

# iChamp All-in-One

# Modular Containerized AIDC

**500kW**



The 500 kW All-in-One Modular Containerized AIDC integrates battery cabinets, UPS cabinets, the secondary-side heat load, a CDU, and a primary-side dry cooler within a 12-meter container. The system combines power supply and liquid cooling in a single containerized solution.

It can be deployed close to renewable energy generation sites or at locations with idle or underutilized power resources. By utilizing locally available power and turning it into usable AI computing capacity, the solution enables rapid deployment of large-capacity, high-density mobile data centers for supercomputing clusters.

## ADVANTAGE



### PREFABRICATED INTEGRATION FOR RAPID DEPLOYMENT

BIM-based digital engineering and factory prefabrication integrate server racks, power distribution, cable management, fire protection, and liquid cooling piping into a factory-tested system, reducing on-site installation and system integration for faster deployment.



### MODULAR SCALABILITY AND FLEXIBLE REDEPLOYMENT

Standardized containerized modules support phased deployment and on-demand expansion, while enabling relocation and redeployment as project needs evolve.



### RELIABLE POWER ARCHITECTURE

The power module integrates Gerchamp-developed UPS, Ni-Zn BBU and BMS, with an ATS included as standard. The system supports grid-connected, off-grid and backup operation for reliable power delivery to IT loads.



### UNIFIED MONITORING AND INTELLIGENT OPERATIONS

The Gerchamp-developed DCIM platform provides unified monitoring of power, liquid cooling, environmental, and security systems. It supports real-time alerts, PUE analysis, asset lifecycle management, and capacity planning for centralized visibility and management.

## SPECIFICATION

### General

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| Weight            | 13,737 / 17,993 kg (excl. / incl. coolant and servers) |
| Dimensions        | 12,192 × 2,438 × 2896~3496 mm                          |
| Noise level (dBA) | 54–70 dBA at 10 m (indoor/outdoor)                     |

### Cooling System

|                                    |                                                                                                   |
|------------------------------------|---------------------------------------------------------------------------------------------------|
| Circulation pump                   | High-efficiency coolant circulation pump, N+1 redundancy                                          |
| Heat rejection equipment           | Dry cooler                                                                                        |
| Total heat rejection capacity      | Up to 465,260 kcal/h                                                                              |
| Rated server operating temperature | 45–65 °C @ DB = 37 °C                                                                             |
| Primary-side coolant               | Ethylene glycol/water mixture (mixing ratio adjusted based on deployment location; approx. 345 L) |

### Thermal Performance

|                               |       |
|-------------------------------|-------|
| Rated design condition        | 541kW |
| High-ambient design condition | 500kW |

### Electrical Specifications

|                             |                                   |
|-----------------------------|-----------------------------------|
| Input power                 | 3-Phase, 380–480 V, 60 Hz         |
| Maximum IT load             | 500 kW                            |
| UPS backup runtime          | 15 min at full load               |
| Auxiliary power consumption | 29.5 kW (PUE = 1.06 at full load) |

### Controls and Monitoring

|                 |                                  |
|-----------------|----------------------------------|
| PLC             | Siemens S70 series               |
| Touchscreen HMI | 10" MCGS (Wi-Fi or 4G available) |
| Communication   | Modbus RTU (RS485) and TCP/IP    |

### Air Conditioning System

|                                    |                                           |
|------------------------------------|-------------------------------------------|
| IT compartment air conditioning    | Optional: 2 × 35 kW units, N+1 redundancy |
| Power compartment air conditioning | 12 kW unit                                |

### Fire Protection

|                                                                                                   |                                                                                              |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Fire detection coverage                                                                           | Inside IT racks, aisles, and power compartment                                               |
| Fire detection system                                                                             | Early warning detection, supplemental In-compartment detection, and fire alarm control panel |
| Fire suppression system                                                                           | HFC-227ea clean agent fire suppression                                                       |
| Fire alarm interlock logic                                                                        | IT equipment power-off + automatic shutdown of CDU / cooling pumps                           |
| Fire control and remote signaling<br>(Integration with power and environmental monitoring system) | Signals to site monitoring system: alarm, trouble, supervisory                               |