
80X01 and 80X02 Electrical Sampling Module Extender Instructions

Warranty

Warranty Tektronix warrants that the parts and modules (“parts”) that it manufactures and sells will be free from defects in materials and workmanship for a period of three (3) months from the date of shipment. If any such part proves defective during this warranty period, Tektronix, at its option, either will repair the defective part without charge, or will provide a replacement in exchange for the defective part. Parts and modules used by Tektronix for warranty work may be new or reconditioned to like new performance. All replaced parts and modules become the property of Tektronix.

In order to obtain service under this warranty, Customer must notify Tektronix of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective part to the service center designated by Tektronix, with shipping charges prepaid. Tektronix shall pay for the return of the part to Customer if the shipment is to a location within the country in which the Tektronix service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for parts returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Tektronix shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than Tektronix representatives to install, repair or service the part; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non-Tektronix supplies; or d) to service a part that has been modified or integrated with other products or parts when the effect of such modification or integration increases the time or difficulty of servicing the part.

THIS WARRANTY IS GIVEN BY TEKTRONIX WITH RESPECT TO THE PART IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. TEKTRONIX AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TEKTRONIX' RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PARTS IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR BREACH OF THIS WARRANTY. TEKTRONIX AND ITS VENDORS WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER TEKTRONIX OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.



Important safety information

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

To safely perform service on this product, additional information is provided at the end of this section. (See page 2, *Service safety summary*.)

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.

To avoid fire or personal injury

Do not operate without covers. Do not operate this product with covers or panels removed, or with the case open. Hazardous voltage exposure is possible.

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, turn it off and disconnect the power cord. Clearly mark the product to prevent its further operation.

Examine the exterior of the product before you use it. Look for cracks or missing pieces.

Do not operate in wet/damp conditions. Be aware that condensation may occur if a unit is moved from a cold to a warm environment.

Do not operate in an explosive atmosphere.

Keep product surfaces clean and dry. Remove the input signals before you clean the product.

Service safety summary

The *Service safety summary* section contains additional information required to safely perform service on the product. Only qualified personnel should perform service procedures. Read this *Service safety summary* and the *General safety summary* before performing any service procedures.

Do not service alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect power. To avoid electric shock, switch off the product power and disconnect the power cord from the mains power before removing any covers or panels, or opening the case for servicing.

Terms in this manual

These terms may appear in this manual:



WARNING. *Warning statements identify conditions or practices that could result in injury or loss of life.*



CAUTION. *Caution statements identify conditions or practices that could result in damage to this product or other property.*

Symbols and terms on the product

These terms may appear on the product:

- **DANGER** indicates an injury hazard immediately accessible as you read the marking.
- **WARNING** indicates an injury hazard not immediately accessible as you read the marking.
- **CAUTION** indicates a hazard to property including the product.



When this symbol is marked on the product, be sure to consult the manual to find out the nature of the potential hazards and any actions which have to be taken to avoid them. (This symbol may also be used to refer the user to ratings in the manual.)

The following symbol(s) may appear on the product:



CAUTION
Refer to Manual

Environmental considerations

This section provides information about the environmental impact of the product.

Product end-of-life handling

Observe the following guidelines when recycling an instrument or component:

Equipment recycling. Production of this equipment required the extraction and use of natural resources. The equipment may contain substances that could be harmful to the environment or human health if improperly handled at the product's end of life. To avoid release of such substances into the environment and to reduce the use of natural resources, we encourage you to recycle this product in an appropriate system that will ensure that most of the materials are reused or recycled appropriately.



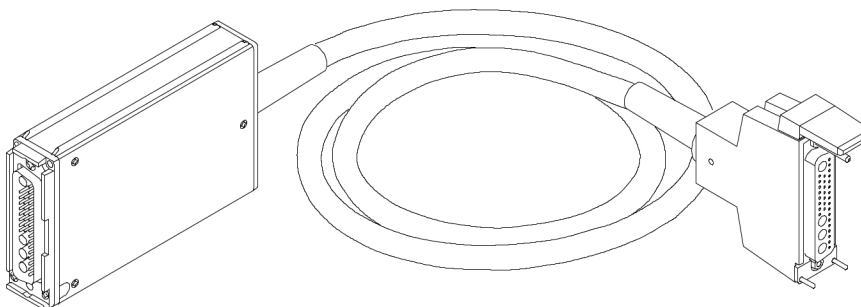
This symbol indicates that this product complies with the applicable European Union requirements according to Directives 2002/96/EC and 2006/66/EC on waste electrical and electronic equipment (WEEE) and batteries. For information about recycling options, check the Support/Service section of the Tektronix Web site (www.tektronix.com).

Restriction of hazardous substances

This product is classified as an industrial monitoring and control instrument accessory, and is not required to comply with the substance restrictions of the recast RoHS Directive 2011/65/EU until July 22, 2017.

Product description

The 80X01 (one-meter) and 80X02 (two-meter) electrical sampling module extender cables (referred to as the extender cable or the extender in this document) are for use with supported electrical sampling modules. (See page 5, *Supported modules*.)



Use the extender to move the sampling module from its instrument compartment, closer to the device under test, so that you can use shorter signal cables. Using the extender avoids input-signal degradation that can occur when using long-length signal cables between the sampling module and the device under test.

Supported sampling oscilloscopes

The extender cable is for use with the following sampling oscilloscope instruments:

- DSA8300 Digital Serial Analyzer
- Legacy sampling oscilloscope instruments:
 - DSA8200 Digital Serial Analyzer
 - CSA8000, CSA8000B, and CSA8200 Communications Signal Analyzers
 - TDS8000, TDS8000B, and TDS8200 Digital Sampling Oscilloscopes

Supported modules

Electrical sampling modules 80E01, 80E02, 80E03, 80E04, 80E06, 80E11, and 80E11X1

Other modules 82A04B

Guidelines

Observe the following guidelines to avoid damaging your sampling modules or instruments:

- The extender cannot be used with any large-compartment modules.
- Some small modules are mechanically blocked from use with the extender.
- When connecting an 80X02 extender to an 80X01 extender, connect the extenders in the following order: Instrument - 80X02 - 80X01 - sampling module.
- Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing module extenders and modules.
- Observe standard anti-static handling precautions when connecting signal cables to sampling modules.

Change to instrument operating temperature range when using 80X01 or 80X02

When you install one or more of the extenders in an instrument, the upper end of the instrument operating temperature range changes as follows:

- No extender cable(s) installed: +10 °C to +40 °C
- With extender cable(s) installed: +10 °C – +35 °C

Change to minimum horizontal position when using 80X01 or 80X02

Installing the 80X01 or 80X02 extender cable increases the minimum horizontal position setting as follows:

- 80X01: +5 ns
- 80X02: +10 ns

This affects waveforms acquired from all modules, extended or not. Horizontal position is a global setting.

Installation instructions



CAUTION. For the DSA8300 with TekScope software version **6.1.X** or greater, follow proper module exchange procedures to remove, install, or exchange modules or module extenders with the instrument powered on (View/Change Module Config tool). Refer to the product documentation for instructions.

For all legacy instruments (DSA8200 Digital Serial Analyzer, CSA8000, CSA8000B, and CSA8200 Communications Signal Analyzer, TDS8000, TDS8000B, and TDS8200 Digital Sampling Oscilloscopes), and DSA8300 instruments with TekScope software version **6.0.X**, power off the instrument before removing, installing, or exchanging modules or module extenders. Removing or installing modules in these instruments while powered on may result in damage to the module and/or mainframe instrument.

Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this module extender and any modules.

Observe standard anti-static handling precautions when connecting signal cables to sampling modules.

NOTE. DSA8300 Digital Serial Analyzer instruments with TekScope software version **6.1.X** or greater have a **View/Change Module Config** function that allows removing, installing, or exchanging modules or module extenders while the main instrument is powered on. All earlier instruments, and earlier TekScope software versions, require that you power off the main instrument before removing, installing, or exchanging modules or extenders.

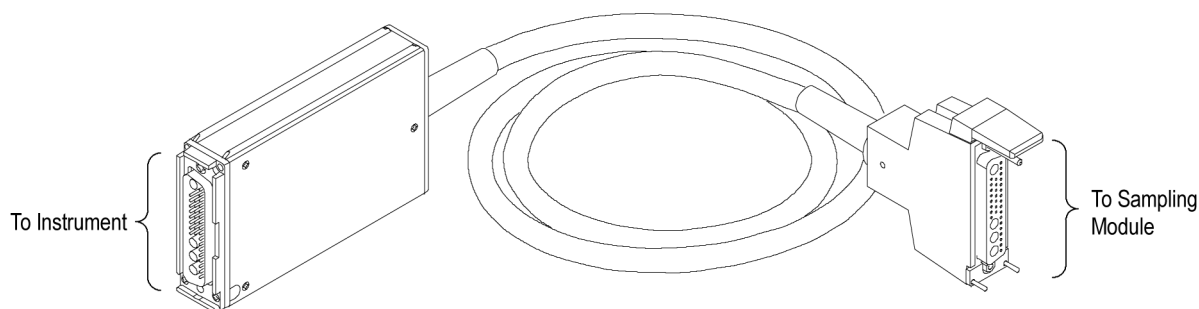
NOTE. The 80X02 sampling module extender is keyed to prevent connecting to devices not intended to be extended and to prevent two or more 80X02 extenders from being connected in series.

To connect an 80X02 extender to an 80X01 extender, connect the cables in the following order:

Instrument - 80X02 - 80X01 - sampling module.

Do the following steps to install the extender between the instrument and the electrical sampling module:

1. Connect an antistatic wrist strap to the instrument front-panel ground connection. Place the strap on your wrist.
2. Remove power:
 - **DSA8300 (with TekScope software version 6.1 or later):** Run the **Utilities > View/Change Module Config** tool; follow on-screen instructions to remove a module and/or install the “To Instrument” end of the extender in a small module slot. Then go to step 4.
 - **DSA8300 with TekScope software version 6.0 X, and all Legacy instruments:** Push the **On/Standby** button on the front panel to power off the instrument. If there is a module in the slot where you are installing the extender, remove the module after the instrument has powered off.
3. Install the extender connector labeled **To Instrument** into a suitable slot in the instrument. See the sampling module user manual if you require more information.



4. Attach the connector marked **To Sampling Module** to a supported sampling module. (See page 5.)
5. Apply power to the module:
 - **DSA8300 (with TekScope software version 6.1 or later):** Click the **Finish** button in the **View/Change Module Config** tool. This applies power to the module slot.
 - **DSA8300 with TekScope software version 6.0 X, and all Legacy instruments:** Push the **On/Standby** button on the front panel to power on the instrument. Wait for the boot-up cycle to complete.

6. Run a compensation on each channel of all newly installed modules or module extenders (select **Utilities > Compensation**). You must run compensation, even if module(s) and/or extenders were moved from one slot to another. See the instrument documentation or TekScope application help for instructions on how to run compensation.
7. You can now use the instrument to take measurements.

NOTE. *Check the module compensation status for the first 20 minutes by viewing the compensation status icon on the instrument user interface, or by querying the compensation status from the programmatic interface. It may take up to 20 minutes for the sampling module on the extender cable to reach a stable temperature. If the compensation status indicates that a module requires compensation, rerun compensation on the module to be sure that the instrument and module are within measurement accuracy specifications.*
