

NICKEL-ZINC

ZincFive Battery Management System



ZincFive

The Power of Good Chemistry™

Scalable, Flexible, Intelligent Monitoring

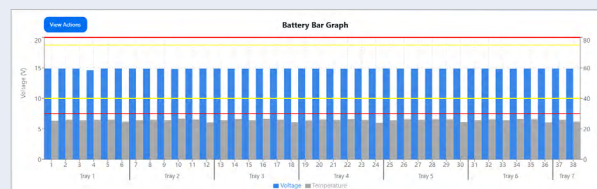
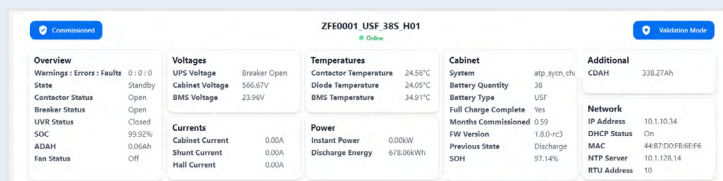
The ZincFive Battery Management System (BMS) is a next-generation solution designed to ensure the optimal performance, safety, and reliability of ZincFive's nickel-zinc (NiZn) battery systems.

Engineered with intelligent monitoring and advanced protection mechanisms, the ZincFive BMS provides real-time oversight and control of all critical battery parameters while integrating seamlessly into modern power infrastructure.



Harnessing The Power of Good Chemistry™

- ✓ **Comprehensive Battery Monitoring** – Continuously tracks voltage, current, and temperature to ensure safe and efficient system operation.
- ✓ **Modular Architecture** – Made up of a Controller and Tray Monitor, the BMS supports scalability and flexibility for various configurations and application sizes.
- ✓ **Advanced Protection Functions** – Robust monitoring of overvoltage, undervoltage, overcurrent, and thermal protection to ensure system safety.
- ✓ **User-Friendly Interface** – Designed with intuitive access for setup, monitoring, and troubleshooting via external communication tools as seen in the below images.



ZincFive BMS Web UI battery monitoring and management

Specifications

Module	ZincFive Battery Management System (BMS) Controller + Tray Monitor
System Electrical	
Input Voltage	24 VDC
Power	12 W - Controller, .7 W Tray Monitor
Current	.5 A - Controller, 30 mA - Tray Monitor
System Environment	
Operational Temperature Range	0°C to +50 °C, Indoor Use Only
Storage Temperature Range	-20°C to +70°C, Indoor Storage Only
Humidity Range	0-90%, Non-Condensing
Altitude	4000 Meters
Pollution Degree	PD2
Overvoltage Category	OVII
Ingress Protection	IP20 (Indoor Only)
Controller Functions	
Memory	1 MB RAM, 8 MB Flash
Display	Internal / External LEDs (Panel Mount RGB LED)
Communication	Micro USB: USB 2.0 Ethernet Port 1: 10/100Base-T Ethernet Ethernet Port 2: 10/100Base-T Ethernet
Service Only Configuration Interface	Micro USB port (Serial debug interface at 115,200 baud, line endings are LF)
Protocols	Modbus TCP/IP Modbus RTU (19,200 Baud, no parity, 8 data bits, 1 stop bit, Device ID = 1) MQTT (TCP/IP, TLSv1.3) UDP
Onboard data storage	32 - 64 GB EMMC
Relay outputs	(2) Relays (N/O, N/C, COM): 0.5 A at 125 VAC / 1 A at 24 VDC
Digital Inputs	Push Button
ADC	Able to read up to 600 VDC UPS/Battery Cabinet Voltages
Dimensions: Width, Depth, Height, Weight	216 mm x 160 mm x 22 mm, 590 g 8.50 in x 6.31 in x 0.88 in, 1.30 lbs
Tray Monitor Functions	
Capability	Supports voltage and temperature data collection of up to 6 batteries
Display	Heartbeat LEDs
Configuration Interface	ZF Battery Management System Controller
Communication	isoSPI: isoSPI Port A isoSPI: isoSPI Port B
Dimensions: Width, Depth, Height, Weight	31.75 mm x 200 mm x 114 mm, 181 g 1.25 in x 7.88 in x 4.5 in, .40 lb
Minimum PC Requirements	
Processor	x86-64, 4+ cores
Operating System	Ubuntu LTS 20.04+, Debian 11+, RHEL 9/Alma 9, Windows 10/11 Pro (WSL 2)
RAM	8+ GB
Storage	SSD -10 GB
Monitor	Headless
System Certifications	
Safety	UL 61010-1, CAN/CSA C22.2 No. 61010-1-12, EN IEC 61010-1, UL 61010-2-030, CAN/CSA C22.2 No. 61010-2-030:25, EN IEC 61010-2-030:2023
EMC	EN IEC 61326-1; EN 55032:2015+A11:2020; EN 55035:2017+A11:2020; ANSI C63.4:2014
Others	FCC Class A, CE, UKCA, REACH, RoHS



Immediate Power Solutions

Safe, reliable and sustainable short-duration high-rate power technologies for critical applications