



SL4112-4A-18V 12-Ch Modular Battery Management System

PRODUCT AREA CHARGER



Compact Multi-Channel Platform with Integrated Diagnostics

The SL4112-4A-18V is a 12-Channel Modular Smart Charger that provides simultaneous charging, discharging, and diagnostic analysis of up to twelve batteries. Comprised of three independent adapters, each supporting four batteries, the system ensures flexible scaling and efficient operation in field environments.

Engineered for mobility and reliability, the platform delivers complete battery management – from charging and discharging to real-time health monitoring within a rugged, mobile platform optimised for demanding field operation.



◀ **USB-C Ports:**
Dual USB-C – a data transfer port and a 5 V (max 1 A) charging port.

Modular Architecture



All systems in the series share a modular architecture built on standard 4-channel BMS modules. The same hardware and software platform scales from compact 4-channel desktop units to 12-channel enclosures and up to 48-channel rack systems, ensuring adapter, firmware and service compatibility across the entire range.

Adaptive Charging



Automated optimisation of charging parameters based on continuous monitoring of voltage, current, resistance, and temperature. Profiles adapt to battery age, chemistry, and condition to maximise service life, performance, and safety.

Integrated Health Monitoring



Real-time tracking of key health indicators, including resistance, voltage stability, temperature deviation, and charge retention. Built-in diagnostics detect early signs of degradation or imbalance, issuing alerts through the system interface without requiring external tools.

Protection Systems



Multi-layer hardware safety including reverse polarity protection, over-voltage shutdown, thermal monitoring, and per-channel fault isolation. Operates independently of software control for assured protection.

Thermal Management



Fanless design supports quiet field operation. Operate with the case open and keep the system out of direct sunlight to maintain proper thermal conditions during use.

SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	
INPUT VOLTAGE:	Max. 600 W, 110-240 V AC, 50/60 Hz
OUTPUT VOLTAGE/CURRENT:	Max. 4 A per channel (3-18 V range)
BATTERY TYPES:	Li-ion with SMBus, supporting smart maintenance for up to 12 units; Li-ion, NiCd, and NiMH without SMBus, supporting charge to 100% or discharge to 0%.
DATA EXTRACTION:	State of Charge (SOC), Voltage, Manufacturer Date, Serial Number, State of Health (SOH), Current, Charge, Discharge, Cycles, Temperature
DISCHARGE FUNCTION:	Supported for compatible batteries (duration varies by capacity and settings)
PHYSICAL PROPERTIES	
DIMENSIONS (L × W × H):	525 × 430 × 217 mm
WEIGHT:	15 kg (excl. batteries)
ENCLOSURE MATERIAL:	Rugged case, polypropylene copolymer with stainless-steel hardware and EPDM gasket (IP67 rated)
THERMAL MANAGEMENT:	Fanless system. Operate with case open, keep out of direct sunlight.
ENVIRONMENTAL & COMPLIANCE	
OPERATING TEMPERATURE RANGE:	-20 °C to 40 °C
STORAGE TEMPERATURE RANGE:	-40 °C to 70 °C
PROTECTION:	IP67 (case closed)
CE MARKED:	CE Marked, Declaration of Conformity 2025
EMC:	MIL-STD-461, MIL-STD-1275B, ISO7637, EN61000
SAFETY:	EN60950, EN60335-2-29
RoHS/REACH:	Exempt from RoHS under Article 2(4)(a) for military equipment; materials selected in accordance with REACH requirements.
GENERAL	
ACCESSORIES:	Includes a 1.8 m power cable and battery charging cables.
DISPLAY:	7-inch colour TFT touchscreen



◀ **Touchscreen Interface:** 7-inch colour touchscreen with extended temperature operation, outdoor visibility, and compatibility with military gloves.

▶ **Universal Compatibility:** The charger supports multiple battery types through three removable adapters. These adapters enable rapid reconfiguration in the field, allowing operators to adapt the system to mission-specific requirements without delays.



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All specifications and information contained herein are subject to change without prior notice.

