N495xA through N498xA

Connector Care

Reference Guide

Agilent Technologies

Notices

Manual Part Number

N4960-90030

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For Assistance and Support

http://www.agilent.com/find/assist

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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.

Safety Summary

General Safety Precautions

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.

Before operation, review the instrument and manual for safety markings and instructions. You must follow these to ensure safe operation and to maintain the instrument in safe condition.

Initial Inspection

Inspect the shipping container for damage. If there is damage to the container or cushioning, keep them until you have checked the contents of the shipment for completeness and verified the instrument both mechanically and electrically. The Performance Tests give procedures for checking the operation of the instrument. If the contents are incomplete, mechanical damage or defect is apparent, or if an instrument does not pass the operator's checks, notify the nearest Agilent Technologies Sales/Service Office.

WARNING To avoid hazardous electrical shock, do not perform electrical tests when there are signs of shipping damage to any portion of the outer enclosure (covers, panels, etc.).

General

This product is a Safety Class 1 product (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, will make the instrument dangerous. Intentional interruption is prohibited.

Environment Conditions

This instrument is intended for indoor use in an installation category II, pollution degree 2 environment per IEC 61010 Second Edition and 664 respectively. It is designed to operate within a temperature range of 10 to 40 °C at a maximum relative humidity of 80% for temperatures up to 31 °C, decreasing linearly to 50% relative humidity at 40 °C at an altitude of 2000 meters.

This module can be stored or shipped at temperatures between -40°C and +70°C. Protect the module from temperature extremes that may cause condensation within it.

Before Applying Power

Verify that all safety precautions are taken. The power cable inlet of the instrument serves as a device to disconnect from the mains in case of hazard. The instrument must be positioned so that the operator can easily access the power cable inlet. When the instrument is rack mounted the rack must be provided with an easily accessible mains switch.

Ground the Instrument

Install the instrument so that the ON / OFF switch is readily identifiable and is easily reached by the operator. The ON / OFF switch is the instrument disconnecting device. It disconnects the mains circuits from the mains supply before other parts of the instrument. Or the detachable power cord can be removed from the electrical supply. Alternately, an externally installed switch or circuit breaker which is readily identifiable and is easily reached by the operator may be used as a disconnecting device.

Do Not Operate in an Explosive Atmosphere

Do not operate the instrument in the presence of flammable gases or fumes.

Do Not Remove the Instrument Cover

Operating personnel must not remove instrument covers. Component replacement and internal adjustments must be made only by qualified personnel.

Instruments that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel.

Symbols on Instruments

Indicates warning or caution. If you see this symbol on a product, you must refer to the manuals for specific Warning or Caution information to avoid personal injury or damage to the product.

C-Tick Conformity Mark of the Australian ACA for EMC compliance.

The CSA mark is a registered trademark of the CSA International. This instrument complies with Canada: CSA 22.2 No. 61010-1 -04.

Indicates that protective earthing ground is incorporated in the power cord.

This symbol indicates that internal circuits can be damaged by electrostatic discharge (ESD), therefore, avoid applying static discharges to the panel input connectors.

This mark indicates compliance with the Canadian EMC regulations.

ISM 1-A

This text denotes the instrument is an Industrial Scientific and Medical Group 1 Class A product.

CE Marking to state compliance within the European Community: This product is in conformity with the relevant European Directives: EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

China RoHS regulations include requirements related to packaging, and require compliance to China standard GB18455-2001. This symbol indicates compliance with the China RoHS regulations for paper/fiberboard packaging.

Indicates the time period during which no hazardous or toxic substance elements are expected to leak or deteriorate during normal use. Forty years is the expected useful life of the product.

The Korean Certification (KC) mark is required for products that are subject to legally compulsory certification.

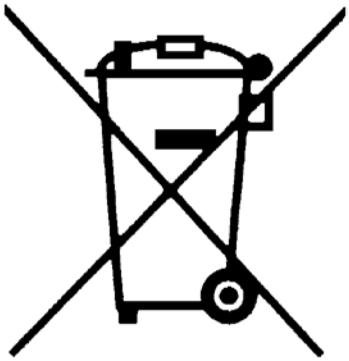
The KC mark includes the marking's identifier code that has up to 26 digits and follows this format: KCC-VWX-YYY-ZZZZZZZZZZZZ.

This symbol indicates that the instrument requires alternating current (AC) input.

This symbol indicates that the power line switch is in the ON position.

This symbol indicates that the power line switch is in the OFF position.

Environmental Information



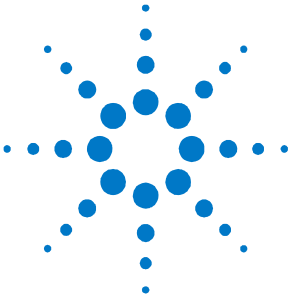
This product complies with the WEEE Directive (2002/96/EC) marketing requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste.

Product category: With reference to the equipment types in the WEEE Directive Annexure I, this product is classed as a "Monitoring and Control instrumentation" product.

Do not dispose in domestic household waste.

To return unwanted products, contact your local Agilent office, or see

www.agilent.com/environment/product/ for more information.



1 Product Specific Recommendations

Proper connector care and connection techniques are critical for accurate, repeatable measurements, and for extending the life of your devices.

Prior to making connections, be sure to read all of the connector care information provided with your product.

This document provides quick reference tips on proper connector care as well as some product-specific recommendations.

Product	Recommendations	Part Number
N4951A N4952A N4955A N4956A	Always use provided flexible 2.92 mm connector savers. Male-male (M-M) and male-female (M-F) connector savers are provided for your convenience. Note: Connecting both in series is not recommended as it may affect signal quality at higher data rates.  Shown here: Flex 2.92 mm M-F (N4960-60026)	Flex 2.92 mm M-M: N4960-60018 Flex 2.92 mm M-F: N4960-60026 These parts are included with instrument purchase. Additional parts may be purchased online: www.agilent.com/find/parts
N4951B	Use standard 2.4 mm connector savers if frequent mate/un-mate cycles are anticipated.  	Rigid 2.4 mm M-F: 11900C This part is not included with instrument purchase. For purchase information, contact your local Agilent office: www.agilent.com/find/contactus

Product	Recommendations	Part Number
N4962A N4963A	**Front Panel:** Use 2.92 mm (rigid) connector savers for front panel data ports if frequent mate/un-mate cycles are anticipated.  **Rear Panel:** Use flexible 2.92 mm connector savers on rear panel connections if frequent mate/un-mate cycles are anticipated.  	**Front Panel:** Rigid 2.92 mm M-F: N8990-01910 This part is included with N4962A purchase only. Additional parts may be purchased online: www.agilent.com/find/parts **Rear Panel:** Flex 2.92 mm M-F: N4960-60026 This part is included with N4962A purchase only. Additional parts may be purchased online: www.agilent.com/find/parts

Product	Recommendations	Part Number
N4968A N4974A N4975A	Data connections for this product are 1.85 mm. Use standard 1.85 mm connector savers if frequent mate/un-mate cycles are anticipated. 	Rigid 1.85 mm M-F: N5520C This part is not included with instrument purchase. For purchase information, contact your local Agilent office: www.agilent.com/find/contactus
N4984A	Use standard 2.92 mm connector savers if frequent mate/un-mate cycles are anticipated. 	Rigid 2.92 mm M-F: N8990-01910 This part is not included with instrument purchase. Parts may be purchased online: www.agilent.com/find/parts

Handling and Storage

Do	Do Not
• Keep connectors clean • Extend sleeve or connector nut • Use plastic end caps during storage	• Touch mating-plane surfaces • Set connectors contact-end down

Visual Inspection

Do	Do Not
• Inspect all connectors carefully before every connection • Look for metal particles, scratches, and dents	• Use a damaged connector- ever

Connector Cleaning

Do	Do Not
• Try compressed air first • Use isopropyl alcohol[1] • Clean connector threads	• Use any abrasives • Get liquid into plastic support beads

Gaging Connectors

Do	Do Not
• Clean and zero the gage before use • Use the correct gage type • Use correct end of calibration block • Gage all connectors before first use	• Use an out-of-spec connector

Making Connections

Do	Do Not
• Align connectors carefully • Make preliminary connection lightly • Turn only the connector nut • Use a torque wrench for final connect • Support attached cables on bench or other surface	• Apply bending force to connection • Over tighten preliminary connection • Twist or screw any connection • Tighten past torque wrench "break" point • Allow cables to hang unsupported (cable weight places strain on connectors)

For more information on Agilent Technologies' products, applications, or services, please contact your local Agilent office. The complete list is available at www.agilent.com/find/contactus.

[1] Use isopropyl alcohol in a well-ventilated area, allowing adequate time for moist alcohol to evaporate and fumes to disperse prior to energizing equipment.

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