



INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com



Why need load bank testing

It is really critical to ensure that your 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.

Such power supply systems could fail without proper preventative maintenance. FST provides a whole range of custom preventative maintenance products solutions for your UPS systems, generators and many more 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.

FST AC load banks could help highlight a large range of faults on the power supply systems it test. The first goal achieved when testing with FST AC 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 FST series AC 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.

FST series AC load bank testing offers you whole 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.

About FST load banks resistor

Highly reliable and durable new alloy resistor is used for the FST's AC & DC load bank. It is thermal shrinkable and seal installed in the stainless steel pipe, whose surface with insulated heat sink. The resistor is moisture-proof, anti-corrosion, good heat dissipation, high insulation resistance, safe and reliable.



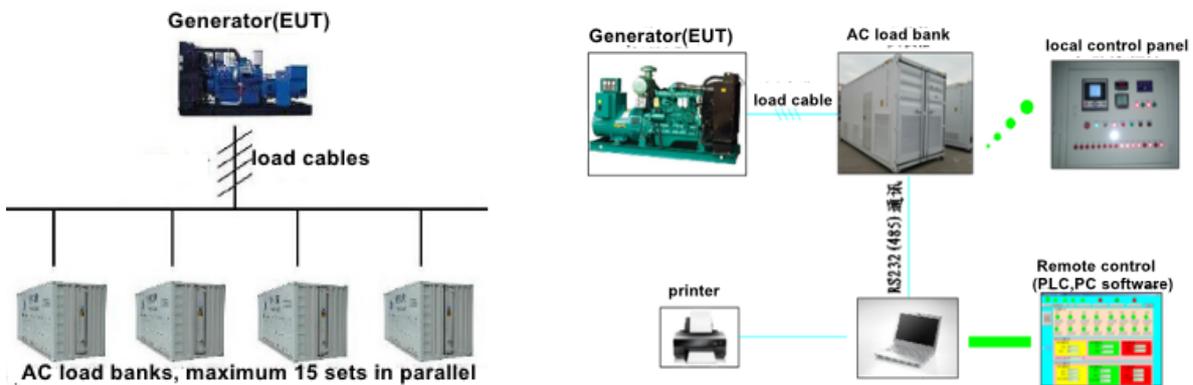
INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com

FST load bank control modes(remote control is optional)

Two control modes available for FST AC load banks: **The local panel control mode and the remote control mode by PLC through PC software.** Local control mode will be locked once load bank is switched to remote control mode. By applying the PLC, we could make load bank an intelligent test system, load power curve could be preset through PC software and all electrical parameters of EUT(equipment under test) including current, voltage, apparent power, active power, reactive power, power factor, frequency and warning info could be achieved automatically by the PC software and displayed by load bank digital meter. Up to 15 load banks at most could be parallel controlled by PC software which generating the test tables, curves and standard test report.



Technical Specifications	
Model	FST-IAC415V-40A-R Resistive AC Load Bank
Load Element	Alloy resistors
Load Voltage	AC415V 3 phase 4 Wire, 50Hz, or lower voltage (Load Voltage DO NOT exceed AC415V)
Load Step(ohm)	Phase A: 0.1, 0.2, 0.2, 0.5, 1, 1, 2, 2, 5, 10, 20, 40, 60, 100(Ω) Phase B: 0.1, 0.2, 0.2, 0.5, 1, 1, 2, 2, 5, 10, 20, 40, 60, 100(Ω) Phase C: 0.1, 0.2, 0.2, 0.5, 1, 1, 2, 2, 5, 10, 20, 40, 60, 100(Ω) (0.1 to 242 ohm adjustable per phase)
Power Factor	PF=1
Load Accuracy	±5%
Digital Meter	Voltage, Current, Power, Frequency and etc.
Power Supply	240V 50Hz, single phase



INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com

Control Mode	Manual local panel control by push button
Insulation Class	F
Protection Level	IP20(indoor use)
Fan Noise	75dB
Cooling Mode	Vertical force-air cooling
Work Mode	Continuous work
Protections	Overheating/buzzer alarm, overheating/over current protection, emergency stop button
Ambient Temperature	-10°C ~ +50°C
Dimension	600*850*1260mm
Weight	180KG
Mobility	Four wheels, lifting rings in chassis top
Humidity	≤95%
Altitude	≤2500 meters

Load Bank Control Panel Explanation

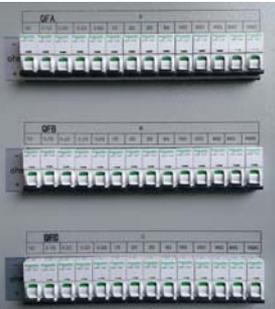
Component Picture	Name	Function
	EPO	Emergency pause operation (Press to stop, rotate to release) <u>clockwise rotate before load bank operation</u>
	Power	Fan power with built in light indicator



INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com

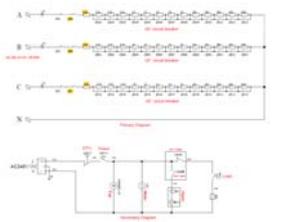
	<p>Meter</p>	<p>Digital meter displaying the voltage, current, frequency, active power, reactive power, power factor and etc.</p>
<p>Alarm</p> 	<p>Alarm</p>	<p>Over temperature (85°C) buzzer alarm</p>
<p>Load</p> 	<p>Load</p>	<p>Load Steps control switch with built in light indicator</p>
	<p>Load Steps: Circuit Breakers</p>	<p>Push on/off to adjust the load resistance</p>
	<p>Load Cables Connection Copper Bus Bar: A, B, C & N</p>	<p>4 load cables connection between copper bus bar A, B, C & N, and equipment under test (Load Voltage DO NOT exceed AC415V)</p>
<p>AC240V</p> 	<p>AC240V Power Supply Socket</p>	<p>Plug in the power cord to load bank socket with 240V single phase</p>



INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com

	Power Cord	240V power cord to power on load bank
	ON-OFF Wheels	Press ON to lock the wheel Press OFF to unlock the wheel
	Grounding connection	Grounding before load bank testing
	Diagram	Load bank internal wiring connection Primary and secondary diagram

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 terminal blocks A/B/C/N and equipment under test
- 4) Plug in the power cord to the load bank AC240V power socket.
- 5) Check again to make sure all cables connection reliable.



INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com

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(Output voltage **DO NOT exceed** L-L AC415V).

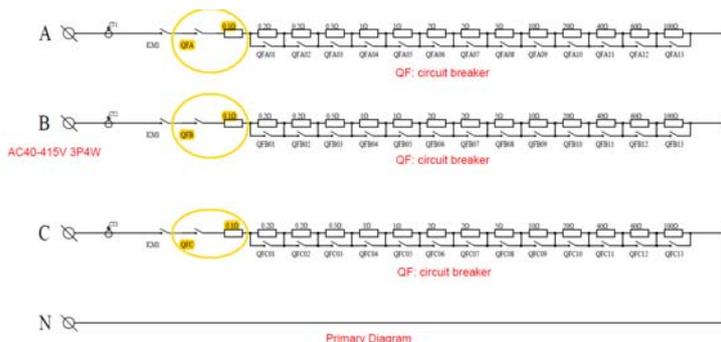


4) Push on the "Load"--Main contactor on, loading activated



5) Make sure **ALL** circuit breakers are OFF, then push on QFA(0.1ohm), QFB(0.1ohm), QFC(0.1ohm) circuit breakers--load bank **ALL** resistors are loading (see above picture & below diagram)

6) Push **on** other circuit breakers to short circuit(remove) the resistors that unexpected
NOTE: QFA(0.1ohm), QFB(0.1ohm), QFC(0.1ohm) circuit breakers **MUST** always ON (see below diagram)





INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com

7) **IMPORTANT:** Whatever adjustment is made to adjust load current, it's required to **INCREASE** the load resistance **FIRSTLY**, then adjust the resistance to expected load current.

8) Press **LEFT**  **Min** or **RIGHT**  **Max** 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 "Load"
- 2)  Push off **ALL** load circuit breaker
- 3)  Push off "Power" after 10-20 minutes cooling



INSTRUMENTS & ENGINEERING

FST-IAC415V-40A-R Resistive AC Load Bank

www.fo-sight.com



- 4) Press the "EPO" emergency stop button
- 5) REMOVE ALL the power supply of load bank & equipment under test
- 6) Remove all cables

NOTE: Over-voltage loading is prohibited