

IPCT

Integrated Parametric Current Transformer Instructions

Revision 2.2

Distributors

U.S.A.
GMW Associates
www.gmw.com
sales@gmw.com

Japan
REPIC Corp.
www.repic.co.jp
sales@repic.co.jp

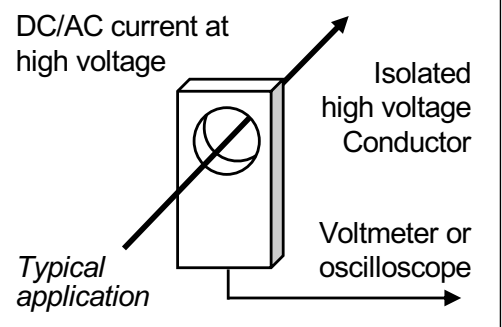
India
GEEBEE International
www.geebeinternational.com
info@geebeinternational.com

China
Beijing Conveyi Limited
www.conveyi.com
sales@conveyi.com

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.

Power supply: +/-15V
Connector DB9
Current range printed on instrument's label.

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

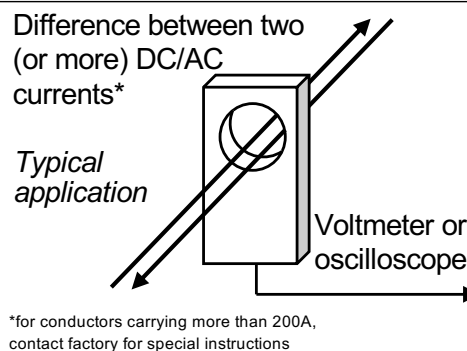


Output is a voltage in range -10V to +10V, proportional to primary current.

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

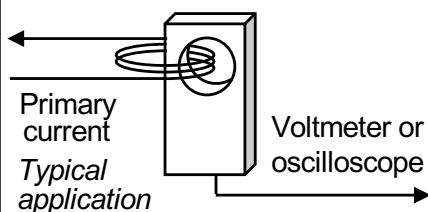
Range is determined by a factory-installed load resistor, or user-installed resistor. The precision of this resistor determines the absolute IPCT accuracy.

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.

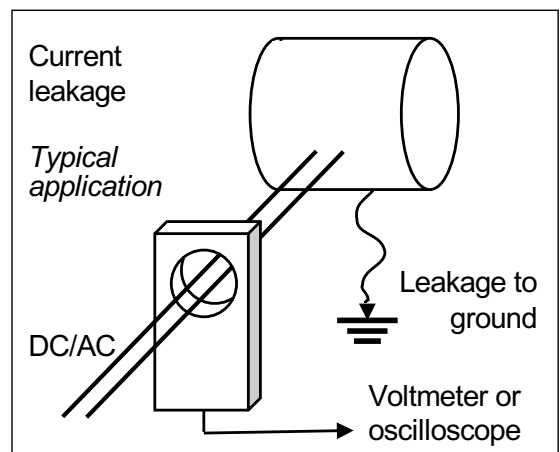


CE Conform to EN 50081-2
EN 50082-2
when instrument connections are limited to power supply and output signal. Connecting an external load resistor through pins 1-6 may increase instrument's sensitivity to radiated RF up to 1%.

Many primary turns increase sensitivity, resolution and accuracy



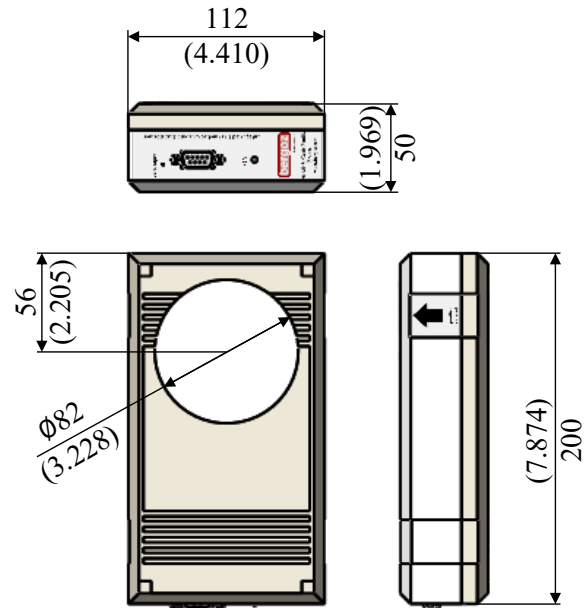
The IPCT is based on the DCCT principle invented in 1969 by Klaus Unser at CERN; not based on Hall effect. 100-1000 times more precise than Hall sensors.



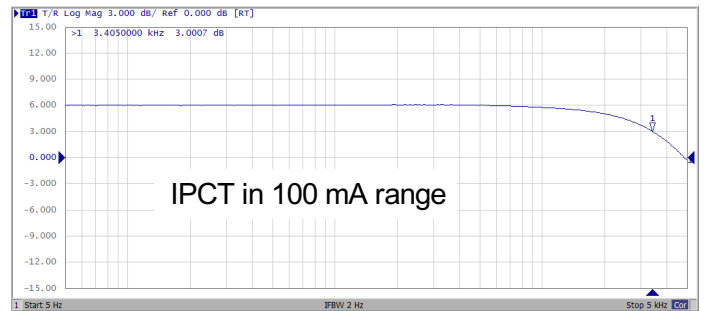
Specifications

Full scale range	Any value from +- 1mA to +- 20A, factory preset
Over range	120% full scale permanently
Saturation	>120% full scale
Damage level	DC: unlimited, AC: > 20Arms Discharge: > 100kA 4/10µs
Voltage isolation	5kV current conductor to ground
Resolution	See "Resolution" table below
Linearity error	<0.1% FS
Absolute accuracy	+/- 0.2% FS
Calibration	External current can be applied
Ripple	7kHz and even harmonics See "Ripple" table below
Bandwidth	DC to 3.8 kHz (-3dB) See "Bandwidth" table below
Output	+/- 10V, buffered, 20 mA max stands permanent short circuit
Zero adjust	20-turn front-panel potentiometer
Power supply	+/- 15V, 100mA
Connection	DB-9 male on front panel
Temperature drift	<5µA/K
Stabilization after overload	10ms max.
Magnetic field	50µA/Gauss typ. sensitivity
Mass	0.5 Kg

Dimensions



Output voltage vs. frequency



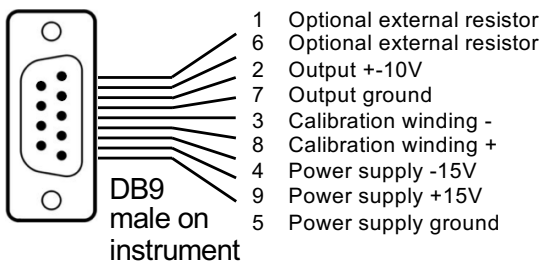
Characteristics at given full scale ranges

Range	Resolution (1s integr.)	Bandwidth -3 dB	Ripple (7kHz)
+/- 1 mA	1 µA	> 150 Hz	< 80 mV rms
+/- 10 mA	10 µA	> 800 Hz	< 70 mV rms
+/- 100 mA	10 µA	> 3 kHz	< 70 mV rms
+/- 2 A	30 µA	> 3.8 kHz	< 12 mV rms
+/- 20 A	200 µA	> 2 kHz	<12 mV rms

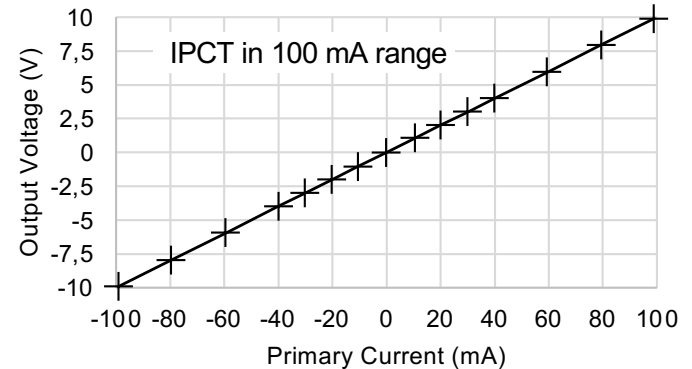
Ordering code

IPCT	
-xxxmA	Factory-preset xxx mA range up to +-20 A
Options	
-0.01%	Linearity error < 0.01% Full Scale
-PS-BNC	90-245Vac power supply and BNC output
-CALCERT	IPCT initial certificate of calibration

Connections



Output voltage vs. input current



Product identifications and connections

Integrated Parametric Current Transformer

Model IPCT- xxx mA

Serial nr. #0000

DB9 Connector pin allocation

Function	Pin
Power supply -15V.....	4
Power supply +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

5 0 9

1 0 6

Front view

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:

1mA	1MΩ	≥1/10W
2mA	500kΩ	≥1/10W
5mA	200kΩ	≥1/10W
10mA	100kΩ	≥1/10W
20mA	50kΩ	≥1/10W
50mA	20kΩ	≥1/10W
100mA	10kΩ	≥1/10W
200mA	5kΩ	≥1/10W
500mA	2kΩ	≥1/10W
1A	1kΩ	≥1/10W
2A	500Ω	≥1/5W
5A	200Ω	≥1/2W
20A	100Ω	≥1W

info@bergoz.com
www.bergoz.com