

GT-1000A

HIGH PRECISION AC/DC CURRENT SHUNT



POSITIVE PROBLEM SOLVING **+ =**

The GT-1000A low resistance, precise shunt is used to measure AC or DC currents by the voltage drop those currents create across the resistance.

The GT-1000A has five high accuracy shunt ranges, from 1 Ω to 0.0001 Ω . Five selector switches and a 5 1/2 digit AC & DC current meter display the respective shunt current. Auto-Zero and Auto-Range functions are provided as standard. By adding an external DVM of 5 1/2 digits or higher, the resolution and current read back accuracy can be increased. A single set of binding posts conveniently provide output voltage to a measuring voltmeter.

- + Built in Over Current Protection
- + 5 1/2 Digit AC/DC Current Meter
- + 0.2A - 1000A Current Range
- + High Stability & Reliability
- + Less than 10ppm/ $^{\circ}$ C
- + Rackmounting Option

GENERAL SPECIFICATIONS

STANDARD FEATURES

RANGE	SHUNT VALUE	DC ACCURACY*		AC ACCURACY*		MAX INPUT DC/AC RMS	OUTPUT VOLTAGE
		TYPICAL	MAX				
1000A	0.0001Ω	0.02% of Reading + 0.01% of Range	0.05% of Reading + 0.05% of Range	50 - 200Hz	0.1% (Reading + Range)	1000A	1000A / 0.1V
				201 - 300Hz	0.2% (Reading + Range)		
				301 - 400Hz	0.4% (Reading + Range)		
200A	0.001Ω	0.02% of Reading	0.04% of Reading	0.10% of Reading		250A	200A / 0.2V
20A	0.01Ω	0.01% of Reading	0.02% of Reading	0.10% of Reading		30A	20A / 0.2V
2A	0.1Ω	0.01% of Reading	0.02% of Reading	0.10% of Reading		4A	2A / 0.2V
0.2A	1Ω	0.01% of Reading	0.02% of Reading	0.10% of Reading		0.4A	0.2A / 0.2V

TECHNICAL DATA

Temperature Range	0 to 40°C, with accuracy for 1 year at 23°C ±2°C
Temperature Coefficient	0.2A - 2A Range: less than 0.001% per °C [20°C - 40°C]
	20A Range: less than 0.002% per °C [20°C - 40°C]
	200A Range: less than 0.003% per °C [20°C - 40°C]
	1000A Range: less than 0.005% per °C [20°C - 40°C]
Weight	13.5kg
Dimensions	89 × 440 × 410 mm [H × W × D]

5 1/2 DIGIT AMPERE METER

RANGE	RESOLUTION	DC* ACCURACY ± (% OF READING + OF RANGE)		AC* ACCURACY ± (% OF READING + OF RANGE)	
		TYPICAL	MAX		
1000A	0.01A	0.04 + 0.02	0.1 + 0.05	50 - 200Hz	0.5 + 0.1
				201 - 300Hz	0.5 + 0.2
				301 - 400Hz	0.5 + 0.4
200A	0.001A / 0.01A	0.04 + 0.01	0.08 + 0.01	0.5 + 0.05	
20A	0.0001A / 0.001A	0.02 + 0.01	0.04 + 0.01	0.5 + 0.05	
2A	0.01mA / 0.1mA	0.02 + 0.01	0.04 + 0.01	0.5 + 0.05	
0.2A	0.001mA / 0.01mA	0.02 + 0.01	0.04 + 0.01	0.5 + 0.05	

*AC input: Range 0.2A-2A, 20A and 200A ranges: \geq 5% of Range. 1000A range: \geq 10% of range. Specifications apply when the GT-1000A is powered on for at least 30 minutes. The specifications typically do not apply with 20A, 200A and 1000A use over the 50% range current, over 3 minutes or the ON/OFF current period ratio is less than 1/3. For high accuracy measurement, please use the 6 1/2 D.V.M to measure the voltage output, which is proportional to the current value.

STANDARD FEATURES

TECHNICAL DATA	
Input Voltage	115VAC / 230VAC ± 10%
Line Frequency	50/60Hz
Protection	Fuse
Maximum Power Consumption	25W

CURRENT MEASUREMENTS & OUTPUT

The GT-1000A current shunt has five different shunt resistors, and as a result five specific current measurement ranges. The shunt resistor to be used is chosen by connecting the load in series with one of the three pairs of input terminals on the unit.

The terminals being measured are chosen via the buttons on the front panel. These buttons determine which of the five shunt resistors the current meter is connected across.

This allows for multiple circuits to be connected to the GT-1000A at the same time, all whilst remaining isolated from one another.

The AC/DC current meter of the unit has 5^{1/2} digits of precision. In applications where this isn't sufficient, voltage output terminals are available, meaning a high precision measuring device can be connected. The voltage output terminals are connected across the same shunt resistor as the internal AC/DC current meter.

OPTIONS

CODE	DESCRIPTION
/GPIB	IEEE488.2 (GPIB) interface card
/RS232	RS-232 interface card
/USB	USB interface card
/LAN	LAN interface card
/1000A-R	Input terminals built on to the rear panel
/RMK	Rack mounting kit for integration into a 19" subrack

HIGHLIGHTED OPTIONS

RETROFITABLE INTERFACES

LAN, USB, RS-232 and GPIB interface cards can be easily retro-fitted or even swapped in the field by the user. As highlighted below, this is possible by simply removing the two screws and replacing the interface.



REAR INPUT TERMINALS

The input terminals of the GT-1000A can be built on to the rear panel on request, as shown below.



Every effort is made to ensure that the information provided within this technical summary is accurate. However, ETPS Ltd must reserve the right to make changes to the published specifications without prior notice. Where certain operating parameters are critical for your application we advise that they be confirmed at the time of order. ETPS Ltd specialises in modifying its proven platforms to suit your needs. Please contact our office if your requirement is non-standard. Please note that your actual unit may differ from those shown.



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Tel: +44 (0) 1246 452909
Sales: 0800 612 95 75
sales@etps.co.uk
www.etps.co.uk

ETPS Ltd
Unit 14, The Bridge
Beresford Way, Chesterfield
S41 9FG



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