Single phase and three phase Power Calibrators



C200 single phase source up to 20A C200B single phase source up to 100A

The C200 Series Power Calibrators are for adjusting, checking used and verification of measuring instruments used in power engineering: active and reactive power meters, phase meters, frequency meters, ammeters, voltmeters, transducers of these quantities, monitoring systems and frequency, voltage and current relays in single and three phase symmetrical and asymmetrical configurations for symmetrical and asymmetrical loads.

The C200 Calibrator is single phase and the C233 Calibrator is three phase source of alternating current and voltage. Enables generating alternating voltages up to 420V in four subranges 57-110-220-380V, alternating currents up to 20A (100A) in three (four) subranges 1-5-20-100A, frequency in range 45,00...52,50Hz (up to 70,00Hz in special option) and phase shift in range -90,0...0,00...+90,0°.

Voltage and current output signals are set by multi-turn potentiometers and are simultaneously indicated on 4,5 digit LED displays. Frequency and phase shift are also set by multi-turn potentiometers and are displayed on 4 digit LED displays too.

Sinusoidal signals are generated on both voltage and current outputs. If required, between 1% and 15% harmonic distortion can be added to the signals. Distortion spectrum complains rectangular wave with triple frequency added to main signal.

Instruments to be calibrated can safely be connected to the outputs without changing the set values since the calibrator can be switched to "standby" mode to isolate the output terminals.

Series C200 Calibrators has been built in standard 19" aluminium case. The C233 Calibrator is constructed in three cases and consists of one calibrator basic configuration (phase L1) and two calibrators in special configuration (phase L2 and phase L3).



C233 three phase symmetrical source up to 20A C233B three phase symmetrical source up to 100A



C233C three phase asymmetrical source up to 20A C233BC three phase asymmetrical source up to 100A

C200	Series single phase and three phase	
	Power Calibrators	

- Voltage source up to 420V
 Current source up to 20A (10)
- Current source up to 20A (100A)
 Frequency range 45,00...52,50 Hz
- Phase shift range 0...±90°

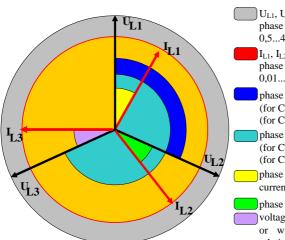
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TECHNICAL PARAMETERS OF OPTIONS C200 and C200B

Parameter	Range	Settings range	Resolution	Accuracy	Maxin	num Load	
	57V	0,5060,00V	0,01V		250n	nA@60V	
Voltage	110V	1,00130,00V	0,01V	±0,05% of set value ±3 digits 136mA@130V		A@130V	
	220V	2,0250,0V	0,1V		68m	68mA@250V	
	380V	3,0420,0V	0,1V		39m	A@420V	
	1A	0,01001,3000A	0,0001A		12\	/@1,3A	
Current	5A	0,0506,000A	0,001A	$\pm 0,05\%$ of set value ± 3 digits $3V@6$		/@6A	
	20A	0,20019,999A	0,001A		1V@20A	2V@20A**)	
	100A**)	1,00100,00A	0,01A	\pm 0,1% of set value \pm 3 digits	0,7V@50A	0,3V@100A	
Frequency		45,0052,50Hz	0,01Hz	±0,02Hz			
Phase shift		0,0±90,0°	0,1°	±0,5° *)			
THD of voltage	THD of voltage and current			0,5% of se	t value		
Weight and dimensions (with x height x depth)				14kg and (478x194x342)mm			
Power supply				230V±10% / 45…65Hz / 130VA (200VA for C200B)			
*) for settings greater then 10% of voltage and current range **) C200B option with additional 100A range							

TECHNICAL PARAMETERS OF OPTIONS C233 and C233B

Parameter	Range	Settings range	Resolution	Accuracy	Maxim	num Load	
	57V	0,5060,00V	0,01V	±0,05% of set value ±3 digits 136mA@130		nA@60V	
Voltage	110V	1,00130,00V	0,01V			A@130V	
	220V	2,0250,0V	0,1V	1	68mA@250V		
	380V	3,0420,0V	0,1V		39m/	A@420V	
	1A	0,01001,3000A	0,0001A		12\	12V@1,3A	
Current	5A	0,0506,000A	0,001A	±0,05% of set value ±3 digits		3V@6A	
	20A	0,20019,999A	0,001A	-	1V@20A	2V@20A**)	
	100A**)	1,00100,00A	0,01A	\pm 0,1% of set value \pm 3 digits	0,7V@50A	0,3V@100A	
Frequency		45,0052,50Hz	0,01Hz	±0,02Hz			
Phase shift		0,0±90,0°	0,1°	±0,5° *)			
Phase shift between voltages		120,0°	0,1°	±1,0° *)			
THD of voltage and current				0,5% of se	t value		
Weight and dimensions (with x height x depth)				3x14kg and 3x(478x194x342)mm			
Power supply				230V±10% / 4565Hz / 130VA (200VA for C233B)			
*) for setting greater then 10% of voltage and current range **) C233B option with additional 100A range							



UL1, UL2, UL3 phase output voltages from range 0,5420V
I _{L1} , I _{L2} , I _{L3} phase output current from range 0,0119,999A (100A for C233B)
phase shift between output voltages is 120° (for C233) or from range 110,0130,0° (for C233C)
phase shift between output voltages is 240° (for C233) or from range 230,0250,0° (for C233C)
phase shift between output voltage and

current from range 0,0...±90,0°

phase shift between output current and voltage from range 0,0...±90,0° (for C233) or with values setting 0,0...±10,0° in relation to phase shift (for C233C)

ADDITIONAL PARAMETERS OF OPTIONS C233C and C233BC

Paran	Phase shift between voltages	
	Settings range	110,0130,0°
$\mu U_{L2}, U_{L1}$	Intrinsic error	±1,0°
	Settings range	230,0250,0°
¥U _{L3} ,U _{L1}	Intrinsic error	±1,0°
	Settings range	φ _{L1} ±10,0°
φ _{L2}	Intrinsic error	±0,5°
	Settings range	φ _{L1} ±10,0°
φ _{L3}	Intrinsic error	±0,5°