YOKOGAWA

LS3300
AC Power Calibrator

For single- and multi-phase calibrations

Generates highly precise and stable AC voltages and AC currents simultaneously, enabling the calibration of power measuring instruments.

Precision Making

AC Power Calibrator LS3300

Accuracies and Stabilities:

- AC Voltage Accuracy: ± 350 ppm
- AC Current Accuracy: ± 450 ppm
- Exceptional Stability for AC Voltage and Current: ± 50 ppm/Std.
- Frequency Accuracy: ± 100 ppm
- AC Power Accuracy: ± 450 ppm
- AC Power Stability: ± 100 ppm
- Power Factor (Lead/Lag): -1,0 to 0 to +1,0
- Phase Angle: -180,000° to 359,999°

Voltage and Current Ranges:

6 Voltage Ranges: 1/10/30/100/300/1000 [V]
Max. AC Voltage: 1250 V_{RMS}

5 Current Ranges: 0.03/0.1/1/10/50 [A]
Max. AC Current: 62,5 A_{RMS}

2 AUX Voltage Ranges: 0.5/5 [V]

Frequency Range: 40 to 1200 [Hz]

Reduced Calibration Time with “Stabilizing” Indicator

To improve work efficiency, the LS3300 includes a feature that informs the user when the output has stabilized. When the “STABILIZING” indicator disappears from the LCD, it means the output is stable. This saves time when working with transient signals that can affect measurement accuracy.

Calibrating Inputs for Current Sensors

In industrial facilities, large current sensors and clamp-type power meters are often used for power measurements and energy-saving monitoring. To calibrate a clamp-type power meter or the input for an external current sensor (with voltage output), the AUX/BNC connector can be used. The voltage output range of the AUX/BNC output is from 0 to 6.25 V.

High Current Output up to 180 A

When three units are synchronized and their outputs connected in parallel, the system can deliver an output current of up to 180 A by selecting [Hi Current] in the Wiring menu. This enables the LS3300 to support devices that require very high currents, such as current sensors, smart meters, and more.

Intuitive Power Calibration for One to Three Phases

The LS3300 AC power calibrator features an intuitive, user-friendly interface that enables fast calibration of AC voltage/current, active/reactive power, power factor, and phase angle. A single unit supports single-phase, two-wire systems. Larger wiring systems such as 1P3W, 3P3W, and 3P4W can also be handled by connecting and synchronizing multiple LS3300 units.

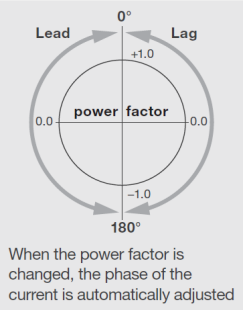
Three-Phase Power Output and Control

For larger wiring systems, the LS3300 significantly speeds up and simplifies the calibration process thanks to its master/slave communication interface. All parameters such as voltage, current, power, power factor, wiring, and phase can be set and controlled by the user from the master unit for all connected devices. In addition, the phases are displayed in a vector diagram.

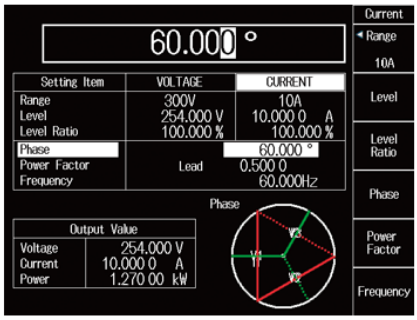
Application Areas of the LS3300

Power Calibration

The power factor is a key parameter when evaluating the efficiency of a device. Both the power value and the power factor are assessed during the calibration of a power meter. The LS3300 supports a power factor range from -1.0 to 0 to +1.0 (leading) and from -1.0 to 0 to +1.0 (lagging). Additionally, the user can adjust the phase angle between voltage and current.



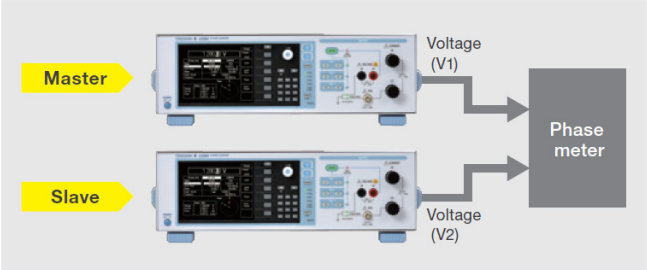
When the power factor is changed, the phase of the current is automatically adjusted



Inspection of Phase Meters

The LS3300 is well-suited for testing phase meters, as it ensures high phase accuracy between the voltage of the master unit (V1)* and the voltage of the slave unit (V2)*. It offers a phase accuracy of ±0.03° and a minimum resolution of 0.001°, allowing virtually any value to be set for the leading or lagging phase of the slave unit's voltage (V2) relative to the master unit's voltage (V1).

* The master and slave units must be connected via a BNC cable for phase synchronization..



Verification of Input/Output Matching for Power Transducers

There are various types of power transducers for AC voltage, current, active power, reactive power, etc. The highly accurate LS3300 can output voltage with an accuracy of 350 ppm and current with an accuracy of 450 ppm. It also allows separate output of AC voltage and current, with adjustable phase angle. These features support input/output characteristic matching, inspection of transducers on production lines, and calibration testing for periodic inspections.

Needle-Sticking Tests

The AC power calibrator can also perform needle-sticking tests (for analog pointer instruments) with high reproducibility. The user can stop the wobbling* at the midpoint and hold the value at any desired point, then manually change the level ratio and restart the upward and downward wobble. The wobble time can be set to 8 s, 16 s, 32 s, or 64 s, and the wobble range can be configured from 0% to 100%, 0% to 105%, 0% to 110%, or 0% to 120% of the output level.
The LS3300 can perform wobbling on either voltage or current, but not on both simultaneously.

* Power factor and phase are not available during the wobble function..

Support for Yokogawa AC and DC Calibrators

Calibration and Service

We professionally perform factory calibrations and support you with DIN ISO EN 17025 calibrations. Repairs of Yokogawa measuring instruments are carried out directly at our service facility in Germany.

Support

Expert advice and application support provided by our sales engineers or in-house product specialists.

BU LS3300 F&B Ed1.en

Precision Making
Yokogawa Test&Measurement stands for the highest levels of accuracy and precision.
Your trusted measurement partner

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