

TEKTRONIX

TCP0030A

The Tektronix TCP0030A is a high-performance, easy-to-use AC/DC current probe designed for direct connection to oscilloscopes with the TekVPI™ probe interface. It provides a 120 MHz bandwidth with selectable 5 A and 30 A measurement ranges, delivering excellent low-current measurement capability and accuracy down to 1 mA.

SPECIFICATIONS

General

Interfaces	TekVPI
Display	Status LEDs (Degauss/AutoZero, Jaw Open, Overload)
Standard Warranty	1 year
Probe Type	Active AC/DC Current Probe

Physical

Power Supply	Powered directly by host oscilloscope via TekVPI interface
Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	200 mm × 16 mm × 32 mm (Probe Head) mm
Weight	0.29 kg kg

Electrical Performance

Bandwidth	DC to 120 MHz
Rise Time	≤2.92 ns
Maximum Continuous RMS Current	30 A
Maximum Peak Pulse Current	50 A
Minimum Detectable Current	1 mA (on scopes supporting 1 mV/div setting)
DC Accuracy	±3% (warranted, at 23 °C ±5 °C), ±1% (typical)
Insertion Impedance at 1 MHz	0.08 Ω
Insertion Impedance at 10 MHz	0.15 Ω
Insertion Impedance at 50 MHz	0.27 Ω
Insertion Impedance at 100 MHz	0.3 Ω
Insertion Impedance at 120 MHz	0.35 Ω
Propagation Delay	17 ns
Maximum Voltage on Bare Conductor	150 V CAT II
Maximum Voltage on Insulated Conductor	300 V CAT II
Random Noise (5 A range)	≤1.25 mA RMS (typical)
Random Noise (30 A range)	≤2.5 mA RMS (typical)

Measurement Ranges & Settings

Current Ranges	5 A and 30 A
Ampere-Second Product (5 A range)	80 A·μs
Ampere-Second Product (30 A range)	500 A·μs

Control & Calibration

Degaussing and Auto-Zero Control	Button on compensation box or interface control via oscilloscope menu
Overload Indicator	Yes (LED and onscreen notification)
Jaw Open Indicator	Yes (LED and onscreen notification)

Connectivity & Interface

Output Connector Type	TekVPI
Supported Oscilloscope Interfaces	TekVPI

Mechanical & Physical Specifications

Maximum Conductor Diameter	5 mm (0.2 in)
Cable Length	2.0 m (6.6 ft)

Environmental Specifications

Non-Operating Temperature Range	-40 °C to +75 °C
Operating Humidity Range	5% to 95% RH (up to +30 °C), 5% to 85% RH (+30 °C to +50 °C)
Operating Altitude	Up to 3,000 m (10,000 ft)
Non-Operating Altitude	Up to 12,192 m (40,000 ft)

Safety & Compliance

Measurement Category	CAT II
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Physical Characteristics

Probe Head Dimensions	200 mm × 16 mm × 32 mm
Compensation Box Dimensions	107 mm × 41 mm × 26 mm

Performance

Gain Temperature Drift	≤ 0.02% per °C
Input Coupling	AC, DC

Compliance

Safety Compliance	UL61010-1, UL61010-2-032, CAN/CSA-C22.2 No. 61010-1, CAN/CSA-C22.2 No. 61010-2-032, EN61010-1, EN61010-2-032, IEC61010-1, IEC61010-2-032
EMC Compliance	EN61326-1, EN61326-2-2, Directive 2004/108/EC

Power

Power Requirements	Powered directly by oscilloscopes with the TekVPI interface
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Environmental

Non-Operating Humidity Range	5% to 90% RH (up to +30 °C), 5% to 85% RH (+30 °C to +75 °C)
Pollution Degree	2

TECHNOLOGY

Split-core Hall effect and transformer AC/DC current sensing

APPLICATIONS

Power supply characterization, motor drive design, electronic ballast measurement, power semiconductor analysis

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