes links to each device on the network and maps the device's I/O points and other resources locally for program access using Quickstep™.

The Configurator also has a monitor mode that identifies and interrogates any device on a DeviceNet network through the 2716D. This mode is especially useful when a device's documentation or electronic data sheet (EDS) is not readily available. Monitor mode can establish links, execute link commands, send and receive data, and generate a network traffic log.

In slave mode, with the 2716D located in any 2600 or 2700 series automation controller, the I/O points and other controller resources may be mapped to any number of commercially available DeviceNet master (or scanner) systems. The 2716D supports Bit-Strobe, Poll, Change-of-State (COS), Cyclic, and Explicit messaging. All three baud rates are available (125K, 250K, and 500K), and node selection is available with simple on-board switches.

#### **A Flexible Hardware Architecture**

The 2716D DeviceNet module provides two serial communication ports that support all current CTC protocols. Any of the controller's internal registers, flags, and other resources may be monitored or changed. Programming is accomplished with either of the 2716D's serial ports. An additional RS-485 port is jumper selectable to replace one of the RS-232 ports to provide longer distance communications. These ports are opto-isolated from the controller's logic circuitry and from its I/O power system.

#### **Local CPU for Data Handling**

The 2716D is equipped with a 32-bit processor, allowing operation of the DeviceNet network and both serial ports at full rated speed without encumbering the controller's CPU. Complete messages are assembled locally on the 2716D module and are then passed to the controller's processor for servicing.



The model 2716D Device Net Module may be used with any 2700 Series Automation Controller. The 2716D can also be used with a 2600XM Series Automation Controller as a DeviceNet slave.

The 2716D module supports the following messaging formats:

- Poll
- Change-of-State (COS)
- Cyclic
- Explicit messaging
- Bit-Strobe

In addition, all three baud rates, 125K, 250K and 500K, are available. Node selection is available with simple on-board switches.

### Absolute Maximum Ratings

	Min	Max	
Current draw from on-board +5V supply		250	mA DC
Ambient Temperature			
Operating	0	+50	°C
Storage	-20	+80	°C

### RS-232 Operating Characteristics

	Min	Typ	Max	
RS-232 Transmitters		±9	±12	VDC
RS-232 Receivers	±3		±12	VDC
Common Mode Voltage Range	-10		+10	VDC

### RS-485 Operating Characteristics

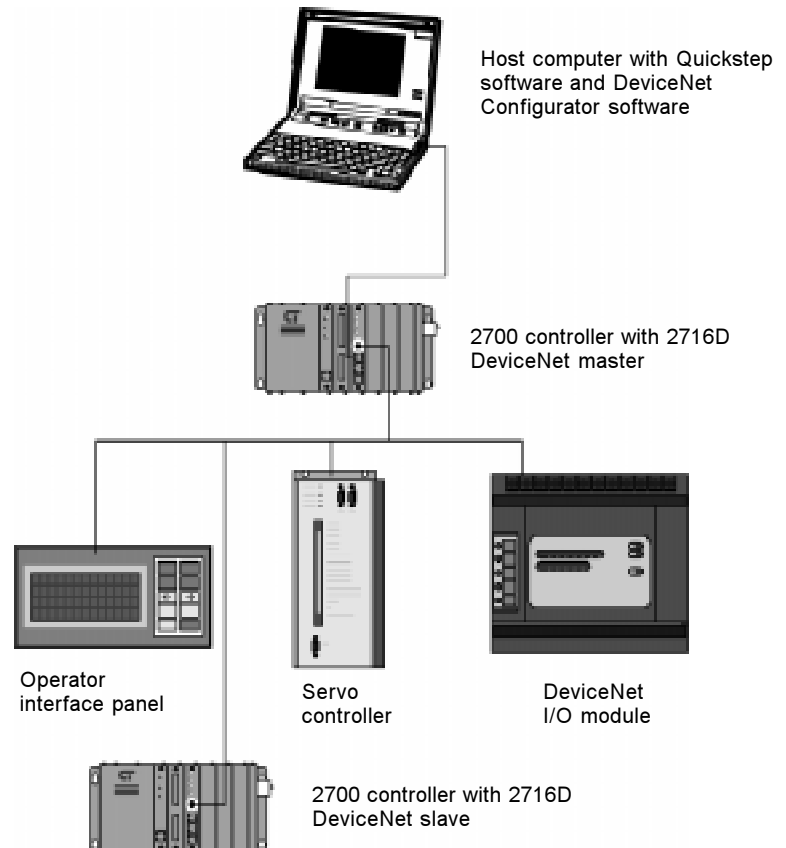
	Min	Typ	Max	
RS-485 common mode rejection	-7		+12	VDC
RS-485 hysteresis		70		mVDC
Combined impedance is less than 1 RS-485 load, up to 32 devices on a bus				

### Power Requirements (from controller)

		Typ	Max	
Logic Supply (5 V)		320	360	mA
Auxiliary Supply (24 V from 24 V bus)		0	0	mA
DeviceNet Power	11	24	28	VDC
DeviceNet load		100	150	mA
DeviceNet miswiring protection			24	VDC

**Note:** Specifications shown above are at 25° C, unless otherwise noted.

### Typical DeviceNet Network Using the 2716D as both Master and Slave Device



### For More Information

Further detailed connection and application information may be found in publication IG2716D; this is the Installation Guide for the model 2716D.

Selection and applications assistance may be obtained from our staff of Systems Specialists — call the number below for further information.

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