AC/DC Current Probe

▶ TCP0150

▶ TCP0150.

TCP0150 is a high-performance and easy-to-use 150 A AC/DC current probe designed for use and direct connection (without the need of an additional power supply) to the TekVPI™ probe interface used on Tektronix DPO4000, MSO4000 and DPO7000 Series oscilloscopes. This AC/DC current measurement probe provides 20 MHz of frequency bandwidth with selectable range control for 25 A and 150 A measurement ranges. It also provides low current measurement capability and accuracy to current levels as low as 5 mA per division — important for achieving broad dynamic current range of high-level and low-level measurement signals.

▶ Features & Benefits

Easy to Use and Accurate AC/DC Current Measurements

Connects Directly to DPO4000, MSO4000 and DPO7000 Series Oscilloscopes Using the TekVPI Probe Interface

DC to 20 MHz Bandwidth

150 A RMS Maximum Current Capability

500 A Peak Pulse Current Capability

High Accuracy with Typically Less than 1% DC Gain Error

Accurately Measures Current Levels as Low as 5 mA

Low Noise and DC Drift

Provides Automatic Units Scaling and Readout on the Oscilloscope's Display

Remote Programmable GPIB Control for ATE systems

Split-Core Probe Head Construction Allows Easy Connection to Conductors

Easy to Degauss and Autozero

Setup Controls and Probe Status and Diagnostic Indicators are Provided on Both the Probe Hardware and via an Easy-to-Access Scope UI Display Menu

▶ Applications

Power Supplies

Semiconductor Devices

Power Inverters/Converters

Electronic Ballasts

Industrial/Consumer Electronics

Motor Drives

Transportation Systems

Note: Requires DPO7000Series Firmware Version 3.0.2 or greater. Requires DPO4000/MSO4000 Firmware Version 2.06 or greater.

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▶ Characteristics

▶ Warranted

Bandwidth	DC to ≥20 MHz (-3 dB). Derate with Frequency. See Figure 1. (Calculated from Rise Time BW = .35/Rise Time)
Rise Time	17.5 ns.
Max RMS Current	150 A.
Max Peak Pulse Current	500 A.
Minimum Sensitivity	5 mA (on oscilloscope's mV/div setting) AC Coupling (on oscilloscopes that support AC/DC coupling).
Current Ranges	25 A and 150 A.
Max Bare Wire Voltage	600 VRMS CAT I & II 300 VRMS CAT III

▶ Typical

DC Accuracy	±1% Typical 3% Warranted
Max Amp-Second Product	
25 A Range	3,000 AμS
150 A Range	15,000 AμS
Insertion Impedance	0.03 Ω @ 1 MHz
	0.075 Ω @ 5 MHz
	.125 Ω @ 10 MHz
	.3 @ 20 MHz
Signal Delay	21 ns
Displayed RMS Noise	500 μA_{RMS} (probe only)

▶ Environmental

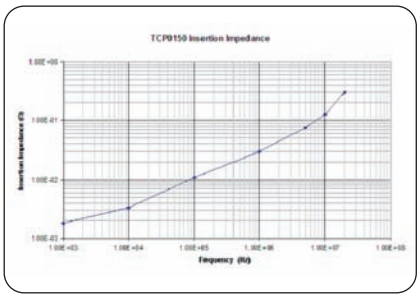
Temperature	
Operating	0º C to +50º C
Non-operating	-40º C to +75º C
Humidity	
Operating	5% to 95% RH (Relative Humidity) at up to +30º C 5% to 85% RH above 30º C up to +50º C, non-condensing
Non-operating	5% to 95% RH (Relative Humidity) at up to +30º C 5% to 85% RH above 30º C up to +75º C, non-condensing
Altitude	
Operating	Up to 2,000 meters (6,560 feet)
Non-operating	Up to 12,000 meters (40,000 feet)

▶ Physical Characteristics

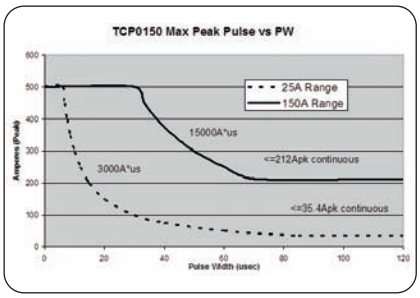
	kg	lbs
Shipping Weight	.7865	1.734
Dimensions	**Meters**	**Inches**
Cable Length	2 meters	79 inches
Probe Head Size		
Length	26.8 cm	10.55 in.
Width	4.1 cm	1.6 in.
Height	15.6 cm	6.13 in.
Max Conductor Diameter	21 mm x 25 mm	0.83 in. x 1.0 in.
Power Requirements	TCP0150 is powered directly by the DPO4000, MSO4000 and DPO7000 Series oscilloscopes using TekVPI™ interface	

Recommended Oscilloscopes

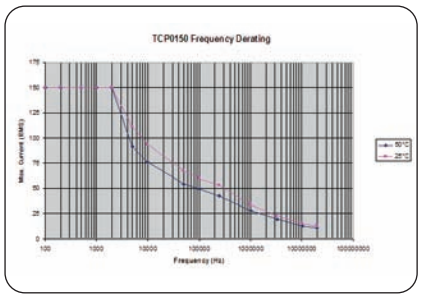
DPO4000, MSO4000, and DPO7000 Series oscilloscopes with TekVPI probe interface.
Note: Requires DPO7000Series Firmware Version 3.0.2 or greater. Requires DPO4000/MSO4000 Firmware Version 2.06 or greater.



▶ Figure 1.



▶ Figure 2.



▶ Figure 3: Do not apply currents greater than the max continuous current for more than 10 seconds to minimize heating effects.

▸ Ordering Information

TCP0150

AC/DC Current Probe with TekVPI™ Interface.

Includes: Protective Cover (016-1924-xx), and Certificate of Traceable Calibration and Data Standard.

Option	Order
Option L0	Standard English Language Instruction Manual (071-xxxx-xx)
Option L5	Substitutes Japanese Language Instruction Manual
Option L7	Substitutes Simplified Chinese Language Instruction Manual

Recommended Accessories

Accessory	Order
Current Loop, 1 Turn, 50 with BNC connector used for Performance Verification	015-0601-50
TekVPI Calibration Fixture	067-1701-xx
Cal/Deskew Fixture for DPO7000/70000 Series	067-1686-xx

Service Options

Option	Description
Opt. CA1	Provides coverage for a single Calibration Event
Opt. C3	Calibration Service 3 years
Opt. C5	Calibration Service 5 years
Opt. D3	Calibration Data Report 3 Years (with Opt. C3)
Opt. D5	Calibration Data Report 5 Years (with Opt. C5)
Opt. R3	Repair Service 3 Years
Opt. R5	Repair Service 5 Years

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Contact Tektronix:

ASEAN / Australasia (65) 6356 3900

Austria +41 52 675 3777

Balkan, Israel, South Africa and other ISE Countries +41 52 675 3777

Belgium 07 81 60166

Brazil & South America (11) 40669400

Canada 1 (800) 661-5625

Central East Europe, Ukraine and the Baltics +41 52 675 3777

Central Europe & Greece +41 52 675 3777

Denmark +45 80 88 1401

Finland +41 52 675 3777

France +33 (0) 1 69 86 81 81

Germany +49 (221) 94 77 400

Hong Kong (852) 2585-6688

India (91) 80-22275577

Italy +39 (02) 25086 1

Japan 81 (3) 6714-3010

Luxembourg +44 (0) 1344 392400

Mexico, Central America & Caribbean 52 (55) 5424700

Middle East, Asia and North Africa +41 52 675 3777

The Netherlands 090 02 021797

Norway 800 16098

People's Republic of China 86 (10) 6235 1230

Poland +41 52 675 3777

Portugal 80 08 12370

Republic of Korea 82 (2) 6917-5000

Russia & CIS +7 (495) 7484900

South Africa +27 11 206 8360

Spain (+34) 901 988 054

Sweden 020 08 80371

Switzerland +41 52 675 3777

Taiwan 886 (2) 2722-9622

United Kingdom & Eire +44 (0) 1344 392400

USA 1 (800) 426-2200

For other areas contact Tektronix, Inc. at: 1 (503) 627-7111

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Our most up-to-date product information is available at:
www.tektronix.com

Product(s) are manufactured in ISO registered facilities.

Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

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