Technical Specification

Automatic Load Bank

AC 415-100kW

Top Rail Services Pty Ltd

1. Foreword

AC415-100kW Resistive Load Bank is mainly used to test the performance of generator. It can provide scientific monitor measure for generating set equipment.

2. Testing System

Note: Power cable and PC is not available. Picture just for reference, subject to the real products.

3. Supply List

The following form presents the accessories provided when we make shipment.

Items	Quantity	Remark
AC415-100kW Resistive Load Bank	1	
RS485	1	10 meters
RS232, RS485, USB converter	1	
Product Instruction	1	
Certification	1	
Warranty Card	1	1 year
Packing List	1	
Receiving Apron	1	
Data Processing Software	1	
Test Report	1	

4. Technical Parameter

AC415-100kW Resistive Load Bank	
Rating Voltage/Frequency	415VAC/50Hz, 3 Phase 4 Wire
Rated Power	Resistive load: 110kW
Load Step	1、2、2、5、10、20、20、50kW, min step load: 1kW
Power Factor	1
Load Tolerance（each step）	±5%
Load Tolerance（overall）	±3%
Display Precision	0.5 class
Control Power	Single voltage 240VAC 50Hz
Wire Connection	Load power supply input - Copper bar (star coupling "Y") Control power supply input - Connector-bar
Insulation	F
Duty Cycle	Continuous
Transportation	Hoisting, there are lifting lugs on top of casing and wheel castors at bottom
Casing Color	Grey（RAL7035）or as you required
Equipment Dimension	860*570*770mm
Weight	120kg
Operating Environment Parameter	
Workplace	Indoor
Ambient Temperature	-20℃～+50℃
Relative Humidity	≤95%
Altitude	≤2500 meter
Atmospheric Pressure	86～106kPa
Brands of Main Components	
Contactor	Schneider
Fuse	Miro
PLC	Siemens
Data Processing Software	Top Rail Services（self-developed）
Alloy Resistance	Top Rail Services（self-developed）

5. Function

A. User could load any power within rated power, can test stable state three-phase voltage, current, active power, reactive power, apparent power, power factor, frequency, running time of generating set.

B. Whether load/unload by local control panel or by PC software control, user can pre-set the power then press the master load button.

C. Control mode: user can choose local control or intelligent control(PC control)

D. Local manual control: there is local control panel in load bank, with multi load steps, min load steps 1kW, controlled by buttons.

E. Automatic control: user can control load bank by data processing software of PC to make automatic load/unload, display, record and manage the test data, form curve, graph and can be printed.

F. Control mode interlock: there is switch in control panel to choose control mode, other control mode is invalid if user choose one control mode.

G. With data processing software, could form curve of current, active power, reactive power, apparent power, power factor, frequency and can be printed.

H. One-key load/unload: user can load or unload with one key easy to control.

I. 3 line LED multi-function meter display.

6. Data Processing Software Functions:

A. Communication type: through RS232, RS485 or USB interface.

B. Load mode: manual load or automatic load.

C. Manual load: input power and power factor.

D. Automatic load: User can set several periods of power and time, and in turn of

0%→25%→50%→75%→100% or 110%, etc

E. or other preset order （33%→66%→99%） to make automatic load testing.

F. Parallel testing: when several load banks parallel working, parameters of each load bank can be displayed and recorded, so do the final parameters of paralleling working.

G. Real-time parameter: Current, voltage, power, power factor, frequency, time, etc could be displayed by software.

H. Safety monitoring: User can know the working conditions of load bank through software indicating light. When in abnormal stop protection, software will indicate the reasons of stopping.

I. Data collection interval: the min saving interval is 2 seconds.

J. Data saving and in query: testing data could be saved in software, user can query at any time.

K. Data display: it could display real-time data and history data; user can print voltage, current, frequency, power graphs and charts.

L. Charts and graphs are output in format of JPG while testing data output in Excel format, and all can be printed.

7. Protection

A. User can press the emergency stop button in the panel to unload immediately when the load bank is abnormal while working.

B. Over-load: Automatic load dump and give alarm when voltage is over safety thresholds.

C. Over-heat protection: Automatic load dump and give alarm when temperature is over safety thresholds.

D. Short Circuit Protection: Fuse could avoids damage to equipment when short circuit or current overload.

E. Fan protection: Machine could not do load testing before working power of fan is on.

F. When control power cable in wrong connections, 3 phase fans can also work in good conditions.

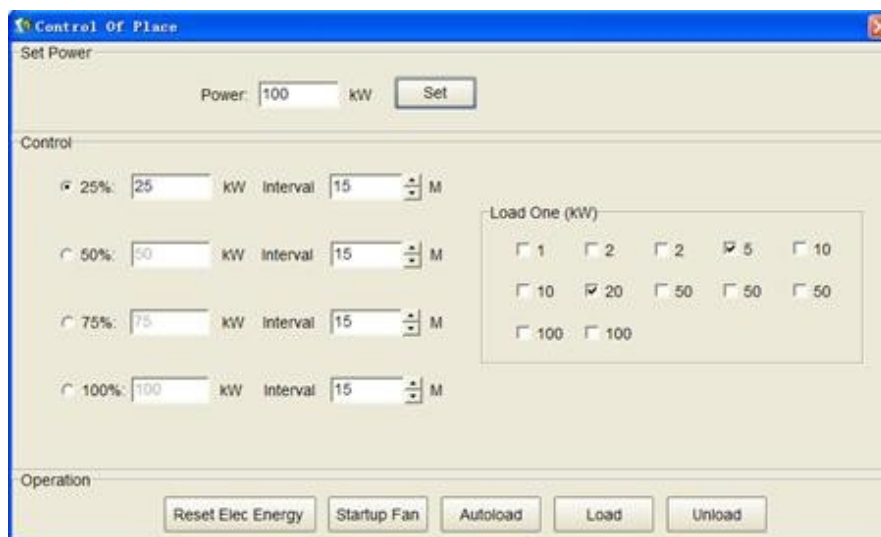# 8. Picture Show

Control Panel

9. Data Processing Software

Connect computer and load bank through data transmission line, then realize all the test functions by intelligent control on PC.

（1）Main Interface

（2）Loading: Manual operation or automatic.

- Manual Loading: select and set the power value, then system add the load continuously.

- Automatic Loading: set several add stages，each stage can be different from others in power and time, system completes the adding load process according this order: 0%→25%→50%→75%→100% or 110%.

（3）Data Display: display the real-time data, curves and graphs. User can save data at any time, and set data storage interval time freely.
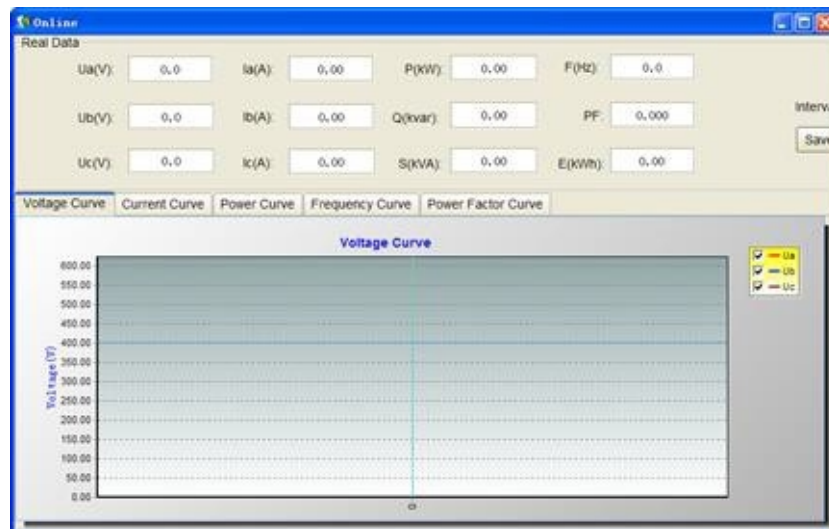
（4）Data Management: after testing, user should save useful data, then can query and print at any time.

A. Data Query: read testing record which is saved in the past, and view all the data in curve graphs or tables. Tables can be exported as Excle file format

B. Print: choose the testing data curve or graph needed to print.

10. Acceptance

The system can be acceptance through actual operation by two sides. After manufacture, user could come to our factory to view the function testing; it is at user's own expense. The load bank couldn't leave the factory until it passes the acceptance.

11. After-sale Service

A. Warranty period is one year.

B. If required, technicians will be sent to help customer install and debug the machine by the user's cost.

C. Customer has the right of technical consulting service for free forever.