AC/DC Current Probe

TCP0030 Datasheet

Features & Benefits

- Easy-to-use and Accurate AC/DC Current Measurements
- Connects Directly to Oscilloscopes with the TekVPI™ Probe Interface
- Provides Automatic Units Scaling and Readout on the Oscilloscope Display
- Split-core Construction allows Easy Circuit Connection
- DC to >120 MHz Bandwidth
- 30 A RMS Maximum Current Capability
- 50 A Peak Pulse Current Capability
- High Accuracy with Typically Less than 1% DC Gain Error
- Accurately Measures Current Levels as Low as 1 mA
- Low Noise and DC Drift
- Easy to Degauss and Autozero
- Setup Controls and Probe Status/Diagnostic Indicators are provided on both the Probe Hardware, and through an Easy-to-Access Oscilloscope UI Display Menu
- Remote GPIB/USB Probe Control through the Oscilloscope
- Safety Certified for U.S. and Canada

Applications

- Power Supplies
- Semiconductor Devices
- Power Inverters/Converters
- Electronic Ballasts
- Industrial/Consumer Electronics
- Mobile Communications
- Motor Drives
- Transportation Systems

TCP0030

TCP0030 is a high-performance, easy-to-use AC/DC current probe designed for use and direct connection to oscilloscopes with the TekVPI™ probe interface. This AC/DC current measurement probe provides greater than 120 MHz of bandwidth with selectable 5 A and 30 A measurement ranges. It also provides exceptional low-current measurement capability and accuracy to current levels as low as 1 mA, important for meeting today's challenging current measurement needs.

Tektronix®

Characteristics

Bandwidth – DC to ≥120 MHz
Rise Time – ≤2.92 ns
Max RMS Current – 30 A
Max Peak Pulse Current – 50 A
Minimum Sensitivity –
1 mA (on oscilloscopes that support 1 mV/div setting)
AC Coupling (on oscilloscopes that support AC/DC coupling)
Current Ranges – 5 A and 30 A
Max Bare-wire Voltage – Use insulated wire only

Typical Characteristics

DC Accuracy –
±1% typical
±3% warranted
Max Amp-second Product – 500 A*µs (in 30 A Range)
Insertion Impedance –
1 mΩ at 10 kHz
3.5 mΩ at 100 kHz
0.08 Ω at 1 MHz
0.15 Ω at 10 MHz
0.7 Ω at 100 MHz
0.85 Ω at 120 MHz
Signal Delay – 14.5 ns

Environmental

Temperature –
Operating: 0 ºC to +50 ºC
Nonoperating: –40 ºC to +75 ºC
Humidity –
Operating: 5% to 95% Relative Humidity (RH) at up to +30 °C; 5% to 85% RH above 30 °C up to +50 °C, noncondensing
Nonoperating: 5% to 95% Relative Humidity (RH) at up to +30 °C; 5% to 85% RH above 30 °C up to +75 °C, noncondensing
Altitude –
Operating: Up to 3,000 m (10,000 ft.)
Nonoperating: Up to 12,192 m (40,000 ft.)

Regulatory

Compliance Labeling –
CE (European Union)
WEEE (European Union)

Physical Characteristics

Probe Head Size	**cm**	**in.**
Height	3.2	1.25
Width	1.6	0.625
Length	20	7.77
Other Dimensions		
Cable Length	200	79
Max Conductor Diameter	0.38	0.15
Weight	**kg**	**lb.**
Shipping	1.55	3.44
Power Requirements		
TCP0030 is powered directly by oscilloscopes with the TekVPI™ interface		

Recommended Oscilloscopes

Oscilloscopes with the TekVPI™ probe interface.

Note: For best probe support, download and install the latest version of the oscilloscope software from www.tek.com.

Standard Warranty

One year parts and labor.

Ordering Information

TCP0030

AC/DC Current Probe
Includes: Instruction manual (071-1812-xx English, or 071-1813-xx Japanese, or 071-1814-xx Simplified Chinese)*1, Protective Cover (016-1923-xx), Probe Ground Lead – 6 in. length (196-3120-xx), Nylon Carrying Case (016-1952-xx).

*1 Specify manual language when ordering.

Language Options

Opt. L5 – Japanese instruction manual.
Opt. L7 – Simplified Chinese instruction manual.

Service Options

Opt. C3 – Calibration Service 3 Years.
Opt. C5 – Calibration Service 5 Years.
Opt. D1 – Calibration Data Report.
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.
Opt. SILV600 – Standard Warranty Extended to 5 Years.

Recommended Accessories

Current Loop, 1 Turn, 50 Ω with BNC connector used for Performance Verification – Order 015-0601-50.

CE

Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit **www.tektronix.com**

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