

# LOAD BANK KPLB-2300



## KEYPOWER LOAD BANK:

- \* Frequency: 50/60 Hz;
- \* Voltage range: AC 110-690V;
- \* Duty: Continuous;
- \* Cooling system: Industrial grade axle fans;
- \* Discharged air direction: horizontal for 100 kw, vertical for larger models;
- \* Control power phase: Single-phase, two-wire for 500 kw and below; three-phase, four-wire for larger models.

## GENERAL SPECIFICATIONS

|  |                             |  |
|--|-----------------------------|--|
|  | Model                       | KPLB-2300                                |
|  | Capacity                    | 2300kW                                   |
|  | Type of load                | Resistive                                |
|  | Power factor                | 1  |
|  | Duty cycle                  | Continuous                               |
|  | Cooling system              | Industrial grade axial fan               |
|  | Cooling mode                | Forced air-cooled                        |
|  | Airflow                     | Vertical discharge                       |
|  | Phase                       | Available at both single and three phase |
|  | Rated testing voltage       | 3P3W 110 - 690V                          |
|  | Rated frequency             | 50Hz / 60Hz                              |
|  | Number of fans              | 8  |
|  | Control power input voltage | 3P3W 220 - 480V                          |



FREQUENCY



DRY TYPE



FORCED AIR COOLED



SOUNDPROOF

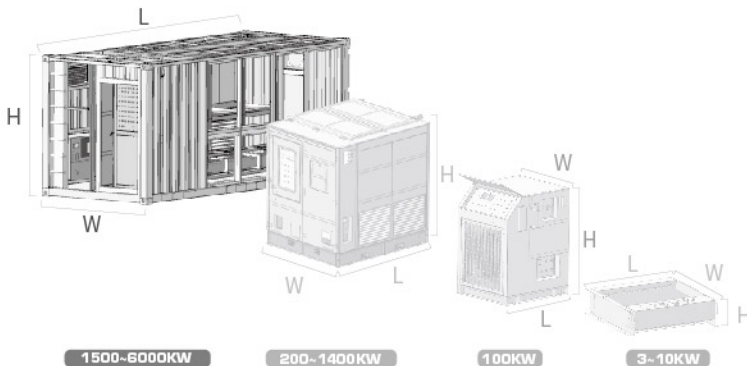


CERTIFICATION



ISO 9001

## Dimension and Weight



## DIMENSION

## KPLB-2300

|  |            |    |      |
|--|------------|----|------|
|  | Length (L) | mm | 6058 |
|  | Width (W)  | mm | 2438 |
|  | Height (H) | mm | 2591 |
|  | Weight     | kg | 7760 |

KEYPOWER has the right to modify any feature without prior notice. Weights and dimensions based on standard products. Illustrations may include optional equipment. Technical data described in this catalogue correspond to the available information at the moment of printing. The illustrations and images are indicative and may not coincide in their entirety with the product. Industrial design under patent.

## Technical Specifications

| PERFORMANCE PARAMETER              |   |
|------------------------------------|---|
| Ambient Temperature                | -10°C ~ +55°C   |
| Relative Humidity                  | ≤98% ventilated environment without explosive or corrosive dust |
| Altitude                           | ≤3000m above sea level  |
| Wire Connection                    | Socket / Terminal   |
| Load Tolerance (each step)         | ±5%   |
| Load Tolerance (overall)           | ±3%   |
| Enclosure                          | ISO 20ft container  |
| Parameter measuring accuracy grade | 0.5   |
| Noise level                        | 91 dBA @ 1m   |
| Enclosure protection class         | IP 54   |
| Forklift handling                  | No  |

| CONTROL PANEL            |  |
|--------------------------|--|
| Control mode (Standard)  | Local manual control   |
| Control mode (Optional)  | Intelligent / remote control   |
| Remote control distance  | ≤100 m   |
| Load step                | 10kW*4, 20kW*3, 50kW*2, 100kW*9, 200kW*6, (non-intelligent type)<br>10kW*13, 20kW*6, 50kW*7, 100kW*7, 200kW*5, (intelligent type)                    |
| Load bank protections    | Fan failure alarm/Overload alarm/Overvoltage alarm/Overheating alarm/Low airflow alarm/Maintenance door open alarm/Control power failure/Fault reset |
| Multi functions display  | voltage, current, load power, reactive power, apparent power, power factor, frequency etc.   |
| One-step load/unload     | Yes  |
| Emergency stop           | Yes  |
| Phase sequence indicator | Yes  |

### Optional Items for Load Bank:



- Capacitive/Inductive/Resistive load bank with different power factor
- Intelligent control
- Laptop for remote control
- Generator tester
- Multi-voltage
- Water-proof cover for air outlet (200-1400KW)
- Air deflecting duct for containerized load bank
- Space heater
- Cable connector
- Galvanized sheet canopy
- Wheels for < 500KW load bank
- Trailer

| RESISTOR FEATURES      |                              |
|------------------------|------------------------------|
| Material               | Stainless steel              |
| Cooling mode           | Forced air cooling           |
| Temperature resistance | 500 ~ 600°C                  |
| Load Tolerance         | ±5%                          |
| Warranty               | 3 years with unlimited hours |

### 304 STAINLESS STEEL RESISTORS



## Generator Tester Function

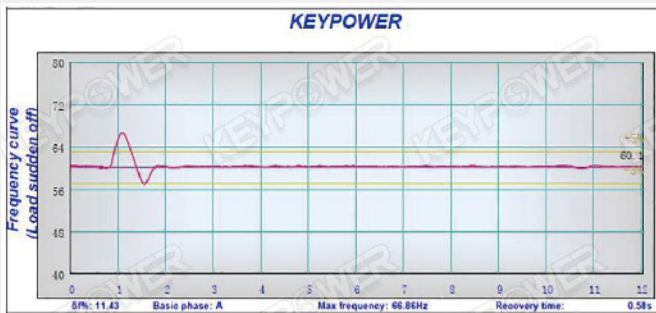
### GENERATOR TESTER



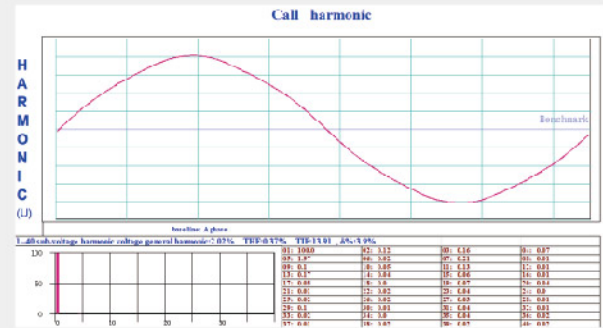
### TEST REPORT

| Test report of generator set's steady performance  |      |                          |                 |                     |      |                 |      |       |                 |      |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
|--|------|--------------------------|-----------------|---------------------|------|-----------------|------|-------|-----------------|------|------|-------|------|-------|------|-------|------|-------|------|-----------------|-----|------|-----------------|----|-----|---------------|---|------|---------------|-----|---------------|-----|------|-----------------|-----|------|-----------------|----|-----|---------------|---|---------------|---|------|---------------|-----|------|-----------------|-----|------|-----------------|----|
| Source: 020202020  |      | Date of test: 2012-11-10 |                 | Test time: 09:30:30 |      |                 |      |       |                 |      |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
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| Item   | Unit | Value                    | Unit            | Value               | Unit | Value           | Unit | Value | Unit            |      |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
| Rated frequency  | Hz   | 50                       | Rated voltage   | V                   | 400  | Rated current   | A    | 1000  | Rated power     | kVA  |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
| Rated power  | kVA  | 1000                     | Rated frequency | Hz                  | 50   | Rated voltage   | V    | 400   | Rated current   | A    |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
| Rated current  | A    | 1000                     | Rated power     | kVA                 | 1000 | Rated frequency | Hz   | 50    | Rated voltage   | V    |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
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| Item   | Unit | Value                    | Unit            | Value               | Unit | Value           | Unit | Value | Unit            |      |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
| Rated power  | kVA  | 1000                     | Rated frequency | Hz                  | 50   | Rated voltage   | V    | 400   | Rated current   | A    |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
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| Rated voltage  | V    | 400                      | Rated current   | A                   | 1000 | Rated power     | kVA  | 1000  | Rated frequency | Hz   |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
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| Rated current  | A    | 1000                     | Rated power     | kVA                 | 1000 | Rated frequency | Hz   | 50    | Rated voltage   | V    |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |
| Rated voltage  | V    | 400                      | Rated current   | A                   | 1000 | Rated power     | kVA  | 1000  | Rated frequency | Hz   |      |       |      |       |      |       |      |       |      |                 |     |      |                 |    |     |               |   |      |               |     |               |     |      |                 |     |      |                 |    |     |               |   |               |   |      |               |     |      |                 |     |      |                 |    |

### FREQUENCY AND VOLTAGE CURVES



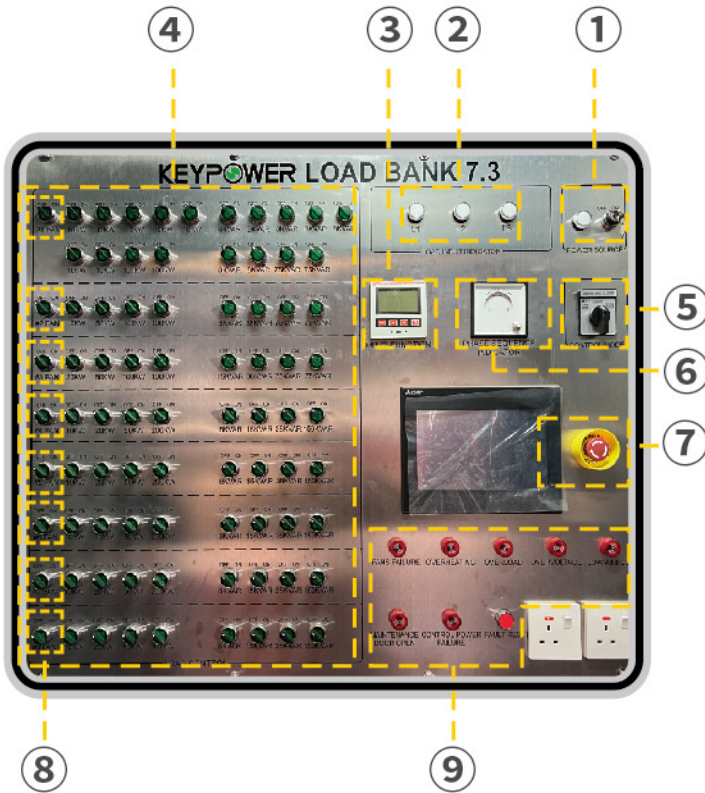
### HARMONIC CURVE



This generator tester can measure most electric parameters of a single-phase or three-phase AC generator. The standards it complied with are GB/T 2820-1997 and GB 2820-90. The signal frequency can be measured varies from 45 Hz to 65Hz. You can select one wiring mode from four modes – 1Φ2W, 3Φ3W, 3Φ4W and 3V3A. The following table shows the parameters: It's the best way to replicate, prove and verify the real-life demands on critical power systems.

| MEASUREMENT MODE | PARAMETERS   |
|------------------|--|
| Normal           | Voltage, Current, Active Power, Reactive Power, Apparent Power, Power Factor, Frequency, Energy runtime, Imbalance degree of Voltage   |
| Harmonic         | Voltage & Current: 2~50th order and the THD (Total harmonic distortion)  |
| Adjustment       | In 100 seconds: Records the maximum & minimum value of Voltage & Frequency. Calculates the increase & decrease range of Voltage & Frequency and the percentage of adjustment.                        |
| Fluctuation      | In 60 seconds: Records the maximum & minimum value of Voltage & Frequency. Calculates the NORMAL frequency rang, NORMAL voltage offset, voltage modulation, percentage of fluctuation and frequency. |
| Load             | In 12 seconds: Records the minimum value of Voltage & Frequency. Records the maximum value of Current and the recovery time. Calculates the offset of Voltage & Frequency.                           |
| Unload           | In 12 seconds: Records the maximum value of Voltage & Frequency. Record the minimum value of Current and the recovery time. Calculates the offset of Voltage & Frequency.                            |
| Wave Record      | Records the real-time voltage waves by five optional modes. The recording time is between 5 seconds and 5 minutes by different modes.  |

## Control Panel



| MANUAL CONTROL               | FUNCTION  |
|------------------------------|---|
| ① Turn on / off power source | Tested power source input   |
| ② Load input indicator       | Indicate U V W load input normal or not   |
| ③ Multi-function meter       | Show testing parameters   |
| ④ Master load on / off       | One step loading / unloading  |
| ⑤ Control mode selection     | Choose control mode: Local manual control / Touch screen control / Remote control |
| ⑥ Phase sequence indicator   | Indicate phase sequence of tested power right or not                              |
| ⑦ Emergency stop button      | Emergency stop  |
| ⑧ Load Steps                 | Loading / unloading   |

⑨ Alarm  
Load bank protection: Fan failure alarm / Overload alarm / Overvoltage alarm / Overheating alarm / Low airflow alarm / Maintenance door open alarm / Control power failure

In addition to all manual control functions, Intelligent/remote control also contains the following functions:

- Touch screen control/remote control
- Auto loading/unloading test
- Data setting

Intelligent control system with **Mitsubishi**<sup>®</sup> PLC



**KEYPOWER** Fuzhou GFF KEYPOWER Equipment Co., Ltd.

| MANUAL          | LL VOLTAGE | CURRENT | P / Q / S / POWER   |
|-----------------|------------|---------|---------------------|
| U <sub>ab</sub> | 0 V        | 0 A     | 0 KW COSφ 0.00      |
| U <sub>bc</sub> | 0 V        | 0 A     | 0 KVAR FPF 0.0 HZ   |
| U <sub>ca</sub> | 0 V        | 0 A     | 0 KVA ON LOAD 0 MIN |

**AUTO**  **AUTO**

RATED POWER: 1000 KW

**LOAD SETTING**

START PAUSE STOP

PF CHOICE: PF=1.0 PF=0.8

ALARM

**ON LOAD DURATION**

OFF LOAD DURATION

Intelligent Control Interface