Agilent N8262A P-Series Modular Power Meter

Installation Guide

Agilent Technologies

Notices

Manual Part Number

N8262-90005

Edition

First Edition, April 19, 2007

Printed in Malaysia

Agilent Technologies, Inc.
3501 Stevens Creek Blvd.
Santa Clara, CA 95052 USA

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The following general safety precautions must be observed during all phases of operation of this instrument. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the instrument. Agilent Technologies, Inc. assumes no liability for the customer's failure to comply with these requirements.

Safety Notices

WARNING

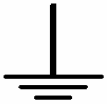
A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or loss of life. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

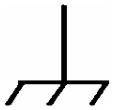
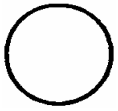
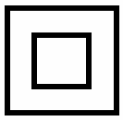
CAUTION

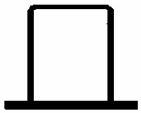
A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

Safety Symbols

The following symbol on the instrument and in the documentation indicates precautions that must be taken to maintain safe operation of the instrument.

	Caution, risk of danger. The Instruction Documentation Symbol. The product is marked with this symbol when it is necessary for the user to refer to the instructions in the supplied documentation.
	Alternating current (AC).
	This symbol indicates the operating switch for 'Stand-by' mode. Note, the instrument is NOT isolated from the mains when the switch is pressed. To isolate the instrument, the mains coupler (mains input cord) should be removed from the power supply.
	Direct current (DC).
	Both direct and alternating current.
	Three-phase alternating current.
	Earth (ground) TERMINAL.

	PROTECTIVE CONDUCTOR TERMINAL.
	Frame or chasis TERMINAL.
	Equipotentiality.
	On (Supply).
	Off (Supply).
	Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION.
	Caution, risk of electric shock.
	Caution, hot surface.
	In position of bi-stable push control.

	Out position of bi-stable push control.

Regulatory Markings

CE ISM 1- A	The CE mark shows that the product complies with all the relevant European legal Directives (if accompanied by a year, it signifies when the design was proven).
SA® C US 206349	The CSA mark is a registered trademark of the Canadian Standards Association. A CSA mark with the indicators “C” and “US” means that the product is certified for both the U.S. and Canadian markets, to the applicable American and CAnadian standards.
✓ N10149	The C-tick mark is a registered trademark of the Spectrum management Agency of Australia. This signifies compliance with the Australian EMC Framework regulations under the terms of the Radio Communications Act of 1992.
	This product complies with the WEEE Directive (2002/96/EC) marking equipment. The affixed product label indicates that you must not discard this electrical/electronic product in domestic household waste.
ICES/NMB - 001	This ISM device complies with the Canadian ICES-001

General Safety Information

This is a Safety Class I instrument (provided with a protective earthing ground, incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the instrument is likely to make the instrument dangerous. Intentional interruption is prohibited.

WARNING

- **DO NOT operate the product in an explosive atmosphere or in the presence of flammable gasses or fumes.**
- **DO NOT use repaired fuses or short-circuited fuseholders: For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type.**
- **DO NOT perform procedures involving cover or shield removal unless you are qualified to do so: Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers and shields are for use by service-trained personnel only.**
- **DO NOT service or adjust alone: Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, service personnel must not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.**
- **DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to a Agilent Technologies Sales and Service Office for service and repair to ensure the safety features are maintained.**
- **DO NOT substitute parts or modify equipment: Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to a Agilent Technologies Sales and Service Office for service and repair to ensure the safety features are maintained.**

CAUTION

- Applying excessive voltage or overloading the device will cause irreversible damage to the circuitry.
- Use the device with the cables provided.

Waste Electrical and Electronic Equipment (WEEE) Directive 20002/96/EC

This instruction complies with the WEEE Directive (2002/96/EC) marking requirement. This affixed product label indicates that you must not discard this electrical/electronic product in domestic household waste.

Product Category:

With reference to the equipment types in the WEEE directive Annex 1, this instrument is classified as a “Monitoring and Control Instrument” product.

The affixed product label is shown as below:

Do not dispose in domestic household waste

To return this unwanted instrument, contact your nearest Agilent office, or visit

www.agilent.com/environment/product

for more information.

In This Guide ...

1 **Getting Started** Chapter 1 introduces you through the process of installing the required software and drivers, configuring the LAN Interface as well as connecting to the P-Series modular power meter.

2 **Regulatory Information** Chapter 2 shows you the general specifications and regulatory information of P-Series modular power meter.

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This chapter will take you through the process of installing the required software and drivers, configuring the LAN Interface as well as connecting to the N8262A P-Series modular power meter.

Welcome

Welcome to the Agilent Technologies P- Series modular power meter's Installation Guide. This guide shows you how to:

- physically check the modular power meter
- installing the software and instrument drivers
- switch on the power meter
- connect it to P- Series power sensor
- connect it to 8480 or E- Series power sensor
- perform a zero and calibration routine on 8480 or E- Series power sensor
- make connection to the rear panel
- make connection to the front panel
- configuring the modular power meter
- use the Agilent IO Libraries Suite to configure the remote programming interface
- Use Synthetic Instrument Finder to configure the remote programming interface
- Use Web browser to configure the remote programming interface
- attach the rack mounting kit (part number N8262A- 908 and N8262A- 909)

Documentation Information

This guide is only part of the information supplied. The documentation consists of:

- The Installation Guide (this book) - Shows you how to check your modular power meter, install software and instrument drivers, configure it, switch it on, connect it to an Agilent power sensor and connect it using Power Meter GUI application.
  This information is presented in English, French and Japanese.
- The User's Guide - Shows you how to operate your modular power meter from the soft front panel to make measurements using the Agilent P- Series, E- Series E9300, E- Series E4400, and 8480 Series power sensors. You can find the User's Guide as an Adobe acrobat PDF (Portable Document Format) file on the supplied CD- ROM in English, French and Japanese.
- The Programming Guide - Shows you how to operate your modular power meter using the remote interfaces. You can find the Programming Guide as an Adobe Acrobat PDF file on the supllied CD- ROM. This guide is supplied in English language only.

Printed Guides are available by odering the following options:

- English language User's Guide - ABA.
- French language User's Guide - ABF.
- Japanese language User's Guide - ABJ.

NOTE

- A printed Programming Guide is available in English Language only.
- *Connectivity Guide* is supplied as an Adobe Acrobat PDF file on the A*gilent IO Libraries Suite* CD-ROM. This is to help you configure your P-series modular power meter using the LAN remote connections.

What You will Find in this Guide

This guide is divided into the following sections:

- Installation Steps:
  - Step 1. Unpacking the P- Series Modular Power Meter 17
  - Step 2. Installing the Software and Instrument Drivers 19
  - Step 3. Turning the Power Meter On 30
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For more detailed operating information, refer to the *Agilent N8262A P- Series Modular Power Meter User's Guide* and *Agilent N8262A P- Series Modular Power Meter Programming Guide*.

Networking Terms

The definitions below will help you become familiar with their usage in **"Step 4. Remote Interface Configuration"** on page 38.

Local Area Network (LAN)

A LAN is a network of devices connected to each other using LAN cables and network switches.

Network Switch

A network switch is used to connect several devices together to form a LAN. It has several LAN ports that LAN cables can be connected to.

Router

A router can be used to transfer messages between two (or more) networks. Routers are often used to connect a private network to a larger network (for example, a company network, or the internet)

Internet Protocol Address (IP Address)

An IP address is a unique number assigned to the device which is used to send or receive data to and from other devices.

The most common IP Address are IP version 4. These addresses are usually written as 4 numbers (from 1 to 255) seperated by periods. 192.168.1.1, 169.254.12.34 and 141.121 .84.241 are all IP addresses.

A device's IP address can be assigned to it manually (See "Static IP Address"), assigned to it by another computer (See "Dynamic Host Configuration Protocol (DHCP)") or can be self- determined (See"Auto- IP")

IP Address Conflict

An IP address conflict occurs when two devices attempt to join the same network with the same IP address. When this happens, it may become impossible to communicate with either instrument over the LAN. Using dynamically assigned addresses can help to avoid this problem. (See "Dynamic Host Configuration Protocol (DHCP)" or "Auto- IP")

Static IP Address

We say that a device uses a static IP address when it always attempts to use the same IP address everytime it turned on. Using a static IP address can be useful if you always want to communicate with the instrument using the same IP address every time it is turned on. However, using a static IP address can lead to IP address conflict, if two instruments are given the same static IP address.

Dynamic Host Configuration Protocol (DHCP)

In order to avoid **IP address conflicts**, and to simplify the process of connecting devices to network, larger networks will sometimes use DHCP to assign IP addresses to devices.

When a device is configured to use DHCP, it attempts to communicate with the DHCP server when it is powered on. If it is able to communicate with the server, it ask the server for the correct network settings (including **IP Address, Subnet Mask**, **Gateway**, and so on) to communicate on the network. if the device is unable to communicate with the DHCP server, it will either go into a failure mode, or (if configured to do so) it will attempt to assign itself an IP address. (See “Auto- IP”)

Because the IP address assigned to an instrument can be different every time it is powered on, you cannot remember the IP address and expect to always be able to use that address to communicate with the instrument. However, network using DHCP will often also use **DNS**, which can allow you to communicate with a device using a hostname that will stay the same, even if the device’s IP address has changed.

DHCP Server

The DHCP server respond to device’s requests for network settings. it is responsible for ensuring that no two devices attempt to use the same IP address.

Hostname

A hostname is a unique name that can be used to communicate with a device on a network. Hostnames are commonly used in situations where devices have their addresses assigned to them using **DHCP**.

Hostname can only be found if there is some way that the network can keep track of which hostname corresponds to an instrument. This is usually done using **DNS**.

Network without DNS have no way to associate a hostname with a device. This is often true of small private networks (for example, a network consisting of two devices connected via a **cross- over cable**, or through a simple router). In these cases, it is probably easiest to use **static IP address**.

Domain Name Server (DNS)

A domain name server allows someone to communicate with a device using the device's hostname. When a device joins a network, it tells the domain name server its hostname and its IP address. When a hostname is used, the domain name server is asked which IP address the name correspond to, and that address is then used to communicate with the instrument.

If the IP address of the device changes, it can request that its entry in the domain name server be updated. Any following requests that use the same hostname as before, will be sent to the new address.

Auto-IP

Auto- IP is a method used by a device to self select an IP address. When a device is using Auto- IP, it randomly selects an address of the form 169.254.X.X. If another device is already using that address, it selects another random address, and continues to select new addresses until it finds one that is not being used by any other instrument.

Cross-over Cable

A cross- over cable can be used to connect two devices directly to each other , without a **network switch** or any other hardware in- between. It is common to use static IP address when devices are connected using a cross- over cable, because there is no **DNS**, and there are no other devices on the network that could cause an **IP address conflict**.

Private Network

All of the devices on a private network use IP addresses that have been reserved for private use.

The most common private network IP addresses are of the form 192.168.X.X and 169.254.X.X. Devices which have been assigned a private network IP address cannot generally communicate with other devices outside of their private network. Many devices can use the same IP address (for example, 192.168.1.1) as long as they each belong to different private networks.

Subnetwork (Subnet)

A subnet is a group of devices which is a subset of a larger group of devices. Breaking a large network down into many smaller subnets can make the network easier to manage, and can decrease the amount of traffic that gets sent between devices.

One thing a device on a network can do is send a message to all of the other devices on its subnet. If a network consists of only a single subnet, then that message would have to be sent to every device on the network. However, if the network has been broken down into subnets, then the message would only be sent to other devices on the same subnet as the device is sending message.

Subnet Mask

A subnet mask is used to specify how a network is broken down into subnets. Subnet mask look like IP addresses; they are of the form x.x.x.x. Common subnet masks include 255.0.0.0, 255.255.0.0 (use this for private networks), and 255.255.255.0.

When written in binary, subnet masks usually become several 1s followed by several 0s.

For example:

255.255.0.0

would become

11111111.11111111.00000000.00000000.

The subnet mask can be used with a device's IP address to determine the address of the subnet that the device is on. To do this, you perform a logical AND of the subnet mask and the IP address. (A logical AND combines two binary numbers into a single number. The new number contains 1s in positions where both numbers had 1s, and 0s everywhere else.)

For example, if a device has an IP address of 192.168.12.34 and the subnet mask 255.255.255.0 then:

192. 168. 12. 34 = 11000000. 10101000. 00001100. 00100010

255. 255. 255. 0 = 11111111. 11111111. 11111111. 00000000

Subnet Address = 11000000. 10101000. 00001100. 00000000

192 168 12 00

The device is on the subnet with the 192.168.12.0 address.

A device with the IP address 192.168.12.100 is on the same subnet as the above device with the IP address 192.168.12.34 (the 192.168.12.0 subnet), but a device with an IP address of 192.168.100.34 is on a different subnet (the 192.168.100.0 subnet).

Default Gateway

The default gateway is used by a device to communicate with devices that have IP addresses that are on different subnets. This would usually be the IP address of the router that connects the device's subnet to the rest of the network.

Determining your PCs Configuration Settings

From a DOS window

1 From the ®Windows Desktop, select **Start** > **Run**.

2 At the Open prompt, type **CMD** and click **Enter** to open a DOS window.

3 At the command prompt, type **ipconfig/all** to display the PCs network configurations details.

Or,

From the PCs Control Panel

1 From the ®Windows Desktop, select **Start** > **Settings** > **Control Panel** > **Network Connections**.

2 From the N**etwork Connections** window, double- click the **local area connection** listing.

3 In the **Local Area Connection Status** dialog, select **Support** > **Details** to display the PCs network connections details.

These settings include:

- Physical Address
- DHCP status, enabled or disabled (displayed when using the DOS window, ipconfig command only)
- Auto configuration enabled or disabled (displayed when using DOS window, ipconfig command only)
- IP address
- Subnet Mask
- Default Gateway
- DHCP server address
- Primary Win server
- Secondary Win server

Resetting the LAN Configuration

On the instrument's front panel, near the power switch, is a recessed button labeled **LAN RST**. This button enables you to put the LAN configuration of the instrument into a known default state.

When you press this button (a straightened paper clip will do the job) the following settings are made and the system reboots.

- The default IP Address is 192.168.X.X after resetting by pressing the front panel recessed button, where X.X is the last two digit of MAC address. This is designed to prevent multiple instruments from using the same default IP address (refer to the instrument label).
- Subnet Mask is set to 255.255.0.0
- DHCP is set to on
- Auto IP is set to on
- The instrument hostname is set to A- N82XXA- NNNNN, where N82XXA is the instrument model number (such as N8262A) and NNNNN represents the last five digits of the instrument serial number.

NOTE If you had manually configured LAN settings before, you may have to reconfigure your instrument to reset DHCP and Auto IP to OFF. Refer to "Static Mode (Configuring the LAN Manually)" on page 50.

If the instrument is in an environment with a DHCP server, it is assigned an IP address through DHCP. The IP address can be found by using the instrument hostname as the URL in a web browser.

Without DHCP, the instrument will use Auto IP and acquire a 192.168.X.X address. If no DHCP is present, but the instrument is set to use DHCP (the default), the instrument will wait two minutes for its DHCP request to time out. In this case, there is a time delay of approximately three minutes between when the instrument is powered on and when it is usable.

NOTE Resetting the LAN configuration will reset the password for accessing the instrument's webpage browser as well. The default password is "agilent"

Power Meter and Sensor Capability

Your P- Series modular power meter is compatible with Agilent P- Series, E- Series E9300, E- Series E4410 and the 8480 Series power sensors. However, not all sensor and meter combinations have the same features or capabilities. The main differences are as below:

Features	P-Series N1920	E-Series E9300	E-Series E4410	8480 Series
Average power of CW signal	•	•	•	•
Average power of modulated signal	•	•		•
Peak power	•			
Cal factors stored on EEPROM	•	•	•	
≥200 readings/sec	•	•	•	
Peak/burst average power	•			
Time gated measurements	•			
Rising edge trigger	•			
Falling edge trigger	•			

NOTE The E-Series and 8480 Series power sensors require N1917A/B/C cables when connecting to the P-Series modular power meters.

Specifications

The specifications for the power meter are listed in the *N8262A P- Series modular power meter User's Guide*.

Step 1. Unpacking the P-Series Modular Power Meter

1 Inspect the shipping container for damage. Signs of damage may include a dented or torn shipping container or cushioning material that shows signs of unusual stress or compacting.

2 Carefully remove the contents from the shipping container and verify that your order is complete.

NOTE If the shipping container or packaging material is damaged, it should be kept until the contents have been checked mechanically and electrically. If there is mechanical damage, notify the nearest Agilent Technologies office. Keep the damaged shipping materials (if any) for inspection by the carrier and Agilent representative. If required, you can find a list of Agilent Sales and Service Offices on the last page of this guide.

NOTE Ensure you have read and understand the preceding safety information before proceed.

Accessories Shipped with the Instrument

The following items are shipped standard with each power meter:

- instrument drivers, and documentation CD- ROM
- three- prong AC power cord specific to geographic location

Verify that any options ordered are included with the shipment by checking the packing literature included with the shipment.

NOTE The serial number label on the power meter only verifies hardware/firmware options. The packing literature verifies all items shipped.

Minimum PC Requirements

- 1 GHz Intel Pentium processor
- Microsoft Windows XP Professional or Home Edition (Service Pack 1 or 2), Windows 2000 (Service Pack 2)
- 512 MB of RAM
- Up to 40 MB of available hard- disk space
- Microsoft Internet Explorer 6.0 (or higher)

Step 2. Installing the Software and Instrument Drivers

The following software and instrument drivers are required to operate the P- Series modular power meter.

- Agilent IO Libraries Suite 14.2
- Synthetic Instrument Finder
- Power Meter GUI

NOTE Make sure you have installed the Power Meter GUI, Synthetic Instrument Finder and IO Libraries 14.2 before operating the P-Series modular power meter.

1. Installing the Agilent IO Libraries

Communication and control of the N8262A P- Series modular power meter from Microsoft® programming environment is provided through the following software that is included with the N8262A instrument:

- Agilent IO Libraries Suite 14.2
- Agilent N8262A product reference CD

Installing the Agilent IO Libraries

The Agilent IO Libraries Suite must be installed first followed by the N8262A instrument drivers that are located on the product reference CD. The IO Libraries are contained on the Agilent automation- ready CD included with the instrument, or may be downloaded from Agilent Developer Network website at http://adn.tm.agilent.com, under 'Software Downloads: IO Libraries Suite'.

Before installing the IO Libraries, review Table 1 to verify that your computer meets the specifications required by the software.

Table 1-1 Agilent IO Libraries Suite system requirement

Processor	450 MHz Intel Pentium® II or higher
Operating System	Window XP Professional or Home Edition (Service Pack 1 or later) Window 2000 Professional (Service Pack 4 or later)
Web Browser	Microsoft Internet Explorer 5.01 or greater (recommended)
Available Memory	128 megabytes (MB) (256 MB or greater recommended)
Available Disk Space	225 MB required for installation: • 160 MB for Microsoft .NET Framework • 65 MB for Agilent IO Libraries Suite 175 MB required for operation: • 110 MB for Microsoft .NET Framework • 65 MB for Agilent IO Libraries Suite
Video	Super VGA (800 x 600) with 256 colors

1 Close all the application on your computer.

2 Insert the *Agilent automation- ready CD* into the CD- ROM drive.

3 Follow the the installation instructions to finish the installation.

4 After the IO Libraries have been succesfully installed, you will see the Agilent IO Control (IO icon) in the taskbar notification area of your computer screen.

Figure 1-1 Agilent IO control icon

NOTE If the IO Libraries installation does not start automatically, select **Start>Run** from the Windows **Start** menu and type **<drive>:\autorun\auto.exe where <drive>** is the designation of the CD-ROM drive.

NOTE

- If another vendor's implementation of Virtual Instrument Software Achitecture (VISA) is currently installed on your computer, continue installation of the Agilent IO Libraries by installing Agilent VISA in side-by-side mode. More information on side-by-side operation can be found in the Agilent IO Libraries Suite Help (available after installation is complete) under "Using Agilent VISA with Another Vendor's VISA".
- Installing the Agilent IO Libraries also installs the Interchangeable Virtual Instrument (IVI) Shared Components. The IVI Shared Components are required before IVI drivers (e.g. IVI-COM, IVI-C) can be installed.

2. Installing the Synthetic Instrument Finder

1 Insert the Agilent *N8262A P- Series modular power meter product reference CD* in the CD- ROM drive.

2 From the installation window, click on **Synthetic Instrument Finder** under the Synthetic Instruments.

3 Follow the installation instruction to finish the installation.

3. Installing the Power Meter GUI

1 Insert the *Agilent N8262A P- series modular power meter product reference CD* in the CD- ROM drive.

2 From the installation window, click on **Power Meter GUI** under the Synthetic Instruments.

3 Follow the installation instruction to finish the installation.

NOTE

Installing Power Meter GUI will prompt to open the P-Series soft front panel. This soft front panel is used as a communication interface between user and instrument once the P-Series modular power meter is configured. See "Step 4. Remote Interface Configuration" on page 38.

Using the Synthetic Instrument (SI) Finder

The SI Finder utility facilitates finding instruments on a network, when the power meter is connected through a router or cross- over cable.

The SI Finder allows you to connect to instruments on the LAN.

1 From the ®Window Desktop, select **Start > Program Menu > Agilent SI Tools > Synthetic Instrument Finder**.

The Synthetic Instrument Finder appears.

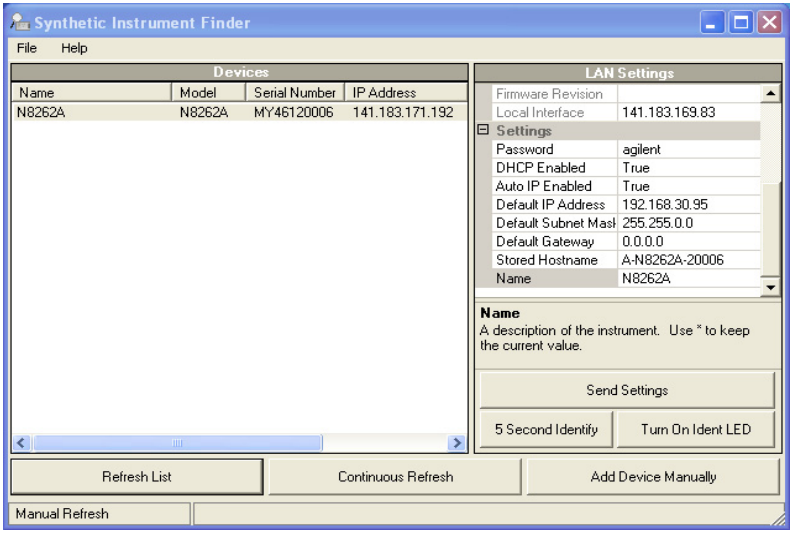


Figure 1-2 **Synthetic Instrument Finder** window.

The SI Finder window is divided into two main sections: the left pane and the right pane.

- The left pane contains a list of equipment available on your LAN for connection.
- The right pane contains information specific to the instrument highlighted in the left pane.

Function Descriptions

Send Settings Sends the current instrument settings to the N8262A P- Series modular power meter. Use this function if you modified the settings in the SI Finder

5 Second Identify Flashes the **LAN** LED for five seconds.

Turn On Ident LED When On, the **LAN** LED will continuously flash on and off. Once the **Turn On Ident LED** button is pressed, the button name changes to **Turn Off Ident LED**.

Refresh List Updates the device's list.

Continuous Refresh Updates the device's list every one minute.

Add Device Manually Allows you to add a device for connection. Use this feature only if your instrument does not appear in the **Devices** list.

- **a** Click the **Add Device Manually** button. The **Devices** area will display a new listing titled "Unknown".
- **b** In the **Manual Settings** area, enter in the MAC address, serial number, and model number of the device.
- **c** In the **LAN Settings** area, enter in the information for the new device. (Make sure that you scroll down the list to get to the editable settings area.)
- **d** Click **Send Settings** to enter this information in the **Devices** area.
- **e** Double- click the new listing to open the webpage, or right- click and select **Open using Synthetic GUI** to use the virtual interface.

2 In the left pane, right- click on the Agilent N8262A P- Series Modular Power Meter and the following menu appears.

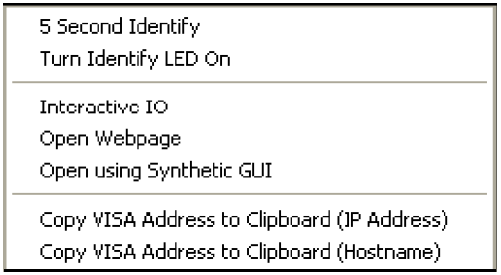


Figure 1-3 Right-click pop-up menu.

Interactive IO Opens the Agilent Interactive IO application where you can send SCPI commands to the instrument. (The Interactive IO option is only available if you have Agilent Connection Expert installed on your PC.)

Open Webpage Opens the web page (web browser) associated with the currently selected instrument. Here you can view and modify settings for the instrument.

Settings Modify Instrument configuration. Here, you can click on the description and change the settings by entering the required setting value. Click **Send Settings** to confirm configuration.

Tip: There are two other ways to access the device's web page:

- By double- clicking on the **Devices** listing in the Synthetic Instrument Finder.
- Type in the device's hostname or IP address in your internet browser.

Using Interactive IO

The Interactive IO feature of Agilent Connection Expert allows you to interact with the instruments by sending commands and seeing the instruments' responses. Interactive IO can help you:

- troubleshoot communication problems
- learn the instrument's command set
- prototype commands and check the instrument's responses before writing code

With Interactive IO, you can choose from a menu of commands (*IDN?, *RST, *TST?), or execute commands from the instrument's command set

Figure 1- 4 shows how Interactive IO is started from Agilent Connection Expert.

NOTE For more information on Interactive IO, refer to the *Agilent IO Libraries Suite Getting Started Guide*. The guide is available on-line by clicking on the Agilent IO Control icon and then selecting **Documentation > IO Libraries Suite Getting Started**.

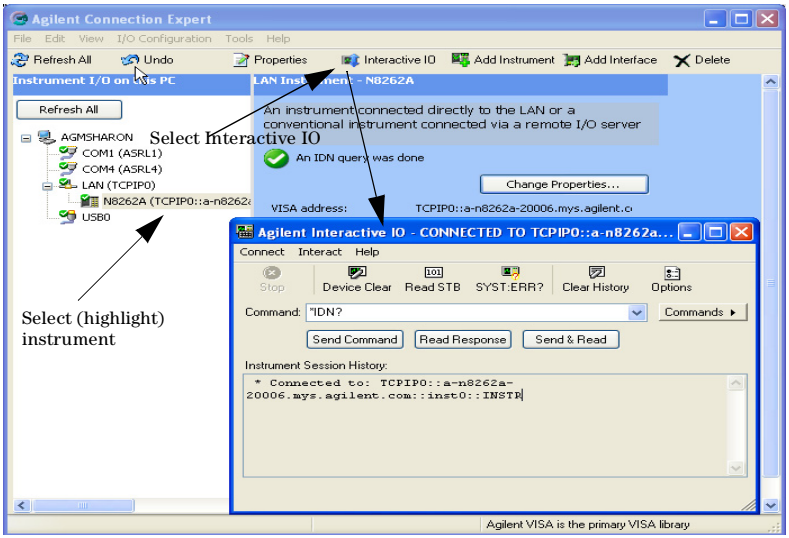


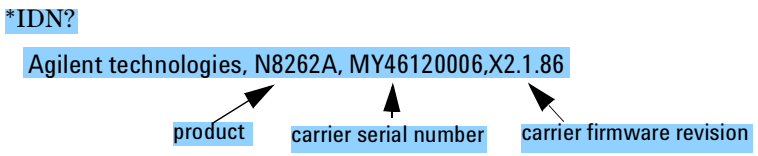
Figure 1-4 Selecting an instrument and start Interactive IO

Identifying the Instrument

P- Series modular power meter comprised of the carrier where command is used to query the parameter.

- *IDN? *(returns the carrier serial number and firmware revision)

This command can be executed from the **Interactive IO** window. Example of the information returned by the command is as below:



Using the Instrument Web Browser

P- Series modular power meter can be programmed using its web- based interface (web browser). The web browser functions as a virtual front panel which can also be used for:

- interactive IO
- familiarization with instrument capabilities
- determining/changing instrumnet configuration
- troubleshooting and debugging

Comprehensive on- line help providing web browser usage information is available with each Web window.

The instrument's web browser can be opened from Agilent Connection Expert as shown in Figure 1- 5 or through Synthetic Instrument Finder , See "Using the Synthetic Instrument (SI) Finder" on page 22.

NOTE Alternatively, the instrument's web- based interface can also be opened directly from a web browser by entering the instrument's IP address or hostname in the browser's 'address' window.

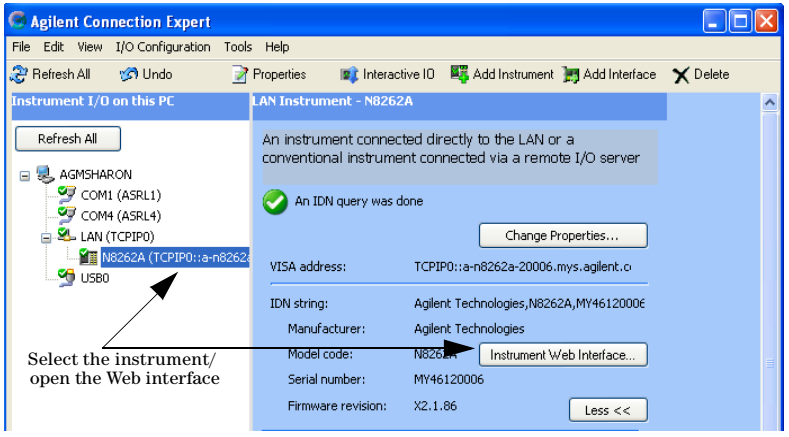


Figure 1-5 Opening the instrument web interface.

An example of the web browser is shown in "N8262A P- Series modular power meter web browser (Welcome Page)" on page 27.

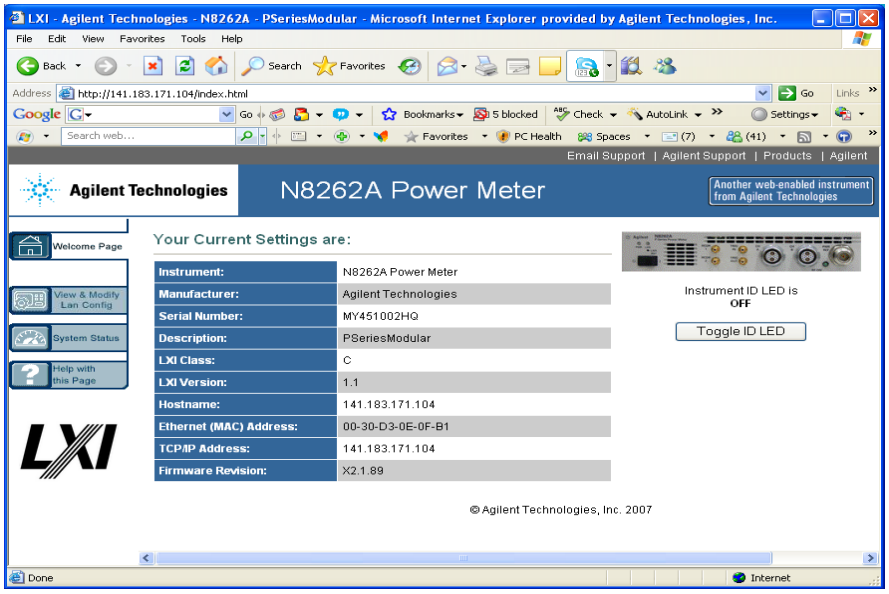


Figure 1-6 N8262A P-Series modular power meter web browser (Welcome Page)

NOTE

Instrument on the network can be physically identified by selecting **Toggle ID LED** within the web interface. This causes the instrumnet's front panel **LAN** LED to flash continually until **Toggle ID LED** is selected again.

Editing the Instrument's LAN Settings

Once communication path to the instrument has been opened, the instrument's LAN configuration can be viewed and modified using the web browser.

On the Welcome Page, click **View and Modify Configuration**. This opens the configuration window shown in Figure 1- 7.

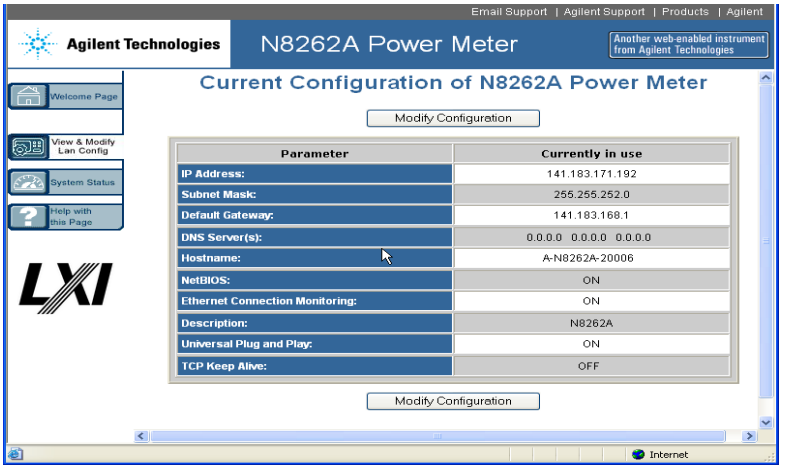


Figure 1-7 Viewing LAN configuration settings from the web interface.

To edit parameters shown, click **Modify Configuration**. The window opens as shown in Figure 1- 8.

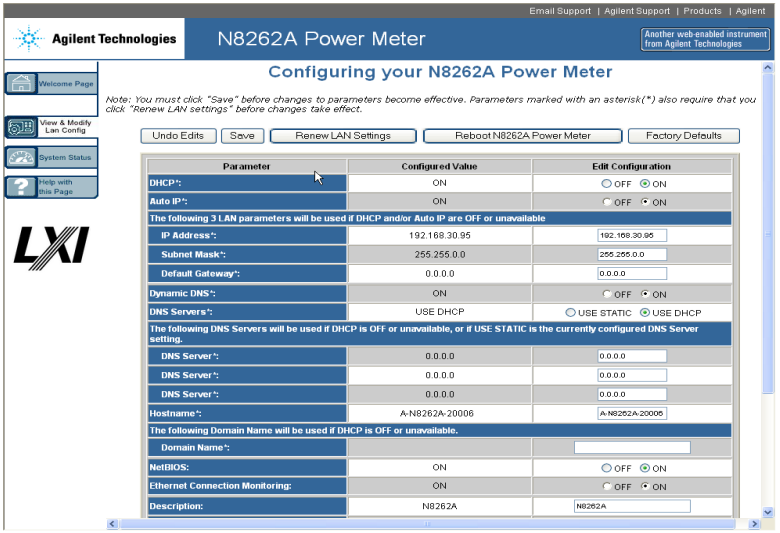


Figure 1-8 Changing the instrument LAN interface configuration

NOTE Selecting **Help with this Page** on any web browser provides information on the use of the current web browser page. Selecting **Help with this Page** on the **Browser Web Control** page provides a listing of the help contents.

NOTE Alternatively, LAN configuration can be done by using the Synthetic Instrument Finder. Refer to "Edit and Modify LAN Parameters using SI Finder" on page 50. Change the setting accordingly to the network requirement.

Step 3. Turning the Power Meter On

You can power on the power meter without connecting a power sensor or power sensor cable.

CAUTION The instrument has an autoranging power supply. Ensure the supply voltage is within the range 90 VAC to 264 VAC and 47 Hz to 63 Hz and 440 Hz.

1 Connect the power cord.

Figure 1-9 Connecting the power cord.

2 Check that the **PWR** LED is solid orange.

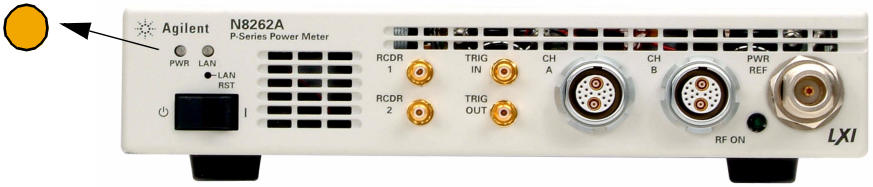


Figure 1-10 **PWR** LED before power on.

3 Power on the power meter and confirm that the **PWR** LED is solid green. This takes about 30 seconds.

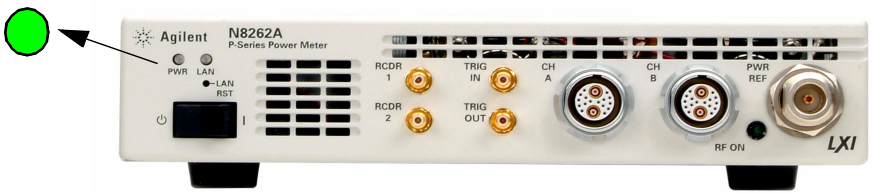


Figure 1-11 PWR LED after power on.

4 The power meter is now ready to use.

NOTE

The N8262A P-Series modular power meter is remotely controlled using P-Series soft front panel. Make sure you have installed the pre-requisite software and configured the LAN interface before you start using the P-Series soft front panel. Also see "Step 2. Installing the Software and Instrument Drivers" on page 19 and "Step 4. Remote Interface Configuration" on page 38.

Rear Panel Connections

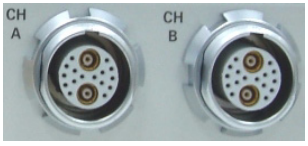
The following connections are available on the rear panel. To setup the remote interfaces, refer to "Step 4. Remote Interface Configuration" on page 38.

LAN connection

Figure 1-12 Conecting the LAN cable.

Front Panel Connections

The following connections are available on the front panel.

Connector	Function
	The power reference is a 1 mW (0 dBm) 50 MHz signal available from a 50 W type-N connector. It is used for calibrating an 8480 or E-Series power sensor and meter system. The Green LED beside the connector is lit when the calibrator is turned on.
	The sensor input connectors.

Trigger input (**TRIG IN**)and output (**TRIG OUT**) connections are made via SMB connectors.

Recorder outputs (**RCDR 1** and **RCDR 2**) connections are made via SMB connectors.

Connecting a Power Sensor

NOTE Make sure you have connected to the P-Series soft front panel before you proceed. See "Step 5. Connecting to the P-Series Modular Power Meter using Power Meter GUI application" on page 53 for details.

P-Series Sensor

P- Series sensor are supplied with a permanently connected sensor cable.

1 Connect the P- Series power sensor cable to the Channel A (**CH A**) or Channel B (**CH B**) input connector.

Figure 1-13 Connecting the P-Series power sensor.

2 Confirm a **Reading Sensor** pop- up message appears briefly on the soft front panel.

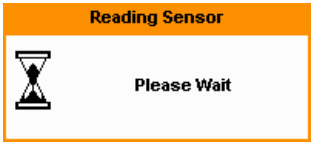


Figure 1-14 **Reading Sensor** pop-up window.

3 Confirm the display has changed to a measurement reading.

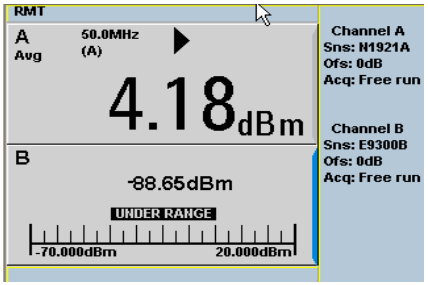


Figure 1-15 Measurement display.

E-Series and 8480 Sensor Models

Using the N1917A/B/C cable, any Agilent 8480 or E- Series power sensor can be connected to the N8262A P- Series modular power meters.

The following shows the procedure for power meter configured with front panel mounted **PWR REF** and channel A (**CH A**) connectors. Also, you should repeat the procedure for the channel B (**CH B**) sensor.

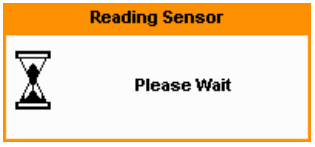
1 Connect the sensor to an Agilent N1917A cable.

Figure 1-16 Connecting E-Series power sensor to an Agilent N1917A cable.

2 Connect the other end of the N1917A cable to the Channel A (**CH A**) or Channel B (**CH B**) input connector.

Figure 1-17 Connecting power sensor to **CH A** input connector.

3 Confirm a **Reading Sensor** pop- up message appears briefly on the P- Series soft front panel.



This message does not appear when connecting an 8480 Series power sensor.

Figure 1-18 Reading sensor pop-up window.

4 Confirm the display has changed to a measurement reading.

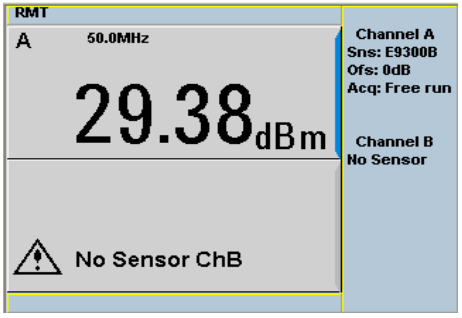


Figure 1-19 Measurement display.

5 Connect the sensor to the **PWR REF** connector.

Figure 1-20 Connecting sensor to the **PWR REF** connector.

6 When the sensor is connected to the **PWR REF**, you can zero and calibrate the measurement path quickly by clicking Zero + Cal on the P- Series soft front panel. Click Zero + Cal A or Zero + Cal B as required.

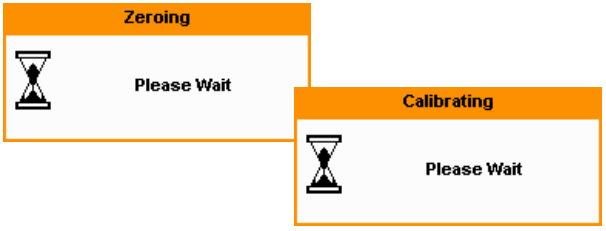


Figure 1-21 **Zeroing** and **Calibrating** pop-up window.

The **Zeroing** pop- up is displayed during the zeroing process, the **Calibrating** pop- up during calibration. The meter- sensor measurement path is calibrated when the **Calibrating** pop- up disappears.

Step 4. Remote Interface Configuration

The P- Series modular power meter is remotely controlled by LAN. This section shows you how to set the interface configurations.

NOTE

- To connect the power meter to your PC, configure and verify your connection, you can use the Agilent IO Libraries Suite or an equivalent.
- For more information on configurating the remote interface connectivity, refer to the *Agilent Technologies LAN Interfaces Connectivity Guide*. From the IO Libraries Suite, you can access the *Connectivity Guide* via the Agilent IO Libraries Control icon. Alternatively, you can access the *Connectivity Guide* via the Web at www.agilent.com/find/connectivity.

The power meter has three LAN operating modes which can be configured:

- Dynamic IP (Dynamic Host Configuration Protocol or DHCP)
- Auto IP (Local PC Control or isolated (non- site) LAN)
- Static IP (Manual mode)

The IP Address, Subnet Mask, and Default Gateway will be changed remotely during configuration.

The IP address, Subnet Mask, and Default Gateway values are stored in non- volatile memory and are not part of the save- recall function in the P- Series soft front panel.

IP Addresses and Host Name

Dynamic Host Configuration Protocol (DHCP) and Automatic IP are enabled on P- Series modular power meter shipped from Agilent. This allows the instrument to automatically obtain an address on the network. If there is a DHCP server on the network, the server will assign the address to the instrument.

If there is no DHCP server on the network, the P- Series modular power meter will automatically determine an address to use. The address will be in the range of **169.254.XXX.XXX**.

Host Names

Every P- Series modular power meter has a default host name. The format of the host name is:

A- N8262A- XXXXX

where "**XXXXX**" are the last five digits of the instrument serial number.

The instrument host name is reported by Agilent Connection Expert for network servers that support DNS. For network servers that support Dynamic DNS, only the IP address is reported.

Instrument Addressing

During programming, P- Series modular power meter is accessed through its address string which consists of an IP address or host name. For example: **TCPIP0::192.168.1.221::inst0::instr**

The P- Series modular power meter can also be accessed using a hostname as part of the address string. For example:

TCPIP0::a- n8262a- 20006.mys.agilent.com::inst0::instr

NOTE The P-Series modular power meter can be restored to its default configuration by pressing the recessed button on its front panel. See "Resetting the LAN Configuration" on page 15.

PC Configuration

Most PCs used for instrument/system control are configured for LAN and internet access. Before starting Agilent Connection Expert to locate and configure the instrument, verify that your computer is able to connect to the network that will include the instrument. To check your PC configuration, see "Determining your PCs Configuration Settings" on page 14.

Verifying Connectivity

Below are some ways to test the connectivity between your PC and the instrument.

- Verify that the **LAN** LED on the instrument's front panel is solid green. If this LED turns red this also indicates a problem with your LAN connection.
- Ping the instrument from your PC.

  1 From the ®Windows Desktop, select **Start** > **Run**.

  2 At the Open prompt, type **CMD** and press Enter to open a DOS window.

  - At the command prompt, type Ping + the instrument's IP address. For example, **Ping 141.183.171.192**. Or, type Ping + the instruments hostname. For example, **Ping a- n8262a- 20006**.

    If your connection is successful, a reply will be sent from your instrument to the PC. If unsuccessful, the message, "Request Timed Out" will be displayed. Refer to "Troubleshooting Connectivity Problems" on page 58.

A web browser is used to open web interfaces to the P- Series modular power meter (See "Using the Instrument Web Browser" on page 26). In some network configurations, a proxy server cannot be used to access the instrument IP addresses. In these situations, the browser must be set to disable the proxy for the instrument address.

Opening Agilent Connection Expert

With the P-Series modular power meter turned on and connected to a private or site LAN network, start Agilent Connection Expert utility by clicking on the Agilent IO Control icon and selecting **Agilent Connection Expert** from the pop-up menu.

Figure 1-22 IO Libraries pop-up menu.

NOTE

The procedure for using Agilent Connection Expert to locate and configure P-Series modular power meter is independent of the type of network you are using (private or site) and the network devices present (switches or routers).

For more information on the Interactive IO, refer to the *Agilent IO Libraries Suite Getting Started Guide*. The guide is available on-line by clicking on the Agilent IO Control icon and then select **Documentation > IO Libarries Suite Getting Started**.

Selecting the LAN Network Type

1 You can connect and configure your power meter for site LAN or isolated (non- site) LAN.

- A site LAN network is defined as a local area network (LAN) in which computers and LAN- enabled instruments are connected to a site LAN (workgroup LAN, Intranet, or enterprise LAN) via optional routers, hubs, and/or switches.
- A private (non- site) LAN network is defined as a local area network (LAN) in which computers and LAN- enabled instruments are not connected to a site LAN.

2 Select the LAN network type you will use to connect the power meter to your computer. Then follow the procedure that corresponds to your selected LAN network type.

Connecting the LAN Cables

LAN cables are connected to the LAN terminal on the instrument, the computer, and to the router or switch if they are part of your network.

Private Network Connections

Figure 1- 23 shows typical LAN cable connections for a private network.

Figure 1-23 Typical private LAN network Connections.

When making a direct connection between the P- Series modular power meter and the PC, use the yellow supports Auto- MDIX or contains a LAN card with gigabit data transfer rates, the (yellow) cross- over cable is not required. A standard LAN cable can be used instead.

For private LAN networks that include a switch or router, use standard LAN cables for network connections. Do not use the cross- over cable.

Once the LAN cable is connected, power on the P- Series modular power meter.

Site Network Connections

Figure 1- 24 shows typical LAN cable connections for a site network.

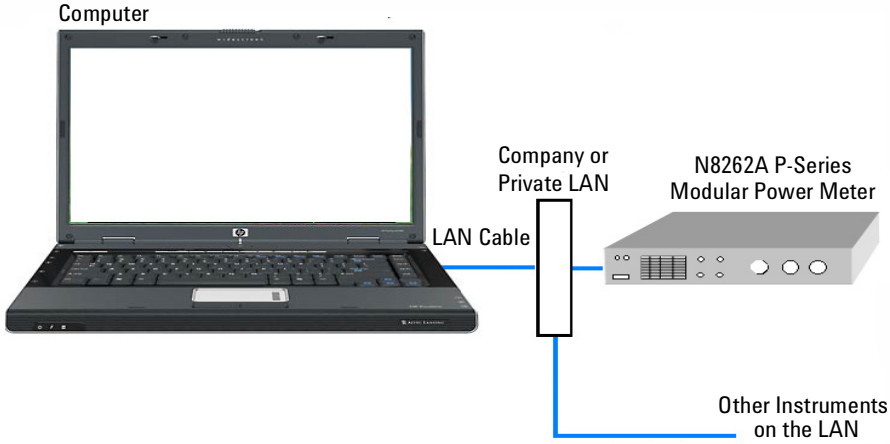


Figure 1-24 Typical site LAN network connections.

On site networks, the P- Series modular power meter and the computer are connected directly to site LAN ports, or are connected to the site LAN through a switch. In each site network configuration, standard LAN cables are used.

Once LAN cables are connected, power on the P- Series modular power meter.

Dynamic Mode

In dynamic mode the IP Address, Subnet Mask, and Default Gateway values are obtained from a DHCP server. When you use DHCP operation you cannot configure the IP Address, Subnet Mask, and Default Gateway values from the instrument.

If you do not have DHCP, you will have to configure your LAN settings manually. You can also manually configure your LAN settings in a network with DHCP, however it is recommended you do so with the assistance of your network administrator. Refer to **"Resetting the LAN Configuration"** on page 15 and **"Static Mode (Configuring the LAN Manually)"** on page 50 for more information.

Using this Dynamic Mode does not require a detailed knowledge of your network configuration.

NOTE If the DHCP server cannot be found on your network, the power meter returns to the AutoIP mode, then static mode.

1 Using a standard LAN cable, connect both the computer and the power meter to LAN outlets (Site Network Connection).

2 Power on the power meter and wait until the **LAN** LED turns solid green. This takes about 30 seconds.

3 Use the Connection Expert utility of the IO Libraries Suite to add the power meter and verify a connection.

NOTE If users wish to change settings after connection has been established, they can do it via the P-Series modular soft front panel.

Configure modular power meter after Connection

NOTE Make sure you have connected to the P-Series soft front panel before you proceed.

4 Click F1 System, **Remote Interfaces** to display the remote interface settings. Ensure that **DHCP** to **ON** (**ON** is the factory default state).

5 To enable DHCP operation using the arrow and **Select** softkeys to highlight and check **DHCP** is checked.

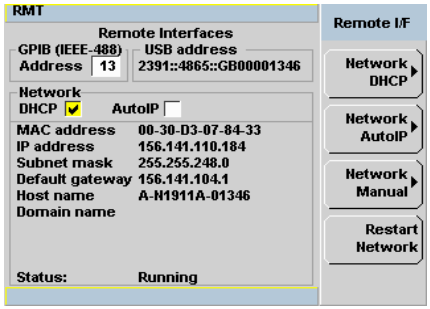


Figure 1-25 Typical LAN Remote Interface

NOTE If your LAN does not support DHCP, refer to the *Connectivity Guide*.

6 Click **Network DHCP** if you need to set any optional settings.

7 Click **Restart Network**.

A pop- up appears for 5 seconds (see Figure 1- 26). Monitor the **Status** at the bottom of the display to see when the server has assigned an address.

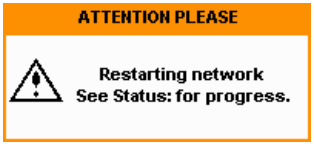


Figure 1-26 LAN Network Restart Pop-up

8 Click Prev/Esc, to return to a measurement screen.

9 Use the Connection Expert utility of the IO Libraries Suite to add the power meter and verify a connection. When identifying the instrument, it is easiest to use the IP address that you noted in step 5 above.

NOTE Refer to **Documentation** that accompanies the IO Libraries software for more details.

10 You can also use various programming environments to control the power meter. For an overview about programming instruments via LAN, refer to the *Connectivity Guide*.

Auto IP Mode

Use this procedure if you require local PC Control or you are working in an private (non- site) LAN.

1 Connect PC to the power meter.

2 Power on the power meter and wait until the **LAN** LED turns solid green. This takes about 30 seconds.

3 From the ®Window Desktop, select **Start** > **Program Menu** > **Agilent SI Tools** > **Synthetic Instrument Finder**.

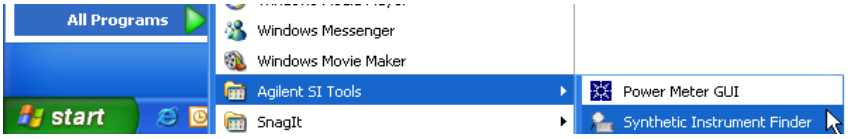


Figure 1-27 Opening Synthetic Instrument Finder.

4 From the **LAN Settings** menu bar on right pane, change the **DHCP** from **TRUE** to **FALSE** and make sure **Auto- IP** remain **TRUE**.

5 Select **Send Settings** and **Refresh List**.

Configure Modular Power Meter after Connection

NOTE Make sure you have connected to the P-Series soft front panel before you proceed.

1 Click F1 System, **Remote Interfaces** to display the remote interface settings (See Figure 1- 25). Ensure that **AutoIP** is checked.

2 Click **Network AutoIP** if you need to set any optional settings.

3 Click **Restart Network**.

A pop- up appears for 5 seconds (See Figure 1- 26). Monitor the **Status** at the bottom of the display to see when the server has assigned an address.

4 Click Prev/Esc, to return to a measurement screen.

5 Use the Connection Expert utility of the IO Libraries Suite to add the power meter and verify a connection.

NOTE Refer to **Documentation** that accompanies the IO Libraries software for more details.

6 You can use various programming environments to control the power meter. For an overview about programming instruments via LAN, refer to the *Connectivity Guide*.

Static Mode (Configuring the LAN Manually)

In static mode you must set up the IP Address, Subnet Mask, and Default Gateway that is compatible with your network infrastructure (PC configuration). If it is not correctly setup, the power meter is not be visible on your network.

1. Connect PC to the power meter.
2. Power on your PC.
3. Power on the power meter and wait until the **LAN** LED turns solid green. This takes about 30 seconds.
4. Use the Connection Expert utility of the IO Libraries Suite to open the N8262A web browser. From the **Edit and Modify Configuration** menu, change the **DHCP** and **Auto- IP** buttons to **Off**. Change the **IP address**, **Subnet Mask**, and **Default Gateway** values to meet your network requirements.
5. Click **Save** to save the new settings. Parameters marked with an esterisk (*) also require that you click **Renew LAN settings** before changes take effect.

NOTE For the new settings to become effective, you may first power cycle the instrument and then power cycle the PC.

Alternatively, you can edit and modify the LAN parameters by using SI Finder.

Edit and Modify LAN Parameters using SI Finder

1. From the ®Window Desktop, select **Start > Program Menu > Agilent SI Tools > Synthetic Instrument Finder** (See Figure 1- 27).
2. From the **LAN Settings** menu bar on right pane, change the **DHCP** and **Auto- IP** from **TRUE** to **FALSE**. Change the **IP address**, **Subnet Mask**, and **Default Gateway** values to meet your network requirements.
3. Select **Send Settings** and **Refresh List**.

Configure Modular Power Meter after Connection

NOTE Make sure you have connected to the P-Series soft front panel before you proceed.

NOTE If you configure an invalid IP Address or an IP address that is used by another device or host, an error message is generated. This error can be read by clicking F1 System, **Error List** or by using the `SYSTem:ERRor?` command.

1 Click F1 System, **Remote Interfaces** to display the remote interfaces settings (See Figure 1-25).

2 Click **Network Manual** to set the IP address, Subnet Mask. The Default Gateway value is an optional setting.

To individually specify the settings use the arrow softkeys, **Select** softkey, and use the numeric softkeys followed by **Enter** softkeys to enter the required IP address, Subnet Mask, and Default Gateway.

The values can range between 0.0.0.0 and 255.255.255.255.

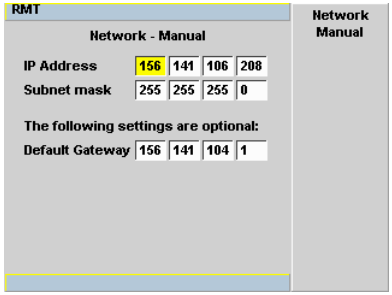


Figure 1-28 Typical Manual Entry LAN Network Interface

3 Click Prev/Esc, to return to the remote interfaces settings.

4 Click **Restart Network**.

A pop- up appears for 5 seconds (See Figure 1- 26). Monitor the **Status** at the bottom of the remote interfaces settings to see when the server has assigned an address.

5 Click Prev/Esc, to return to a measurement screen.

6 Use the Connection Expert utility of the IO Libraries Suite to add the power meter and verify a connection.

NOTE Refer to **Documentation** that accompanies the IO Libraries software for more details.

7 You can use various programming environments to control the power meter. For an overview about programming instruments via LAN, refer to the *Connectivity Guide*.

Configuring the LAN Remotely using Skippy Command

To automatically configure the LAN settings enable DHCP operation using the `SYSTem:COMMunicate:LAN:DHCP[:STATe]` command.

To individually specify the settings use the `SYSTem:COMMuniucate:LAN:ADDRess`, `SYSTem:COMMunicate:LAN:SMASk`, `SYSTem:COMMunicate:LAN:DGATeway`, `SYSTem:COMMunicate:LAN:AIP[:STATe]`, and `SYSTem:COMMunicate:LAN:RESTart` commands.

Step 5. Connecting to the P-Series Modular Power Meter using Power Meter GUI application

1 Power on the power meter.

2 If you are :

   a connecting power meter through the local area network (LAN), go to "Site Network Connections" on page 44.

   b connecting power meter through the cross- over LAN cable, go to "Private Network Connections" on page 43.

NOTE

- Your Agilent N8262A P-Series modular power meter has been shipped with a default IP address. You may reset the instrument which enable you to put the LAN configuration of the instrument into a known default state. See "Resetting the LAN Configuration" on page 15.
- If the power meter is in an environment with the Dynamic Host Configuration protocol (DHCP) server, it will be assigned an IP address through DHCP. The assigned IP address can be found using the Synthetic Instrument Finder. For more information, refer to the "Resetting the LAN Configuration" on page 15.
- Without DHCP, the default address can be typed into the web browser to access the instrument. In this case, you should click the button labeled **View & Modify LAN Config** to change the IP address to one that meets your particular requirement. For more information about setting a static IP address, refer to "Static Mode (Configuring the LAN Manually)" on page 50.

Connecting Power Meter using Site Local Area Network (LAN)

NOTE Before configuring the new power meter to operate on LAN, you may first need to communicate directly between the power meter and your PC. For more information about connecting directly to your PC (not through a LAN hub), refer to "Private Network Connections" on page 43.

1. Connect a LAN cable from the LAN connector on your PC to an empty connector on your internal local area network or LAN hub.
2. Power on your PC.
3. Power on the power meter and wait till you see the **LAN** LED on the front panel turns solid green.
4. Configure the modular power meter. Refer to "Step 4. Remote Interface Configuration" on page 38.
5. From the ®Window Desktop, select **Start > Program menu > Agilent SI Tools > Synthetic Instrument Finder** (See Figure 1- 27).
6. The **Synthetic Instrument Finder** window will open (See Figure 1- 2).
7. Right- click on the selected instrument (N8262A) and the following menu appears (See Figure 1- 3).
8. Select **Copy VISA Address to clipboard (IP Address)** or **Copy VISA Address to Clipboard (Hostname)**
9. From the®Window Desktop, select **Start > All programs > Agilent SI Tools > Power Meter GUI**.

10 The P- Series soft front panel appears.

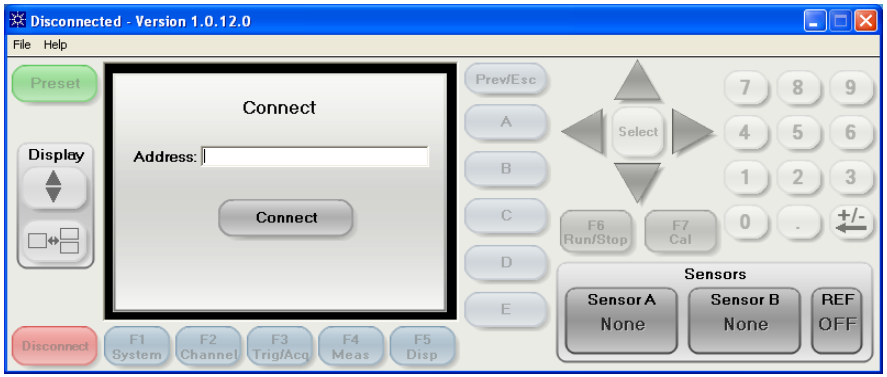


Figure 1-29 P-Series soft front panel

11 Paste the VISA address to the Address box

12 Select **Connect** button to open the P- Series soft front panel.

13 You are successfully connected to the N8262A P- Series modular power meter using a local area network (LAN).

NOTE Alternatively, you may get the VISA address when connecting to Agilent Connection Expert.

Connecting Power Meter using Private Network

1. Connect a cross- over LAN cable from the LAN connector on your PC to the LAN connector on the rear panel of the power meter.
2. Power on your PC.
3. Power on the power meter and wait till you see the **LAN** LED on the front panel turns solid green.
4. Change your **PC's TCPIP properties** under **LAN properties** by providing IP address, subnet mask and default gateway.
   a. From the Windows Desktop, select **Start > Control Panel > Network connections.**
   b. Double- click **Local Area Connection** to open the **Local Area Network Properties window.** From the **general** tab, select **Internet Protocol (TCP/IP).**

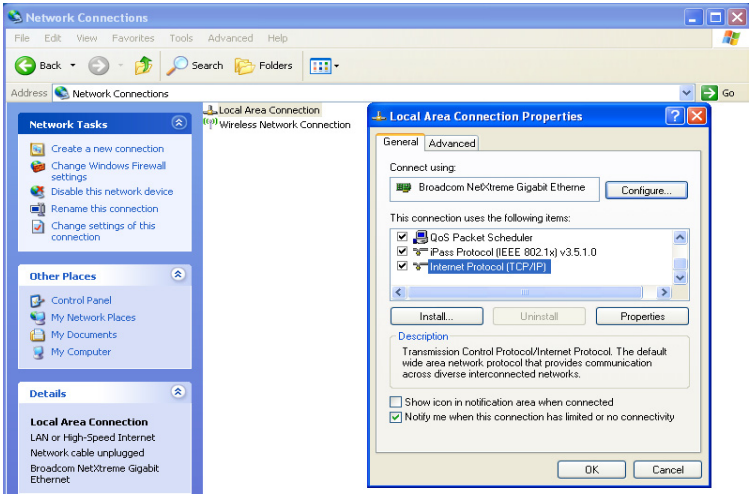


Figure 1-30 Open Local Area Network to change internet protocol settings.

c Click **Properties.** Select **Use the following IP address** and enter the **IP address**, **Subnet mask** and **Default gateway**.

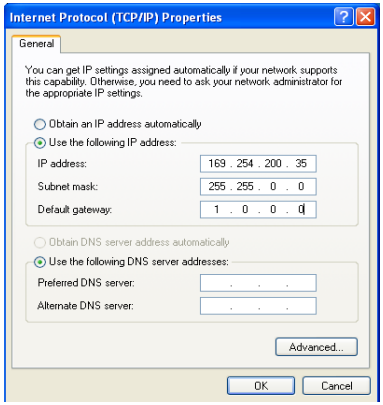


Figure 1-31 Enter PC's network settings in **Internet Protocol (TCP/IP) Properties** window.

5 Configure your P- Series modular power meter using the Static Mode. Refer to the "Static Mode (Configuring the LAN Manually)" on page 50.

6 From the SI Finder window, right- click N8262A and select **Copy VISA Address to Clipboard(IP Adrress)** or **Copy VISA Address to Clipboard(Hostname)**.

7 From the ®Windows Desktop, select **Start > All programs > Agilent SI Tools > Power Meter GUI**.

8 The P- Series soft front panel appears (See Figure 1- 29)

9 Paste the VISA address to the Address bar.

10 Click **Connect** to open the P- Series soft front panel.

11 You are successfully connected to the N8262A P- Series modular power meter using a cross- over LAN cable.

NOTE Alternatively, you may get the VISA address when connecting to Agilent Connection Expert.

Troubleshooting Connectivity Problems

The Instrument was unable to join the LAN.

The LAN LED is red.

Possible Causes	Possible Solutions
The instrument is not connected to a LAN.	If connecting the instrument to a switch or hub, verify that the instrument is connected with a standard LAN cable.
An incorrect LAN cable is being used.	• If connecting the instrument directly to a PC, verify that the instrument is conencted with a cross-over cable. • if connecting the instrument to a switch or hub, verify that the instrument is connected with a standard LAN cable.
The device's LAN port is not active.	Connect the instrument to a known working LAN port.
The device is configured to use DHCP, but no DHCP server is available.	• Disable DHCP. • Connect the device to a LAN that uses a DHCP server.
The instrument is configured to use a duplicate static IP address.	• Make sure that no other device is using the same IP address as your instrument. • Configure your instrument to use a different IP address.

I cannot ping the instrument's IP address or hostname.

Possible Causes	Possible Solutions
The instrument was unable to join the LAN.	See "The instrument was unable to join the LAN".
The instrument's LAN settings are incorrect.	Verify that the instrument's settings are appropriate for your LAN.
A firewall is preventing communication between your PC and your instrument.	Make sure that your firewall settings allow communication between your PC and other devices.
The instrument is using Auto-IP (That is, the instrument assigned itself a 169.254.x.x IP address) and your PC is not using Auto-IP (That is, PC does not have a 169.254.x.x IP address).	• Disable Auto-IP on the instrument. • Configure your PC to use Auto-IP.

The Instrument is not found by Synthetic Instrument Finder.

Possible Causes	Possible Solutions
The instrument was unable to join the LAN	See "The instrument was unable to join the LAN".
The instrument and PC are on different switches/hubs and different subnets.	• Put the instrument on the same switch or hub as your PC. • If the instrument is using DHCP, make sure that the instrument and the PC are put on the same subnet. • If the instrument is using a static IP address, make sure that the instrument IP address and subnet mask put the instrument on the same subnet as your PC.

The PC cannot communicate with the instrument using the instrument's hostname.

Possible Causes	Possible Solutions
No DNS server is available.	Communiation with the instrument using the instrument's IP address.
The DNS server has not been updates.	Wait several minutes.
Your PC cannot communicate with the device over your LAN.	See " I cannot ping the instrument's IP address or hostname".

I cannot view the instrument webpage.

Possible Causes	Possible Solutions
• The instrument has not yet joined the LAN. • The instrument is unable to join the LAN.	See "The LAN LED is read".
Your PC cannot communiate with the device over your LAN	See "I cannot ping the instrument's IP address or hostname".
You are attempting to use the device's hostname and the hostname is not working.	See "The PC cannot communicate with the instrument using the instrument's hostname".
Your browser is configured to use a proxy, and the proxy does not allow communication with the instrument on the LAN.	Disable or configure the proxy settings. Open Internet Explorer and select Tools > Internet Options > Connections > LAN Settings.

The IVI Driver will not open the connection.

Possible Causes	Possible Solutions
Your PC cannot communicate with the device over your LAN.	See “I cannot ping the instrument’s IP address or hostname”.
Someone else is currently connected to the instrument.	make sure that no one else is connected to the instrument.

Rack Mounting the P-Series Modular Power Meter

The N8262A P-Series modular power meter can be located on a bench-top or rack mounted in standard 19-inch EIA rack cabinets.

Rack Mounting

The P-Series modular power meter is easily rack-mounted using available rackmount options. These kits provide all the neccessary hardware to rack mount one or two P-Series modular power meter side-by-side on a sliding shelf, while occupying one EIA rack unit of space.

Rackmount options available are:

- Option 908 - applicable for single instrument rackmount
- Option 909 - applicable for dual instrument rackmount.

To rack mount the power meter, refer to the Rackmounting Instructions Sheet. The instructions sheet will be provided with the Rack Mount Kit (p/n: N8262A-908 or p/n: N8262A-909), which will come seperately as an optional kit upon ordering.

NOTE You may refer to *Test System Development Guide* (59889821 TSDG6 Racking, Application Note 1465-6) before rackmounting. This application notes will walk you through important considerations for arranging your test equipment in a rack.

2 Regulatory Information

General Specifications 64
Compliance and Markings 66
Regulatory Information 68
Responsibilities of the Customer 69

This chapter shows you the general specifications and regulatory information of P- Series modular power meter.

General Specifications

Environmental

Operating Temperature	0°C to +55°C
Storage Temperature:	–20°C to +70°C
Humidity:	Up to 95% Relative Humidity to +40°C
Altitude:	3000m (9,840 ft.)
EMC:	Meets EN55011: 1991 (Group 1, Class A)

Physical Specifications

Weight (Net):	*≤ 3.5 kg (7.7 lb) approximately*
Weight (Shipping):	*≤ 7.7 kg (17.0 lb) approximately*
Dimensions:	44.2 mm H x 212.6 mm W x 420.3 mm D (1.75 in x 8.5 in x 19.63 in)

Power Requirements

	Line Power:	**Input Voltage Range:** 100 – 120 V ± 10 % 220 – 240 V ± 10 % **Input Frequency Range:** 50 – 60 Hz ± 10 % (all voltages) 400 – 440 Hz (100 – 120 V only) **Power Requirement:** 50 VA (30 Watts) (not exceeding 75 VA (50 Watts))

Cooling Requirements

To provide adequate cooling, and air gap of approximately 75mm (3ins) should be maintained around the vented sections of the instrument.

Cleaning

Use a soft, clean, damp cloth to clean the front- panel and side covers.

Use

This instrument is designed for indoor use only.

WARNING

- Appliance coupler (mains input power cord) is the power disconnect device. Do not position the instrument such that access to the coupler is impaired.
- For continue protection against fire hazard, replace the line fuse only with the same type and line rating (250V, F3.15A, 20mm fast blow fuse with high breaking capacity, Agilent Part Number 2110-0957).
  The use of other fuses or materials is prohibited.
- No operator serviceable parts inside. Refer servicing to qualified personnel. To prevent electrical shock do not remove covers
- If this instrument is not used as specified, the protection provided by the equipment could be impaired. This instrument must be used in a normal condition only (in which all means for protection are intact).

CAUTION

This instrument is designed for use in Installation Category II and Pollution Degree 2 per IEC61010 and 60664 respectively.

Compliance and Markings

Electromagnetic Compatibility (EMC)

This product complies with the essential requirements of the following applicable European Directives, and carries the CE marking accordingly:

- Low Voltage Directive (73/23/EEC, amended by 93/68/EEC)
- EMC Directive (89/336/EEC, amended by 93/68/EEC)

and conforms with the following product standards:

EMC	Standard	Limit
	IEC 61326-1:1997+A1:1998/EN 61326-1:1997+A1:1998 CISPR 11:1990/EN 55011:1991	Class A, Group 1

The conformity assessment requirements have been met using the technical construction file route to compliance, using EMC test specifications EN 55011:1991 (Group 1, Class A). In order to preserve the EMC performance of the product, any cable which becomes worn or damaged must be replaced with the same type and specification.

The product also meets the following EMC standards:

- Australia/New Zealand: AS/NZS 2064.1
- Canada: ICES- 001:1998

Safety

This product conforms to the requirements of the following safety standards:

- EN61010- 1: 2001 / IEC 61010- 1:2001
- Canada: CSA C22.2 No. 61010- 1:2004
- USA: UL: 61010- 1:2004

Markings

The following markings can be found on the bottom of the instrument.

CE ISM 1- A	The CE mark shows that the product complies with all the relevant European legal Directives.
ICES/NMB- 001	This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme à la norme NMB-001 du Canada.
SA® C US 206349	The CSA mark is a registered trademark of the Canadian Standards Association and indicates compliance with the standards set out by them.
ISM GROUP 1 CLASS A	This is the symbol of an Industrial Scientific and Medical Group 1 Class A product.
N10149	The C-Tick mark is a registered trademark of the Australian Communications Authority. This signifies compliance with the Australian EMC Framework Regulations under the terms of the Radio communications Act of 1992.
	This product complies with the WEEE Directive (2002/96/EC) marking equipment. The affixed product label indicates that you must not discard this electrical/electronic product in domestic household waste.

Regulatory Information

Sound Emission

Herstellerbescheinigung

Diese Information steht im Zusammenhang mit den Anforderungen der Maschinenlarminformationsverordnung vom 18 Januar 1991.

Sound Pressure LpA < 70 dB.

Am Arbeitsplatz.

Normaler Betrieb.

Nach DIN 45635 T. 19 (Typprufung).

Manufacturers Declaration

This statement is provided to comply with the requirements of the German Sound DIN 45635 T. 19 (Typprufung).

Sound Pressure LpA < 70 dB.

At operator position.

Normal operation.

According to ISO 7779 (Type Test).

Responsibilities of the Customer

The customer shall provide:

- Access to the products during the specified periods of coverage to perform maintenance
- Adequate working space around the products for servicing by Agilent personnel.
- Access to and use of all information and facilities determined necessary by Agilent to service and/or maintain the products. (Insofar as these items may contain proprietary or classified information, the customer shall assume full responsibility for safeguarding and protection from wrongful use.)
- Routine operator maintenance and cleaning as specified in the Agilent Operating and Service Manuals.
- Consumables such as replacement fuses, etc.

2 Regulatory Information

www.agilent.com

Contact us

To obtain service, warranty or technical support assistance, contact us at the following phone numbers:

United States:
(tel) 800 829 4444 (fax) 800 829 4433
Canada:
(tel) 877 894 4414 (fax) 800 746 4866
China:
(tel) 800 810 0189 (fax) 800 820 2816
Europe:
(tel) 31 20 547 2111
Japan:
(tel) (81) 426 56 7832 (fax) (81) 426 56 7840
Korea:
(tel) (080) 769 0800 (fax) (080) 769 0900
Latin America:
(tel) (305) 269 7500
Taiwan:
(tel) 0800 047 866 (fax) 0800 286 331
Other Asia Pacific Countries:
(tel) (65) 6375 8100 (fax) (65) 6755 0042

Or visit Agilent worlwide Web at:
www.agilent.com/find/assist

Product specifications and descriptions in this document are subject to change without notice.

Printed in Malaysia
First Edition, April 19, 2007

N8262-90005

Agilent Technologies