M151 Current Calibrator

- Current 8 mA … 120 A (AC/DC)
- Frequency 15 Hz … 1 kHz
- Best accuracy 0.035 %
- Simulated current and transconductance amplifier
- Built-in process multimeter
- Output capability 8 Vpk
- RS232, IEEE488 (SCPI)

Model M151 is a stable high current calibrator up to 120 A. Basic accuracy is 0.035 %. Instrument can be controlled via RS232 or GPIB interface. Calibrator can work in a simulated amplifier mode to increase current ranges of any multifunction calibrator. It is suitable for power meter's calibration because M151 can be synchronized with the input signal not only in amplitude but also in frequency and phase. Current terminals are isolated up to 450 Vpk against case (protective earth).
M151 is a sophisticated instrument with its own recalibration procedure. The procedure enables to adjust any deviation directly from the front panel.
Calibrator is designed for checking parameters of amp meters. With current coil it can be used for calibration of clamp meters.

M151 Specification (1 year accuracy, reference temperature)

Range	*% of value + % of range*	*Maximal voltage*	*% of value + % of range*	*% of value + % of range*	*Maximal voltage*	*Maximal voltage*
	DC		15 - 40 Hz 70 - 1000 Hz	40 – 70 Hz	15 – 400 Hz	400 - 1000 Hz
0.008000 - 0.300000 A	0.025 + 0.01	8 V	0.03 + 0.02	0.025 + 0.01	5.5 V	3.5 V
0.30001 - 1.00000 A	0.025 + 0.01	8 V	0.03 + 0.02	0.025 + 0.01	5.5 V	3.5 V
1.00001 - 2.00000 A	0.025 + 0.01	8 V	0.03 + 0.02	0.025 + 0.01	5.5 V	3.5 V
2.00001 - 5.00000 A	0.025 + 0.01	5 V	0.03 + 0.02	0.025 + 0.01	3.5 V	3.5 V
5.0001 - 10.0000 A	0.03 + 0.015	5 V	0.04 + 0.02	0.03 + 0.015	3.5 V	3.5 V
10.0001 - 30.0000 A	0.035 + 0.015	5 V	0.05 + 0.02	0.035 + 0.015	3.5 V	3.5 V
30.0001 - 60.0000 A	0.035 + 0.015	5 V	0.05 + 0.02	0.035 + 0.015	3.5 V	3.5 V
60.0001 - 120.000 A	0.035 + 0.015	5 V	0.05 + 0.02	0.035 + 0.015	3.5 V	3.5 V

Multimetr

Function	*Range*	*% of value + % of range*
AC voltage < 1 kHz	1 - 20 V	0.02 % + 0.02 %
AC voltage > 1 kHz	1 - 20 V	0.05 % + 0.05 %
DC voltage	±20 V	0.01 % + 0.01 %
AC current < 1 kHz	10 - 200 mA	0.02 % + 0.02 %
AC current > 1 kHz	10 - 200 mA	0.05 % + 0.05 %
DC Current	±200 mA	0.01 % + 0.01 %
Frequency	1 Hz - 10 kHz	0.005 % + 0.00 %

General specification

Warm-up time:	15 min
Output terminals isolation:	up to 450 Vpk against GND (protective earth)
Distortion of output signal:	< 0.1 %
Frequency accuracy:	0.005 %
Frequency resolution:	0.001 Hz below 500 Hz 0.01 Hz above 500 Hz
Frequency synchronization:	internal, external, power supply
Simulated amplifier gain:	0.5 … 10 A/V (transconductance amplifier) 50 … 1000 A/A (current amplifier)
Remote control:	RS232, IEEE488 (SCPI)
Power supply:	115/230 Vac, 50/60 Hz
Reference temperatures:	+20 °C … +26 °C
Working temperatures:	+5 °C … +40 °C
Storage temperatures:	-10 °C … +55 °C
Dimensions:	W 538 mm, H 283 mm, D 540 mm
Weight:	42 kg

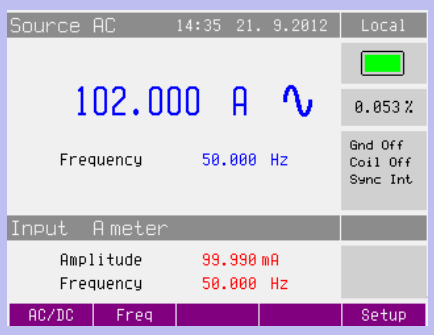
Content of delivery

Current Calibrator M151
Cable RS 232
User's manual
Power supply cable

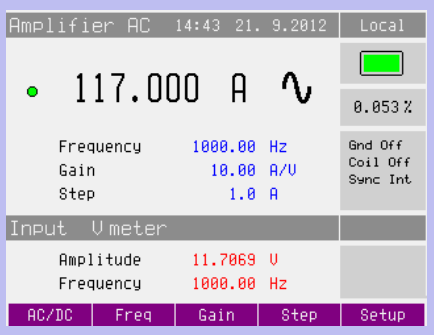
Options (extra ordered)

Option 151-25	*25 turns current coil*
IEEE488/IEEE488	*GPIB cable 2m*
Caliber	*SW for calibration of meters*

AC current source



Simulated transconductance amplifier



Recalibration