Which UPS
for Which Application

Find the supply voltage in the columns and the load in the rows: the cell gives the series that fit, with the page where each begins.

Power	120 V single-phase	120/240 V split-phase	208 V three-phase	480 V three-phase
Up to 3 kVA	**LUMINA** 1–3 kVA · p. 11 **FERRUS** 1–3 kVA · p. 20 **FERRUS RT** 1–3 kVA · p. 28	—	—	—
6–20 kVA	—	**FERRUS SP** 6–20 kVA · p. 36 **FERRUS SP RT** 6–10 kVA · p. 47	**ETHERNO** 10–30 kVA · p. 58 **AUREON** 10–30 kVA · p. 71 **RADIANT** 15–90 kVA · p. 83 **RADIANT-IB** 20–100 kVA · p. 92	—
20–100 kVA	—	—	**ETHERNO** 10–30 kVA · p. 58 **AUREON** 10–30 kVA · p. 71 **RADIANT** 15–90 kVA · p. 83 **RADIANT-IB** 20–100 kVA · p. 92	**CIRRO-IB** 30–150 kVA · p. 102 **CIRRO** 60 kVA–1.6 MVA · p. 112 **INFINITE** 100 kVA–1.2 MVA · p. 123
100–600 kVA	—	—	—	**CIRRO-IB** 30–150 kVA · p. 102 **CIRRO** 60 kVA–1.6 MVA · p. 112 **INFINITE** 100 kVA–1.2 MVA · p. 123
600 kVA–1.6 MVA	—	—	—	**CIRRO** 60 kVA–1.6 MVA · p. 112 **INFINITE** 100 kVA–1.2 MVA · p. 123

1

The supply

120 V single-phase, 120/240 V split-phase, 208 V or 480 V three-phase: the column of the table.

2

The load

In kW and kVA, with room to grow: the row. A modular UPS grows by adding power modules.

3

Where it stands

In a 19-inch rack, as a tower beside the load, or as a floor-standing cabinet in the electrical room.

4

The battery

Lithium (LiFePO4) or VRLA, inside the UPS or in cabinets, sized on the runtime the site needs.

Examples

Application	Load	Supply	Series	Why
Network closet, point of sale, edge rack	1.5 kVA	120 V	LUMINA p. 11 or FERRUS RT p. 28	Lithium inside in 2U, or VRLA in a rack / tower unit
Office, workshop or lab circuit	3 kVA	120 V	FERRUS p. 20	Tower, VRLA inside
Equipment on a 120/240 V panel	10 kVA	120/240 V	FERRUS SP p. 36 or FERRUS SP RT p. 47	Isolation transformer, tower or rack
Server room	20 kVA	208 V	ETHERNO p. 58 or AUREON p. 71	Lithium modules or VRLA, inside the UPS
Growing data room, N+1	60 kVA	208 V	RADIANT p. 83 or RADIANT-IB p. 92	15 or 20 kVA power modules
Plant or building, 480 V	300 kVA	480 V	CIRRO p. 112 or CIRRO-IB p. 102	Power modules, batteries in cabinets or inside
Data center	1 MVA	480 V	INFINITE p. 123 or CIRRO p. 112	100 kVA modules, lithium-ready

Dimensions and Weights
Every Frame at a Glance

Width × depth × height and net weight of each UPS frame, for site planning, floor loads and transport.

Series	Ratings	Form	W × D × H	W × D × H	Net weight
LUMINA	1 kVA	Rack 2U	17.2 × 16.5 × 3.4 in	438 × 420 × 87 mm	20 lb (9 kg)
	1.5 · 2 · 3 kVA	Rack 2U	17.2 × 22.4 × 3.4 in	438 × 570 × 87 mm	30–38 lb (13–17 kg)
	2.2 kVA	Rack 2U	17.2 × 24.2 × 3.4 in	438 × 615 × 87 mm	42 lb (19 kg)
FERRUS	1 kVA	Tower	5.6 × 8.6 × 13.9 in	142 × 218 × 353 mm	16 lb (7 kg)
	2 · 3 kVA	Tower	7.5 × 12.6 × 15.8 in	190 × 319 × 400 mm	36–45 lb (16–21 kg)
FERRUS RT	1 · 1.5 kVA	Rack 19-inch	17.3 × 17.3 × 3.4 in	439 × 439 × 86 mm	42–48 lb (19–22 kg)
	2 kVA	Rack 19-inch	17.3 × 17.8 × 3.4 in	439 × 452 × 86 mm	52 lb (23 kg)
	3 kVA	Rack 19-inch	17.3 × 22.8 × 3.4 in	439 × 579 × 86 mm	62 lb (28 kg)
FERRUS SP	6 · 10 kVA	Tower	9.8 × 23.6 × 29.1 in	249 × 599 × 739 mm	196–236 lb (89–107 kg)
	20 kVA	Tower	13.7 × 25 × 47.2 in	348 × 635 × 1,199 mm	452 lb (205 kg)
FERRUS SP RT	6 kVA	Rack 19-inch	17.3 × 22.8 × 6.7 in	439 × 579 × 170 mm	128 lb (58 kg)
	10 kVA	Rack 19-inch	17.3 × 22.8 × 8.5 in	439 × 579 × 216 mm	143 lb (65 kg)
ETHERNO	10 · 20 · 30 kVA	Tower	12.6 × 39.1 × 49.2 in	320 × 993 × 1,250 mm	216–485 lb (98–220 kg)
AUREON	10 · 20 · 30 kVA	Tower	14.9 × 39.1 × 49.2 in	378 × 993 × 1,250 mm	231–750 lb (105–340 kg)
RADIANT	15–90 kVA	Modular rack	17.4 × 33.1 × 59.5 in	442 × 840 × 1,510 mm	244–432 lb (111–196 kg)
RADIANT-IB	20–100 kVA	Modular	23.6 × 39.3 × 78.7 in	600 × 1,000 × 2,000 mm	2,192–2,400 lb (994–1,089 kg)
CIRRO-IB	30–150 kVA	Modular	23.6 × 39.3 × 78.7 in	600 × 1,000 × 2,000 mm	2,192–2,400 lb (994–1,089 kg)
CIRRO	60–360 kVA	Modular	23.6 × 39.3 × 78.7 in	600 × 1,000 × 2,000 mm	636–1,088 lb (289–494 kg)
	100–800 kVA	Modular	31.5 × 39.4 × 78.7 in	800 × 1,000 × 2,000 mm	996–1,902 lb (452–863 kg)
	900–1,200 kVA	Modular	47.2 × 43.3 × 78.7 in	1,200 × 1,100 × 2,000 mm	2,308–2,619 lb (1,047–1,188 kg)
	1,300–1,600 kVA	Modular	63 × 39.4 × 78.7 in	1,600 × 1,000 × 2,000 mm	3,485–3,796 lb (1,581–1,722 kg)
INFINITE	100 · 200 kVA	Modular	23.6 × 39.4 × 81.4 in	600 × 1,000 × 2,068 mm	452–591 lb (205–268 kg)

REFERENCE

Glossary
UPS Terms in Plain Words

Online double conversion
The input is converted to DC and back to AC all the time: the load always runs on the inverter, clean and steady, with no transfer time to battery.

ECO mode
The load runs on the bypass while the mains is within limits and the inverter takes over at once when it is not; higher efficiency.

Static bypass
An automatic path from the mains to the load when the inverter is overloaded or stops.

Maintenance bypass
A manual switch that feeds the load from the mains so the UPS can be serviced with the load on.

kVA, kW, power factor
kVA is apparent power, kW real power; power factor = kW ÷ kVA. At power factor 1.0, kW = kVA.

Runtime
How long the batteries hold the load after a mains failure, at a given load.

VRLA
Valve-regulated lead-acid: sealed batteries that need no topping up.

LiFePO4 (LFP)
Lithium iron phosphate: a stable lithium chemistry with a long cycle life and a fraction of the weight of lead-acid.

BMS
Battery management system: watches cell voltages and temperatures and protects the lithium battery.

Modular UPS
Power modules in a frame: the UPS grows by adding modules, up to the frame's rating.

Hot-swap
A module is taken out or put in with the UPS running and the load protected.

N+X redundancy
X modules or units more than the load needs: if one stops, the others carry the load.

Parallel
Two or more UPS units sharing one load, for more power or for redundancy.

Split-phase 120/240 V
Two 120 V legs in opposite phase: 120 V from each leg to neutral, 240 V between the legs.

Three-phase 208 V · 480 V
The commercial (208Y/120 V) and industrial (480 V) three-phase supplies.

Isolation transformer
Separates the output from the input galvanically and gives a new neutral to the load.

EPO
Emergency power off: a contact that shuts the UPS output down from a remote button.

Dry contacts
Potential-free relay contacts that signal alarms and states to a building system.

SNMP card
A network card that puts the UPS on the LAN: web pages, e-mail alerts and monitoring software.

RS-485 · Modbus
A serial link and protocol used by building management systems to read the UPS.

Cold start
Starting the UPS from its batteries with no mains present.

Rack unit (U)
1.75 in of height in a 19-inch rack: a 2U UPS is 3.5 in high.

NEMA 5-15R · 5-20R · L5-30R
The 120 V receptacles of 15 A, 20 A and 30 A (twist-lock) on the single-phase units.

UL 1778
The UL standard for the safety of uninterruptible power systems.

IEC 62040-1 · -2 · -3
The IEC standards for UPS: safety, electromagnetic compatibility, and performance and test methods.

UL 1973 · UL 9540A
Batteries for stationary use, and the test method for thermal runaway fire propagation.

UN38.3
The transport tests that lithium batteries must pass to be shipped.

QUESTIONS

Ask an AEC engineer

AEC UPS USA · +1 786 553 2100
sales@aecups.com