MODULAR ONLINE UPS · 480 V · LITHIUM-READY

INFINITE 1.5MW

750–1,500 kVA

A 1.5 MW online UPS in one frame: up to twelve 125 kVA silicon-carbide modules, 750 to 1,500 kVA on a 480 V three-wire supply, 1,800 mm wide with its bypass breaker cabinet on the left, and 4, 6 or 8 AEC L6 lithium cabinets beside it. Up to eight frames in parallel.



INFINITE 1.5MW · THE FRAME, 750–1,500 kVA

125 kVA
per hot-swappable module

SiC
silicon carbide: up to 97.5 % online, 99 % in ECO

12
modules in one frame, and two control cards

UL 1778
and FCC Part 15 Class A

Product Overview

INFINITE 1.5MW 750–1,500 kVA

Key features of INFINITE 1.5MW, the large frame of the INFINITE line for data centers, colocation and AI halls.

125 kVA

Power modules, up to 12

125 kVA modules: up to twelve in the 1,500 kVA frame, one more for N+1; a failed module isolates itself.

2×

Two control cards

Two identical system control cards back each other up; every card in the control box is hot-swappable.

SiC

Silicon carbide

SiC in the PFC stage of every module: up to 97.5 % online at 480 V, up to 99 % in ECO.

Li

Lithium-ready

4, 6 or 8 AEC L6 lithium cabinets, or lead-acid; 600 V rated, 360–600 V settable; the BMS card talks to the L6.

7"

Color touchscreen

Power flow, records, smart wave capture, energy storage and every setting; status light and five indicators.

×8

Parallel, common battery

Up to eight frames in parallel, with one battery shared between them.

Key data

Power range	750–1,500 kVA in one frame of six to twelve 125 kVA modules
Input · output	3 phases + PE, no neutral · 480 V L-L; 415 V version (3 phases + N + PE), 1,000 and 1,200 kVA
Power factor	1 (kVA = kW)
Efficiency	SiC: up to 97.5 % online · up to 99 % in ECO
Battery	lead-acid or L6 lithium, 600 V rated; 480 V on the 415 V version
Display	7-inch touchscreen, LEDs, light bar
Parallel	up to 8 frames
W × D × H	70.9 × 39.4 × 78.7 in, bypass breaker cabinet included
Weight	6,171 lb at 1,500 kVA with its modules; cabinet 4,674 lb, 119 lb per module
Standards · warranty	UL 1778 listed, FCC Part 15 Class A · 3 years UPS, 5 years L6



≥ 0.99
input power factor

≤ 1 %
output THD, resistive load

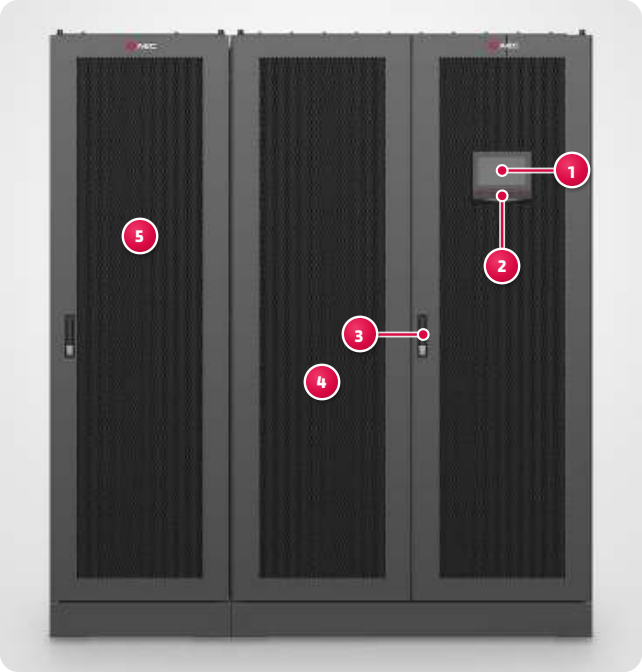
1 ms
bypass ↔ inverter, synchronized

≤ 3 %
current sharing between modules

Front View

INFINITE 1.5MW 750–1,500 kVA

The INFINITE 1.5MW from the front: 1,800 mm with the bypass breaker cabinet on the left; the touchscreen, LEDs and keys on the door; behind it the control box, bypass modules and up to twelve power modules. Input and output breakers are in the site's switchgear.



CLOSED · 70.9 IN (1,800 MM)



OPEN

1 Touchscreen
7-inch, the single-line diagram live.

2 LEDs and keys
Status LEDs and the ON and OFF keys under the screen.

3 Door handle
Lockable.

4 Air inlet
In through the perforated front doors, out at the top.

5 Bypass breaker cabinet
On the left of the frame, part of the 1,800 mm.

6 Bypass breaker
The cabinet's one breaker; input and output breakers are in the site's switchgear.

7 System control box
Two control cards, monitoring card, option slots; hot-swappable.

8 Bypass modules
Static bypass, 34 lb (15.5 kg); replaced like a power module.

9 Power modules
125 kVA each: six to twelve in the frame.

Display and Status Bar
INFINITE 1.5MW 750–1,500 kVA



1. **Color touchscreen**
   7 inches: live single-line diagram, measurements, settings and records.
2. **Five status LEDs**
   AC/DC, DC/AC, bypass, battery and load: green when working or normal, red when abnormal.
3. **ON keys**
   Press both together for 3 s to start the inverter.
4. **OFF keys**
   Press both together for 3 s to stop the inverter; with a good bypass the load passes to the bypass.
5. **Ambient light bar**
   The V-shaped light shows the state of the UPS in color, even with the screen backlight off.

Ambient light bar

Four states, each with its own light: the operator knows how the UPS is doing before reaching the screen.



Blue
Normal operation



Blue, flashing
Battery output



Yellow
Abnormal, the load still supplied

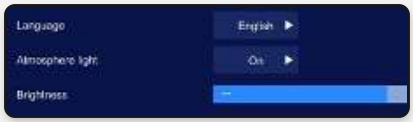


Red
Abnormal, the UPS not working

Status LEDs

LED	Green	Red
AC/DC	Rectifier normal	Rectifier abnormal
DC/AC	Inverter normal	Inverter abnormal
Bypass	Bypass output normal	Bypass abnormal
Battery	Battery output	Battery low voltage
Load	Output normal	Output overload

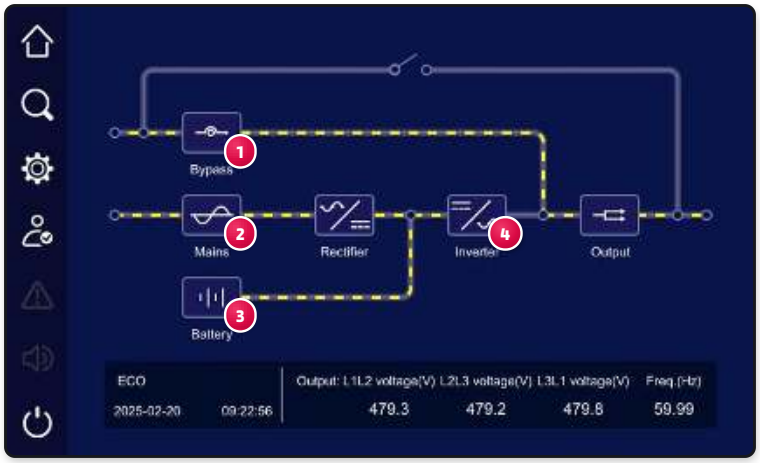
On the screen



Screen setting, basic functions

- Touch a block to read its measurements
- 10,000 records, exported to USB
- Backlight, language, time zone, NTP

Touchscreen Interface
INFINITE 1.5MW 750–1,500 kVA

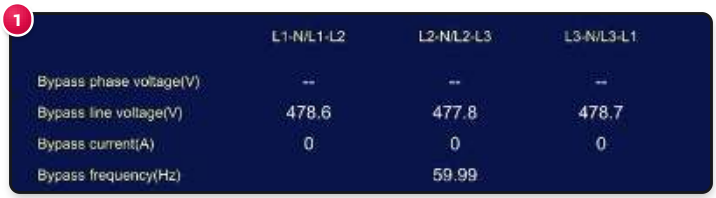


Live single-line diagram

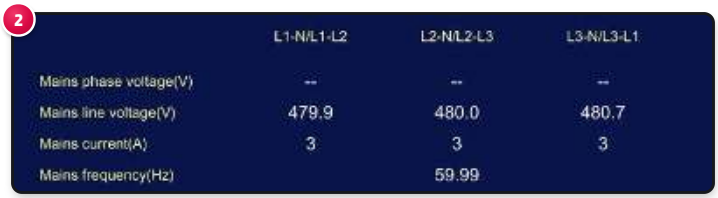
The home page draws the UPS at work: the yellow dots trace the path the power takes, a block flashes red when its part is abnormal, and the state bar shows the state, date and time, the output voltages and the frequency.

Touch a block to open its page: the four pages below are marked 1–4 on the diagram. The rectifier and inverter pages show every power module in turn.

Home page in ECO mode: the load on the bypass, rectifier and inverter on line. The four pages below are separate captures, taken in normal mode: the inverter carries the load, the bypass current reads 0.



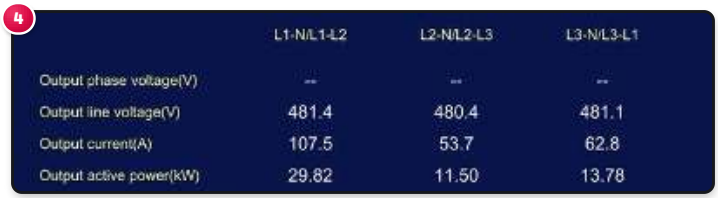
Bypass info · phase and line voltages, current, frequency



Mains info · phase and line voltages, current, frequency



Battery info · voltage, currents, remaining capacity and time



Inverter info · output voltages, current and active power

Menus



Information menu
Running info, history record, user log, smart record, device info, smart wave capture and running record



Settings menu
Cabinet, battery, battery test, output, smart mode, dry contacts, screen, password, communication, record manage and energy storage

7"
color touchscreen on the door

6
touch blocks: bypass, mains, rectifier, inverter, battery and output

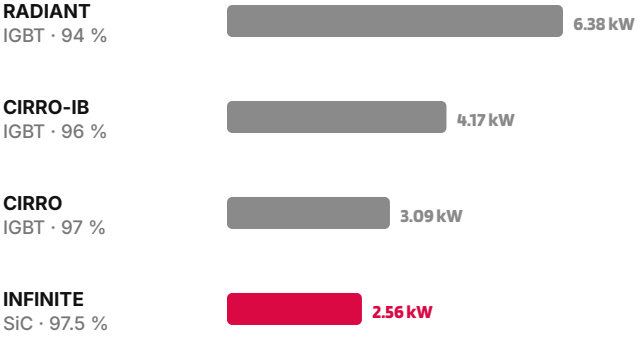
7 · 11
pages in the information and the settings menus

2–8
cabinets on one screen: the smart integrated display, over RS485

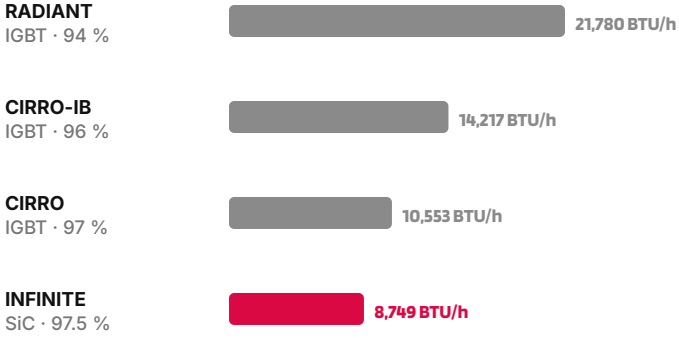
Silicon Carbide Technology
INFINITE 1.5MW 750–1,500 kVA

SiC semiconductors in the PFC stage of every 125 kVA module: 97.5 % published peak, at least 97.2 % at half load, 99 % in ECO. What that means against AEC's own IGBT ranges.

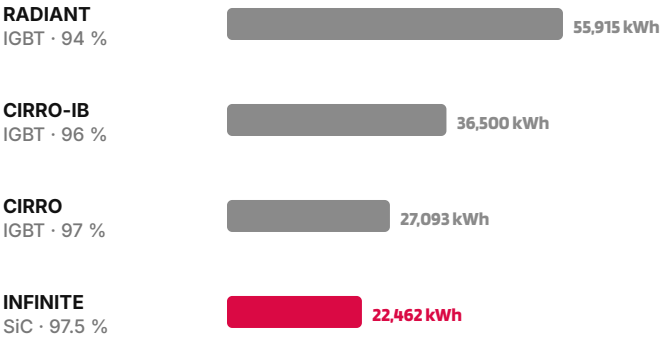
Losses per 100 kW of load



Heat to remove per 100 kW



Energy lost in a year, per 100 kW



Why silicon carbide

01 Silicon-carbide semiconductors switch faster and lose less energy at every switching than silicon, so the PFC stage of each module runs cooler.

02 Less heat in the module means less heat in the room: smaller cooling, smaller footprint for the same power.

03 Every 125 kVA module carries it, so a 1,500 kVA frame saves as much per kW as a single module.

−60 %
losses against the IGBT RADIANT, both at their published peak

33,453
kWh a year saved per 100 kW, at the published peaks

97.5 %
published peak online, with SiC

99 %
in ECO; Wise ECO also cleans the bypass current

Measured efficiency

Load, resistive	30 %	50 %	100 %
Online, mains	≥ 97.0 %	≥ 97.2 %	≥ 96.6 %
Battery mode	≥ 96.3 %	≥ 96.9 %	≥ 96.0 %
ECO	up to 99 %		

Resistive load.

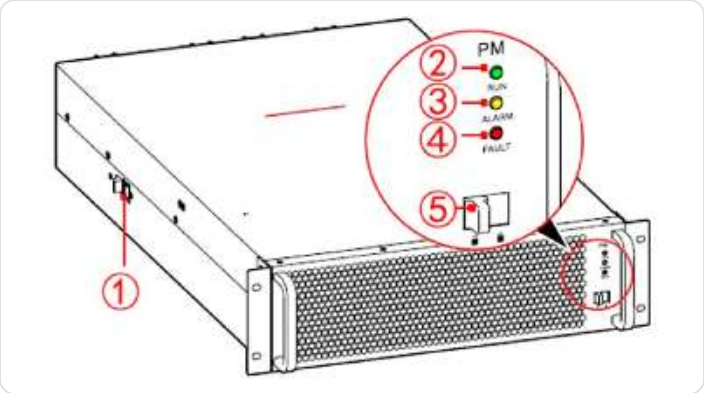
Low-load operation: sleep, fans, Wise ECO

- Sleep redundancy: spare modules rest in turn and wake when the load rises, so the others work nearer their best point.
- Fans follow the load; the air comes in at the front and leaves at the top.
- Wise ECO: the load on the bypass while the modules compensate its harmonics: higher power factor, lower THDi.

Power Module
INFINITE 1.5MW 750–1,500 kVA

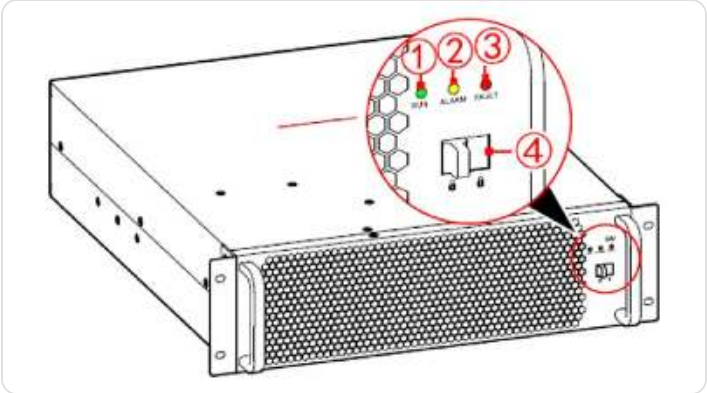
Each power module is a complete double-conversion UPS of 125 kVA: rectifier, inverter and DC/DC converter. A ready switch locks it in its slot; a failed module isolates itself and the others carry on.

125 kVA power module



1. **Positioning lock** · pressed to pull the module out
2. **RUN, green** · on: inverter; flashing: step-up or ready
3. **ALARM, yellow** · on: the module has an alarm
4. **FAULT, red** · on: the module is faulty
5. **Ready switch** · red: locked in service; green: free to remove

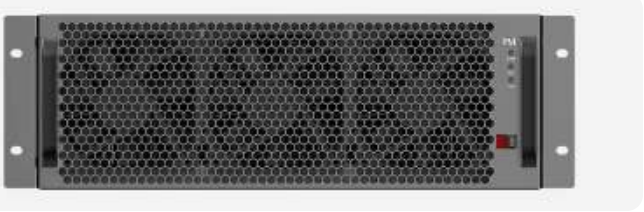
Bypass module



1. **RUN, green** · on: bypass output; flashing: standby
2. **ALARM, yellow** · reserved
3. **FAULT, red** · on: the bypass module is faulty
4. **Ready switch** · red: locked in service; green: free to remove

The module

Rating	125 kVA = 125 kW
Size	17.3 × 29.5 × 5.1 in (440 × 750 × 130 mm), 3U
Weight	119 lb (54 kg)
Inside	rectifier, inverter, DC/DC converter
Per cabinet	up to 12 in the 1,500 kVA frame
Bypass module	17.3 × 22.6 × 5.1 in (440 × 575 × 130 mm), 34 lb (15.5 kg); static switch and filter



The module from the front: lamps and ready switch at the right.

Hot swap, with the load running

01 **Unlock**
Set the ready switch to unlocked (green): the module leaves the system, the others carry the load.

02 **Pull it out**
Press the positioning lock, remove the screws and pull it by the handles: 119 lb, three people or a lift truck; wait at least 20 minutes before opening it.

03 **Slide the new one in, lock**
Push it in until it meets the connector, fasten it and set the ready switch to locked (red).

Also replaced with the load on: the bypass module, the two control cards (each backs up the other), the monitoring card and the SNMP, BMS and dry-contact cards.

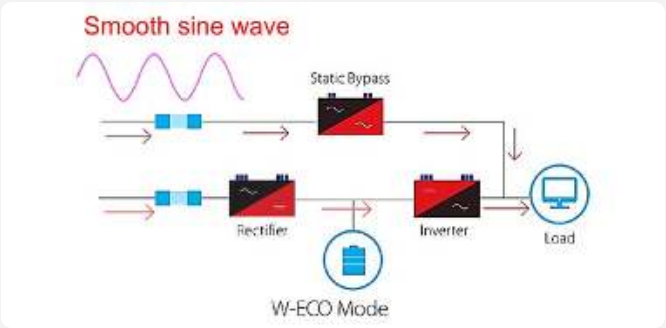
Options in the control box

- **SNMP card**: network monitoring, BACnet
- **BMS card**: talks to the AEC L6 lithium cabinets
- **Dry-contact card**: more relay contacts for the building
- **Battery temperature kit**: the charge follows the battery temperature
- **SPD**, optional: surge protection with its own breaker

Smart Functions

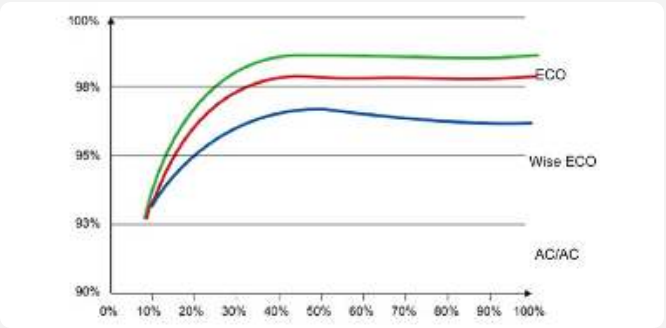
INFINITE 1.5MW 750–1,500 kVA

Energy, battery and grid functions of every INFINITE.



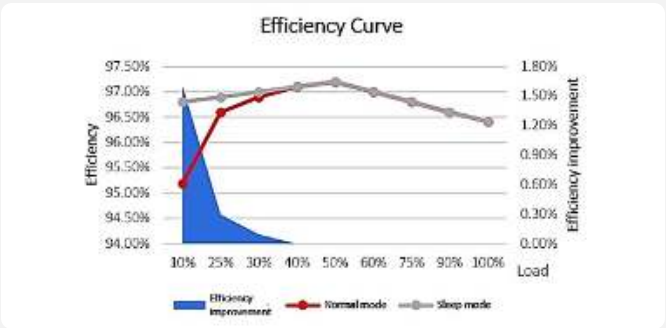
Wise ECO: ECO with a clean wave

The load runs on the static bypass while the inverter stays on line and compensates the harmonics of the bypass current: ECO efficiency, a higher power factor, a lower THDi.



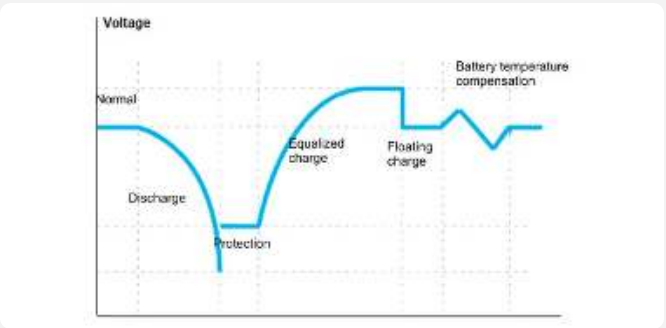
Efficiency in ECO, Wise ECO and online

Up to 99 % in ECO; 97.5 % published peak online with silicon carbide, at least 97.2 % at half load. The curves: ECO, Wise ECO and online (AC/AC) against the load.



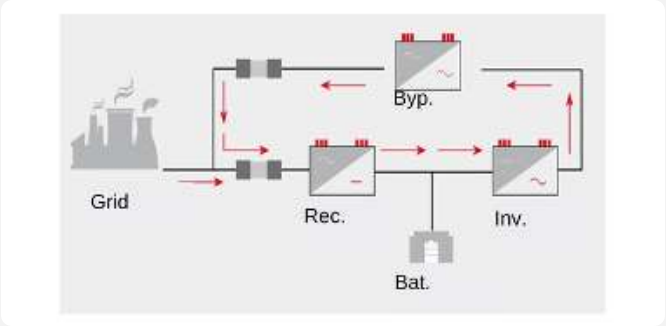
Intelligent sleep

At part load the spare modules sleep in turn and wake when the load reaches the awake rate: the modules on line work near the top of their curve, the sleeping ones age less.



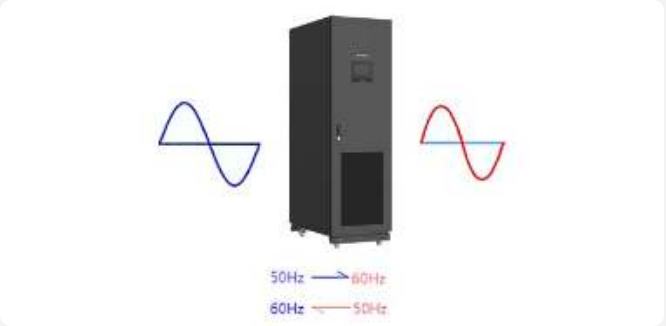
Smart charge

Discharge, protection, equalize, then float, with temperature compensation (temperature kit). Charge current 5 to 100 A per module, 20 A by default; float 2.27 V/cell.



Self-load test, no load bank

Grid-tied self-load: the output goes back to the grid through the bypass, so the UPS runs at the set load for the set time with no load bank and little energy used.

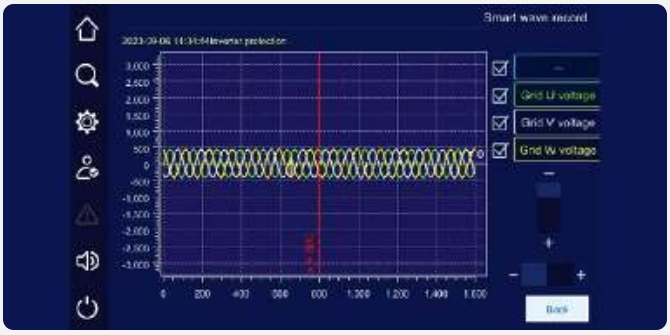


Frequency converter

The output at a set frequency, independent of the input frequency, for loads built for another grid; the battery alarms can be suppressed when no battery is fitted.

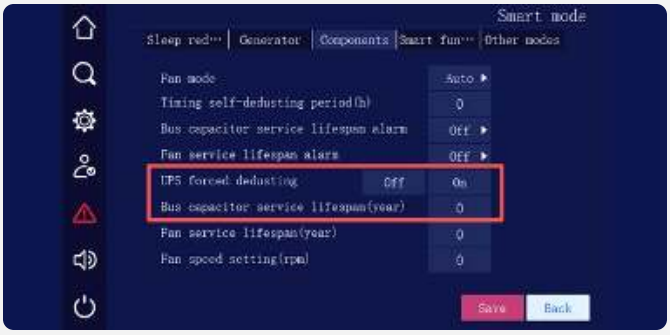
Service and Protection Functions
INFINITE 1.5MW 750–1,500 kVA

What looks after the UPS, the battery and the site, on real INFINITE screens.



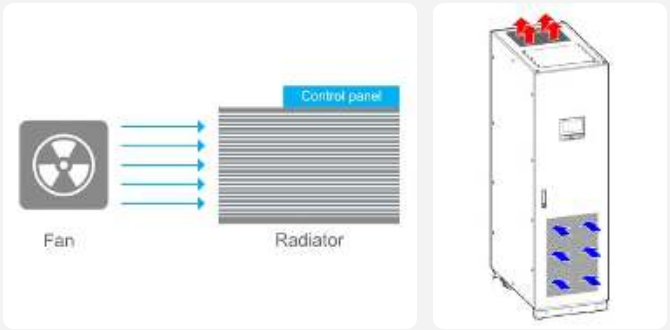
Smart wave capture

On a fault the UPS keeps the waveforms around it with the date and the event, here an inverter protection: the cause is found on site, and exported for the service report.



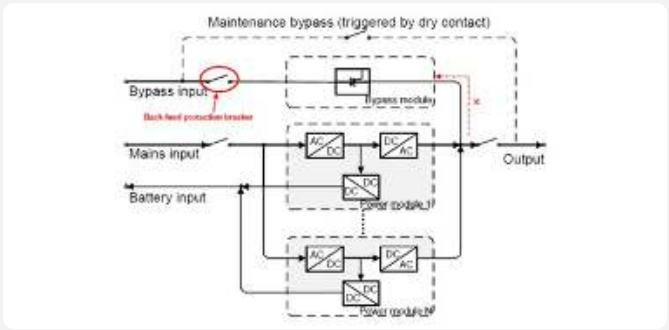
Components: fans, capacitors, dust

Fans and bus capacitors counted, with an alarm at the end of their service life; dedusting at full fan speed, timed or forced (framed on the screen).



Air path and fans

Fan speed follows the load and the temperature. Air in at the lower front, out at the top (right).



Bypass back-feed protection

If a bypass thyristor fails while the inverter runs, dry contact OUT.2 trips the bypass breaker: no voltage feeds back to the bypass input. On a mains failure the input relay opens.

Programmable dry contacts

4 inputs, each set to one of 13 functions (generator, maintenance bypass, battery breaker…); 3 outputs, each to one of 18 signals.

Generator mode

Starts the generator by itself or by hand, allows or derates battery charging, and lets the battery cover the load above the generator's rating.

Energy storage UPS

Between outages the battery shaves the peaks on a plan curve (up to 8 tariff periods) or on EMS commands, never below the safety SOC (1–99 %).

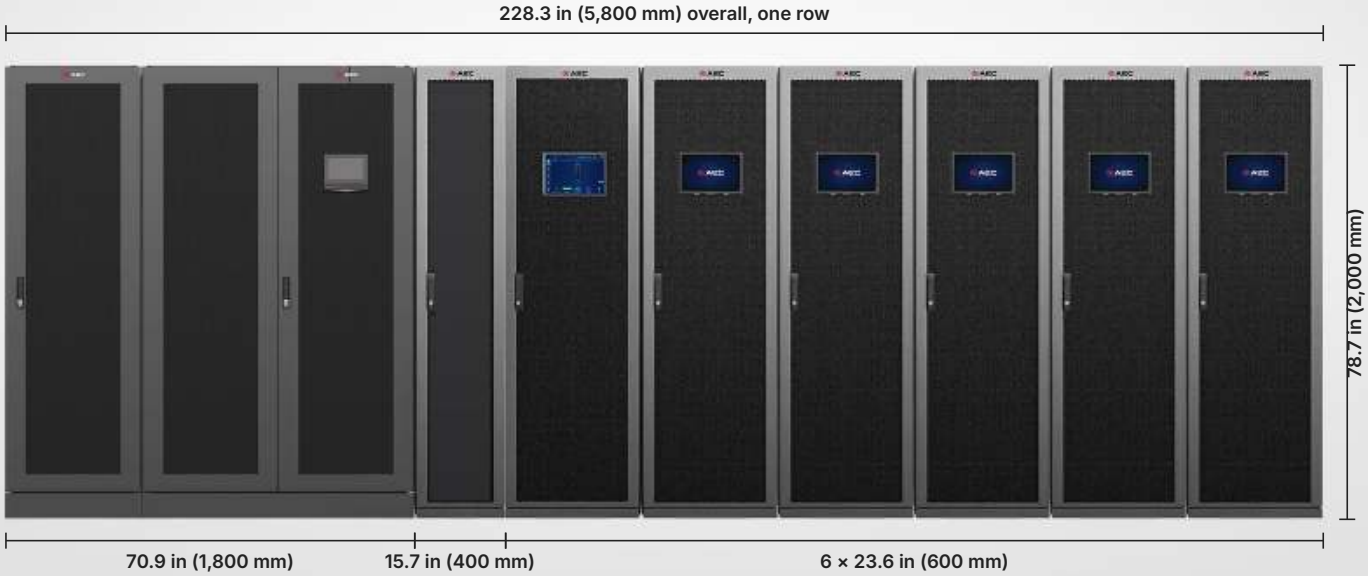
MORE SETTINGS FOR THE SITE

- ECO window ±5, ±10 or ±15 % in voltage (default ±15 %), ±2 or ±4 % in frequency
- Transfers: 0 ms mains ↔ battery; 1 ms to the bypass in sync, 2 ms out of sync (1–15 ms)
- Auto-start: back on line when the power returns after a battery shutdown
- Power walk-in and combined supply: back from the battery to the mains gradually, both sources at once
- Bypass window +10 or +15 % and −10 to −30 %; frequency ±2 to ±20 %
- ≤ 20 ms to the bypass on an impact or a short circuit; protection times set apart for a normal and an abnormal bypass
- Integrated display: one screen shows every UPS of a parallel system, over RS485
- Battery and preventive maintenance reminders at a set period, in months

Battery and Runtime
INFINITE 1.5MW 750–1,500 kVA

A 1 MW system as it stands in the room: one INFINITE 1.5MW frame with nine 125 kVA modules, the L6 combiner and six AEC L6 **lithium** cabinets, **18 minutes at 1,000 kW**. Four or eight L6 cabinets change the runtime and the largest load they carry: the table has every rating.

THE 1 MW SOLUTION · FRONT VIEW TO SCALE



1,000 kVA N+1
INF15-1000+1: nine 125 kVA power modules in the 1,500 kVA frame, one of them redundant

6 × L6
120 lithium modules of 50 Ah, 300 kWh usable, joined to the frame by the L6-COMBINER

18 min at 1,000 kW
backup at full load; 36 minutes at half load. Every power and battery module hot-swappable

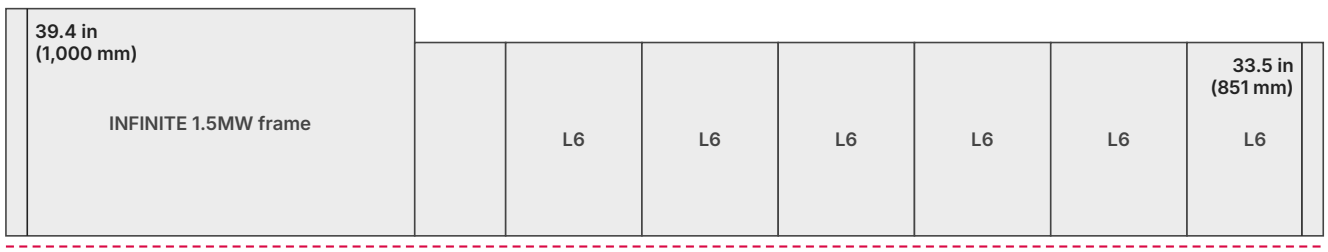
One row, 228.3 in
5,800 mm wide, 19,152 lb with the batteries · 39.4 in deep at the frame, 33.5 in at the L6

Backup time with 4, 6 or 8 L6 cabinets, minutes at full load

L6 cabinets	Modules	Usable	750 kW	1,000 kW	1,250 kW	1,500 kW
4 × L6-CAB-20x50LI	80	200 kWh	16 min	—	—	—
6 × L6-CAB-20x50LI	120	300 kWh	24 min	18 min	—	—
8 × L6-CAB-20x50LI	160	400 kWh	32 min	24 min	19 min	16 min

—: more than the cabinets carry; each module gives 10 kW, so four cabinets carry up to 800 kW and six up to 1,200 kW. At half load the time doubles. From three L6 cabinets up, the L6-COMBINER joins them (up to eight) to the frame's battery input. AEC sizing: 2.5 kWh usable per 50 Ah module (10 kW for 15 minutes), new modules. The lead-acid alternative is sized by project. Line-up and plan at one scale, from the AEC renders of the frame and the L6; the combiner as the L6 system drawing shows it.

FLOOR PLAN · SAME SCALE · FRONTS IN LINE ON THE DASHED LINE



Technical Specifications
INFINITE 1.5MW 750–1,500 kVA

Model	750 kVA	1,000 kVA	1,250 kVA	1,500 kVA
Ratings	750 kVA (INF15-750)	1,000 kVA (INF15-1000)	1,250 kVA (INF15-1250)	1,500 kVA (INF15-1500)
Power modules	6 × 125 kVA, +1 redundant	8 × 125 kVA, +1 redundant	10 × 125 kVA, +1 redundant	12 × 125 kVA
INPUT				
Connection · voltage	3 phases + PE, no neutral · 480 V L-L			
Voltage range	336–552 V L-L; 408–552 V at full load			
Frequency · power factor	40–70 Hz · > 0.99			
Current THD	≤ 3 % (resistive full load)			
Bypass window	+10 or +15 %, −10/−15/−20/−30 % (default +15/−20 %); ±2 to ±20 % (default ±10 %)			
OUTPUT				
Voltage · frequency	480 V L-L ±1 % · 50/60 Hz ±0.1 Hz (battery mode)			
THD · power factor	≤ 1 % resistive, ≤ 3 % non-linear · 1.0			
Inverter overload	≤ 105 % continuous · 110 % 60 min · 125 % 10 min · 150 % 1 min · > 150 % 300 ms			
Bypass overload	≤ 130 % continuous · 150 % 5 min · 200 % 1 s · 300 % 100 ms			
Transfer	0 ms mains ↔ battery · ≤ 1 ms mains ↔ bypass			
Short-circuit protection	5–400 ms			
EFFICIENCY				
Online, AC/AC	up to 97.5 %			
Online, 30 · 50 · 100 % load	97.0 · 97.2 · 96.6 % or more			
Battery mode	96.3 · 96.9 · 96.0 % or more			
ECO	up to 99 %			
BATTERY				
Type	lead-acid, or lithium with the BMS card for AEC L6			
Voltage	600 V rated, 360–600 V settable; 576–600 V at full load			
Charge current	100 A per power module, 20 A by default			
Charger, max	600 A · 700 A with +1	800 A · 900 A with +1	1,000 A · 1,100 A with +1	1,200 A
SYSTEM				
Display · communication	7-inch touchscreen + LED display · RS485, BMS, Modbus RTU/TCP, BACnet, dry contacts, SNMP			
Parallel	up to 8 frames, common battery			
Environment	23–104 °F (−5 to 40 °C) · 0–95 % RH · IP20 · to 6,562 ft (2,000 m)			
Noise, full load	< 78 dB			
W × D × H	70.9 × 39.4 × 78.7 in · 1,800 × 1,000 × 2,000 mm, bypass breaker cabinet included			
Weight	cabinet 4,674 lb (2,120 kg) · power module 119 lb (54 kg) · bypass module 34 lb (15.5 kg)			
Weight, complete	5,456 lb · +1: 5,576 lb	5,695 lb · +1: 5,814 lb	5,933 lb · +1: 6,052 lb	6,171 lb
Standards	UL 1778 listed · FCC Part 15 Subpart B, Class A			
Warranty	3 years on the UPS · 5 years on L6 lithium			



THE CABINET

INFINITE 1.5MW 750–1,500 kVA

750–1,500 kVA
70.9 × 39.4 × 78.7 in

PROTECTIONS

- ✓ Output overload and short circuit
- ✓ Bypass backfeed: trips the bypass breaker
- ✓ Battery under-voltage: alarm, then shutdown
- ✓ Module and cabinet over-temperature
- ✓ Smoke input: shutdown after a delay
- ✓ EPO: key switch and remote NC contact

Technical Specifications
INFINITE 1.5MW · 415 V

The same frame for 415 V supplies with a neutral: 1,000 and 1,200 kVA on ten or twelve modules of 100 kVA, up to 97.1 % efficient. Everything not listed here is as on the 480 V page.

Model	1,000 kVA	1,200 kVA
Ratings	1,000 kVA (INF15-415-1000)	1,200 kVA (INF15-415-1200)
Power modules	10 × 100 kVA, +1 redundant	12 × 100 kVA
INPUT		
Connection · voltage	3 phases + N + PE · 415 V L-L	
Voltage range	352–477 V L-L (290–477 V at full load)	
Frequency · power factor	40–70 Hz · > 0.99	
Current THD	≤ 3 % (resistive full load)	
Bypass window	+10 or +15 %, −10/−15/−20/−30 % (default +15/−20 %); ±2 to ±20 % (default ±10 %)	
OUTPUT		
Voltage · frequency	415 V L-L ±1 % · 50/60 Hz ±0.1 Hz (battery mode)	
THD · power factor	≤ 1 % resistive, ≤ 3 % non-linear · 1.0	
Inverter overload	≤ 105 % continuous · 110 % 60 min · 125 % 10 min · 150 % 1 min · > 150 % 300 ms	
Bypass overload	≤ 130 % continuous · 150 % 5 min · 200 % 1 s · 300 % 100 ms	
Transfer	0 ms mains ↔ battery · ≤ 1 ms mains ↔ bypass	
Short-circuit protection	5–400 ms	
EFFICIENCY		
Online, AC/AC	up to 97.1 %	
ECO	up to 99 %	
BATTERY		
Type	lead-acid, or lithium with the BMS card for AEC L6	
Voltage	480 V rated, 360–600 V settable; 480–600 V at full load	
Charge current	100 A per power module, 20 A by default	
Charger, max	1,000 A · 1,100 A with +1	1,200 A
SYSTEM		
Display · communication	7-inch touchscreen + LED display · RS485, BMS, Modbus RTU/TCP, BACnet, dry contacts, SNMP	
Parallel	up to 8 frames, common battery	
Environment	23–104 °F (−5 to 40 °C) · 0–95 % RH · IP20 · to 6,562 ft (2,000 m)	
Noise, full load	< 78 dB	
W × D × H	70.9 × 39.4 × 78.7 in · 1,800 × 1,000 × 2,000 mm, bypass breaker cabinet included	
Weight	cabinet 4,674 lb (2,120 kg) · power module 119 lb (54 kg) · bypass module 34 lb (15.5 kg)	
Weight, complete	5,933 lb · +1: 6,052 lb	6,171 lb
Standards	UL 1778 listed · FCC Part 15 Subpart B, Class A	
Warranty	3 years on the UPS · 5 years on L6 lithium	

Ordering Information
INFINITE 1.5MW 750–1,500 kVA

Every INFINITE 1.5MW is ordered with one code: the system rating and the redundant module. Frames, modules and battery cabinets are also sold on their own.

INF15-750 +1

system, kVA — redundant module

+1 adds the redundant module. Every rating comes with its bypass breaker cabinet; the battery is 4, 6 or 8 AEC L6 lithium cabinets (with the L6 combiner) or lead-acid by project. Up to eight frames in parallel.

EXAMPLES

INF15-750+1
750 kVA, 6+1 modules, battery by project

INF15-1500
1,500 kVA, 12 modules in one frame

INF15-415-1000+1
415 V version: 1,000 kVA, 10+1 modules of 100 kVA

Code	Description
INF15-750	INFINITE 1.5MW 750 kVA · 6 × 125 kVA modules
INF15-750+1	INFINITE 1.5MW 750 kVA + 1 redundant · 7 × 125 kVA modules
INF15-1000	INFINITE 1.5MW 1,000 kVA · 8 × 125 kVA modules
INF15-1000+1	INFINITE 1.5MW 1,000 kVA + 1 redundant · 9 × 125 kVA modules
INF15-1250	INFINITE 1.5MW 1,250 kVA · 10 × 125 kVA modules
INF15-1250+1	INFINITE 1.5MW 1,250 kVA + 1 redundant · 11 × 125 kVA modules
INF15-1500	INFINITE 1.5MW 1,500 kVA · 12 × 125 kVA modules
INF15-415-1000	INFINITE 1.5MW 1,000 kVA · 415 V, 10 × 100 kVA modules
INF15-415-1000+1	INFINITE 1.5MW 1,000 kVA + 1 redundant · 415 V, 11 × 100 kVA modules
INF15-415-1200	INFINITE 1.5MW 1,200 kVA · 415 V, 12 × 100 kVA modules
INF15-FRAME-1500	INFINITE 1.5MW frame, 1,500 kVA, no power modules: up to 12 modules
INFINITE-PWR-125	Power module 125 kVA, hot-swappable
INF15-415-FRAME-1200	INFINITE 1.5MW frame, 415 V version, 1,200 kVA, no power modules: up to 12 modules of 100 kVA
INFINITE-PWR-100-415	Power module 100 kVA, 415 V, hot-swappable
L6-CAB-20x50LI	L6 lithium cabinet, 20 × 50 Ah LiFePO4 modules
L6-CAB-10x50LI	L6 lithium cabinet, 10 × 50 Ah LiFePO4 modules
L6-COMBINER	L6 combiner cabinet, joins up to 8 L6 cabinets
SNMP-L	SNMP network card
DRYCNT	Dry-contact card



INFINITE 1.5MW, 750 to 1,500 kVA: the frame and its bypass breaker cabinet

+



INFINITE-PWR-125 module, 125 kVA

6 · 8 · 10 · 12 **Modules per frame**

125 kVA modules: six for 750 kVA, eight for 1,000, ten for 1,250, twelve for 1,500 kVA; at 415 V, ten or twelve of 100 kVA for 1,000 or 1,200 kVA. +1 adds the redundant one.