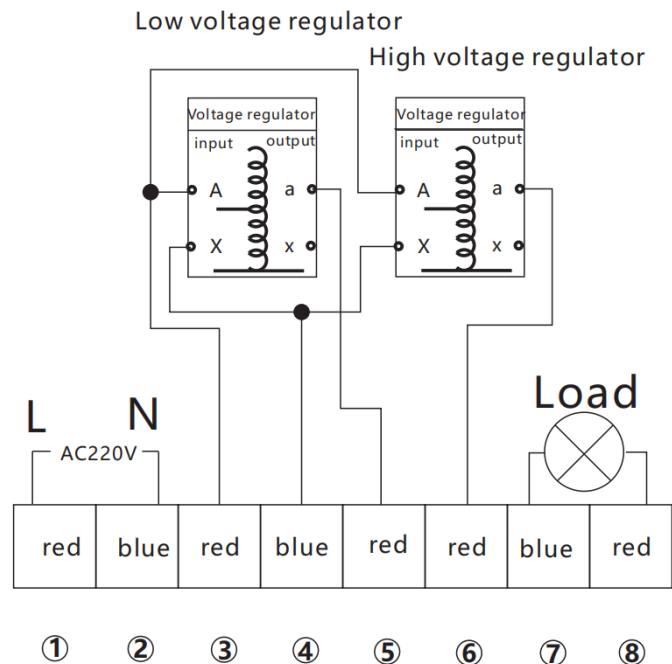


Wiring 3 | Two Voltage Regulators



Standard 220 V wiring: A 110 V load requires dual-supply conversion (control circuit/contact coils: 220 V; load circuit: 110 V).

Configuration: Low-voltage regulator output a connects to ⑤; high-voltage regulator output a connects to ⑥. The two voltages can be set independently for ageing plans requiring separate low- and high-voltage settings.

Terminal Connections

No.	Connection	No.	Connection
①	AC 220 V live (L)	⑤	Low-voltage regulator output a
②	AC 220 V neutral (N)	⑥	High-voltage regulator output a
③	Connect to terminal A on both regulators	⑦	Load neutral
④	Connect to terminal X on both regulators	⑧	Load line

Post-wiring Check

- Label the LOW and HIGH regulators first to prevent swapping ⑤ and ⑥.
- Set both regulators to minimum, then check both ⑦–⑧ outputs without load.
- Never short ⑤ to ⑥ or parallel the two regulator outputs a.

Use one conductor per pole for main-circuit terminals ①② and ⑦⑧, sized per page 2. The contactor's three poles are paralleled only to act as one switch; never replace the main conductor with multiple smaller wires. PE is not shown: earth cabinet and load separately. Crimp branches from ③ and ④ to both regulators securely and pull-test every wire.

LHX SERIES

LED AGEING & POWER-SUPPLY RELIABILITY TEST EQUIPMENT



LHX SERIES

Intelligent Rapid Ageing Chamber

User Manual

For finished LED lamps, LED drivers, power supplies, and other electronic products requiring high-/low-voltage or pulse ageing.

Safety & Start-up Preparation

Verify wiring and loads before energizing. Installation and service are restricted to electrically qualified personnel.

DANGER | Electric Shock & Short Circuit

Disconnect all power and verify zero voltage before wiring. Never disassemble, touch terminals, or alter circuits while energized.

WARNING | Heat & Failure

DUTs may overheat, smoke, or rupture. Isolate, fire-protect, and attend the test area.

NOTICE | Operating Limits

Keep voltage, load, and duration within the equipment and DUT ratings.

Pre-power Checklist

- ✓ Enclosure, plugs, cables, and terminals are dry, secure, and undamaged.
- ✓ Mains supply, voltage regulator, and load capacity suit the actual test current.
- ✓ Set each voltage regulator to a safe initial value before adjusting its output.
- ✓ Select the one applicable wiring method on pages 6–8 and verify every connection.
- ✓ DUTs are secured; ventilation, fire protection, and emergency isolation are available.
- ✓ Confirm the nameplate, contactor configuration, and site protective devices.

Quick Start



LHX Series | Three Rated-Power Versions

Confirm the actual version on the equipment nameplate

LHX SERIES 8 kW		LHX SERIES 12 kW		LHX SERIES 20 kW	
Contactor	Main conductor	Contactor	Main conductor	Contactor	Main conductor
25 A, 3-pole	1 × 6 mm ²	32 A, 3-pole	1 × 10 mm ²	65 A, 3-pole	1 × 16 mm ²
Main contacts	Circuit breaker	Main contacts	Circuit breaker	Main contacts	Circuit breaker
3 poles in parallel	63 A	3 poles in parallel	63 A	3 poles in parallel	100 A

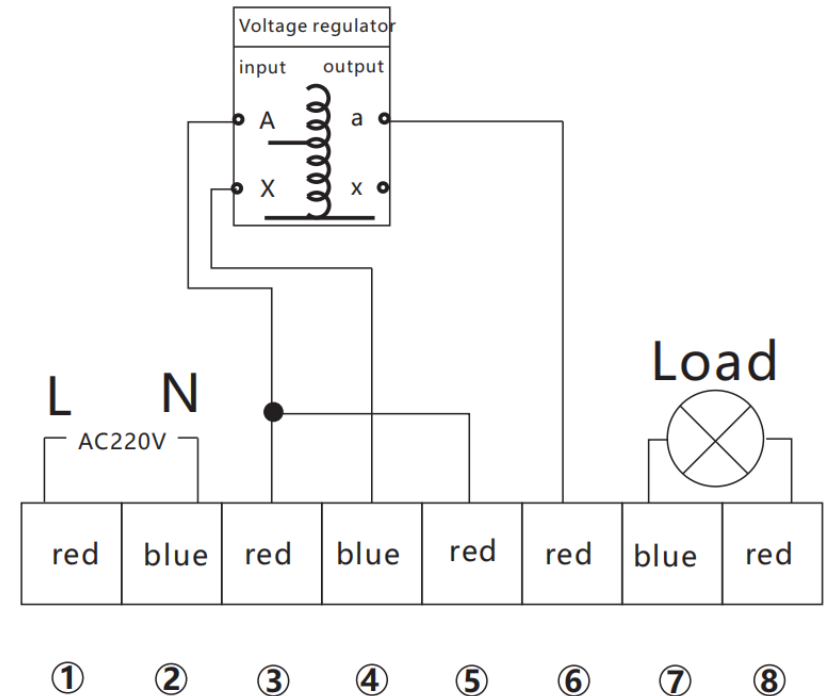
Maximum Load by Actual Power Factor

Recommended 220 V Load Limit				Recommended 110 V Load Limit*			
PF	LHX 8kW	LHX 12kW	LHX 20kW	PF	LHX 8kW	LHX 12kW	LHX 20kW
0.60	5300W	8000W	13300W	0.60	2600W	4000W	6600W
0.70	6200W	9300W	15500W	0.70	3100W	4600W	7700W
0.80	7100W	10600W	17700W	0.80	3500W	5300W	8800W
0.90	8000W	12000W	20000W	0.90	4000W	6000W	10000W

Supply note: The standard unit, control circuit, and contactor coils use AC 220 V. The 110 V table applies only after dual-supply conversion: control/coils stay on 220 V; the ageing-load circuit uses a separate 110 V supply. Never power the complete unit from 110 V. Ratings are based on PF = 0.90; between rows, use the lower load limit.

Wiring 2 | One Voltage Regulator

High voltage regulator



Standard 220 V wiring: A 110 V load requires dual-supply conversion (control circuit/contactors coils: 220 V; load circuit: 110 V).

Configuration: Terminal ⑤ is fed directly from ③. Terminal ⑥ is fed by voltage-regulator output a. Only the high-voltage channel is adjustable; the low-voltage channel receives the direct supply voltage.

Terminal Connections

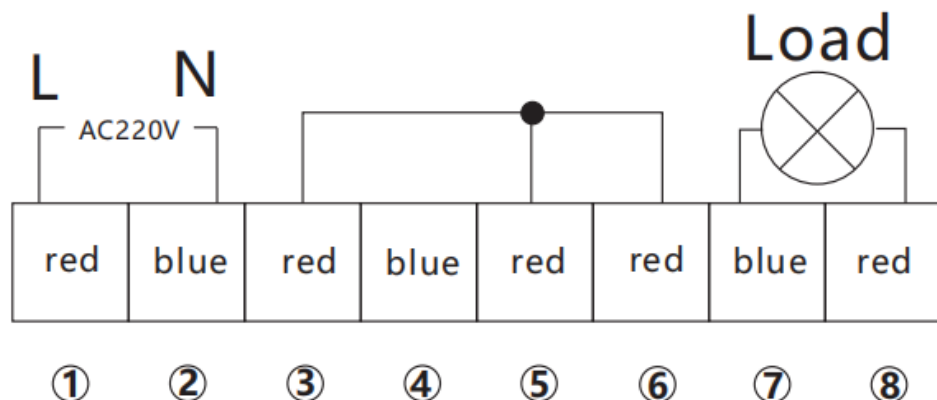
No.	Connection	No.	Connection
①	AC 220 V live (L)	⑤	Connect to ③ (direct feed)
②	AC 220 V neutral (N)	⑥	Voltage-regulator output a
③	Regulator A; branch to ⑤	⑦	Load neutral
④	Regulator input X	⑧	Load line

Post-wiring Check

- Verify regulator A and X are inputs and a is the regulated output.
- Crimp the branch from ③ to A and ⑤ securely; never insert loose strands.
- Set the regulator to minimum; measure ⑦–⑧ no-load output in low/high modes.

Use one conductor per pole for main-circuit terminals ①② and ⑦⑧, sized per page 2. The contactor's three poles are paralleled only to act as one switch; never replace the main conductor with multiple smaller wires. PE is not shown: earth cabinet and load separately. Follow the actual regulator nameplate and verify X/x exactly against the original diagram.

Wiring 1 | No Voltage Regulator



Standard 220 V wiring: A 110 V load requires dual-supply conversion (control circuit/contactor coils: 220 V; load circuit: 110 V).

Configuration: No external voltage regulator. Terminals 5 and 6 are both fed directly from terminal 3, so the low- and high-voltage channels use the same input voltage and cannot be adjusted independently.

Terminal Connections

No.	Connection	No.	Connection
1	AC 220 V live (L)	5	Connect to 3 (direct feed)
2	AC 220 V neutral (N)	6	Connect to 3 (direct feed)
3	Branch to both 5 and 6	7	Load neutral
4	No external regulator	8	Load line

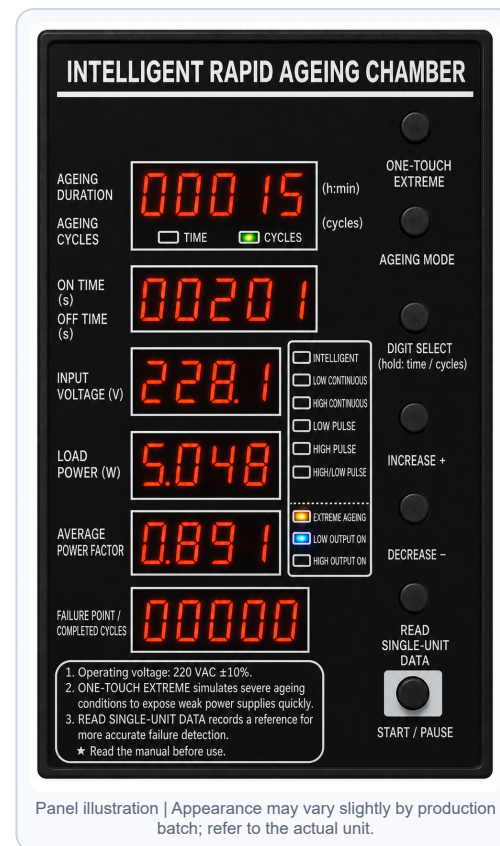
Post-wiring Check

- Confirm 3–5–6 are secure with no loose strands or exposed copper.
- Confirm there is no short circuit between 3 and 2/4.
- For first no-load start, switch low/high modes and measure output at 7–8.

Use one conductor per pole for main-circuit terminals 1/2 and 7/8, sized per page 2. The contactor's three poles are paralleled only to act as one switch; never replace the main conductor with multiple smaller wires. PE is not shown: reliably earth the cabinet and load separately, never using neutral as earth. Keep unused terminal 4 insulated.

Control Panel

Use the front view to identify each area. Follow the English descriptions at right for button names and functions.



Task & Parameter Displays

Ageing duration / cycles: Before starting, shows the total duration or cycle count. Minimum time unit: one minute. During operation, shows the remaining value.

ON / OFF duration: Before starting, shows ON and OFF times in seconds. During operation, shows the countdown.

Input voltage, load power, average PF: Shows the current electrical parameters of the ageing load.

Failure point / completed cycles: Shows the time or cycle count at which the most recent power-supply failure was detected.

Mode & Status Indicators

Mode LEDs: Intelligent, low-voltage continuous, high-voltage continuous, low-voltage pulse, high-voltage pulse, and high/low pulse.

Status LEDs: Extreme ageing, low-voltage output energized, and high-voltage output energized.

Operating Buttons

ONE-TOUCH EXTREME Selects Extreme Mode.

AGEING MODE Changes the ageing mode. Confirm the illuminated mode LED.

DIGIT SELECT Press repeatedly to select the digit to edit; the selected digit flashes.

INCREASE + / DECREASE - Use with DIGIT SELECT to change the flashing digit.

READ SINGLE-UNIT DATA Connect one lamp or power supply from the batch, press and hold this button, and wait for automatic measurement. The result is used as the failure-alarm reference.

START / PAUSE After selecting the mode and configuring the ageing settings, press briefly to start or pause the test.

110 V Load | Dual-supply Conversion Required

220 V CONTROL

Controller and contactor coils: Always powered by AC 220 V.

110 V LOAD

Ageing-load circuit: After conversion, connect a separate 110 V supply for the DUTs only.

Never connect the complete unit directly to 110 V. For 110 V loads, obtain the official separate-supply wiring diagram from the supplier. Disconnect all power before conversion; the work must be performed by electrically qualified personnel.

Parameter Setup, Operation & Mode Selection

Prepare a written test plan defining voltage, load, mode, duration, acceptance criteria, and stop conditions.

Set Task Parameters

- Select a mode**
Use AGEING MODE, or press ONE-TOUCH EXTREME.
- Confirm time or cycles**
Choose duration or cycle count. Minimum time unit: 1 min; "008:30" means 8 h 30 min.
- Set the value**
Press DIGIT SELECT until the target digit flashes; edit with + / -.
- Set ON / OFF time**
For pulse modes, set ON and OFF seconds. The display counts down after starting.
- Verify and start**
Confirm the mode and settings, then press START / PAUSE.

Start / pause rule

Press START / PAUSE again to pause. Pause is not electrical isolation. Isolate mains before changing wiring or loads.

Ageing Mode Functions

Mode	Output	Behavior / Application
Intelligent	Continuous ON for 99 s	Then enters Extreme Mode.
Low Continuous	Low voltage continuous	Applies the low voltage directly.
High Continuous	High voltage continuous	Applies the high voltage directly.
Low Pulse	Low voltage ON / OFF	Runs with user-set ON and OFF durations.
High Pulse	High voltage ON / OFF	Runs with user-set ON and OFF durations.
High/Low Pulse	Alternating high / low	Pulse ageing with user-defined ON and OFF durations.
Extreme	Built-in variable sequence	Runs the built-in pulse sequence and automatically switches between the ageing supplies.

Single-regulator selection: Low voltage emphasizes start-up current, conduction loss, and heat; high voltage emphasizes input-stage withstand. For 85–265 VAC drivers, typical references are about 80 V low and 270 V high. Stay within DUT and equipment limits.

One Complete Task

- Before Start**
Verify wiring, mode, time/cycles, voltage, PF, and capacity.
- During Test**
Observe the display and DUTs. Keep the test area attended.
- Pause / Adjust**
Pause stops only the task. Isolate mains before any adjustment.
- Task Complete**
Confirm output off, isolate mains, cool the DUTs, then inspect and record.

Monitor During Operation

Input Voltage	Load Power	Average PF	Alarm / Failure Log
Reached the set value and remains stable.	Generally matches DUT quantity and rated power.	If it drops abnormally, inspect DUTs, wiring, and driver state.	Inspect the load area immediately if the buzzer sounds or the log changes.

⚠ Stop immediately and disconnect mains if there is an unusual odor, smoke, rupture, terminal overheating, abnormal noise, or protective-device operation.

Data Reading, Alarms & Troubleshooting

Failure detection looks for a sudden drop in total load power; the factory threshold is approximately 5 W. Record the correct reference first to reduce nuisance alarms caused by supply variation.

Using READ SINGLE-UNIT DATA

- Connect One DUT**
Connect one normal lamp or power supply from the batch to be aged.
- Press and Hold**
Hold READ SINGLE-UNIT DATA.
- Wait**
Let the unit complete the operation and record data.
- Alarm Reference**
The recorded input-power value is used as the failure-detection reference.

Why Nuisance Alarms Occur

With many DUTs connected, supply variation can change total power enough to cross the detection threshold.

Low Wattage, Large Batch

If one DUT draws under 10 W and the batch exceeds 1000 W, record two identical DUTs together. This reduces nuisance alarms but also lowers sensitivity.

After a Product Change

Actual input power, PF, and start-up behavior vary by lamp and driver. Record a new reference after changing type, wattage, or design.

How do I turn the alarm buzzer off or on?

Rapidly press READ SINGLE-UNIT DATA (the second button from the bottom) five times: three beeps mean the alarm sound is off. Repeat five rapid presses: one long beep means it is on.

Common Conditions

Condition	Check First	Action
No output after START	Mode/values, paused state, mains, protective devices, and regulator input/output.	Isolate power and verify pages 6–8. Retry only if protection has not operated; otherwise contact support.
Inaccurate failure detection	Was a normal DUT from this batch recorded? Check supply variation, unit-to-unit power variation, and wiring.	Record again as above; use two identical DUTs when the low-wattage, large-batch condition applies.
Abnormal voltage / power	Regulator position, input voltage, load quantity, loose terminals, and display changes.	Pause immediately and restore safe values per the test plan. Never exceed nameplate current or DUT ratings.
Frequent contactor noise	Pulse duration too short, supply fluctuation, or loose wiring.	Stop and check settings and supply. Do not continue if there is odor, overheating, or abnormal vibration.

⚠ Stop using immediately if the enclosure or insulation is damaged, terminals are burned, protection operates repeatedly, there is abnormal heat/odor/smoke, or the display/contactor control is abnormal.