

TI1100 Precision AC/DC Current Calibrator



1. Summary

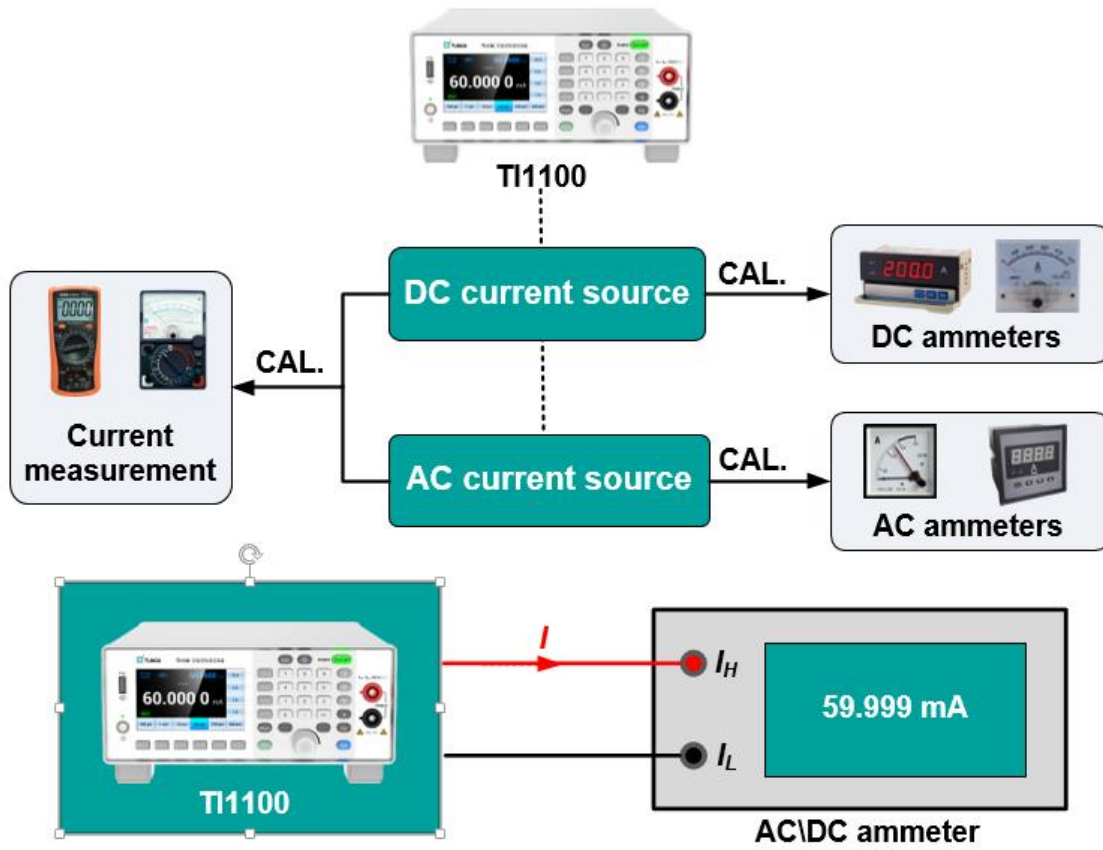
TI1100 is an AC/DC current source with high stability and precision, it is applied for calibrating ammeters on-site, e.g, industrial production lines, etc.

2. Features

- AC\DC current output: 10 μ A ~ 10.5 A
- Standard version (TI1100-B) and advanced version (TI1100-C) are available
- Typical specifications of the standard version (TI1100-B):
 - Frequency: DC, AC 10 Hz ~ 2 kHz.
 - Typical short-term stability: 0.01%/min
 - Optimum Accuracy: DC 0.02, AC 0.05.
- Typical specifications of the advanced version (TI1100-C):
 - Frequency: DC, AC 10 Hz ~ 10 kHz
 - Typical short-term stability: 0.005%/min
 - Optimum Accuracy: DC 0.01, AC 0.02.
- Shortcut output keys.
- Programmable calibration schemes.
- RS232, LAN and USB communication interfaces.

3. Application

☆ Calibration for Current Measuring Instruments



- Suitable for calibrating AC/DC ammeters or current measurement of multimeter.

☆ Convenient Operation



- The front panel has 10 shortcut keys that can output the corresponding value on the screen with one key.

☆ Calibration Scheme Setting

✓ 1. 方案 1	校准A型万用表 >
2. 方案 2	校准B型万用表 >
3. 方案 3	校准C型万用表 >
4. 方案 4	校准D型万用表 >

Choose

→

方案名称: 方案 1	10 A
频率 F: 0 Hz (DC)	6 A
检定点	2 A
	1 A
100 μA	1 mA
10 mA	60 mA
100 mA	600 mA

Multiple calibration schemes

10 calibration points

- Multiple calibration schemes can be edited and stored for the calibration of multimeter with different specifications.

4. Specifications (TI1100-B)

4.1 DC Current Output

Range	Current Output	Resolution	Short term stability (%/min)	Accuracy $\pm(\% \cdot \text{output} + \mu\text{A})$	Compliance Voltage (V)
300 μA	$\pm(10.0000 \mu\text{A} \sim 330.0000 \mu\text{A})$	100 pA	0.02	0.012 + 0.03	11 V
3 mA	$\pm(0.300000 \text{ mA} \sim 3.300000 \text{ mA})$	1nA	0.01	0.012 + 0.24	11 V
30 mA	$\pm(3.000000 \text{ mA} \sim 33.000000 \text{ mA})$	10 nA	0.01	0.012 + 2.4	9 V
300 mA	$\pm(30.00000 \text{ mA} \sim 330.00000 \text{ mA})$	100 nA	0.01	0.012 + 24	7 V
1A	$\pm(0.100000 \text{ A} \sim 1.100000 \text{ A})$	1 μA	0.01	0.012 + 80	6 V
10 A	$\pm(1.000000 \text{ A} \sim 10.500000 \text{ A})$	10 μA	0.01	0.012 + 800	4 V

- Output range: $\pm (10 \mu\text{A} \sim 10.5 \text{ A})$.
- 7 digits display.
- Adjustment fineness: 0.002% * RG.
- Ripple coefficient: <0.1%.
- Protection function: open circuit protection, overload protection, overheating protection.

4.2 AC Current Output

Range	Current Output	Frequency	Resolution	Accuracy $\pm(\% \cdot \text{output} + \mu\text{A})$	Compliance Voltage (rms)
300 μA	10.0000 $\mu\text{A} \sim 330.0000 \mu\text{A}$	10 Hz ~ 45 Hz	100 pA	0.05 + 0.2	7 V
		45 Hz ~ 400 Hz		0.03 + 0.1	
		400 Hz ~ 2 kHz		0.04 + 0.2	
3 mA	0.300000 mA ~ 3.300000 mA	10 Hz ~ 45 Hz	1nA	0.05 + 0.5	7 V
		45 Hz ~ 400 Hz		0.03 + 0.3	
		400 Hz ~ 2 kHz		0.04 + 0.5	
30 mA	3.000000 mA ~ 33.000000 mA	10 Hz ~ 45 Hz	10 nA	0.05 + 5	6 V
		45 Hz ~ 400 Hz		0.03 + 3	

		400 Hz ~ 2 kHz		0.04 + 5	
300 mA	30.0000 mA ~ 330.0000 mA	10 Hz ~ 45 Hz	100 nA	0.05 + 50	5 V
		45 Hz ~ 400 Hz		0.03 + 30	
		400 Hz ~ 2 kHz		0.04 + 50	
1A	0.100000 A ~ 1.100000 A	10 Hz ~ 45 Hz	1 μA	0.05 + 150	4 V
		45 Hz ~ 400 Hz		0.03 + 100	
		400 Hz ~ 2 kHz		0.04 + 150	
10 A	1.00000 A ~ 10.50000 A	45 Hz ~ 400 Hz	10 μA	0.03 + 1000	2.5 V
		400 Hz ~ 2 kHz		0.04 + 1500	

- Output range: \pm (10 μ A ~ 10.5 A).
- 7 digits display.
- Adjustment fineness: 0.002% * RG.
- Distortion: <0.3%.
- Protection function: open circuit protection, overload protection, overheating protection.

4.3 Frequency

Range	Resolution	Accuracy (\pm %*RD)
10.00000 Hz \leq F \leq 99.99999 Hz	0.01 mHz	0.01
100.0000 Hz \leq F \leq 999.9999 Hz	0.1 mHz	0.01
1.000000 kHz \leq F \leq 2.000000 kHz	1 mHz	0.01

5. Specifications (TI1100-C)

5.1 DC Current Output

Range	Current Output	Resolution	24-hour Stability (Tcal±1°C)	Accuracy 1year(Tcal±5°C)	Compliance Voltage
			±(ppm*output + μA)		
100 μA	±(10.0000 μA ~ 110.0000 μA)	100 pA	50 + 0.01	100 + 0.02	10 V
1 mA	±(0.100000 mA ~ 1.100000 mA)	1nA	40 + 0.02	80 + 0.04	10 V
10 mA	±(1.000000 mA ~ 11.000000 mA)	10 nA	30 + 0.2	60 + 0.4	9 V
100 mA	±(10.000000 mA ~ 110.000000 mA)	100 nA	30 + 2	60 + 4	7 V
1 A	±(0.100000 A ~ 1.100000 A)	1 μA	30 + 20	60 + 40	4 V
10 A	±(1.000000 A ~ 10.500000 A)	10 μA	50 + 300	100 + 500	4 V

- Output range: ± (10 μA ~ 10.5 A).
- 7 digits display.
- Adjustment fineness: 0.002% * RG.
- Ripple coefficient: <0.1%.
- Protection function: open circuit protection, overload protection, overheating protection

5.2 AC Current Output

Range	Current Output	Frequency	Resolution	Accuracy ±(%*output + μA)	Compliance Voltage (rms)
100 μA	10.0000 μA ~ 110.0000 μA	10 Hz ~ 45 Hz	100 pA	800 + 0.04	6.5V
		45 Hz ~ 2 kHz		600 + 0.04	
		2 kHz ~ 10 kHz		800 + 0.1	
1 mA	0.100000 mA ~ 1.100000 mA	10 Hz ~ 45 Hz	1 nA	300 + 0.1	6.5V
		45 Hz ~ 2 kHz		200 + 0.1	
		2 kHz ~ 10 kHz		300 + 0.2	
10 mA	1.000000 mA ~ 11.000000 mA	10 Hz ~ 45 Hz	10 nA	200 + 0.8	6 V

		45 Hz ~ 2 kHz		120 + 0.8	
		2 kHz ~ 10 kHz		300 + 2	
100 mA	10.0000 mA ~ 110.0000 mA	10 Hz ~ 45 Hz	100 nA	200 + 8	5 V
		45 Hz ~ 2 kHz		120 + 8	
		2 kHz ~ 10 kHz		300 + 20	
1 A	0.100000 A ~ 1.100000 A	10 Hz ~ 45 Hz	1 μA	200 + 80	3.5 V
		45 Hz ~ 2 kHz		120 + 80	
		2 kHz ~ 10 kHz		300 + 200	
10 A	1.00000 A ~ 10.50000 A	10 Hz ~ 45 Hz	10 μA	200 + 1000	2.5 V
		45 Hz ~ 2 kHz		120 + 1000	
		2 kHz ~ 5 kHz		300 + 2000	

- Output range: \pm (10 μ A ~ 10.5 A).
- 7 digits display.
- Adjustment fineness: 0.002% * RG.
- Distortion: <0.5%
- Protection function: open circuit protection, overload protection, overheating protection.

5.3 Frequency

Range	Resolution	Accuracy (\pm %*RD)
10.00000 Hz \leq F \leq 99.99999 Hz	0.01 mHz	0.01
100.0000 Hz \leq F \leq 999.9999 Hz	0.1 mHz	0.01
1.000000 kHz \leq F \leq 9.999999 kHz	1 mHz	0.01
10.00000 kHz	10 mHz	0.01

6. General Specifications

Power Supply	AC (220±22) V, (50±2) Hz
Maximum Power Consumption	100 VA
Warm Up Time	Twice the time since last warmed up, to a maximum of 30 minutes.
Work Environment	0 ° C~55 ° C, 30% R · H~80% R · H, non-condensing
Storage Environment	-30 ° C~70 ° C, 10% R · H~90% R · H, non-condensing
Communication Interface	USB×1、LAN×1、RS232×1
Dimensions	215 mm (Width) x 252 mm (Depth) x 88 mm (Height), excluding feet.
Display	3.5-inch color LCD
Weight	About 5 kg

