



### Why load bank testing is important?

JUNXY 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 JUNXY 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 JUNXY 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.

JUNXY 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.

<p><b>JUNXY AC/DC load banks applications</b></p> <ul style="list-style-type: none"> <li>➤ Battery bank system</li> <li>➤ Energy storage system</li> <li>➤ Energy meter loop load test</li> <li>➤ Datacenter rack heat simulating</li> <li>➤ PV system Inverter anti-islanding test</li> <li>➤ Voltage regulator, rectifier aging load test</li> <li>➤ Genset, UPS load bank commission testing</li> <li>➤ AC/DC power supply, power source commission acceptance test</li> </ul>	<p><b>JUNXY series load banks loading elements (load bank types)</b></p> <p>Alloy resistors, inductors &amp; capacitors loading elements are combined used in JUNXY series AC/DC load bank as per clients' need in different applications:</p> <ul style="list-style-type: none"> <li>➤ Pure resistive AC load bank</li> <li>➤ Pure resistive DC load bank</li> <li>➤ RCD non-linear AC load bank</li> <li>➤ Resistive &amp; inductive combined AC load bank</li> <li>➤ Resistive, inductive &amp; capacitive combined AC load bank</li> </ul>
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<p><b>JUNXY series load banks protections</b></p> <p><b>Standard protections:</b></p> <ul style="list-style-type: none"> <li>➤ Emergency pause operation: one-key stop loading</li> <li>➤ Over temperature alarm/protection: alarm &amp; remove load</li> <li>➤ Fan interlock protection: loading available after fan activated</li> <li>➤ Over voltage protection: alarm &amp; remove load</li> </ul>	<p><b>Optional protections</b></p> <ul style="list-style-type: none"> <li>➤ Blower thermal overload protection: alarm &amp; remove load</li> <li>➤ Lack of air volume protection: alarm &amp; remove load</li> <li>➤ Short circuit protection by fuse(over current protection)</li> <li>➤ Phase sequence protection(for fans with 3phase voltage)</li> <li>➤ Air inlet &amp; outlet temperature monitoring</li> <li>➤ Or other functions as requested</li> </ul>
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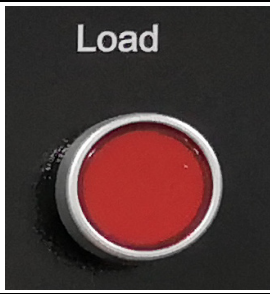


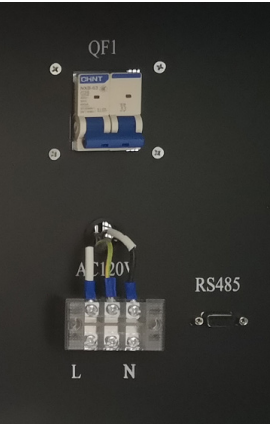


<p><b>JUNXY series load bank control modes</b></p> <p>Two control modes available for JUNXY series AC/DC load banks: The local panel control mode and the PC software remote control mode.</p> <p><b>Local panel control mode available as below listed:</b></p> <ul style="list-style-type: none"> <li>➤ By contactor</li> <li>➤ By circuit breaker</li> <li>➤ Or other switches as requested</li> </ul>	<p><b>PC software remote control(optional)</b></p> <p>JUNXY series AC/DC load bank remote control communication protocol would be provided for clients' integrating the load bank into the ATE system</p>
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<b>Technical Specifications</b>	
Model	JUNXY-DC480V-600A-R Resistive DC Load Bank
Load Element	Stainless steel resistors.
Rated Voltage	DC480V
Rated Current	600A@DC480V(1A-600A adjustable)
Load Steps	1A, 2A*2, 5A, 10A, 20A*2, 40A, 50A*2, 100A*4 (1A-600A adjustable)
Load Accuracy	±5%
Digital Meter	Testing voltage, current
Power Supply	120V 1phase 2wire 50/60Hz
2 Control Mode	<ol style="list-style-type: none"> <li>1. Manual control by push buttons</li> <li>2. PC software remote control</li> </ol>
Wire Connections	"+" & "-" bus bar for load cables connection
Insulation Class	F
Protection Level	IP20(indoor use)
Fan Noise	75dB
Cooling Mode	Force-air vertical cooling
Work Mode	Continuous work
Protections	Overheating/Buzzer alarm, Overheating/voltage protection, emergency stop button
Dimension	1100*1370*1500mm
Weight	410KG
Ambient Temperature	-10℃~+50℃
Mobility	4 wheels & lifting eyes

Humidity	≤95%
Altitude	≤2500 meters

### Load Bank Control Panel Explanation

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> <u>EPO to remove load &amp; control ONLY,</u> <u>fans still working</u>
	Control Mode	Local: by local panel control Remote: PC software OFF: no mode selected <u>2 modes interlock</u>
	Meter	Digital meter displaying the voltage, current
	Power	Fan/control power with built in light indicator
	Alarm	Over voltage/current/temperature (85°C) buzzer alarm & load removed

 <p>Load</p>	<p>Load</p>	<p>Load Steps control switch with built in light indicator</p>
	<p>Load Steps: Push Buttons</p>	<p>Push on/off to adjust the load power (by <b>contactor</b> on/off)</p>
	<p>Load Cables Bus Bar: +, - &amp; GND</p>	<p>2 load cables connection between copper bus bar +/-GND and equipment under test</p>
	<ol style="list-style-type: none"> <li>1. QF1</li> <li>2. L/GND/N</li> <li>3. RS485</li> </ol>	<ol style="list-style-type: none"> <li>1. QF1: Fan and control power breaker</li> <li>2. L/GND/N: Fan and control power</li> <li>3. RS485 for PC remote control</li> </ol>
	<p>RS485-USB Cable Driver (Install driver before software running)</p>	<p>PC software remote control cable (One end to RS485 cable, the other end to PC. <u>Or connect directly between load bank and PC</u>)</p>
	<p>RS485 Cable</p>	<p>Extend cable for remote control (One end to load bank, the other end to RS485-USB)</p>

**The 600A load bank includes the standard items:**

1. Load Bank Main Unit--1 set
2. RS485-USB cable & CD driver--1 set (by email)
3. Products primary and secondary diagram--1 pcs (digital copy)
4. User Manual--1 pcs (digital copy)

## Load Bank Operation Guide



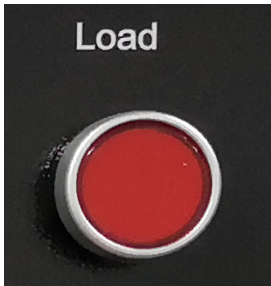


### IMPORTANT Note:

- Please read the designed diagram and manual before any operation.
- Load power will vary according to ohm law when applied to voltage below DC480V.
- Please practice using the DC load bank before any actual loading/testing.

## 1. Wires connection before loading

- 1.1 Make sure all switches are off before any connections.
- 1.2 Grounding connection the load bank before all operation
- 1.3 Cables connection between load bank bus bar “+”/“-” and equipment under test
- 1.4 AC120V 1P2W power supply to the load bank terminal
- 1.5 Check again to make sure all cables connection reliable.

## 2. Load bank loading operation

- 2.1  Clockwise rotate the load banks’ “EPO” before load bank operation
- 2.2  Push on load bank’s “Power” button--fans working
- 2.3  Push on the load banks’ “Load”--Start loading
- 2.4  Push on/off the load steps to adjust the loading current/power
- 2.5  View data directly: U/I

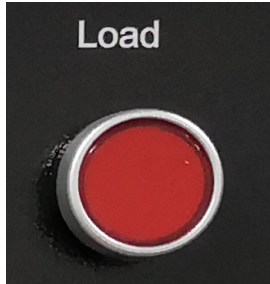


**3. Load bank unloading operation**

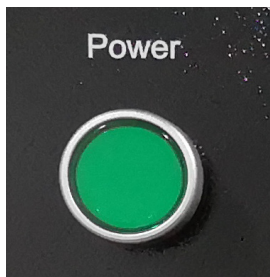
- 3.1 Push off all the load steps to adjust the loading current



- 3.2 Push off the load banks' "Load"



- 3.3 Push off "Power" after



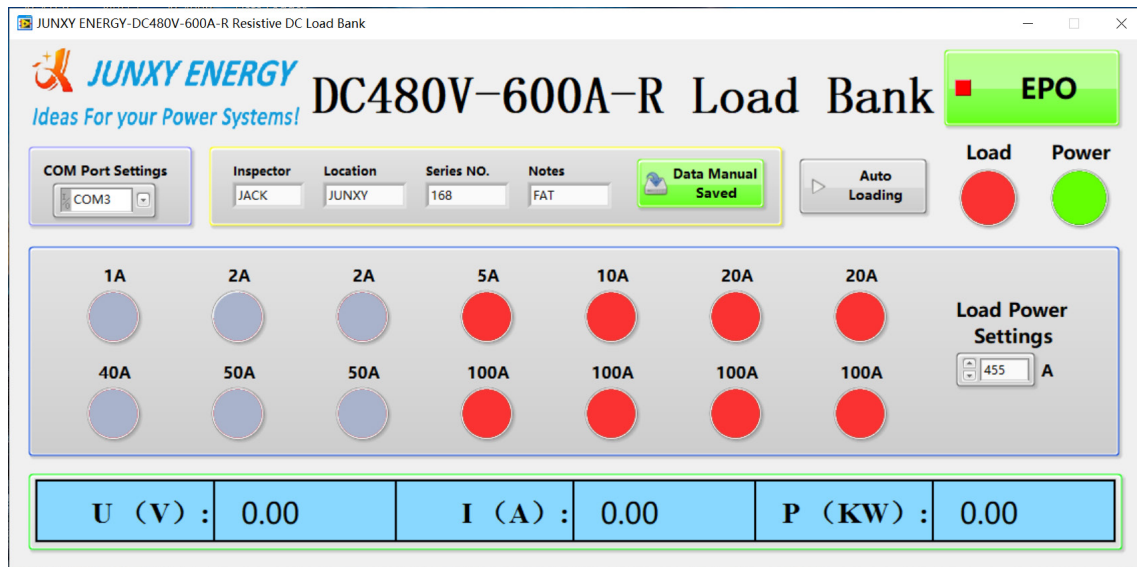
**10-20 minutes cooling(IMPORTANT NOTE)**

- 3.4 Press the "EPO" emergency stop button



- 3.5 REMOVE ALL the power supply of load bank & EUT

- 3.6 Remove all cables




Local panel control mode and PC software remote control mode are available for controlling the AC load bank, which are interlocking. ONLY the local panel “EPO” is effective if load bank switched to “REMOTE” mode. JUNXY AC load bank PC software allows users to remote control the loading process, monitoring and recording load parameters: voltage, current, frequency, leading & lagging power factor, active power, reactive power, apparent power, energy, time.


Users could conduct the loading either manually by clicking load steps push buttons to adjust the load power or automatically by setting the load profile. Test report available by EXCEL format, easy for printing.

**Note: please practice the software while load banks disconnected with the ETU (equipment under test), before actual loading.**

### RS485-USB cable driver installation before software operation

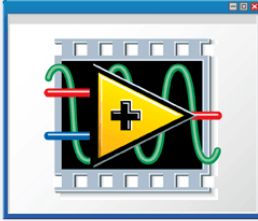

Double click  CDM21216\_Setup to install the RS485-USB cable driver

### LOCAL/OFF/REMOTE control mode

 <p>Control Mode</p>	<p>Two control modes are available for the JUNXY series RLC load banks: local panel control mode and PC software remote control mode, which are interlocking. please switch the control modes “LOCAL/OFF/REMOTE” into “<b>REMOTE</b>”, so as to have PC software remote control function. Connect the RS485-USB between the load bank RS485 socket and PC USB port, select the right in use port so as to operate the software.</p>
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**Software Installation**

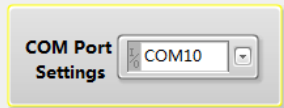
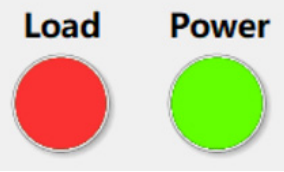
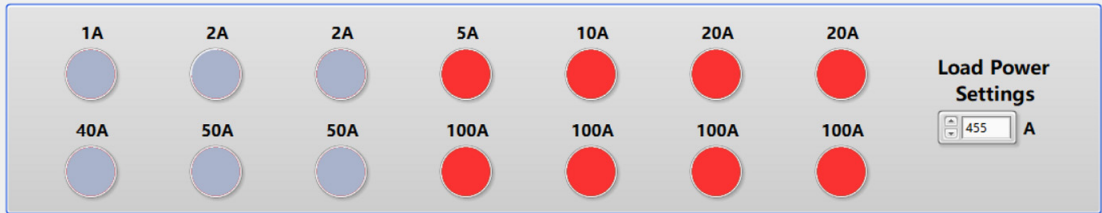
 <p>Desktop Icon</p>	<p>Double click  <b>setup.exe</b> to install the software which should be applied for system 1)Windows XP Service Pack 3 or above, 2)Office2010 or above, 3)Screen resolution 1300*900 or above. You will see the desktop icon after installation. Double click icon to run the software.</p>
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**Load bank remote control operation guide**

**① Wires connection before remote 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 and equipment under test.
- 4) Switch the control modes "LOCAL/OFF/REMOTE" into **"REMOTE"**
- 5) Connect the 485-USB cable between load bank & computer
- 6) AC120V 1phase 2wire power supply wiring to the load bank terminal
- 7) Check again to make sure all cables connection reliable.

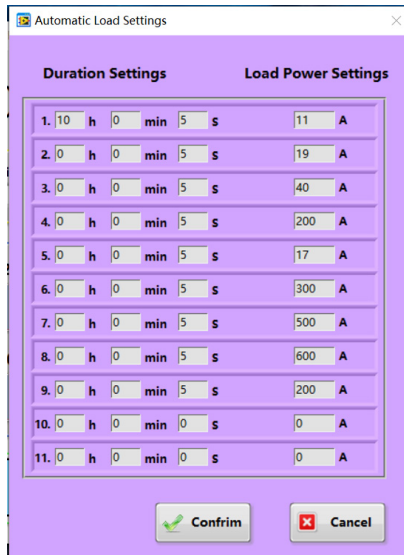
**② PC software remote control loading operation**

<p>1)</p>	 <p>Select the right in use port of RS485-USB so as to operate the software.</p>
<p>2)</p>	 <p>Click "Power" to activate fan working. Click "Load" to activate loading.</p>
<p>3)</p>	<p>Click the buttons to increase/decrease the load power  <b>Test Data will be record 5 seconds after switching load steps.</b>  <b>Test Data will be record every 2 minutes if not switching load steps.</b>          See below for the real time testing data</p> 



Click to set the loading duration & power as below form:

4)



Automatic Load Settings

Duration Settings				Load Power Settings				
1.	10	h	0	min	5	s	11	A
2.	0	h	0	min	5	s	19	A
3.	0	h	0	min	5	s	40	A
4.	0	h	0	min	5	s	200	A
5.	0	h	0	min	5	s	17	A
6.	0	h	0	min	5	s	300	A
7.	0	h	0	min	5	s	500	A
8.	0	h	0	min	5	s	600	A
9.	0	h	0	min	5	s	200	A
10.	0	h	0	min	0	s	0	A
11.	0	h	0	min	0	s	0	A

Confirm Cancel

Loading will be auto conducted to the next, once previous load profile completed. Load will auto stop once all load profiles completed.

5)



Inspector Location Series NO. Notes Data Manual Saved

Click "Data Manual Saved" to view & save all test data by excel file

**The excel file of test data saved in the file where you install the software. (check in "Record data" file)**