PA3000 Power Analyzer
Optional Current Transducers

Instructions

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071-3446-00

Tektronix

Contacting Tektronix

Tektronix, Inc.
14150 SW Karl Braun Drive
P.O. Box 500
Beaverton, OR 97077
USA

For product information, sales, service, and technical support:

- In North America, call 1-800-833-9200.
- Worldwide, visit www.tek.com to find contacts in your area.

Current transducer instructions

The high-accuracy fixed core current transducers that are available for the Tektronix PA3000 Power Analyzer are described on the following pages. These transducers are sourced from LEM, a high-quality electronic component supplier. Included with the transducers are Tektronix-designed interface cables that provide easy connections to the PA3000 Power Analyzer.

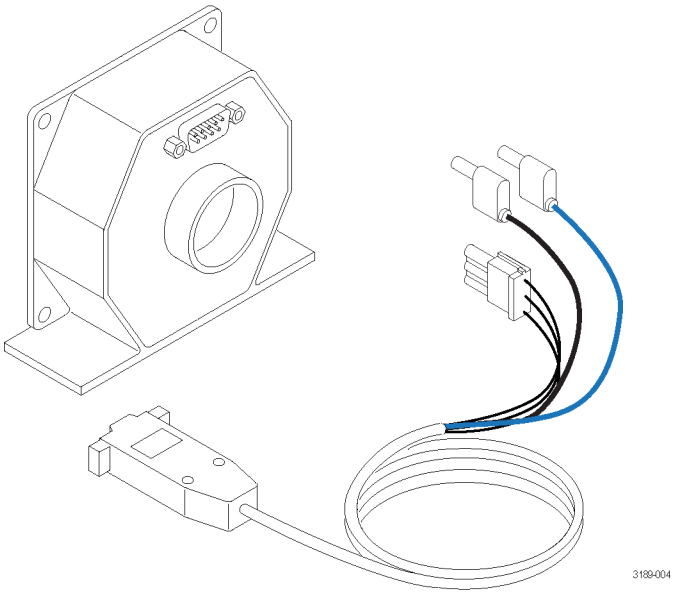

Figure 1: CT-S series current transducer and cable

Specifications

The key specifications of the optional transducers are listed below.

Tektronix part number	LEM part number	Primary current	Transform ratio
CT-100-M	LF 205-SP3	100 A_{RMS}	1:1000
CT-200-M	LF 205-S	200 A_{RMS}	1:2000
CT-1000-M	LF 1005-S	1000 A_{RMS}	1:5000
CT-60-S	IT 60-S	High accuracy 60 A	1:600
CT-200-S	IT 200-S	High accuracy 200 A	1:1000
CT-1000-S	IT 1000-S/SP1	High accuracy 1000 A	1:1000

Standard accessories

The cables and adapters that ship with the transducers are listed in the table below.

Transducer standard accessories

Transducer part number	Interface cable	Cable adapter (transducer)	Cable adapter (external power)
CT-100-M	174-6354-xx	174-6353-xx	—
CT-200-M	174-6354-xx	174-6353-xx	—
CT-1000-M	174-6354-xx	174-6353-xx	—
CT-60-S	174-6354-xx	—	—
CT-200-S	174-6354-xx	—	—
CT-1000-S	174-6354-xx	—	174-6436-xx

Installation

WARNING. *To reduce risk of shock or fire, refer to the PA3000 Power Analyzer User Manual, Tektronix part number 077-1152-xx, before using the transducers and power analyzer.*

The transducers that are covered in these instructions all use a 1.3–meter long interface cable that connect to the A1A and ALO inputs on the rear of the PA3000. However, depending on the transducer series and model, an adapter may be included to complete the connection to the transducer or to an external power supply.

If your application requires a cable length greater than 1.3 meters, a standard DB-sub 9 extender cable may be used.

The interface cable that is supplied with the transducers includes a 3-pin power connector that connects to the rear panel of the power analyzer. All transducers except the CT-1000-S model can be powered by the ±15 V PA3000 internal power supply.

CT-M series transducers

All CT-M series transducers include a DB-sub 9-pin to 3-pin adapter, which mates the interface cable to the 3-pin connector on the transducers.

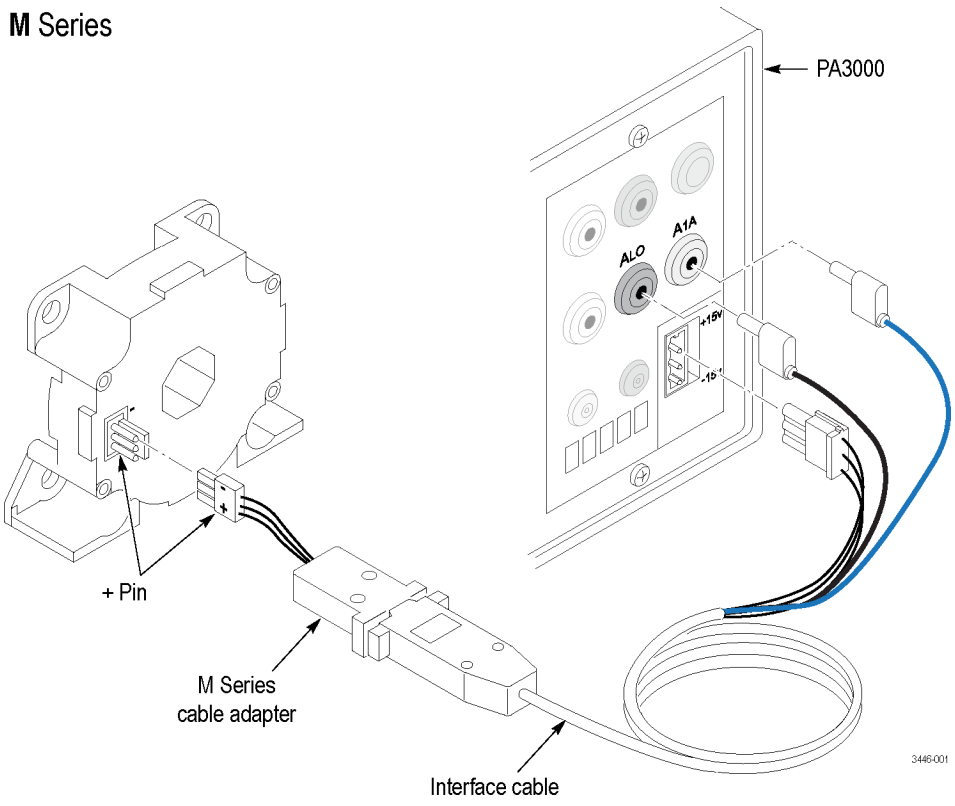

Figure 2: CT-M series transducer connections

CT-S series transducers

All CT-S series transducers use the standard interface cable to make the connection to the PA3000 power analyzer. The CT-1000-S model is powered by an external power supply, and is described on the following page.

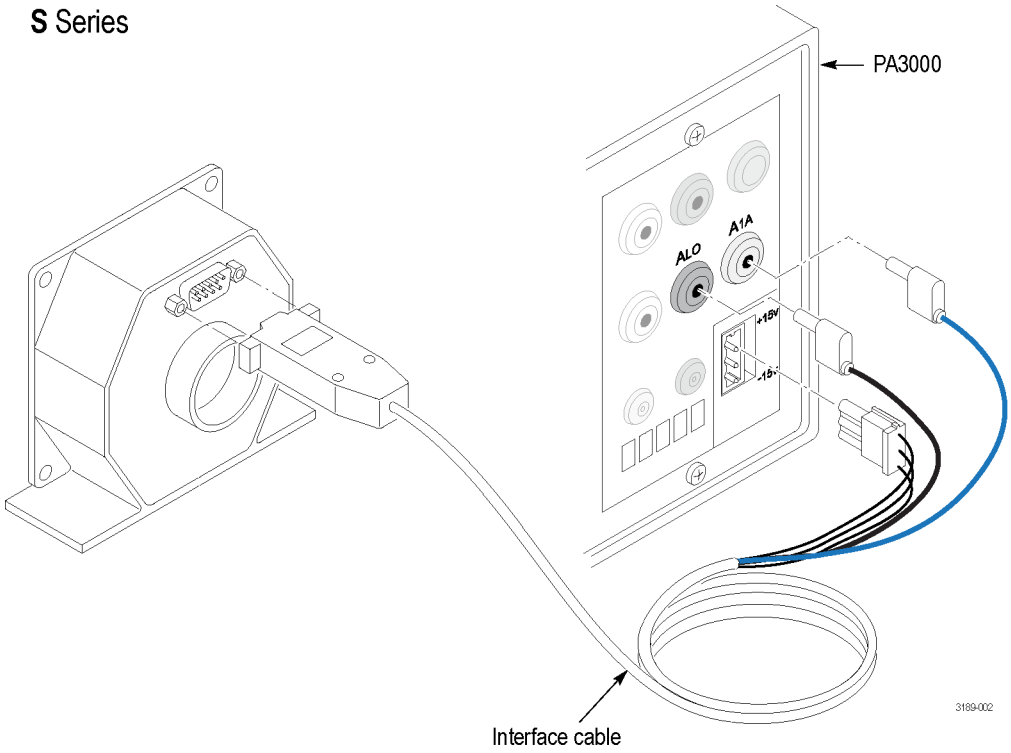

Figure 3: CT-S series transducer connections

CT-1000-S transducer

If you are using the CT-1000-S transducer, you must connect the transducer to an external power supply. The power for the transducer runs from the external supply through a cable adapter that connects to the standard interface cable. The adapter is included with the CT-1000-S transducer.

Suitable power supplies are available from Keithley; order model number 2220 or 2231A. The Keithley 2220 power supply is capable of powering two CT-1000-S transducers; the Keithley 2231A power supply can support up to four CT-1000-S transducers.

CT-1000-S

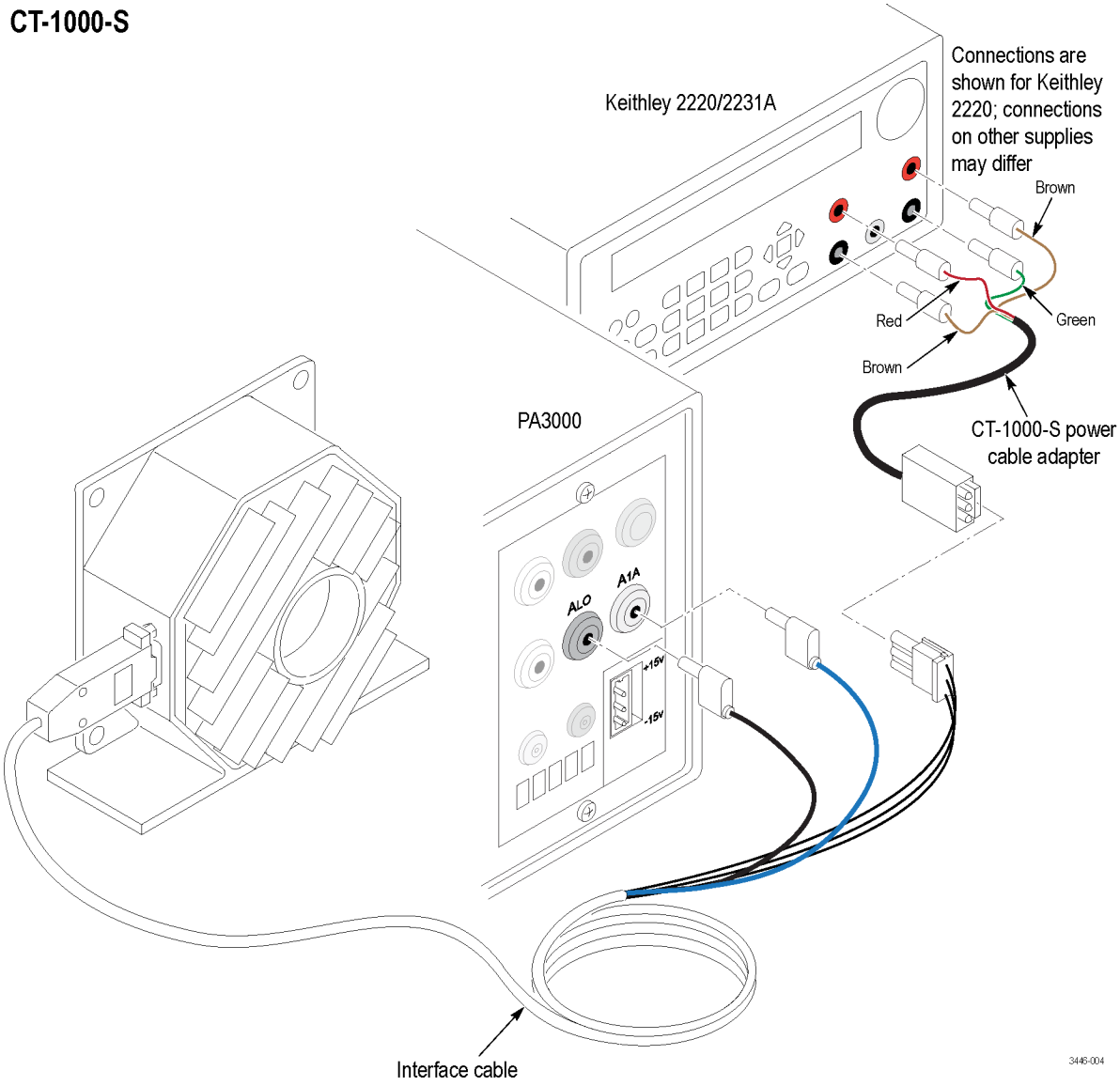

Figure 4: CT-1000-S transducer connections

Recommended accessories

The following accessories can be ordered for the transducers:

Accessory	Part number
Interface cable, connects CT-S series and CT-M series [1] transducers to PA3000	Tektronix part number 174-6354-xx
M series cable adapter, connects CT-M series transducers to interface cable, part number 174-6354-00	Tektronix part number 174-6353-xx
CT-1000-S power cable adapter [2], connects CT-1000-S power leads to Keithley 2220/2231A power supply	Tektronix part number 174-6436-xx
Power supply, dual output, 30 V @ 1 A each	Keithley model number 2220-30-1
Power supply, triple output, 30 V @ 3 A each; 5 V @ 3 A	Keithley model number 2231A-30-3

1 Connections between CT-M series transducers and the PA3000 require a cable adapter. Order Tektronix part number 174-6353-00.

2 The CT-1000-S transducer requires an external power supply; Keithley model number 2220 or 2231A are the recommended power supplies.

Important safety information

This document contains information and warnings that must be followed by the user for safe operation and to keep the product in a safe condition.

This product is rated for use with circuits up to 600 V, CAT II maximum.

Do not touch this product while the circuit under test is energized.

General safety summary

Use the product only as specified. Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

Carefully read all instructions. Retain these instructions for future reference.

Comply with local and national safety codes.

For correct and safe operation of the product, it is essential that you follow generally accepted safety procedures in addition to the safety precautions specified in this manual.

The product is designed to be used by trained personnel only, who are aware of the hazards involved.

Only qualified personnel who are aware of the hazards involved should remove the cover for repair, maintenance, or adjustment.

Before use, always check the product with a known source to be sure it is operating correctly.

This product is not intended for detection of hazardous voltages.

Use personal protective equipment to prevent shock and arc blast injury where hazardous live conductors are exposed.

When incorporating this equipment into a system, the safety of that system is the responsibility of the assembler of the system.

To avoid fire or personal injury

Avoid exposed circuitry. Do not touch exposed connections and components when power is present.

Connect and disconnect properly. De-energize the circuit under test before connecting or disconnecting the product. Do not use the product for measurements on any wire that carries voltages above the product's voltage rating.

Do not operate with suspected failures. If you suspect that there is damage to this product, have it inspected by qualified service personnel.

Disable the product if it is damaged. Do not use the product if it is damaged or operates incorrectly. If in doubt about safety of the product, disconnect it. Clearly mark the product to prevent its further operation.

Before use, inspect the product for mechanical damage, examine the exterior of the product for cracks. Do not use if cracked or otherwise damaged.

Do not operate in wet/damp conditions.

Do not operate in an explosive atmosphere.

Keep product surfaces clean and dry.

Warranty information

For warranty information, go to www.tektronix.com/warranty.