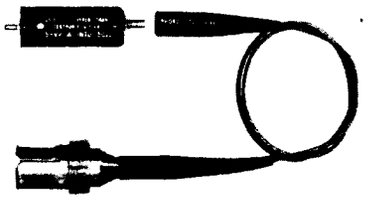
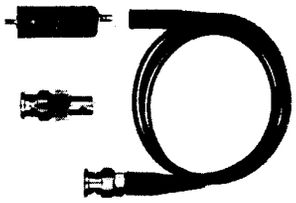
TEK CURRENT PROBES

CT-1 With Probe Cable



CT-2 With Probe Cable



CT-1/CT-2 Current Probes

The 1 GHz CT-1 is Used With 50 Ω Systems, or Wide Band Oscilloscopes; Has a Minimum Loading Effect on a 50 Ω Environment

The CT-2 is Used With Oscilloscopes Up to 100 MHz Bandwidth; Insulated for Limited Space Applications

The CT-1 and CT-2 Current Probes are designed for permanent or semipermanent in-circuit installation. Each probe consists of a current transformer, an interconnecting cable and a termination. The current transformers are traversed by a small hole through which a current carrying conductor is passed during circuit assembly.

One probe cable can be used to monitor several current transformers that have been wired into a circuit.

The CT-1 Probe Cable (P6040) provides the connection between the CT-1 current transformer and a GR scope input. This cable can also be used with other test point connectors such as Amphenol Series 27 Sub-Minax or Sealectro Sub-Miniature RF connectors.

The CT-2 Probe Cable (P6041) is used to connect the CT-2 current transformer with a BNC oscilloscope input. A 50 Ω termination is used to terminate the cable at the high impedance input of an oscilloscope.

CHARACTERISTICS

	CT-1	CT-2
Sensitivity	5 mV/mA	1 mV/mA
Accuracy	±3%	±3%
Rise Time	350 ps	500 ps
Frequency Response		
Low: −3 dB	25 kHz	1.2 kHz
High: −3 dB	1 GHz	200 MHz
Insertion Impedance at:		
10 MHz	≈1 Ω	0.1 Ω
100 MHz	2 Ω	0.5 Ω
Capacitive Loading Barewire	1.5 pF for #14	1.8 pF for #16
Maximum Barewire Voltage	1000 V	1000 V
Dc Saturation Current:		
Current to Reduce L/R by X2	75 mA	175 mA
Pulse Current Rating*[1]	12 A	36 A
Not to Exceed:		
Amp S Product*[1]	1×10^{-6}	50×10^{-6}
Maximum CW Current*[1]	450 mA	2.5 A
Cable Length	18 inch	42 inch
Prop Delay	3.25 ns	6.1 ns
Cable Connector	GR874	BNC
Operating Temperature	−25°C to +65°C	

*[1] *With 50 Ω termination. Values are reduced by a factor of 2 if unterminated.*

ORDERING INFORMATION

CT-1 Current Probe, Current Transformer and Probe Cable, Termination
Includes: Instruction manual (070-0375-01).

OPTIONS

Option 09 — Current Transformer only.
P6040 — Probe Cable only.

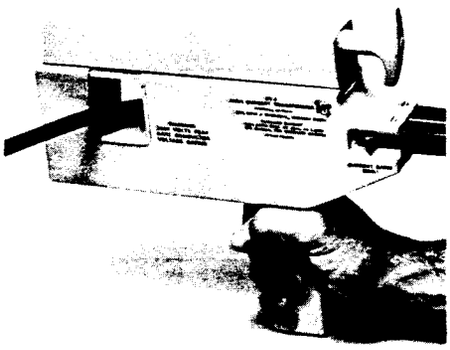
CT-2 Current Probe, Current Transformer, Probe Cable, Termination
Includes: 50 Ω termination (011-0049-01); instruction manual (070-0406-01).

OPTIONS

Option 09 — Current Transformer only.
P6041 — Probe Cable only.

CT-5

Continuous Currents to 1000 A Peak



1.5 Inch Diameter Conductors

Measurements on Bare Conductors to 3000 V

Nullifies Dc Effects to 300 A With Dc Bucking Coil

Pulsed Currents to 50 kA

The CT-5 is a clip-on high current transformer that extends the measurement capability of the Tektronix P6021 and A6302 clip-on current probes. Maximum low frequency performance is obtained using the A6302/AM 503 Dc Current Probe. Pulse current to 50,000 amps may be measured using the P6021 and passive termination, provided the 0.5 A-s rating is not exceeded. The P6021 and 134 Current Probe Amplifier may also be used for measurements at normal line frequency and above. (The P6022 and CT-5 are not compatible with each other.)

The CT-5 has receptacles for current probes in either 20:1 or 1000:1 step-down ratios. The 1.5 inch square opening makes it possible to clip onto large conductors without breaking the circuit under test. The core and shield assembly are insulated from the windings and the handle. This allows measurements on bare wires to 3000 V, and to 10 kV RMS with a high voltage bushing.

A dc bucking coil assembly allows up to 300 A of dc to be tolerated without appreciably degrading measurements. This is very useful for measuring ac signals on top of a dc voltage level.

CHARACTERISTICS (CT-5)

The following are characteristics of the CT-5 using either the A6302/AM 503 or P6021/134 combinations.

Rise Time — 17.5 ns or less.

Insertion Impedance — ≤20 μΩ at 60 Hz; 20 mΩ at 1 MHz.

Current Range — 20 mA/div to 100 A/div with A6302/AM 503, and 20 mA/div to. 20 A/div with P6021/134 (20:1 step down ratio); 1 A/div to 5 kA/div with A6302/AM 503, 1 A/div to 1 kA/div with P6021/134, (1000:1 step down ratio).

Accuracy — ±4%. Maximum Current is 1000 A peak cw.*[1]

Maximum Voltage of Circuit Test — 3000 V (barewire).

Maximum Dc Bucking Current — 300 mA to buck out 300 A dc (using dc bucking coil).

*[1] *Maximum current 1000 A peak from 20 Hz to 1.2 kHz derating to 100 A peak at 1 MHz.*

CURRENT MEASUREMENT COMBINATIONS

Product	Bandwidth	A-s Product	Maximum Current RMS	Maximum Current Peak Pulse
CT-5/A6302/AM 503	0.5 Hz to 20 MHz	0.1	700 A	50 kA
CT-5/P6021/134	12 Hz to 20 MHz	0.5	700 A	15 kA
CT-5/P6021/Term	120 Hz to 20 MHz	0.5	700 A	50 kA

PHYSICAL CHARACTERISTICS

Dimensions	mm	in
Width	57	2.3
Height	241	9.5
Depth	266	10.5
Weight≈	**kg**	**lb**
Net	1.8	4.0

ORDERING INFORMATION

CT-5 Current Probe With Dc Bucking Coil
Includes: Carrying case (016-0191-03); 12 in wide, 4 ft long high voltage bushing (015-0194-00); instruction manual (070-1130-00).

OPTION

Option 09 — Without Dc Bucking Coil.

OPTIONAL ACCESSORIES

Dc Bucking Coil — Order 015-0190-00

High-Voltage Bushing — 12 in wide, 4 ft long. Order 015-0194-01