Agilent N2779A Power Supply

User's Guide

Agilent Technologies

Notices

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Safety Notices

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.

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 death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

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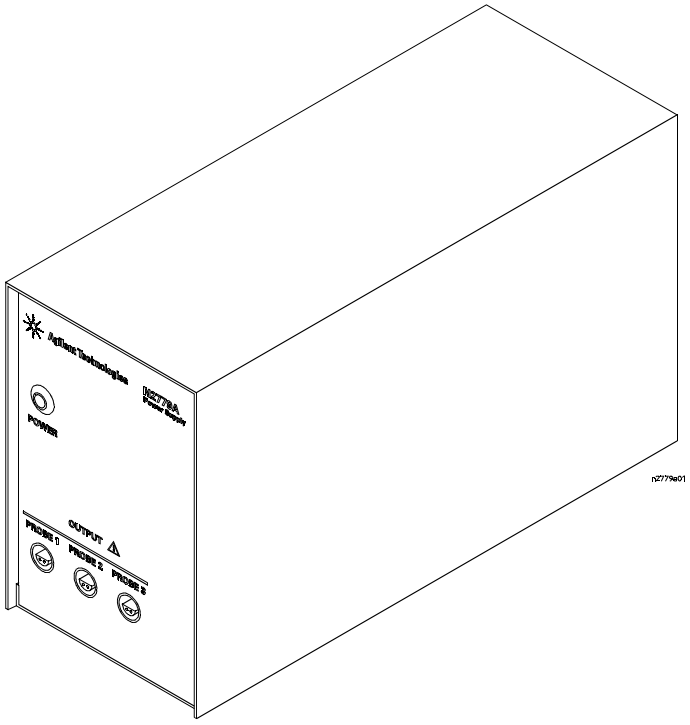
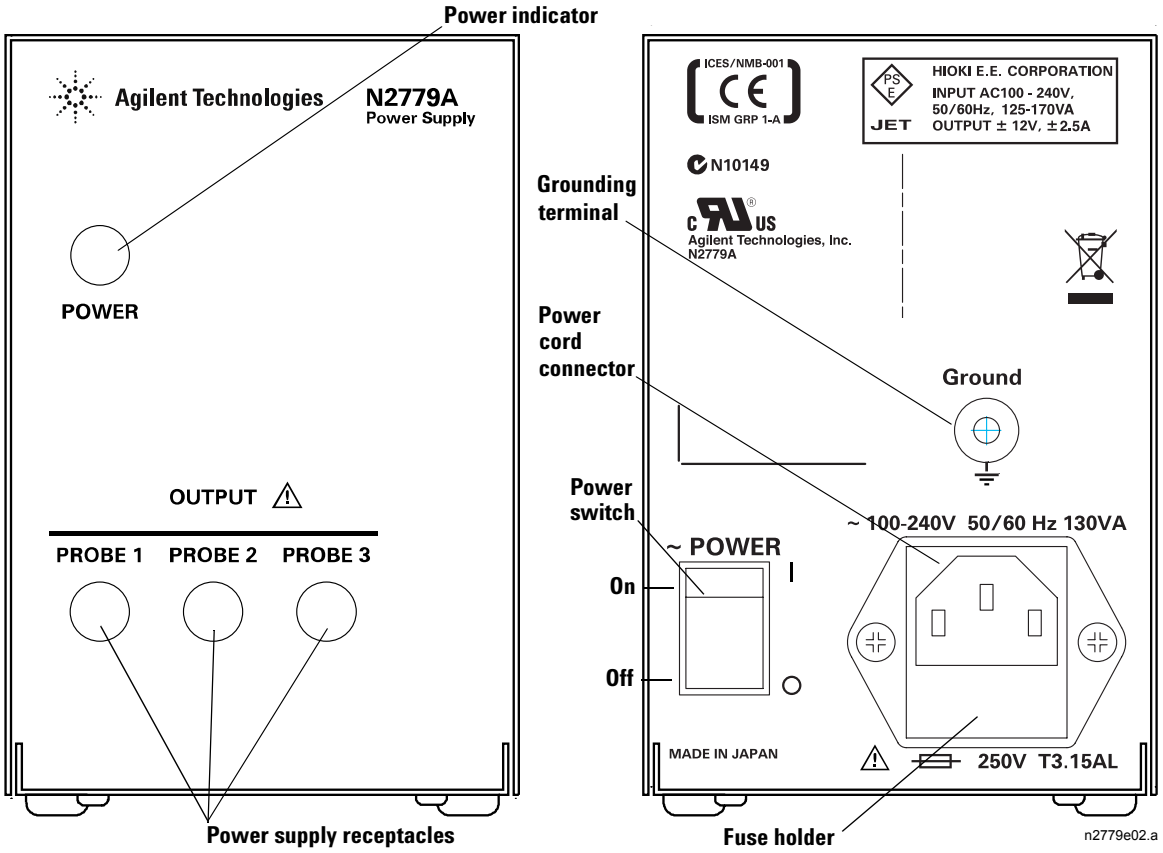
Using the Power Supply

This unit is a special-purpose power supply for the Agilent N2774A and N2780/81/82/83A current probes. The three power supply receptacles on the front panel can be used simultaneously.





Front view

Rear view

Symbols

	"Caution" or "Warning" risk of danger marked on product. See "Safety Notices" on page 2 and refer to this manual for a description of the specific danger.
	Earth terminal symbol: Used to indicate a circuit common connected to grounded chassis.
	Fuse symbol.
	Indicates AC (Alternating Current).
	Indicates power on.
	Indicates power off.

To apply power

WARNING **Use only with Agilent N2774A, N2780A, N2781A, N2782A, or N2783A current probes. Connecting the power supply to incompatible equipment may result in fire or electric shock.**

CAUTION Before turning on the power, make sure that the voltage of the power supply being used matches the supply voltage indicated on the rear panel of the unit. Connecting to a different supply voltage may result in equipment damage or incorrect measurements.

CAUTION Allow at least 5 cm clearance on both sides and above the power supply for proper cooling. Ventilation holes for heat radiation are provided on the top and side panels of the product. Installation of the product with the ventilation holes obstructed may cause a malfunction or fire.

Use only the supplied power cord.

1. Position the power supply so that the power switch and power cord may be reached easily.
2. Turn the power switch off and connect the power cord.
3. Connect the power plug of the probe to be used to the power receptacle of the power supply.
4. Turn the power switch on, and check that the front panel power indicator is lit.

To disconnect power

1 Turn the power switch off.

2 Disconnect the power plugs of the probes from the power supply.

3 Disconnect the power cord.

The Applicance Coupler is the equipment disconnect device. Position the equipment so that the Appliance Coupler is free from obstruction.

Measurement Procedure

See the *User's Guide* for the Agilent current probe which you are using.

1 Using the Power Supply

2
Maintaining the Power Supply

Safety Notices

This apparatus has been designed and tested in accordance with IEC Publication 1010, Safety Requirements for Measuring Apparatus, and has been supplied in a safe condition. This is a Safety Class I instrument (provided with terminal for protective earthing). Before applying power, verify that the correct safety precautions are taken (see the following warnings). In addition, note the external markings on the instrument that are described under "Safety Symbols."

Warnings

- If the instrument is damaged, or if it fails to operate according to the characteristics in this manual, remove the power cord and contact Agilent Technologies.
- Before turning on the instrument, you must connect the protective earth terminal of the instrument to the protective conductor of the (mains) power cord. The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. You must not negate the protective action by using an extension cord (power cable) without a protective conductor (grounding). Grounding one conductor of a two-conductor outlet is not sufficient protection.
- Only fuses with the required rated current, voltage, and specified type (normal blow, time delay, etc.) should be used. Do not use repaired fuses or short-circuited fuseholders. To do so could cause a shock or fire hazard.
- If you energize this instrument by an auto transformer (for voltage reduction or mains isolation), the common terminal must be connected to the earth terminal of the power source.
- Whenever it is likely that the ground protection is impaired, you must make the instrument inoperative and secure it against any unintended operation.

- Service instructions are for trained service personnel. To avoid dangerous electric shock, do not perform any service unless qualified to do so. Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.
- Do not install substitute parts or perform any unauthorized modification to the instrument.
- Capacitors inside the instrument may retain a charge even if the instrument is disconnected from its source of supply.
- Do not operate the instrument in the presence of flammable gasses or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.
- Do not subject the unit to vibration or shocks during transport or handling. Be especially careful to avoid dropping the unit.
- Do not store the unit where it will be exposed to direct sunlight, high temperature, high humidity, or condensation. If exposed to such conditions, the unit may be damaged, the insulation may deteriorate, and the unit may no longer satisfy its specifications.
- When unplugging the power cord from the power receptacle or from the unit, grasp the plug, not the cord, in order to avoid damaging the cable.
- This unit is not constructed to be waterproof or dustproof, so do not use it in a very dusty environment or in one where it will get wet. For indoor use only.
- Do not use the instrument in a manner not specified by the manufacturer.

To clean the instrument

If the power supply requires cleaning: (1) Remove power from the instrument. (2) Clean the external surfaces of the instrument with a soft, dry cloth. (3) Make sure that the instrument is completely dry before reconnecting it to a power source. Do not attempt to clean the current probes.

How to Change the Power Supply Fuse

The fuse is housed in the power input socket on the rear panel.

WARNING **Disconnect the power cord from the receptacle before replacing the fuse. Leaving the power cord connected may result in injury or death.**

WARNING **Always replace the fuse with a new fuse of the specified rating. Never use a fuse of other than the specified rating. Never short circuit the fuse holder. Using an incorrect fuse may rusult in injury or death.**

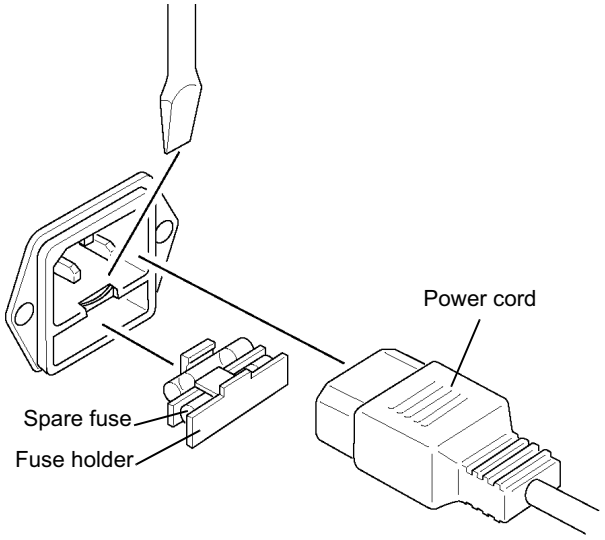
Table 1 Fuse rating

Supply Voltage	Fuse Rating	Fuse Size
100–240 V AC	250V T3.15AL	20 mm x 5 mm dia.

To change the fuse

1 Turn the power switch off, and then remove the power cord.

2 Using a slot head screwdriver, pry the catch which holds the fuse box into the power input socket as shown in the figure, and then remove the fuse box.



3 Change the power supply fuse for a new one of the same rating and specification.

4 Replace the fuse box by reinserting it into the power input socket.

Service Strategy

To return the probe to optimum performance requires factory repair. If the probe is under warranty, normal warranty services apply.

To return the Power supply to Agilent Technologies for Service

In the U.S., call (800) 829-4444 for further details and the location of your nearest Agilent Technologies service center. Outside the U.S., call your nearest Agilent sales office and ask them how to contact the nearest Agilent service center.

1 Write the following information on a tag and attach it to the power supply.

- Name and address of the owner
- Power supply model number
- Description of service required or failure indications

2 Retain all accessories.

3 **Return the power supply in its original shipping materials or pack the power supply in foam or other shock-absorbing material and place it in a strong shipping container.** If the original shipping materials are not available, place 3 to 4 inches of shock-absorbing material around the instrument and place it in a box that does not allow movement during shipping.

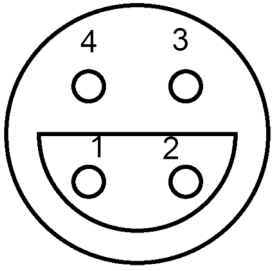
4 Seal the shipping container securely.

5 Mark the shipping container as FRAGILE. In all correspondence, refer to the instrument by model number and full serial number.

3 Characteristics and Regulatory Information

Power Supply Receptacle

The pin assignment of the receptacle is shown below:



Pin 1 Not used

Pin 2 Ground

Pin 3 -12V

Pin 4 +12V

Characteristics

The following operating characteristics are not specifications.

Table 2 Electrical Characteristics - Outputs

Output voltage	DC ±12 V ±0.5 V
Number of power supply connectors	3
Rated output current	±1.4 A
Ripple voltage	50 mV peak-to-peak or less (at rated output current)
Load coefficient	Within output voltage limits indicated above for current output in the range 0 to 1.4 A
Temperature coefficient	Within output voltage limits indicated above for ambient temperature in the range 0 ^{o}C to 40 ^{o}C (32 ^{o}F to 104 ^{o}F)

Table 3 Electrical Characteristics - Power Requirements

Rated supply voltage	100 to 240 V_{AC} (Voltage fluctuations of ± 10% from the rated supply voltage are taken into account.)
Rated supply frequency	50/60 Hz
Maximum rated power consumption	130 VA
Installation category	CAT II (Line voltage in appliance and to wall outlet). Anticipated transient overvoltage 4000V.

Table 4 General Characteristics

Compatible sensors	Agilent N2774A, N2780A, N2781A, N2782A, and N2783A current probes. Current probes are not UL approved.
Number of receptacles	3

Table 4 General Characteristics

Weight	Approx. 1.2 kg
External dimensions	Approx. Width 80 mm (3.1"), Height 119 mm (4.7") Depth 200 mm (7.9")
Accessories	Power cord, User's Guide, and Spare fuse

Table 5 Environmental Characteristics

Operating temperature and humidity range	0 ^{o}C to 40 ^{o}C (32 ^{o}F to 104 ^{o}F), 80% rh or less (no condensation) For indoor use only.
Storage temperature and humidity range	-10 ^{o}C to 50 ^{o}C (14 ^{o}F to 122 ^{o}F), 80% rh or less (no condensation)
Pollution degree	Pollution degree 2 For indoor use only
Altitude	Operating: up to 2000 m (6,562 ft)

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