

## Quick Start Setup

This quick start setup shows you how to set up Digi One IA for Modbus. It provides a list of tasks you must complete to get a Modbus configuration working. The order in which you complete these tasks depends on your circumstances.

If you want to use Digi One IA for other purposes or require a very complex Modbus configuration, see the complete documentation provided on the Access Resource CD.

### Task: Set the Line Interface with the DIP Switches

See the following table for information on switch settings.

Function	Switch Settings			
	1	2	3	4
EIA-232	Up	Dn	Dn	Dn
EIA-422/485 Full-duplex	Dn	Up	Dn	If up, termination. If down, no termination
EIA-485 half-duplex	Dn	Dn	Up	

### Task: Configure an IP Address with DHCP or RARP

To use DHCP or RARP, simply record the Digi One IA MAC address (found at the bottom of the unit) and then reserve an IP address in a DHCP or RARP table. When you power the device on the IP address will be assigned automatically.

If DHCP or RARP address assignment are not possible, configure the IP address from the command line.

### Task: Configure an IP Address from the Command Line

This step is required only if you need to access the command line to configure an IP address, that is, if you cannot use DHCP or RARP.

1. Connect the Digi One IA to power.
2. Ensure that the terminal and serial port are using the same line interface (EIA-232, for example.)
3. Configure the terminal for the following communication parameters:

• VT 100 emulation	• 1 stop bit
• 9600 baud	• No parity
• 8-bit character	

4. Connect the terminal to the Digi One IA serial port. You will need a DB-9 null modem (crossover) cable for this purpose.
5. Log on to the Digi One IA as the root user. The default password is dbps.
6. Configure the IP address with the following command:  

```
set config ip=ip-addr submask=mask dhcp=off
```

where *ip-addr* is the IP address and *mask* is the subnet mask to assign Digi One IA.

A reboot is required for the IP address to take affect.

### Task: Mount Digi One IA on the DIN Rail and Connect Peripherals

1. Mount the Digi One IA on the DIN rail if required.
2. Connect peripherals as required. While the Digi One IA has two serial ports, a DB-9 male port and a screw terminal block connector, only one can be in use at a time.

### Task: Connect the Digi One IA to Power and to the Ethernet

- If you have a powered network hub, simply connect the Digi One IA to the network. The device complies with the IEEE 802.3af standard.
- If you are using the DIN rail power supply, connect the Digi One IA to the power connection, which is right next to the Ethernet connection.

### Task: Configure Modbus from the Web Interface

This procedure assumes that the Digi One IA has been powered on and that you have configured an IP address.

1. Access the web interface by entering the Digi One IA device's IP address in a browser's URL window.
2. Logon to the Digi One IA as root and then supply the root password. The default password is dbps.
3. To configure the port for Modbus do the following:
  - a Choose Configure > Ports.
  - b Change the Device type to Modbus.
  - c Change other port attributes as required.
4. Consider whether the following describes your configuration:
  - It is okay for any master to control slaves attached to the serial port.
  - Slaves communicate using RTU encoding.
  - All timers can use default values.
5. If all the conditions above are true, configuration is complete. If any are not true, continue with the next step.
6. To configure communication with Modbus masters, do the following:
  - a Choose Modbus from the Configure Menu.
  - b Choose the Configure button under Network Configuration.
  - c Configure the Master as required. Use the online help for information.
  - d Choose the Submit button when you have completed configuration of the Master.
  - e To exit from the Network Configuration page, choose Modbus from the menu.
7. To configure communication with Modbus slaves, do the following:
  - a Choose Modbus from the Configure Menu.
  - b Choose the Configure button under Serial Configuration.

- c Configure slaves as required. Use the online help for information.
8. Exit the configuration.

## Telnetting to the Command Line

This procedure assumes that the Digi One IA has been assigned an IP address and that you need to access the command line from the network.

1. From a terminal or computer command line, enter the following:  

```
telnet ip-address
```

 where *ip-address* is the Digi One IA IP address
2. Log on to the Digi One IA as root. The default password is dbps.
3. Enter commands as required.

## Restoring Port Settings from a Terminal

Once you change the port configuration to accommodate a device other than a terminal, access to the command line is only possible from the network. If you lose the network connectivity, then, it is not possible to access the command line. This procedure shows you how to restore the port configuration so that you can access the command line from a terminal or PC running terminal emulation software.

### Procedure

1. Set the line interface to the requirements of the terminal. See "Task: Set the Line Interface with the DIP Switches" for more information.
2. Configure the terminal or terminal emulation program to the following communication parameters:

• VT 100 emulation	• 1 stop bit
• 9600 baud	• No parity
• 8-bit character	
3. Connect the terminal to the Digi One IA serial port. You will need a DB-9 null modem (crossover) cable for this purpose.
4. Power up the Digi One IA.
5. When the DIAG LED begins blinking, press the v (small v) key.
6. Press P (capital P).
7. Press the Esc key to continue with the boot cycle. The port configuration is restored to defaults.
8. Logon to the device as root. The default password is dbps.

# Digi One IA Setup Card



## About This Card

This card provides the following information:

- A brief introduction to Digi One IA.
- A Quick Start Setup
- A procedure on Telnetting to the Digi One IA
- A procedure on restoring the port configuration to defaults.
- A description of the Digi One IA library
- A description of LED activity
- Specifications
- Regulatory information

## About Digi One IA

Designed to meet the specific requirements of the industrial automation market, the Digi One IA features

- DIN-RAIL mounting
- EIA-232/422/485 switch selectability
- Necessary environmental ratings for industrial automation settings
- DC voltage with screw termination or powered Ethernet capability

## Digi One IA Library

Here are the documents in the Digi One IA library:

### Access Resource CD Card

This card provides information on the contents of the Access Resource CD. It includes the CD mounting instructions required to access the CD on many Unix systems.

### Digi One/PortServer TS 2/4 Command Reference

This online manual, available on the Access Resource CD, provides complete information on commands.

### Digi One/PortServer TS 2/4 Configuration and Administration Guide

This online manual, available on the Access Resource CD, provides procedural information for setting up your Digi One IA.

### RealPort Setup Guides

These online manuals provide information on setting up servers for RealPort software.

### Digi Port Authority - Remote Device Monitor Setup Guide

This online manual provides information on installing and using Digi Port Authority - Remote software.

### Online Help for the Web UI

This context-sensitive online help provides information on configuration fields used with web browser configuration interface.

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## Interpreting LEDs



Use the following table to help you interpret LEDs.

LED Label	Color	State	Indicates
Power	Green	On	Power detected
		off	No power detected.
Link	Red	On	No network detected
		Off	Network detected
TX/RX	Green	On	Network traffic
		Off	No network traffic
Diag	Red	Blinking 1-1-1	Starting the EOS
		Blinking 1-3-1	Starting the TFTP process.
		Blinking 1-5-1	Configuration has been returned to factory defaults.
		Steady blinking	Device seeking an IP address from a DHCP server
Tx/Rx	Green	On	Serial port activity
		Off	No serial port activity.
RTS	Green	On	RTS is on
		Off	RTS is off
CTS	Green	On	CTS is on
		Off	CTS is off
DTR	Green	On	DTR is on
		Off	DTR is off
DSR	Green	On	CSR is on
		Off	CSR is off
DCD	Green	On	DCD is on
		Off	DCD is off

## Specifications

**WARNING:** To prevent electric shock, do not remove the cover of this module. There are no user-serviceable parts inside. Refer servicing to qualified personnel.

**CAUTION:** This input has two power inputs. For total isolation from electrical shock and energy hazard, disconnect both power inputs. The device is intended to be mounted in an indoor only type system.

DC Power Requirements	
 2-Pin terminal screw (green)	9 to 30 VDC 500 mA (max)
 Ethernet power option	30 to 60 VDC 100 mA (max)
Environmental	
Ambient temperature	0 to 60 degrees C
Relative humidity	5 to 90% non-condensing
Mechanical	
Width	101 mm
Height	22.5 mm
Depth	120 mm

## FCC Part 15 Class A

### Radio Frequency Interference (RFI) (FCC 15.105)

This equipment has been tested and found to comply with the limits for Class A digital devices pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### Labeling Requirements (FCC 15.19)

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### Modifications (FCC 15.21)

Changes or modifications to this equipment not expressly approved by Digi may void the user's authority to operate this equipment.

### Cables (FCC 15.27)

Shielded cables *must* be used to remain within the Class A limitations.