

# Water-Cooled Bidirectional Programmable DC Power Supply ANEVH LC(F)

**Model:**

ANEVH LC(F)

**Application:**

Suitable for testing automotive electronics, new energy three-power, micro-grid, high-power test and other applications.

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## Product overview

The brand-new ANEVH LC(F) series water-cooled bidirectional programmable DC power supply adopts a high-frequency modular design, offering high power density; adopts soft-switching resonant conversion technology, reduces losses and improves efficiency; the power supply features functions such as battery simulation, electronic load, PV simulation, and waveform editing (LIST), it serves not only as a power source to deliver energy but also as a load to absorb energy in reverse and return it cleanly to the grid, fully supporting standard bidirectional operation.

## Product features

- Ultra-high power density: 4U height, up to 40 kW per unit, 720 kW/m3;
- Water-cooled heat dissipation: dust-free and silent, strong adaptability to harsh environments, reducing air-conditioning costs;
- 8.8-inch color touchscreen for easy and intuitive operation;
- All-in-one unit integrating PV simulation, battery simulation, and electronic load;
- Source and load functions integrated in a high-frequency modular design;
- Multiple modules can be paralleled for flexible power expansion;

- SiC devices for higher power density, smaller size, and faster response;
- Bidirectional energy flow with automatic seamless switching between forward and reverse modes;
- Efficiency up to 95%, offering outstanding advantages in energy saving and environmental friendliness;
- Sense terminal compensation to compensate for cable voltage drop;
- Built-in function generator supporting arbitrary waveform generation;
- Comprehensive protections: OTP, OVP, OCP, OPP, overtemperature, islanding protection, AC input over/undervoltage protection, etc.

**Flexible Paralleling**

Support multi-unit paralleling for power expansion; no accuracy calibration required after paralleling.



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## Product application

The power modules support master/slave parallel operation, enabling flexible power expansion to form higher-power systems. They feature programmable capability, allowing the generation of arbitrary waveforms to meet wide range of testing requirements. They are equipped with comprehensive protection functions, including input undervoltage, output overvoltage, output overcurrent, output overpower, and internal overtemperature protection, ensuring reliable and stable power supply operation.

## Technical specifications

| | | | |
|---|---|---|---|
| Input | Voltage | 340V~480Vac | |
| | Frequency | 50/60Hz | |
| | Power factor | ≥ 0.99 (typical value) | |
| Output | Voltage | 0~500VDC | 0~1500VDC |
| | Current | -240A~240A | -80A~80A |
| | Power | -40kW ~ 40kW | -40kW ~ 40kW |
| Display Mode | | 8.8-inch color touchscreen | |
| Voltage Resolution | | 0.001V | |
| Current Resolution | | 0.001A | |
| Power Resolution | | 0.001kW | |
| Setting Error (Programming Accuracy) [1] | Voltage | ≤0.02%F.S. | |
| | Current | ≤0.05%F.S. | |
| | Power | ≤0.2%FS | |
| Measurement Error (Read-back Accuracy) | Voltage | ≤0.02%F.S. | |
| | Current | ≤0.05%F.S. | |
| | Power | ≤0.2%FS | |
| Ripple and Noise 20Hz-20MHz | Vrms | ≤85mVrms | ≤170mVrms |
| | Vpp | ≤800mVpp | ≤2200mVpp |
| Load Effect | Voltage | ≤0.015%Umax | |
| | Current | ≤0.05%Imax | |
| Source Effect | Voltage | ≤0.02%Umax | |
| | Current | ≤0.02%Imax | |
| Voltage Slew Rate [3] | | 100V/ms | 500V/ms |
| Transient Response Time [2] | | ≤2ms | |
| Forward and Reverse Switching Speed | | 2ms (+90%→-90%) | |
| Temperature Drift | Voltage | 100ppm/℃ | |
| | Current | 100ppm/℃ | |
| OVP Range | | 110%F.S | |
| Maximum Lead Voltage Drop Compensation | | ≤5% Umax | |
| Communication Functions | | CAN/RS-232/485/LAN/USB (standard) (optional) GPIB | |
| Protection Functions | | Input undervoltage protection, short-circuit protection, output overvoltage, current-limiting protection and internal overheating protection. | |
| Analog Interface (Optional) | | Startup, stop, alarm, 0-5V or 0-10V analog control output | |
| Other External Interfaces | | Standard: Parallel Operation Port, Interlock Port | |
| Efficiency | | ≤94% | |
| Feedback Parameters | Frequency | 45-66HZ | |
| | Power Factor | ≥0.99(typical value) | |
| | Total Harmonic Content | ≤5%(typical value, power grid simulator input with distortion less than 1.5%) | |
| | Feedback Function | Full power range feedback | |
| | Feedback Efficiency | ≤94% | |
| Insulation and Voltage Resistance | DC Negative Terminal to Ground | ±1500V DC | |
| | DC Positive Terminal to Ground | + 1800V DC | |
| | AC Input <->PE | 2.5kV DC | |
| Operating Temperature | | 0~50℃ | |
| Inlet water Temperature (max.) | | +26℃ | |
| Inlet water Temperature (min.) | | See dew-point table | |
| Flow Rate | | Min. 7L/min | |
| Water Pressure | | Min. 1bar, Max. 4bar | |
| Storage Temperature | | -20~70℃ | |
| Humidity | | <80%, without condensation | |
| Dimensions | Enclosure Size(W*H*D mm) | 482*177*705.5mm | |
| | Overall Dimensions(W*H*D mm) | 482*177*808.5mm | |
| Weight | | ≤60kg | |
| Remarks | | 1. Programming accuracy/read-back accuracy test condition (25℃±5℃);<br>2. Time required for the load to change from 100% to 50% or in reverse, and for the output voltage to return to within ±rated value±0.75%", with output voltage ≥30% Umax<br>3. Voltage rise time from 10% to 90% of ΔUout under no-load conditions | |

* Any changes to the above parameter specifications will not be notified separately.

Additional ANEVH LC 40kW Water-Cooled Models .For more water-cooled models, please contact our sales representatives.

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## Relevant information

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