Why load bank testing is important?

FORESIGHT series AC/DC load banks are for many power supplies load bank testing, to ensure that the standby power supply system say UPS(uninterrupted power supply), battery bank, generator, transformers, inverter etc which especially located in harsh, dusty or corrosive environment working in good condition, when you need them most, if switched to be loaded when the main power supply in maintenance procedure or stop abnormally.

The AC/DC load bank loading test preventative maintenance of such power supply systems could free you from power supply failure, to ensure constant uptime for your power systems and make you prepared for anything. Downtime could also be reduced by regular maintenance and thorough inspections which are the key to power supply systems maintenance.

Load bank testing could help highlight a large range of faults on the power supply systems it test. The first goal achieved when testing with FORESIGHT AC/DC load bank is to ensure your power supply system is reliable or not by validating the power systems' outputs to its technical specifications. The underlying question that FORESIGHT series AC/DC load bank could answer you is--"how is my power supply systems constant uptime(technical performance) ?" The load bank also tests that the power supply system is not faulty, no faults in construction and components reliable, that the aging of the power supply system is in line with expectations and that there are no pending breakdowns or early signs of wear and tear.

FORESIGHT offers you whole AC/DC load bank testing solutions of predictive failure analysis for UPS(uninterrupted power supply), generator, transformers, PV system, inverter etc, to validate the condition and output of such power systems comprehensively. Integrated AC/DC load bank could be made in one unit or separately with different load voltages as per your need for different applications.

FORESIGHT AC/DC load banks applications	**FORESIGHT series load banks loading elements (load bank types)**
➢ Battery bank system ➢ Energy storage system ➢ Energy meter loop load test ➢ Datacenter rack heat simulating	Alloy resistors, inductors & capacitors loading elements are combined used in FORESIGHT series AC/DC load bank as per clients' need in different applications:

➢ PV system Inverter anti-islanding test ➢ Voltage regulator, rectifier aging load test ➢ Genset, UPS load bank commission testing ➢ AC/DC power supply, power source commission acceptance test	➢ Pure resistive AC load bank ➢ Pure resistive DC load bank ➢ RCD non-linear AC load bank ➢ Resistive & inductive combined AC load bank ➢ Resistive, inductive & capacitive combined AC load bank

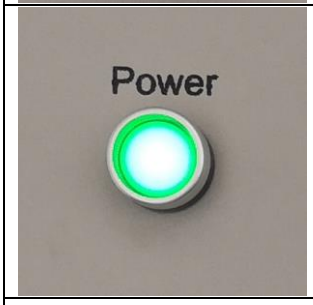
FORESIGHT series load banks protections **Standard protections:** ➢ Emergency pause operation: one-key stop loading ➢ Over temperature alarm/protection: alarm & remove load ➢ Fan interlock protection: loading available after fan activated ➢ Over voltage protection: alarm & remove load	**Optional protections** ➢ Blower thermal overload protection: alarm & remove load ➢ Short circuit protection by fuse(over current protection) ➢ Phase sequence protection(for fans with 3phase voltage) ➢ Or other functions as requested

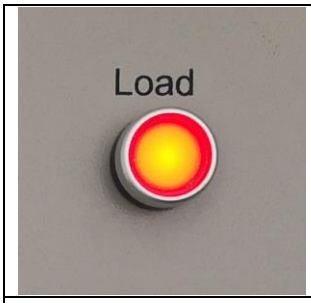
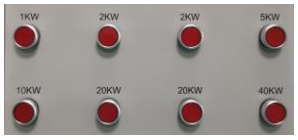
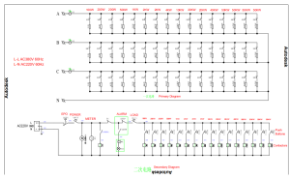
FORESIGHT series load bank control modes Two control modes available for FORESIGHT series AC/DC load banks: The local panel control mode and the PC software remote control mode. **Local panel control mode available as below listed:** ➢ By contactor ~~➢ By circuit breaker~~ ➢ ~~Or other switches as requested~~	**PC software remote control(optional)** FORESIGHT series AC/DC load bank remote control communication protocol would be provided for clients' integrating the load bank into the ATE system

Technical Specifications	
Model	FST-AC400V-50KW-RL Resistive & Inductive AC Load Bank
Load Element	Alloy resistors & Inductors
Load Voltage	AC400V 3phase 4wire, 50Hz
Load Power	Resistive: 50KW for AC400V 3phase 4wire, 50Hz

	Inductive: 37.5KVar for AC400V 3phase 4wire, 50Hz
Load Steps @AC400V 3P4W	**Resistive Load Steps (three phase controlled):** 1KW, 2KW, 2KW, 5KW, 10KW*2, 20KW (1KW-50KW adjustable) **Inductive Load Steps (three phase controlled):** 0.5KVar, 1KVar, 2KVar, 2KVar, 5KVar, 7KVar, 10KVar, 10KVar (0.5KVar-37.5KVar adjustable)
Power Factor	PF=0.8 and adjustable by client
Load Accuracy	Resistive: ±5%, Inductive: ±10%
Digital Meter	Voltage, Current, Power, Frequency, Power Factor and etc.
Power Supply	220V 50Hz, single phase
Control Mode	1. Manual control by push button 2. Remote control by PC software
Wire Connections	Copper bus bar for wire connections
Insulation Class	F
Protection Level	IP20(indoor use）
Fan Noise	75dB
Cooling Mode	Force-air cooling
Work Mode	Continuous work
Protections	Overheating/buzzer alarm, overheating/over voltage protection, emergency stop button
Ambient Temperature	-10℃～+50℃
Dimension	700*850*1600mm
Weight	250KG

Mobility	Four wheels
Humidity	≤95%
Altitude	≤2500 meters

Load Bank Control Panel Explanation		
Component Picture	**Name**	**Function**
	EPO	Emergency pause operation (Press to stop, rotate to release) clockwise rotate before load bank operation
	Power	Fan power with built in light indicator
	Meter	Digital meter displaying the voltage, current, frequency, active power, energy, power factor and etc. **(see below operation guide)**
	Alarm	Over temperature (85℃) buzzer alarm

	Load	Load Steps control switch with built in light indicator
	Load Steps: Push Buttons	Push on/off to adjust the load power (by contactor on/off)
	Load Cables Connection Copper Bus Bar: A, B, C & N	4 load cables connection between copper bus bar A, B, C & N, and equipment under test
	AC220V Power Supply Socket	Plug in the power cord to load bank socket with 220V single phase
	ON-OFF Wheels	Press ON to lock the wheel Press OFF to unlock the wheel
	Grounding connection	Grounding before load bank testing
	Diagram	All design diagrams provided--turn key

Each load bank includes the standard items:

① Load Bank Main Unit--1 set
② Main Unit Power Cord--1 pcs (inside load bank)
③ Products primary and secondary diagram--1 pcs (digital copy)
④ User Manual--1 pcs (digital copy)

Load Bank Operation Guide

Note: please read the designed diagram and manual before any operation.

① Wires connection before loading

1) Make sure **all switches are off** before any connections.
2) Grounding connection the load bank before all operation
3) Cables connection between load bank bus bar A/B/C/N and equipment under test
4) Plug in the power cord to the load bank 1phase AC220V power socket.
5) Check again to make sure all cables connection reliable.

② Local panel loading operation

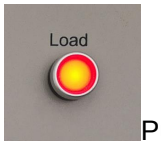
1) 

Clockwise rotate before load bank operation

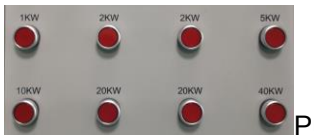
2) 

Push on “Power” button in local panel--fans working

3) Power on the equipment under test.

4) 

Push on the “Load”--Start loading

5) 

Push on/off the load steps to adjust the loading power.

6) **Press LEFT** 

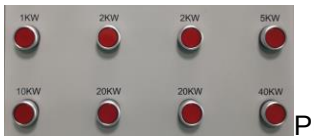
or RIGHT 

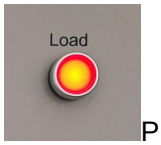
keys to view data.

		
001: Voltage	002: Current	003: Active power

		
004: Power factor	005: Reactive power	006: Apparent power

③ Disloading operation

1)  Push off all load steps

2) 

Push off “Load”

3) 

Push off “Power” after 10-20 minutes cooling

4) 

Press the “EPO” emergency stop button

5) REMOVE ALL the power supply of load bank & equipment under test

6) Remove all cables

Note:

- Load power vary according to ohm law if applied to lower voltage than 230/400V.
- Other load bank input voltages as below are available upon requested:
  3φ4W+G, Y connection: 190/110,200/115,208/120,220/128,230/132,240/139V
  3φ4W+G, Y connection: 380/220, 400/230, 415/240, 440/254, 460/265, 480/277V
  3φ3W+G; Delta connection: 220, 230, 240, 380, 400, 415, 440V