



- 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 2 m
Caliber	SW for calibration of meters
Option 151-10	120 A test lead 0.5 m, black
Option 151-11	120 A test lead 0.5 m, red

AC current source

Source AC	14:35 21. 9.2012	Local
102.000 A		
Frequency 50.000 Hz	0.053 %	Gnd Off Coil Off Sync Int
Input A meter		
Amplitude 99.990 mA		
Frequency 50.000 Hz		
AC/DC	Freq	Setup

Simulated transconductance amplifier

Amplifier AC	14:43 21. 9.2012	Local
117.000 A		
Frequency 1000.00 Hz	0.053 %	Gnd Off Coil Off Sync Int
Gain 10.00 A/V		
Step 1.0 A		
Input V meter		
Amplitude 11.7069 V		
Frequency 1000.00 Hz		
AC/DC	Freq	Gain Step Setup

Recalibration

Current AC	Setup
Range 300mAac low (30mA)	
Range 300mAac high (300mA)	
Range 1Aac low (0.3A)	
Range 1Aac high (1A)	
Range 2Aac low (1A)	
Range 2Aac high (2A)	
Range 5Aac low (2A)	
Range 5Aac high (5A)	
Range 10Aac low (5A)	
Range 10Aac high (10A)	
Range 120Aac low 1 (10A)	
Range 120Aac high 1 (30A)	
Range 120Aac low 2 (10A)	
Select	Exit