



User Manual

ProBus-TekProbe®
Adapter



TPA10 TekProbe Probe Adapter User Manual

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933097-00 Rev A

tpa10-user-manual_16feb21.pdf

February, 2021

Safety

Observe these instructions to keep the product operating in a correct and safe condition. Follow generally accepted safety procedures in addition to the precautions specified in this section. **The overall safety of any system incorporating this product is the responsibility of the assembler of the system.**

Symbols

These symbols appear on the product or in its documentation to alert you to important safety considerations.



CAUTION of potential damage to product, or **WARNING** of potential bodily injury. Attend to the accompanying information to protect against injury or damage. Do not proceed until conditions are fully understood and met.

Precautions

Use only as intended. The product is intended to be used only with the compatible Teledyne LeCroy instruments. Using the product and/or the equipment it is connected to in a manner other than specified may impair the protection mechanisms.

Do not apply a voltage to any input that exceeds the maximum rating of that input. Refer to the body of the oscilloscope and the product page at teledynelecroy.com for detailed information.

Use indoors only. The accessory is intended for indoor use and should be operated in a clean, dry, environment. Do not use in wet/damp or explosive atmospheres.

Keep product surfaces clean and dry. See "Cleaning" for instructions.

Do not operate with suspected failures. Do not use the product if any part is damaged. Refer all maintenance to qualified service personnel.

Cleaning

Clean only the exterior of the product using a soft cloth moistened with water or an isopropyl alcohol solution. Do not use harsh chemicals or abrasive elements. Under no circumstances submerge the device or allow moisture to penetrate it.

About the TPA10

The TPA10 TekProbe® Probe Adapter enables you to connect select TekProbe interface level II probes to any ProBus-equipped Teledyne LeCroy instrument. The TPA10 supplies all necessary power and offset control to the probe and automatically detects which probe is attached.

Electrical Characteristics

Bandwidth:	4 GHz (adapter only)
Power Supplies:	+15V, -15V, +5V, -5V (each 2%)
Offset Voltage:	+/-1V (1%)
Max Input Voltage:	47 Vpk, 33 Vrms

Environmental Characteristics

Operating Temperature:	0 to 50 °C
Non-operating Temperature:	-40 to +70 °C
Humidity:	5% to 95% RH from 10 to 40 °C 5% to 75% RH above 40 °C RH not controlled below 10 °C
Operating Altitude:	3000 meters maximum

Physical Characteristics

Dimensions:	39.0 mm W x 31.1 mm H x 88.6 mm D
Weight:	119 g

Supported Probes

The following TekProbe devices are supported for use with TPA10:

Preamplifiers

ADA400A, 1 MHz differential preamplifier

Current Probes

TCP202/TCP202A, 50 MHz AC/DC current probe

Single-ended Active Probes

P6205, 750 MHz single-ended active probe

P6243, 1 GHz single-ended active probe

P6245, 1.5 GHz single-ended active probe

P6241, 4 GHz single-ended active probe

P6249, 4 GHz single-ended active probe

Differential Active Probes

P5205/P5205A, 100 MHz differential probe

P5210/P5210A, 50 MHz differential probe

P6246, 400 MHz differential probe

P6247, 1 GHz differential probe

P6248, 1.5 GHz differential probe

P6250, 500 MHz differential probe

P6251, 1 GHz differential probe

Connection

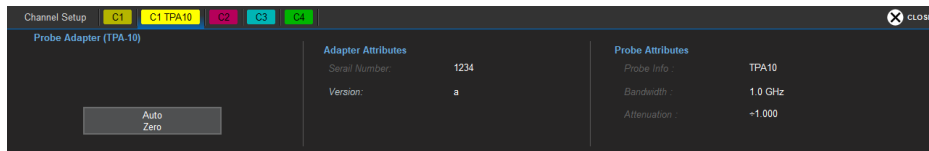
Connect the TPA10 adapter to one of the oscilloscope's ProBus inputs. Connect the probe to the TekProbe input on the TPA10. It does not matter in what order this is done.

Probe Settings

Once the probe is connected to the oscilloscope through the TPA10, the oscilloscope will automatically recognize it and set the attenuation accordingly. If the probe contains internal offset circuitry, it is used to control the probe offset. Other probes use the instrument offset capability applied to the input; adjust the Offset setting on the *Cn* setup dialog.

Buttons and switches on probes can continue to be used as described in the probe manual. Any control that changes the probe attenuation will be sensed by the oscilloscope and the channel scale adjusted accordingly.

The TPA10 dialog appears behind the setup dialog for the channel to which the probe is connected.



The dialog displays the adapter and probe attributes and contains controls enabling you to:

- Auto Zero probes
- Update the TPA10 firmware

NOTE: The Update Firmware button appears only if the oscilloscope senses the TPA10 firmware is out of date and it can support the update (not all oscilloscope models can).

Returning a Product for Service

Contact your local Teledyne LeCroy service center for calibration or other service. If the product cannot be serviced on location, the service center will give you a Return Material Authorization (RMA) code and instruct you where to ship the product. All products returned to the factory must have an RMA.

Return shipments must be prepaid. Teledyne LeCroy cannot accept COD or Collect shipments. We recommend air-freighting. Insure the item you're returning for at least the replacement cost.

1. Remove all accessories from the probe.
2. Pack the probe in its case. If possible, include all tips. Do not include the manual.
3. Pack the case in its original shipping box, or an equivalent carton with adequate padding to avoid damage in transit.
4. Mark the outside of the box with the shipping address given to you by Teledyne LeCroy. Be sure to add the following:
 - ATTN:<*RMA code assigned by Teledyne LeCroy*>
 - FRAGILE
5. **If returning a probe to a different country:** contact Teledyne LeCroy Service for instructions on completing your import/export documents.

Extended warranty, calibration and upgrade plans are available for purchase. Contact your Teledyne LeCroy sales representative to purchase a service plan.

Technical Support

Live Support

Registered users can contact their local Teledyne LeCroy service center at the number listed on our website. You can also request Technical Support via the website at:

teledynelecroy.com/support/techhelp

Resources

Teledyne LeCroy publishes a free Technical Library on its website. Manuals, tutorials, application notes, white papers, and videos are available to help you get the most out of your Teledyne LeCroy products. Visit:

teledynelecroy.com/support/techlib

Service Centers

For a complete list of offices by country, including our sales and distribution partners, visit:

teledynelecroy.com/support/contact

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Chestnut Ridge, NY, 10977, USA

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Ph: 800-553-2769 / 845-425-2000

FAX: 845-578-5985

contact.corp@teledynelecroy.com

Support:

Ph: 800-553-2769

customersupport@teledynelecroy.com

Warranty

THE WARRANTY BELOW REPLACES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS, OR ADEQUACY FOR ANY PARTICULAR PURPOSE OR USE. TELEDYNE LECROY SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN CONTRACT OR OTHERWISE. THE CUSTOMER IS RESPONSIBLE FOR THE TRANSPORTATION AND INSURANCE CHARGES FOR THE RETURN OF PRODUCTS TO THE SERVICE FACILITY. TELEDYNE LECROY WILL RETURN ALL PRODUCTS UNDER WARRANTY WITH TRANSPORT PREPAID.

The product is warranted for normal use and operation, within specifications, for a period of one year from shipment. Teledyne LeCroy will either repair or, at our option, replace any product returned to one of our authorized service centers within this period. However, in order to do this we must first examine the product and find that it is defective due to workmanship or materials and not due to misuse, neglect, accident, or abnormal conditions or operation.

Teledyne LeCroy shall not be responsible for any defect, damage, or failure caused by any of the following: a) attempted repairs or installations by personnel other than Teledyne LeCroy representatives, b) improper connection to incompatible equipment, or c) use of non-Teledyne LeCroy supplies. Furthermore, Teledyne LeCroy shall not be obligated to service a product that has been modified or integrated where the modification or integration increases the task duration or difficulty of servicing the product. Spare and replacement parts and repairs all have a 90-day warranty.

Products not made by Teledyne LeCroy are covered solely by the warranty of the original equipment manufacturer.

Certifications

Teledyne LeCroy certifies compliance to the following standards as of the date of publication. See the EC Declaration of Conformity shipped with your product for current certifications.

EMC Compliance

EC Declaration of Conformity - EMC

The product meets intent of EC Directive 2014/30/EU for Electromagnetic Compatibility. Compliance was demonstrated to the following specifications as listed in the Official Journal of the European Communities:

IEC/EN 61326-1:2013 EMC requirements for electrical equipment for measurement, control, and laboratory use ^{1, 2, 3}

1. This product is intended for use in nonresidential areas only. Use in residential areas may cause electromagnetic interference.
2. Emissions exceeding the levels required by this standard may occur when product is connected to a test object.
3. To ensure compliance with applicable EMC standards, use high quality shielded interface cables.

European Contact:

Teledyne GmbH, European Division
Im Breitspiel 11c
D-69126 Heidelberg
Germany
Tel: (49) 6221 82700

Australia & New Zealand Declaration of Conformity - EMC

The product complies with the EMC provision of the Radio Communications Act per the following standards, in accordance with requirements imposed by the Australian Communication and Media Authority (ACMA):

AS/NZS CISPR 11:2009/A1:2010, IEC 55011:2009/A1:2010 Radiated and Conducted Emissions, Group 1, Class A.

Australia / New Zealand Contacts:*

RS Components Pty Ltd.
Suite 326 The Parade West
Kent Town, South Australia 5067

RS Components Ltd.
Units 30 & 31 Warehouse World
761 Great South Road
Penrose, Auckland, New Zealand

* Visit teledynelecroy.com/support/contact for the latest contact information.

Safety Compliance

EC Declaration of Conformity - Low Voltage

The product meets the intent of EC Directive 2014/35/EU for Product Safety. Compliance was demonstrated to the following specifications as listed in the Official Journal of the European Communities:

IEC/EN 61010-031:2015 Safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for handheld probe assemblies for electrical measurement and test.

Environmental Compliance

End-of-Life Handling



The product is marked with this symbol to indicate that it complies with the applicable European Union requirements to Directives 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE).

The product subject to disposal and recycling regulations that vary by country and region. Many countries prohibit the disposal of waste electronic equipment in standard waste receptacles. For more information about proper disposal and recycling of your Teledyne LeCroy product, visit teledynelecroy.com/recycle.

Restriction of Hazardous Substances (RoHS)

Unless otherwise specified, all materials and processes are compliant with RoHS Directive 2011/65/EU in its entirety, inclusive of any further amendments or modifications of said Directive.

933097-00 Rev A
February, 2021



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www.valuetronics.com