

Bergoz Instrumentation
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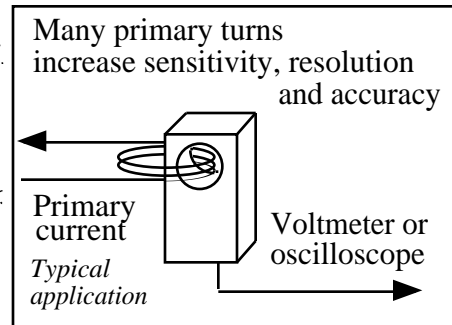
Thank you for your confidence in Bergoz Instrumentation. You purchased a highly precise non-interceptive current measuring instrument. It can be used to measure low DC and AC currents with high absolute accuracy and very high resolution.

Output is a voltage in range -10V to +10V, proportional to primary current.

Output must be measured in a high impedance circuit. Output current limited to 20mA.

Range is determined by factory-installed load resistor, or user-installed resistor. The precision of this resistor determines the absolute IPCT accuracy.

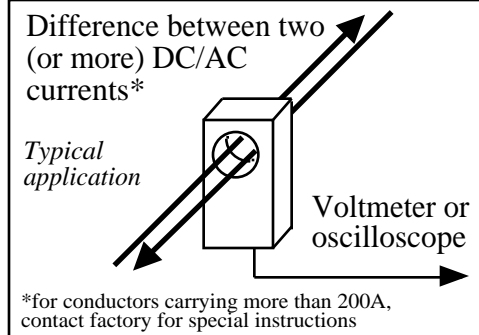
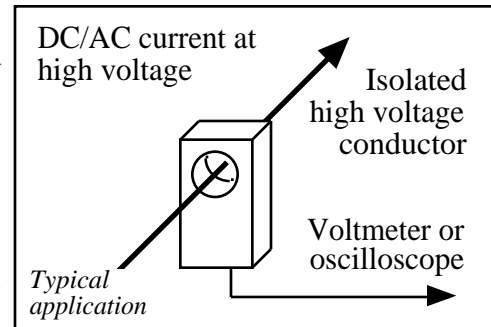
Polarity: An arrow is printed on the IPCT side: a positive current in the direction of the arrow gives a positive output. A negative current gives a negative output.



IPCT Integrated Parametric Current Transformer Instructions

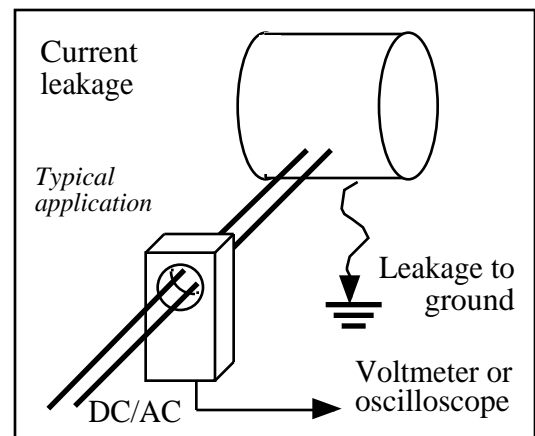
Power supply: $\pm 15V$
 Connector DB9
 Current range on instrument's label.

Zero-adjust by front-panel potentiometer:
 Turn potentiometer until output voltage ≈ 0.000

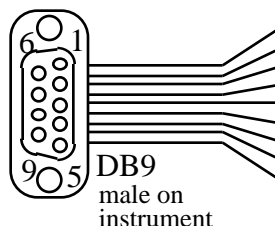


CE Conforms to
 EN 50081-2
 EN 50082-2
 when instrument connections are limited to power supply and output signal. Connecting an external load resistor through pins 1-6 may increase instrument's sensitivity to radiated RF up to 1%.

The IPCT is based on the DCCT principle invented in 1969 by Klaus Unser at CERN; not based on Hall effect. 100-1000 times more precise than Hall sensors.



Connections



- 1 Optional external resistor
- 6 Optional external resistor
- 2 Output +10V
- 7 Output ground
- 3 Calibration winding -
- 8 Calibration winding +
- 4 Power supply -12V...-15V
- 9 Power supply +12V...+15V
- 5 Power supply ground

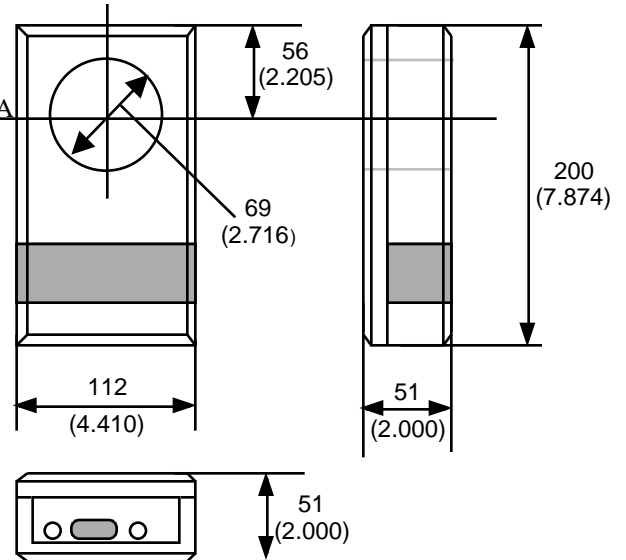
Specifications

Integrated Parametric Current Transformer

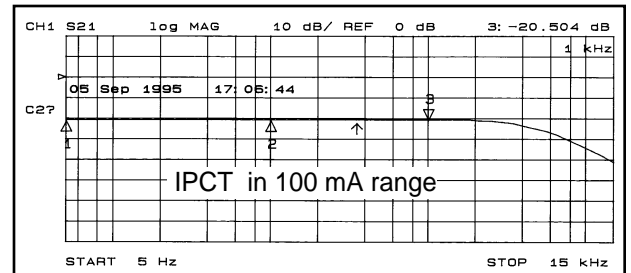
Common characteristics to all ranges

Full scale range (Inominal) optionally	Factory-preset at any value from ± 1 mA to ± 5 A
Overrange	120% Inominal permanently
Overload (saturation)	> 120% Inominal
Spikes	Amplitude limited by insulation breakdown, time unlimited
Damage level	DC: unlimited, sensor saturates >20Arms
(2.716)Voltage isolation	5 kV current conductor to ground Additional insulation may be added
Resolution	< 10 μ A (1 Hz)
Linearity error	< 0.1% FS
Absolute accuracy	Determined by user-supplied resistor, or $\pm 0.5\%$ FS for factory preset ranges
Calibration	External calibration current can be applied
Ripple rms	depends on range (see below)
Bandwidth	DC up to 4 kHz, depending on range
Output	± 10 V bipolar, buffered (20 mA max.) stands permanent short circuit
Zero adjust	20-turn front-panel potentiometer
Power supply	± 12 V to ± 15 V, 100mA
Connection	DB-9 male on front panel
Temperature drift	$\leq 5 \mu$ A/K + user-supplied resistor drift
Stabilization after overload	10ms max.
Stray field sensitivity	50 μ A/Gauss typ.
Weight	0.5 Kg

Dimensions



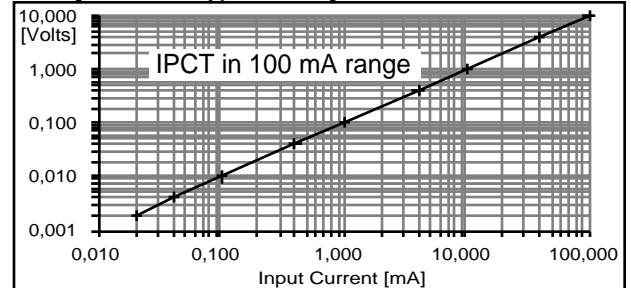
Output voltage vs. frequency



Characteristics at given full scale ranges

Range	Resolution (1s integr.)	Bandwidth -3 dB	Ripple (7 kHz)
± 1 mA	10 μ A	>350 Hz	<25 mV rms
± 10 mA	10 μ A	>1.2 kHz	<25 mV rms
± 100 mA	10 μ A	>3.8 kHz	<25 mV rms
± 2000 mA	10 μ A	>4.2 kHz	<2 mV rms

Output voltage vs. input current



Product identifications and connections

Integrated Parametric Current Transformer

Model IPCT-XXXXmA

Serial nr. #0000

DB9 Connector pin allocation

Function	Pin
Power supply -12...-15V...	4
Power supply +12...+15V...	9
Power supply ground.....	5
Output (-10V to +10V).....	2
Output ground	7
Optional external resistor...	1
Optional external resistor ...	6
Calibration winding +	8
Calibration winding -	3

Front view

1 2 3 4 5 6 7 8 9

Fixed range model, with internal load

User-adjustable range model. To set range, install precision load resistor between pins 1-6 of DB9 connector. Select resistor value according to desired range:

1 mA	1 M Ω	$\geq 1/10$ W
2 mA	500 k Ω	$\geq 1/10$ W
5 mA	200 k Ω	$\geq 1/10$ W
10 mA	100 k Ω	$\geq 1/10$ W
20 mA	50 k Ω	$\geq 1/10$ W
50 mA	20 k Ω	$\geq 1/10$ W
100 mA	10 k Ω	$\geq 1/10$ W
200 mA	5 k Ω	$\geq 1/10$ W
500 mA	2 k Ω	$\geq 1/10$ W
1 A	1 k Ω	$\geq 1/10$ W
2 A	500 Ω	$\geq 1/5$ W
5 A	200 Ω	$\geq 1/2$ W

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Ordering code

IPCT-XXXXmA Integrated Parametric Current Transformer
Factory-preset XXXXmA range up to ± 5 A

Distributors

U.S.A. : GMW Associates
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San Carlos, CA 94070, U.S.A.
Fax: (650) 802-8298 Tel.: (650) 802-8292
sales@gmw.com

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Manufacturer

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