

Product Introduction

The PROSE Liquid-Cooled Modular Data Center is a next-generation infrastructure solution specifically designed for Artificial Intelligence (AI), High Performance Computing (HPC), large language model training, and high-density computing environments. Featuring a fully integrated modular architecture, the system combines liquid-cooled server racks, CDU (Coolant Distribution Unit), in-row precision cooling, intelligent power distribution, monitoring systems, and containment structures into a single turnkey solution.

Designed to support high-power-density AI servers and GPU clusters, the PROSE solution utilizes advanced liquid cooling technology to maximize thermal efficiency, reduce energy consumption, and deliver a reliable, scalable, and sustainable computing environment.

Main Feature

✔ High-Density Computing Capacity Supports liquid-cooled server racks with power density ranging from 30kW to over 100kW per rack.

✔ Hybrid Cooling Architecture
Combines liquid cooling technology, CDU systems, and in-row air-conditioning units for optimal thermal management.

✔ Modular & Prefabricated Design
Factory-integrated power, cooling, monitoring, and cabinet systems enable rapid deployment and easy expansion.

✔ Intelligent Monitoring Platform
Provides real-time monitoring of temperature, humidity, power consumption, leakage detection, and equipment status.

✔ High Reliability
Supports dual power supply, redundant CDU architecture, and redundant cooling systems for maximum availability.

✔ Energy Efficient Operation
Significantly reduces cooling energy consumption and improves overall data center PUE performance.



System Specification

Model Scale: 1:8 (Model-to-Actual Product Ratio). The following specifications refer to the actual product.

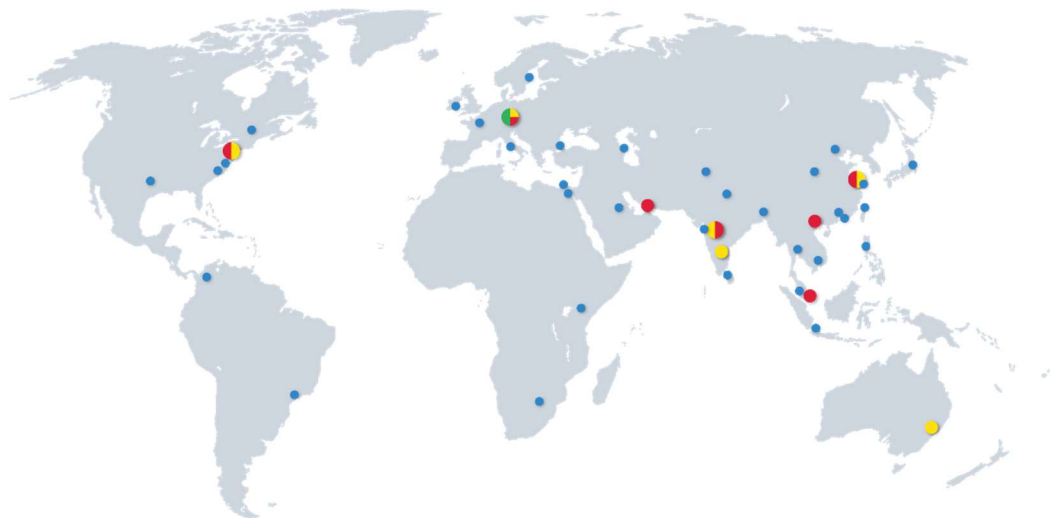
Parameter	
Server Rack*8PCS	
Height Unit (customizable)	42U
Cabinet Dimensions (mm)	600 (W) x 1260 (D) x 2000 (H) (Total Height);
Cabinet Material	High strength grade A fine carbon cold-rolled steel sheet

Weight	About 180kg (Only Rack unit)
Static Load	Up to 2200kg
Color	Black
Structure Composition	Welding framework, cabinet seal design as a whole
Meet Standard	ANSI/EIA RS-310-D, IEC297-2, DIN41491, DIN41494, GB/T3047.2-92
Front Door	Single Mesh Door
Rear Door	Double Mesh Door
Safety Standard	RoHS
CDU*2PCS	
Cooling capacity (KW)	300KW
Power	380/400/415V 50/60HZ
Primary side Temperature	35~40°C
Secondary side Temperature	40~48°C
Power consumption(KW)	2.7KW
Secondary side pump	≥1.0bar
Net Weight(kg)	500
Communication	RS485, SNMP(Optional)
Pipe connection size	DN100
Unit dimensions(mm)	600 (W) x 1260 (D) x 2000 (H)
Manifold*16PCS	
Material	#316 Stainless Steel
Distribution Ports	Outlet *21 / Inlet *21
Connection Type	Self-sealed Quick Disconnect Socket
Main Hose Type	EPDM
Main Hose Size	Φ1.25" *500mm
Main Hose Chuck	Φ50.5 mm
Mount Type	Vertical
Dimension(mm)	50*58*1054
Cold Aisle*1set	
Size (mm)	3600(W) x 200(D) x 2300(H)
Corridor Width(mm)	1200
Weight	About 220kg
Color	Black, RAL9005
Frame Material Thickness	SPCC, ≥2.0mm
Air Conditioner	
Total Cooling (kW)	31.1
SHR (%)	110
Air Volume (m³/h)	5800
Mount Type	Row

Cooling Type	DX
Dimensions (WxDxH) mm	600x1100x2000
Reheat-kW	6
Hum.(optional)-kg/h	3
Power Input (1)	
FLA-A (1)with heating	34.6
FLA-A (1)with hum.	39.7
Power Input (2)	
FLA-A (2)with heating	63.2
FLA-A (2)with hum.	66.4
Power Input (3)	
FLA-A (3)with heating	28.6
FLA-A (3)with hum.	32.8
Standard Outdoor	
Unit Model	PSF42
Unit Qty	1
Monitoring	
Parameter	EV32G20-PLS-01
Core Function	
CPU	Cortex-A17 Frequency:1.8GHZ
RAM	2GB (default) Optional 1G/4GB
Internal Storage	16G eMMC(default) Optional 8G/32G/64G
GPU	ARM Mali-T764
Storage Expansion	Supports up to 128GB TF card
Screen Size	32-inch IPS LCD
Resolution	1920 × 1080 (Full HD)
Viewing Angle	Full viewing angle IPS
Touch Screen	3-point capacitive touch
Brightness	Typ: 400cd/m ²
LCD Display Power	-
Camera	None
Face Recognition	None
Dimensions (W×H×D)	748.6 x 445.6 x 76mm
Connectivity & Interfaces	
RS232	2 ports
RS485	6 ports (Modbus supported)
DI Port	4 channels
DO Port	8 Dry contact
Wi-Fi	Standard: 2.4G, Optional: 2.4G/5G
Bluetooth	Standard: BT4.2, Optional: BT5.0

4G Module	EC25 (standard)
Ethernet	1 × 10/100Mbps RJ45 (DHCP default)
HDMI Output	HDMI 2.0 (supports up to 3840×2160)
Audio Port	1 port
TF Card Slot	1 slot
SIM Card Slot	1 slot
USB Host	1 port
USB OTG	1 port (for firmware burning and debugging)
Debug Port	None
Reset	None
Power Input	3-pin pluggable terminal block
Voltage/Current	DC 12V ±0.5V / 5A
Environmental & Operational Specifications	
Operating System	Android 7.1
Operating Temperature	-10°C to 60°C
Operating Humidity	< 90%RH
Storage Temperature	-20°C to 70°C
MTBF	≥100000H
Net Weight	22.75kg

GLOBAL FOOTPRINT



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