



Installation Instructions

ArmorBlock 16 Input Module

Cat. No. 1792-IB16 Series B

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This 1792 ArmorBlock™ I/O block module (Cat. No. 1792-IB16) contains I/O circuits, a built-in power supply, and a built-in DeviceNet I/O adapter. Because of its sealed housing, this 1792 I/O block requires no enclosure. It is compatible with PLC or SLC programmable controllers using DeviceNet scanners. The I/O values are accessible from the PLC or SLC programmable controller data table.

This ArmorBlock module has no switches to set. You set module parameters using the DeviceNet Manager Software (cat. no. 1787-MGR) or similar configuration tool.

European Union Directive Compliance

If this product is installed within the European Union or EEA regions and has the CE mark, the following regulations apply.

EMC Directive

This apparatus is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) using a technical construction file and the following standards, in whole or in part:

- EN 50081-2 EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2 EMC – Generic Immunity Standard, Part 2 – Industrial Environment

The product described in this manual is intended for use in an industrial environment.

Low Voltage Directive

This apparatus is also designed to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

For specific information that the above norm requires, see the appropriate sections in this manual, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1
- Automation Systems Catalog, publication B111

Install Your ArmorBlock Module

Installation of the ArmorBlock module consists of:

- setting the node address in the ArmorBlock module
- mounting the ArmorBlock module
- connecting the wiring
- communicating with your module
- configuring the parameters

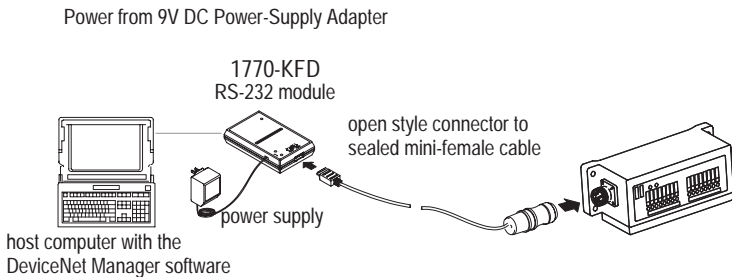
Set the Node Address

Each ArmorBlock comes with its internal program set for node address 63. To set the node address, you need the following:

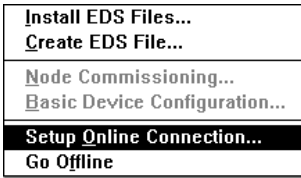
- host computer with DeviceNet Manager Software (or similar configuration software tool)
- 1770-KFD RS-232 module (or similar interface)
- suitable cables to connect the 1770-KFD to your module and to connect the 1770-KFD to your host computer

Set the node address to meet your system requirements as follows:

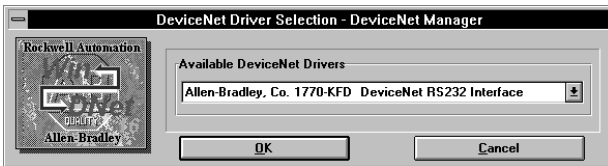
1. Set up a system (as shown below) to communicate with your ArmorBlock module.



- Using DeviceNet Manager Software, go online using the “Setup Online Connection” selection on the utility pulldown menu.

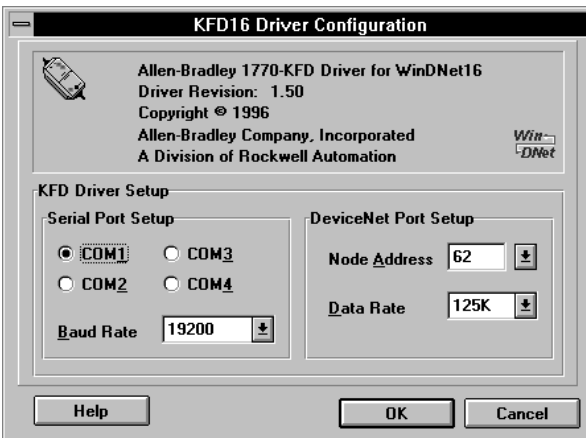


- The DeviceNet Driver selection screen appears.



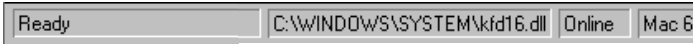
Select the driver for your application and click on .

- The Driver configuration screen lets you:
 - set the data rate
 - set the interface adapter node address
 - select the interface adapter serial port
 - set interface adapter baud rate

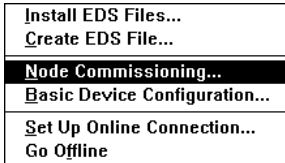


Click on  to go online.

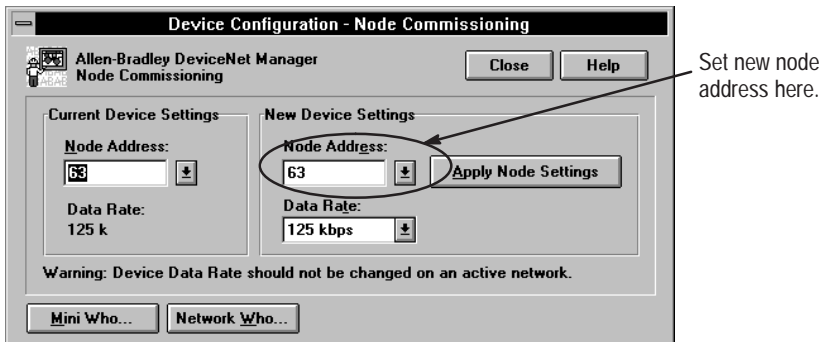
5. The bar at the bottom of the screen will tell you when you go online.




6. At the utility pulldown, select “Node Commissioning.”



7. You can set the node address on the “Device Configuration – Node Commissioning” screen. Note that the node address “out of the box” setting is 63. Set the desired node address per your system requirements.



You can also set the data rate on this screen, if required. However, your module is shipped with the “autobaud” parameter enabled. This assures that the module will be at the correct data rate for any network to which it is connected. To change the data rate, you must first disable autobaud on the parameter screen, then return to the “Device Configuration – Node Commissioning” screen and enter the new data rate.

8. Click on  to apply the new node settings.
9. Repeat the above procedure to set the node addresses of any additional ArmorBlock modules you want to install.

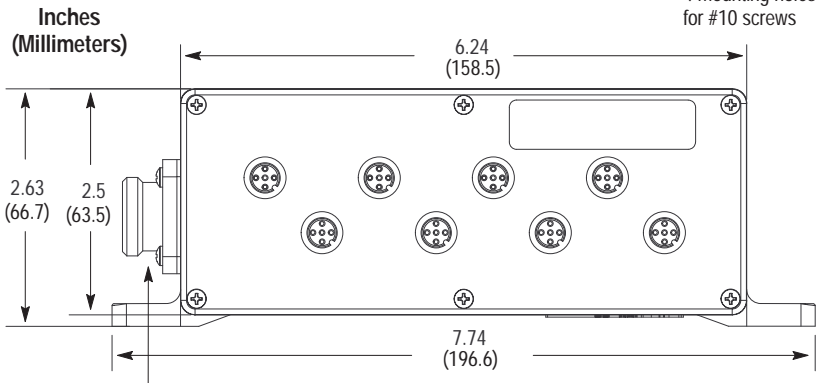
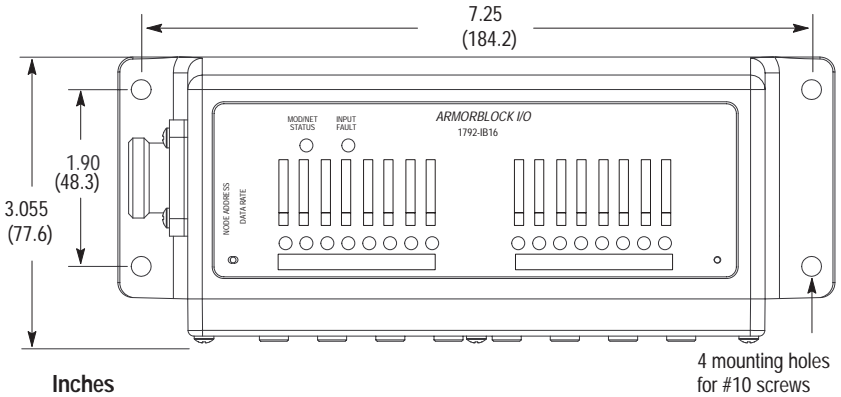
Mount the ArmorBlock Module

Mount the block module directly to the machine or device. Complete mounting dimensions are shown below. Note that the block dimensions allow direct connection of a T-port tap (cat. no. 1485P-P1N5-□) to the DeviceNet connector. (Refer to publication 1485-6.7.1 for cabling details.)

The ArmorBlock module has a sloping top and a gap at the rear to allow water or other liquids to run off during washdowns. The flow through the gap prevents buildup of debris under the block.

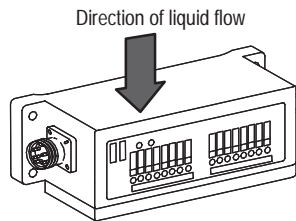
Preferred mounting position is with the microconnectors pointing down. However, the block can be mounted in any orientation.

Mounting Dimensions



Block dimensions allow T-port tap connection directly onto connector

For washdown installations, or excessively moist areas, mount block with micro connectors down.

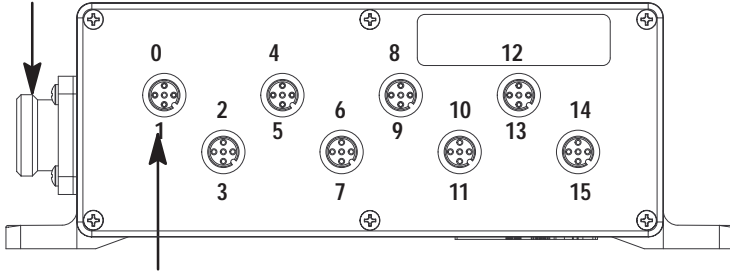


Connect the Wiring to the ArmorBlock Module

The block module uses quick disconnect, screw-on style connectors for:

- I/O input wiring
- the DeviceNet connector

DeviceNet mini connector



8 micro connectors for 16 input signal wiring

Micro plugs are included with your module. Use these plugs to cover and seal unused ports.

Pinout diagrams for these connectors are shown below.



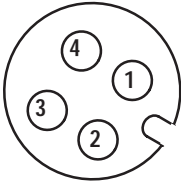
ATTENTION: All connectors must be securely tightened to properly seal the connections against leaks and maintain NEMA 4X and 6P requirements.

Connecting the Input Wiring

Connect input wiring to the micro connectors which screw into mating connectors on the side of the block.

Make connections as shown below.

I/O Input Micro Connector



(View into socket)

Pin 1 = Sensor Source Voltage Positive

Pin 2 = Signal 2

Pin 3 = Negative/Return

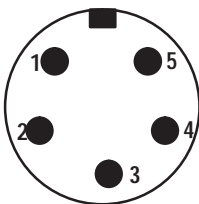
Pin 4 = Signal 1

The signal 2 pin on the connector is used for 16 input modules only. Use a splitter cable (or “Y” cable) to access signal 2.

Connecting the DeviceNet Wiring

Connect DeviceNet wiring to the 5-pin mini connector on the end of the block. Connections are shown below.

DeviceNet Mini Connector



(View into pins)

Pin 1 = Drain (Bare)

Pin 2 = V+ (Red)

Pin 3 = V- (Black)

Pin 4 = CAN-HI (White)

Pin 5 CAN-LO (Blue)

Note: Colors are DeviceNet standard

Communicate with Your ArmorBlock Module

This ArmorBlock module acts as a slave in a master/slave environment. It is both a “polled device” and a “change of state device.”

When configured as a polled device, a master initiates communication by sending its polled I/O message to the ArmorBlock module. The 16 input module scans the inputs and fault bit producing a response that reflects their status.

When configured as a “change of state” device, productions occur when an input changes or an input source voltage fault occurs. If neither has occurred within the “expected packet rate,” a heartbeat production occurs. This heartbeat production tells the scanner module that the ArmorBlock module is alive and ready to communicate.

Bit	07	06	05	04	03	02	01	00
Produces 1	I7	I6	I5	I4	I3	I2	I1	I0
Produces 2	I15	I14	I13	I12	I11	I10	I9	I8
Produces 3	S	Reserved						

Where: I = Input

S = Sensor source voltage fault

Word	Bit	Description
Produces 1	00–07	Input bits – bit 00 corresponds to input 0, bit 01 to input 1, and so on. 0 = input off; 1 = the input is on.
Produces 2	00–07	Input bits – bit 00 corresponds to input 8, bit 01 to input 9, and so on. 0 = input off; 1 = the input is on.
Produces 3	00–06	Reserved
	07	Sensor source voltage fault bit – this bit is set (1) when the sensor source voltage is faulted.

Configure Your Armor**Block** Module Offline Using the DeviceNet Manager Configuration Tool

To configure your ArmorBlock module offline:

- add the device to the network
- set the parameters for the device
- save the parameters to a file

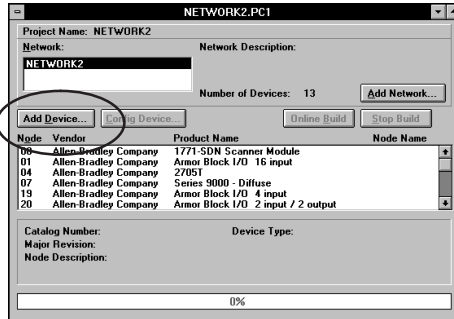
Note: You cannot actually configure your device offline. You can set and save the parameters to a file for downloading to the device when you go online.

Adding a Device to the Network

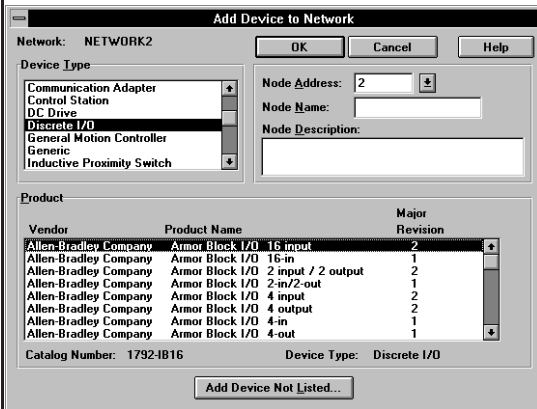
Action

At the network screen, click on the "add device" button.

Response

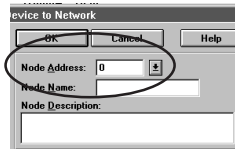


At the "add device to network" screen, click on "discrete I/O" in the device type box.



Then click on the desired ArmorBlock device.

Select the device node address for this device.



Click on the OK button when you have selected your device. Add more devices as necessary.

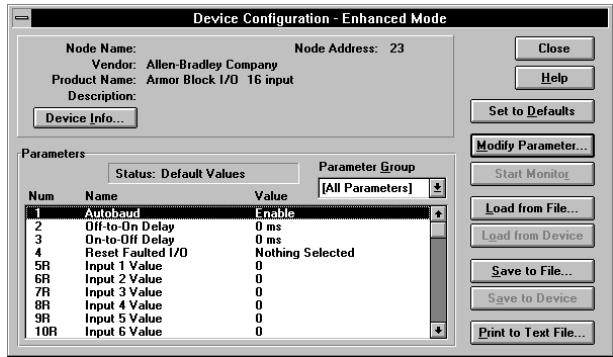


Configure your Device Parameters

After adding the devices to the network, you must configure them. You have 2 choices:

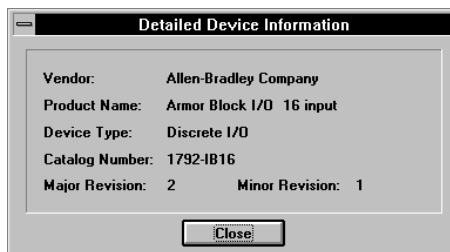
- highlight the device, and click on the **Config Device...** button, or
- double-click on the device to bring up the device configuration screen.

The software displays the parameter status.



For detailed device information on this device, click on

Device Info...



Configuring the Parameters

Default settings for the 16 input module are:

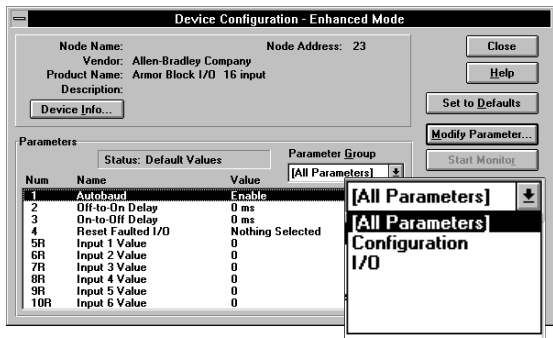
autobaud	when enabled, matches device baud rate to network baud rate at powerup	enable
off to on delay	time from a valid input signal to recognition by the block module	0ms delay
on to off delay	time from input signal dropping below the valid level to recognition by the block module	0ms delay
reset faulted I/O	reset sensor source voltage	nothing selected

1. Double click on the parameter you want to change.

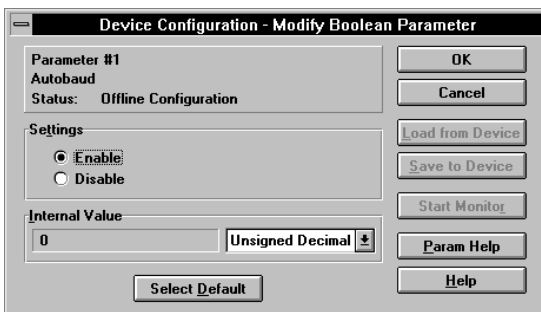
The software displays the parameter number, name and value.

Read only parameters (designated by an R) are also shown.

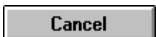
Parameters can be viewed all at once, configuration only, or I/O only.





The parameter screen appears.



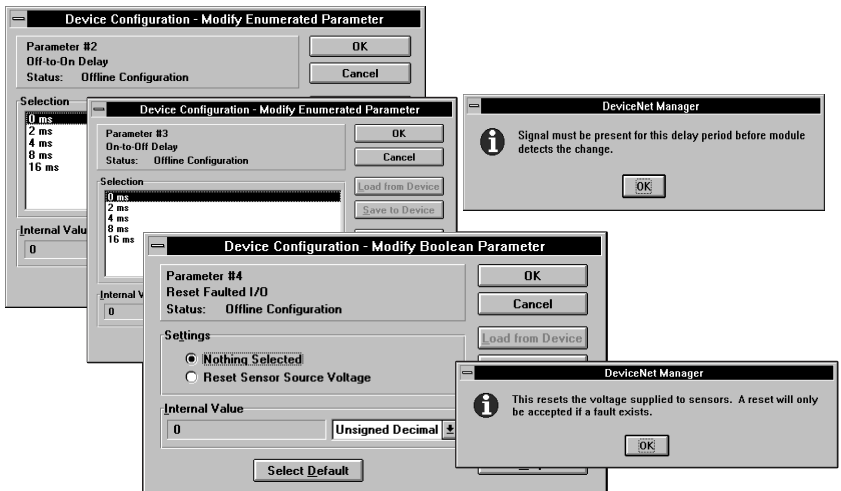
2. Click on the radio button to select a different setting. To save the setting, click on **OK**.




3. For help about a specific parameter, click on . A screen similar to this will appear. To continue, click on .



4. Continue with any additional parameters you want set for your block module. For the 16 input module, additional parameters include: off-to-on delay, on-to-off delay and reset faulted I/O.



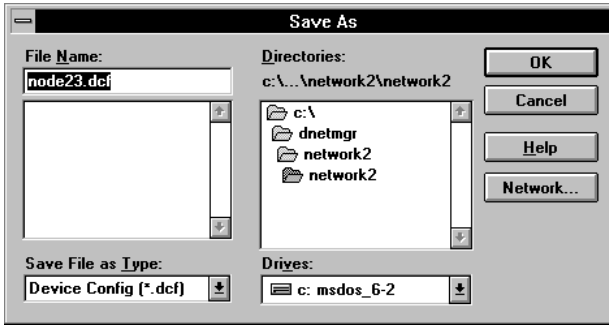
When you have completed each parameter selection, click on the  button. This returns you to the device configuration screen.


You can save these parameters to a file for downloading to the device when online, or print them to a text file for hard copy use.

Saving to a File


1. To save those parameters to a file, click on the  button.

You see this screen.

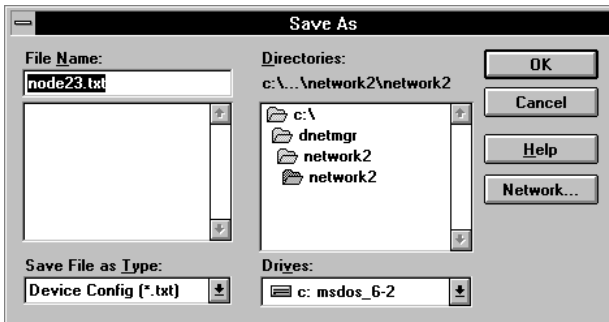



2. Choose the file name, file type (.dcf), directory, and drive to which you want to save the file.
3. Click on the  button to save.

Printing to a Text File


1. If you choose to save your changes to a text file, click on the  button.

A screen similar to the following will appear.



- Choose the file name, file type (.TXT), directory and drive to which you want to save the file.
- Click on the  button to save. Use this file to print out as hard copy for future reference.

Online Help

Online help is available on all screens. Click on  to bring up pertinent information concerning the device configuration you are selecting.

Additionally, help is available on each parameter screen by clicking on



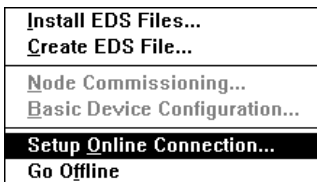
Configure Your ArmorBlock Module Online Using the DeviceNet Manager Configuration Tool

The procedure for online configuration is similar to the offline configuration procedure previously described. You must:

- establish the interface to the network
- add the device to the network from the Add Device to Network screen
- access and configure the device parameters

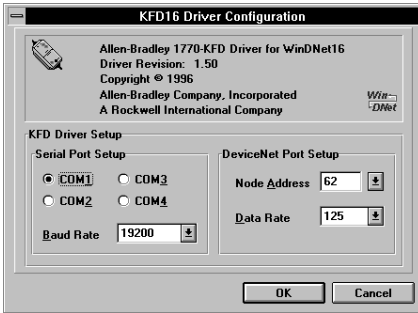
Establish the Interface

- Select the “set up online connection” at the Utilities pulldown menu.



2. The configuration screen for your selected driver appears. You can:

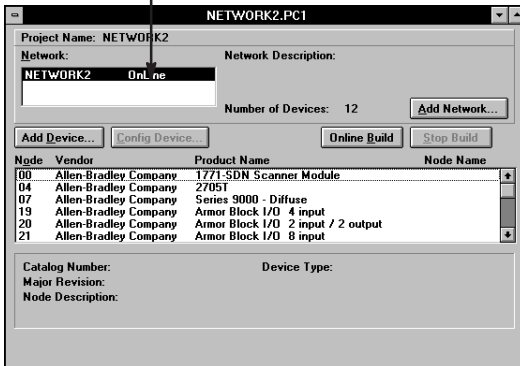
- set the node address
- set the data rate
- select the interface adapter serial port
- set the interface adapter baud rate



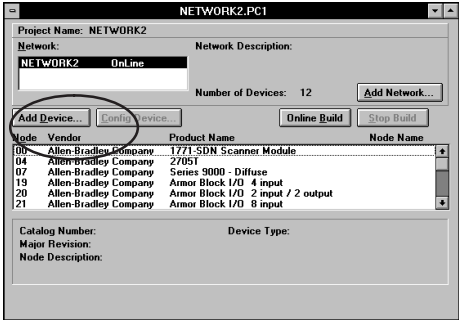
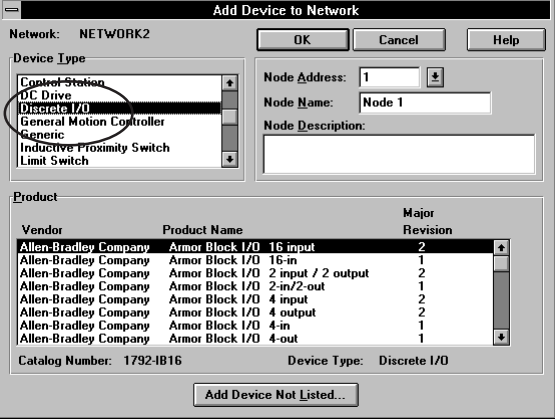
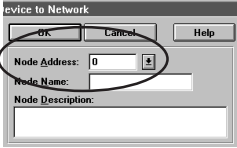

3. After setting the parameters, click on the **OK** button. The system will automatically go online, as shown at the bottom of the screen.



Online will also appear in the Network area.

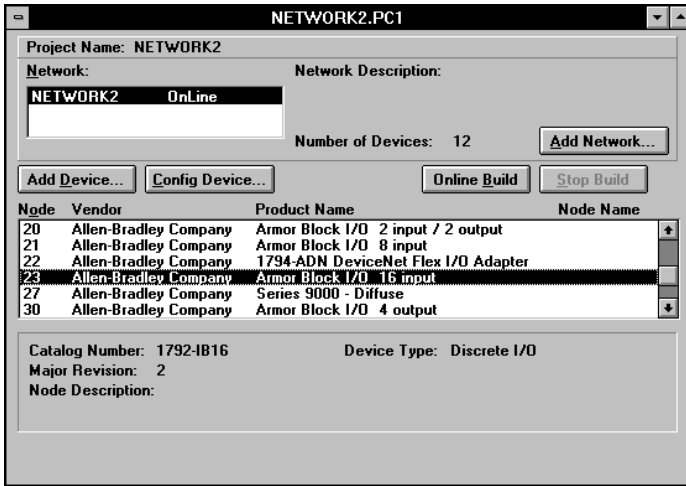


Add the Device to the Network

Action	Response																											
<p>At the network screen, click on the "add device" button.</p>	 <p>The screenshot shows a window titled 'NETWORK2.PC1'. It contains fields for 'Project Name: NETWORK2', 'Network: NETWORK2', and 'Network Description: OnLine'. Below these are 'Number of Devices: 12' and an 'Add Network...' button. A table lists devices with columns for 'Node', 'Vendor', 'Product Name', and 'Node Name'. The 'Add Device...' button is circled in red.</p>																											
<p>At the "add device to network" screen, click on "discrete I/O" in the device type box.</p>	 <p>The screenshot shows the 'Add Device to Network' dialog box. It has a 'Device Type' dropdown menu with 'Discrete I/O' selected and circled in red. Below it is a table of products. At the bottom, there is an 'Add Device Not Listed...' button.</p> <table border="1" data-bbox="423 812 923 966"> <thead> <tr> <th>Vendor</th> <th>Product Name</th> <th>Major Revision</th> </tr> </thead> <tbody> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 16 input</td> <td>2</td> </tr> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 16-in</td> <td>1</td> </tr> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 2 input / 2 output</td> <td>2</td> </tr> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 2-in/2-out</td> <td>1</td> </tr> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 4 input</td> <td>2</td> </tr> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 4 output</td> <td>2</td> </tr> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 4-in</td> <td>1</td> </tr> <tr> <td>Allen-Bradley Company</td> <td>Armor Block I/O 4-out</td> <td>1</td> </tr> </tbody> </table> <p>Catalog Number: 1792-IB16 Device Type: Discrete I/O</p> <p>Add Device Not Listed...</p>	Vendor	Product Name	Major Revision	Allen-Bradley Company	Armor Block I/O 16 input	2	Allen-Bradley Company	Armor Block I/O 16-in	1	Allen-Bradley Company	Armor Block I/O 2 input / 2 output	2	Allen-Bradley Company	Armor Block I/O 2-in/2-out	1	Allen-Bradley Company	Armor Block I/O 4 input	2	Allen-Bradley Company	Armor Block I/O 4 output	2	Allen-Bradley Company	Armor Block I/O 4-in	1	Allen-Bradley Company	Armor Block I/O 4-out	1
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Allen-Bradley Company	Armor Block I/O 16 input	2																										
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Allen-Bradley Company	Armor Block I/O 4-in	1																										
Allen-Bradley Company	Armor Block I/O 4-out	1																										
	<p>Then click on the desired ArmorBlock device.</p> <p>Select the device node address for this device.</p>  <p>The screenshot shows the 'Add Device to Network' dialog box with the 'Node Address' field set to 0 and circled in red.</p> <p>Click on the OK button when you have selected your device. Add more devices as necessary.</p> 																											

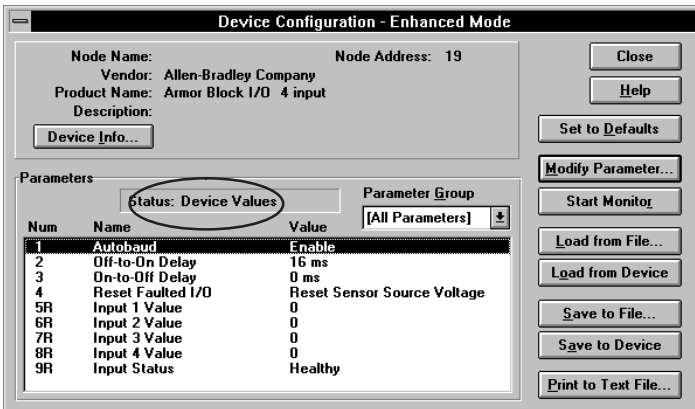
Important: The node address can only be set at the "Node Commissioning" screen (from the Utilities pulldown menu). See page 3.

4. Click once on the device you wish to configure on the project screen and choose **Config Device...**.

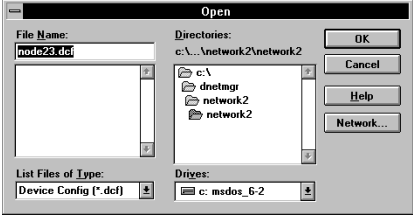


The device configuration screen appears.

If you have	Parameter Status is
Not previously modified default settings	Default Values
Modified parameters but have not saved them	Modified
Modified and saved parameter settings	Current
Clicked on "Load from File"	File Values
Clicked on "Load from Device"	Device Values



5. Load parameters.

If you want to load parameters	Choose
From a file	<div data-bbox="466 248 673 305" style="border: 1px solid black; padding: 5px; text-align: center;"> Load from File... </div> <p data-bbox="469 324 650 349">You see this screen.</p> <div data-bbox="458 358 873 573" style="border: 1px solid black; padding: 5px;">  </div> <p data-bbox="469 581 852 633">Choose the drive, file type, and directory to load the file from.</p> <p data-bbox="469 659 852 711">Select the file name so that it is highlighted and choose</p> <div data-bbox="580 688 791 738" style="border: 1px solid black; padding: 5px; text-align: center; width: fit-content; margin: 0 auto;"> OK </div> <p data-bbox="469 761 836 841">Note: The product code, type and revision must be identical in order to load a file from one device to another.</p>
From the selected device	<div data-bbox="466 849 673 906" style="border: 1px solid black; padding: 5px; text-align: center;"> Load from Device </div>
From default settings	<div data-bbox="466 914 673 971" style="border: 1px solid black; padding: 5px; text-align: center;"> Set to Defaults </div>

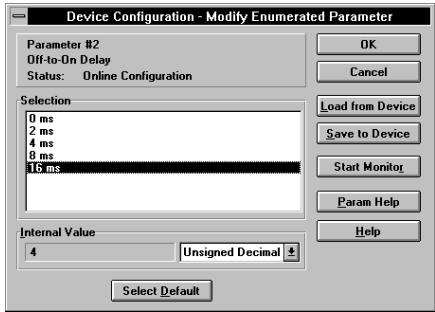
6. Modify the parameter.

If you want to	Choose
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Modify a parameter

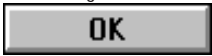


You see a screen similar to this one.



Click on the settings you wish to activate.

To save these settings,
choose



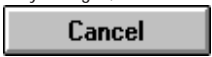
To save these settings to the device,
choose



To use default settings,
choose



To cancel any changes,
choose



For help about a specific parameter, click on the
parameter and then
choose



You can view parameters online by clicking on




Any changes that occur for a parameter will be reflected
on the screen.

7. Save parameters to a file, to the device, or print to a file.

If you want to	Choose
Save parameters to a file	<div data-bbox="370 250 577 305" data-label="Image"> </div> <p>You see this screen.</p> <div data-bbox="344 345 855 610" data-label="Image"> </div> <p>Select the drive, file type, directory, and file name to which you would like to save and choose</p> <div data-bbox="676 651 885 704" data-label="Image"> </div>

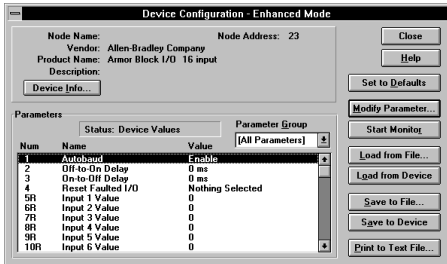
Save parameters to the selected device	<div data-bbox="354 719 561 774" data-label="Image"> </div>
Print to a file	<div data-bbox="354 784 561 839" data-label="Image"> </div> <p>You see this screen.</p> <div data-bbox="344 878 855 1143" data-label="Image"> </div> <p>Select the drive, file type, directory, and file name to which you would like to save and choose</p> <div data-bbox="666 1183 874 1235" data-label="Image"> </div>


8. To exit from the Enhanced Configuration screen, click on  .

Monitoring Parameters Online

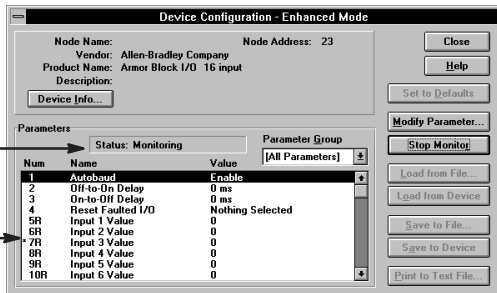
You can monitor parameters at the Device Configuration screen or at the selected parameter screen.



The start monitor button on the Device Configuration screen allows you to monitor all of the parameters online. To monitor parameters:



Click on the  button to start the monitor.

The monitor function starts after a few seconds.



1. The status line flashes "monitoring."
2. The monitoring function is indicated by an asterisk moving down next to the parameters.
3. The monitor button changes to  and only "modify parameter" and "stop monitoring" are active.
4. Click on the  button to stop monitoring.

To monitor an individual parameter:

1. Select the parameter on the Device Configuration screen.
2. Highlight the parameter and click on "Modify Parameter."
3. Click on "Start Monitor" on the individual parameter screen.

Reset Faults

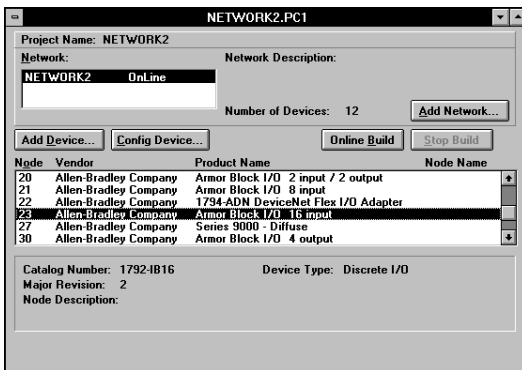
There are various ways to reset faults on an ArmorBlock module.

- cycle power to the module by disconnecting, then reconnecting the DeviceNet connector
- use the Reset Faulted I/O feature on the parameter screen
- use the explicit message program control feature

Note: This module contains a circuit to protect the DeviceNet power supply from short circuits in an attached sensor or sensor cable. If you connect a sensor while the module is powered, the surge current produced by the sensor can cause the module to fault. This operation is normal. If this occurs, reset the module.

Reset Faults Online Using the Parameter Screen

To reset faults online, return to the network screen and proceed as follows:



1. Click on the faulted device.
2. Then click on the Configure Device button.

The device configuration screen appears. Select the Reset Faulted I/O parameter.

Device Configuration - Enhanced Mode

Node Name: Vendor: Allen-Bradley Company Node Address: 23
 Product Name: Armor Block I/O 16 input
 Description: Device Info...

Parameters: Status: Device Values Parameter Group: [All Parameters]

Num	Name	Value
1	Autobaud	Enable
2	Off-to-On Delay	0 ms
3	On-to-Off Delay	0 ms
4	Reset Faulted I/O	Nothing Selected
5R	Input 1 Value	0
6R	Input 2 Value	0
7R	Input 3 Value	0
8R	Input 4 Value	0
9R	Input 5 Value	0
10R	Input 6 Value	0

Buttons: Close, Help, Set to Defaults, Modify Parameter..., Start Monitor, Load from File..., Load from Device, Save to File..., Save to Device, Print to Text File...

After selecting the parameter, click on the modify parameter button.

The configuration screen for the selected parameter appears.

Device Configuration - Modify Boolean Parameter

Parameter #4
 Reset Faulted I/O
 Status: Online Configuration

Settings:
 Nothing Selected
 Reset Sensor Source Voltage

Internal Value: 1 Unsigned Decimal

Buttons: Select Default, OK, Cancel, Load from Device, Save to Device, Start Monitor, Param Help, Help

1. Click on the desired selection to reset.
2. Then click on the OK button to apply.
3. You will be returned to the configuration screen. Click on "Save to Device" to apply the change.

Reset Faults using Explicit Message Program Control

You can also reset inputs using the Explicit Message Program Control feature on the Scanner module master. Refer to the specific scanner publications for information on using this feature.

The format for the reset explicit message transaction block must contain 6 words as shown below:

	Word	Input Fault
Transaction Header	Word 0	TXID – CMD/STATUS
	Word 1	PORT – SIZE
	Word 2	Service = 32 hex – MAC ID
Transaction Body	Word 3	Class = 1D hex
	Word 4	Instance = 1
	Word 5	Attribute = 0 Attribute Data = 0

Configure Your ArmorBlock Module Using EDS Files

Current versions of DeviceNet Manager software include ArmorBlock module support. If you are using a version of DeviceNet Manager software that does not include ArmorBlock module Electronic Data Sheets (EDS) files in its library, you can use the following information to create the file.

If you are using a configuration tool other than DeviceNet Manager, you can also use the following information to create the EDS file.

(Note: This EDS file was current at the time of printing. Contact your nearest district office for information on later files.)

\$ Electronic Data Sheet for Armor Block I/O (1792-IB16)

[File]

DescText = "1792-IB16 Armor Block I/O EDS File";

CreateDate = 04-18-96;

CreateTime = 12:00:00;

ModDate = 09-17-96;

ModTime = 16:00:00;

Revision = 2.1; \$ EDS revision.

[Device]

VendCode = 1;

VendName = "Allen-Bradley Company, Inc.";

ProdType = 7;

ProdTypeStr = "General Purpose Discrete I/O";

ProdCode = 1026;

MajRev = 2;

MinRev = 1;

ProdName = "Armor Block I/O 16 input";

Catalog="1792-IB16";

UCMM = 0; \$ UCMM is not supported.

[IO_Info]

Default = 0x0001; \$ The default I/O type is polled I/O.

PollInfo =

0x0001, \$ Polled I/O device.

1, \$ Input1 entry is the default input connection.

1; \$ Output1 entry is the default output connection.

Input1 =

3, \$ The size in bytes that this connection produces.

0, \$ All bits of this connection are significant.

0x0001, \$ Only Polled I/O is compatible.

"IB16 Production Data", \$ Name of Connection.

6, \$ Path length.

"20 04 24 0F 30 03", \$ Path to I/O Production Assembly.

\$\$\$\$\$\$\$\$ Help string \$\$\$\$\$\$\$\$\$

[EnumPar]

Param1="Enable","Disable";

Param2="0 ms","2 ms","4 ms","8 ms","16 ms";

Param3="0 ms","2 ms","4 ms","8 ms","16 ms";

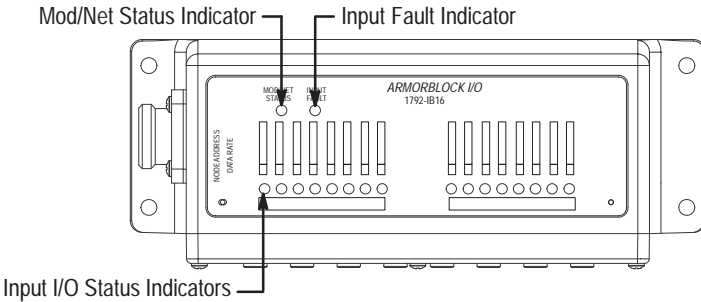
Param4="Nothing Selected","Reset Sensor Source Voltage";

Param21="Healthy","Faulted";

Troubleshoot with the Indicators

The ArmorBlock I/O module has 3 types of indicators:

- Mod/Net status indicator
- Input fault indicator
- individual I/O status indicators



Note: This module contains a circuit to protect the DeviceNet power supply from short circuits in an attached sensor or sensor cable. If you connect a sensor while the module is powered, the surge current produced by the sensor can cause the module to fault. This operation is normal. If this occurs, reset the module (page 25).

Mod/Net Status Indicator

Indication	Status
OFF	No power, or no network access, or incorrect baud rate ¹
Flashing Green/OFF	On-line but not connected
Solid Green	On-line, link okay, connected
Flashing Red	Recoverable fault
Solid Red	Critical failure, or duplicate node address present
Green to Red to Off	At powerup only – The module is autobauding

¹ This only occurs when Autobaud is disabled, and the module is set to an incorrect baud rate.

Input Fault Indicator

Indication	Status
OFF	Sensor source voltage operating correctly
Solid Red	1 or more Sensor source voltage shorts

Input I/O Status Indicator

Indication	Status
OFF	No valid input signal present
Yellow	Valid input signal present

Specifications

16 Input Module – Cat. No. 1792-IB16/B

Input Specifications		
Inputs per Block		16 sinking
On-state Voltage Range		10–30V dc
On-state Current	Maximum Minimum	6.0mA @ 30V dc 2.0mA @ 10V dc
Off-state Voltage	Maximum	5V dc
Off-state Current	Minimum	1.5mA
Transition Voltage		5–10V dc
Transition Current		1.5–3.0mA
Input Impedance	Maximum	5K ohms
Input Signal Delay	Off to On On to Off	0ms, 2ms, 4ms, 8ms, 16ms 0ms, 2ms, 4ms, 8ms, 16ms
Sensor Source	Voltage Current	10–25V dc 50mA per point, 0.8A total per module
Indicators		Mod/Net Status – red/green Input Fault – red I/O Status – yellow (customer field side driven)
General Specifications		
DeviceNet Power	Voltage Current	12.0 – 25.0V dc 100mA (no powered sensors) 900mA (full sensor load)
Surge Current at Power Up		Less than 10A for 5ms
Dimensions	Inches Millimeters	2.63H X 7.74W X 3.06D 66.7H X 196.6W X 77.6D
Connectors		1792-IB16A/B – Aluminum connectors 1792-IB16S/B – Stainless Steel Connectors
Power Dissipation	Maximum	3.7 Watts
Thermal Dissipation	Maximum	12.63 BTU/hr

Specifications continued on next page.

General Specifications	
Environmental Conditions	
Operational Temperature	-25 to 70°C (-13 to 158°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Relative Humidity	up to 100%
Shock	30 g peak acceleration, 11(±1)ms pulse width
Operating	50 g peak acceleration, 11(±1)ms pulse width
Non-operating	Tested 10 g @ 10–500Hz per IEC 68-2-6
Vibration	
Conductors	Refer to publication 1485-6.7.1 for information on cabling for your DeviceNet module.
Enclosure	Meets or exceeds NEMA 4X and 6P, IP67 1200psi, 140°F hosedown
Agency Certification (when product or packaging is marked)	<ul style="list-style-type: none"> • CSA certified • CSA Class I, Division 2, Groups A, B, C, D certified • UL listed • CE marked for all applicable directives

This product has been tested at an Open DeviceNet Vendor Association, Inc. (ODVA) authorized independent test laboratory and found to comply with ODVA Conformance Test Software Version FT 1.2/1.0.



Worldwide representation.



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