

Multifunction Calibrator of alternating and direct voltage and current



The C101F Calibrator enables generating direct (DC) and alternating (AC) voltages up to 1100V in five subranges 0.1-1-10-100-1000V, DC and AC currents up to 20.5A in five subranges 0.001-0.01-0.1-1-10A (the C101FC option up to 100A AC). Frequency of alternating signals may be chosen from values 50Hz (synchronized with power supply frequency), 60Hz, 400Hz or can be programmed in range 45.00...2000Hz. Output signal can be set by means of external keyboard or by standard interface RS232C from PC computers.

The C101F Calibrator is characterised by high accuracy, high output power, small dimensions and light weight.

C101F

C100F DC and AC Voltage and Current Multifunction Calibrator

- Voltage source up to 1100V
- Current source up to 20A
- Small dimensions and light weight – 13kg
- High output power
- Option C101FC with 100A AC subrange
- Option C101FB with 40VA power at 20A AC/DC
- Interface RS232C
- Software Calpro 101
- Certificate of Calibration

TECHNICAL PARAMETERS OF C101F CALIBRATOR

Parameter	Range									
	100mV	1V	10V	100V	1000V	1mA	10mA	100mA	1A	10A
Resolution	100nV	1 μ V	10 μ V	100 μ V	1mV	1nA	10nA	100nA	1 μ A	10 μ A
Settings range	1... 205mV	0.01... 2.05V	0.1... 20.5V	1... 205V	10... 1100V	0.01... 2.05mA	0.1... 20.5mA	1... 205mA	0.01... 1.1A	0.1... 20.5A
Uncertainty *) [\pm % of set value and \pm % of setting range]	DC	0.03 +0.005	0.02 +0.002			0.02 +0.003			0.03 +0.003	
	AC	0.05 +0.005+50 μ V				0.05 +0.005+0.5 μ A			0.05 +0.005	
Maximum load	20mA	1100mA	150mA	20mA	11V				1V@20A 2V@10A	
Frequency	DC; 50Hz synchronized with power supply; 60 \pm 0.01Hz and 400 \pm 0.1Hz 45.00...99.99 \pm 0.01Hz, 100.0...999.9 \pm 0.1Hz, 1000...2000 \pm 1Hz									
Temperature coefficient	\pm 0.1 of uncertainty value / 1 $^{\circ}$ C in environment temperature +5...+18 $^{\circ}$ C and +28...+40 $^{\circ}$ C									
Weight and dimensions	13kg and 478 (width)x194 (height)x342 (depth) mm									
Power supply	230V \pm 10% / 45...65Hz / 120VA (C101F) / 200VA (C101FB, C101FC)									

DC – direct voltage and current, AC – alternating voltage and current

*) Absolute Uncertainty with 95% Confidence Level includes the traceability to external standards, 12th months stability, influences of ambient temperature, power supply voltage and load regulation in reference conditions and nonlinearity. For frequency band above 500Hz-linear rise up to double value for frequency 2kHz, typically.

ADDITIONAL TECHNICAL PARAMETERS OF C101FB AND C101FC CALIBRATORS

Parameter / options	C101FB Option with increased output power. Connection of coil (100 turns \varnothing 2.0) to calibrator's output enables checking clamp ammeters up to 1000A		C101FC Option with increased output power and additional 100A AC range	
	Maximum load of range	100V	200mA	100V
	1000V	30mA		30mA
	10A	2V@20A and 4V@10A		2V@20A and 4V@10A
Range 100A AC	Settings range			1...100.0000A
	Resolution			100 μ A
	Uncertainty *)			0.2% of setting+0.05% of range
	Maximum load			0.5V@100A and 0.8V@50A

*) Absolute Uncertainty with 95% Confidence Level includes the traceability to external standards, 12th months stability, influences of ambient temperature, power supply voltage and load regulation in reference conditions and nonlinearity. For frequency band above 500Hz-linear rise up to double value for frequency 2kHz, typically.

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C101F data sheet 2012-01

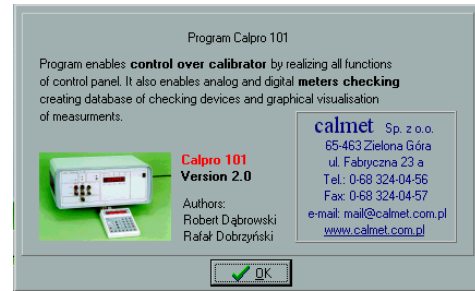
How do you choose calibration set for testing voltage and current meters?

Meter under test
accuracy class
[%]

10	Medium accuracy class C101F Calibrator	High accuracy class Calibrator	Medium accuracy class C101F Calibrator	High accuracy class DMM
1				
0.1	High accuracy class Calibrator	High accuracy class Calibrator	Medium accuracy class C101F Calibrator	High accuracy class DMM
0.01				
0.001	Set of Calibrators	One Calibrator	Set of Calibrator and DMM	

Set of medium accuracy Calibrator and high accuracy DMM are a low cost and more versatility solution

SOFTWARE CALPRO 101



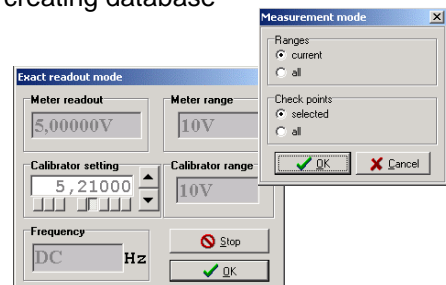
- simulation of calibrator's keyboard by means of PC computer



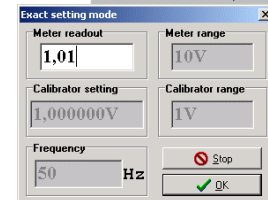
- computer-aided analog and digital devices testing – measurement procedures, editing tables of measurements with automatic errors calculation of testing devices, creating database



C101FB and C101FC Calibrators have increased output power to control the coils in order to check clamps and clamp meters up to 1000A DC and AC.



Range	Calibrator amplitude setting	Meter class	Meter class [% reading]	Meter range	Calibrator range	Meter error	Calibrator error	OK	OFF
10V	5	0.1	0.2	0.00004	10V	0.00004	0.00005	Y	Y
				0.00001	10V	0.00001	0.00005	Y	Y
				0.10010	400Hz	0.10010	0.00010	Y	Y
				4.99970	100Hz	0.00022	0.00005	Y	Y
				4.99980	400Hz	0.00010	0.00004	Y	Y
				4.99978	200Hz	0.00002	0.00005	Y	Y



- graphical visualisation of measurements in the form of tables and various charts

