



9840 & 9841 Power Calibrators

- **4 voltage ranges:**
57-110-220-500V
- **4 current ranges:**
1-5-20-100A (optional C200B)
- **Frequency: 45-70Hz**
- **Phase angle: -90/0/+90 deg (0.1° res)**
- **Total harmonic distortion:**
Pre-settable from 1% to 15% (0.1% resolution)



The 9840 series calibrators are used for adjusting, checking and verification of measuring instruments used in power engineering. These include active and reactive power meters, phase meters, frequency meters, ammeters, voltmeters, transducers, monitoring systems, and frequency, voltage and current relays.

It is constructed in a standard 19" rack-mount size case. Voltage and current output signals are set by multi-turn potentiometers and are simultaneously indicated on 4.5 digit LED displays. Frequency and phase angle are also set by multi-turn potentiometers and are displayed on 4 digit LED indicators.

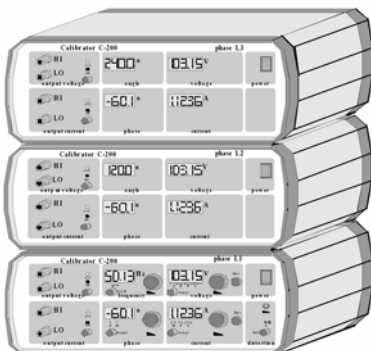
Instruments to be calibrated can safely be connected to the outputs without changing the set values since the calibrator can be switched to 'standby' mode to isolate the output terminals.

Sinusoidal signals are generated on both voltage and current outputs. If required, between 1% and 15% harmonic distortion can be added to the signals.

Three Phase Calibrator Set

Calibrator 9840 can work in a three phase set (order code 9845). It consists of one calibrator in basic configuration (phase L1) and two calibrators in special configuration (phase L2 and phase L3). Calibrator phase L1 controls phase L2 and L3 by means of analogue and digital signals. All connections are on the rear panels.

The calibrator set is able to generate a symmetrical three phase vector, programmed from control calibrator phase L1. The phase angles between the 3 phases are shown on the displays.



Specification

Shift angle between voltage signals	120 deg \pm 1 deg *
Maximum amplitude difference in each phase from average value (voltage)	\pm 1% of value
Maximum amplitude difference in each phase from average value (current)	\pm 1% of value
Maximum difference in phase angle between voltage and current	\pm 1 deg *
<i>* for settings greater than 10% on voltage and current range</i>	



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Specifications

Parameter	Range	Settings Span	Resolution	Accuracy	Maximum Load
Voltage	57V	0.5 - 60V	0.01V	±0.05% of set value ±3 digits	250mA@60V
	110V	1.00 - 125V	0.01V		140mA@130V
	220V	2.0 - 250V	0.1V		70mA@250V
	500V	3.0 - 500V	0,1V		40mA@420V
Current	1A	0.01 - 1.3A	0.0001A	±0.05% of set value ±3 digits	12V@1.2A
	5A	0.05 - 6A	0.001A		3V@6A
	20A	0.2 - 20A	0.001A		1V@20A
	100A**	1 - 100A	0.01A		0.7/0.3V@50/100A
Frequency		45 - 70Hz	0.01Hz	±0.02Hz	
Phase		0.0 - ±90.0°	0.1°	±0.5°*	
Total Harmonic Distortion (adjustable 1 - 15%)				0.5% of set value	
Dimensions (width x height x depth)				478 x 194 x 342 mm / 14Kg	
Power Supply				230V±10% / 50Hz ± 5%, 200VA	
* for >10% of voltage/current range ** 100A option C200B					

Parameter	Reference conditions	Rated operating conditions
Ambient temperature	+18...+23...+28°C	+5...+40°C
Atmospheric pressure	70...106kPa	70...106kPa
Relative humidity	20...80% non-condensing	20...80% non-condensing
Power supply voltage	230V ±10%	230V ±10%
Power supply freq	45...65Hz	45...65Hz
Power supply w/form	Sine, distortion factor <0.05	Sine, distortion factor <0.05
Warm up time	30 min	30 min

Parameter	Requirement
Safety	Class 1 according to EN61010
Insulating strength (50Hz) power supply pins – case	1.5kV
Voltage and current output terminals – case	2kV
Voltage output terminals – current output terminals	2kV
Control D-sub connection – case	500V
Degrees of protection electrical equipment	IP20 according to IEC529
Climatic conditions	Group I according to IEC359
Power consumption	200VA
Dimensions (with/height/depth), Weight	478/194/342mm, 14kg

Ordering Information

9840	Standard single phase source with current range up to 20A	9846	Three phase symmetrical source with additional 100A current range
9841	Single phase source with additional 100A current range	9847	Three phase asymmetrical source with current range up to 20A
9845	Three phase symmetrical source with current range up to 20A	9848	Three phase asymmetrical source with additional 100A current range

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