

48V 105Ah

SKU: 48v105bv1a

Nominal Voltage: **51.2 V**

Nominal Capacity: **105 Ah**

Nominal Energy: **5376 Wh (5.376 kWh)**

Chemistry: **LiFePO4**

Applications:



The Dakota Tough 48V 105Ah LiFePO4 battery offers twice the runtime, four times the lifespan, and charges five times faster than lead-acid. Lightweight and waterproof, it supports various ports for monitoring and suits golf carts, marine, solar, and off-grid systems with over 5kWh capacity.

Key Features:

- EV-grade LiFePO₄ cells for 3,000+ cycles at 100 % DOD
- 5.12 kWh capacity delivers up to 47 miles per charge
- Smart BMS with 20+ protections and auto-recovery logic
- High-output design (250 A continuous / 600 A peak) for 7.5 kW controllers
- IP67 sealed housing — dustproof, submersible, salt-spray tested
- Stackable and parallel ready — link up to 4 or more units for 20.48 kWh systems
- Drop-in replacement for 8×6 V or 6×8 V lead-acid banks
- Lightweight construction — over 70 % lighter than lead-acid



Performance & Versatility:

- Consistent voltage under load for stronger hill climbs and acceleration
- Fast-charge ready for daily or fleet operation
- RS485 communication for real-time battery status and SOC display
- Remote discharge control and system shutdown capability
- CAN data and charge/discharge FET controls
- Auto-reset safety functions simplify diagnostics and maintenance

Warranty & Support:

- 11-Year Warranty
- ISO 9001 Certified Quality
- U.S. Based Engineering & Service

Applications:

• Golf Carts & LSVs:

Perfect fit for Club Car, EZGO, ICON & Yamaha 48 V systems; direct replacement for lead-acid packs; extends range 40–47 miles per charge.

• Marine Propulsion:

Powers electric outboards and trolling motors with reliable torque and smooth voltage delivery; IP67 build resists salt, vibration, and spray.

• Solar & Off-Grid Energy:

5.12 kWh storage per unit for dock, cabin, or RV systems; parallel expandable to 20.48 kWh.

• Industrial & Utility EVs:

High-power output for utility vehicles and electric drive applications needing fast-recovery and long cycle life.

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Electrical Specifications:

Voltage Range (min, nominal, max)	40-58.4V
Internal Resistance	<30 mΩ
Cycle Life	3000@100%DoD, 6000@80%DoD
Cell Configuration	16s1p
Battery Series/Parallel Compatibility	2 series (96 V total), 4+ in parallel

Charging

Recommended Charge Profile	CC-CV
Absorption Voltage	57.6 V
Float Voltage	55.2 V
Recommended Charge Current	52.5 A
Max Continuous Charge Current	100 A
(if protection trips, remove charger to release)	

Discharging

*Maximum Continuous Discharge	200A
*Surge Discharge Current 1	300A, 30 sec
*Surge Discharge Current 2	900A, 0.3 sec

*(if protection trips, remove charger to release)

Mechanical Specifications:

Dimensions: LxWxH	519.8 x 275.3 x 243.5mm
	20.47 x 10.84 x 9.59 in
Weight	45 kg (99 lbs)
Case Material (flame retardant plastic)	UL94-V0 AB
Terminal Type	M8
Group Spec	n/a

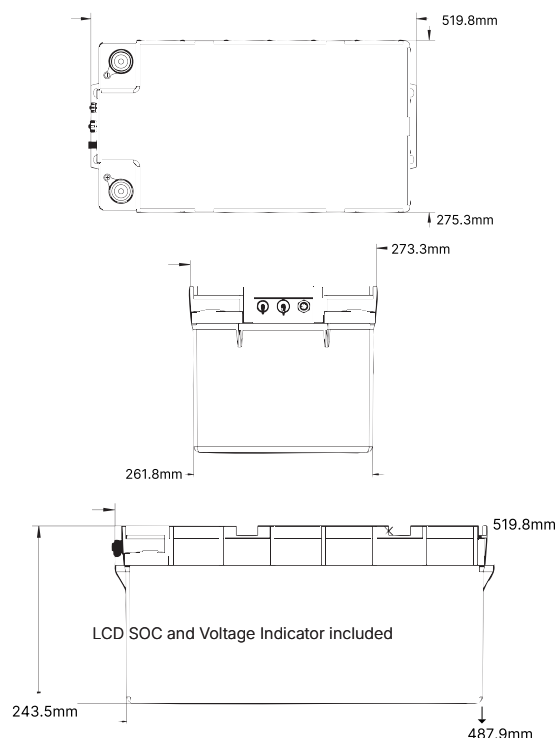
Environmental:

Charge Temperature	0 to 65°C (32 – 149 °F)
if protection trips, bring to 3 to 55°C to release	
Discharge Temperature	-20 to 65°C (-4 – 149 °F)
if protection trips, bring to -18 to 50°C to release	
Recommended Storage Temperature	-20 to 45°C (-4 – 113 °F)
IP Rating	IP67

Note:

CAN functionality is designed for users with experience in CAN bus communication and programming. Proper implementation requires an understanding of CAN protocols and system integration.

Technical Drawing – Battery Outline:



BMS:

BMS Included	yes, Smart BMS
Protections	overcharge, overdischarge, over temperature, under temperature, cell imbalance, short-circuit
Communications	CANBus
See CAN and FET control documents	
Bluetooth	No
Heating	No

Operations:

Sleep Mode	1 hour of no charging, discharging, or communications
apply charger or load to wake up	
Sleep Mode Self-Discharge	550uA

Other

LCD SOC and Voltage Indicator included
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FET Control
See CAN and FET control documents

48V105Ah Data Plugs



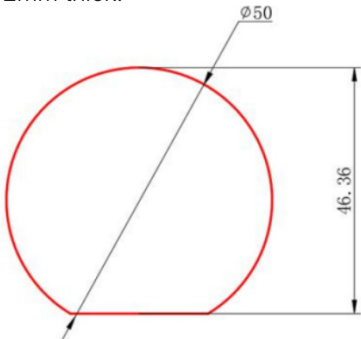
Your battery has three data plugs.
Two are active, one is reserved for future features.

SOC % Charge

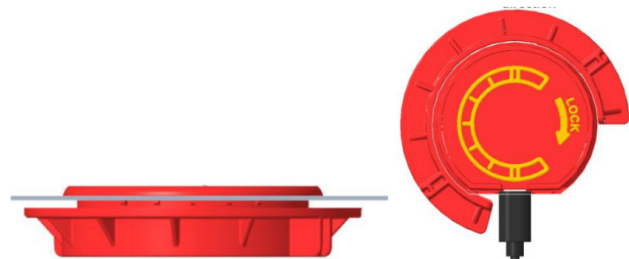
This port can be used with the included Voltage/SOC display.

Mounting instructions

1. Punch out the following shape in the mounting surface.
Dimensions are in mm. The mounting surface should be no more than 2mm thick.



2. Insert the SOC monitor from the outside of the mounting surface.
3. Insert the bracket on the inside surface and twist to lock.
4. Plug the USB-C side of the supplied cable to the SOC display and the aviation plug side of the cable to the battery. If a longer cable is needed, add a USB-C extension cable between the supplied cable and the display.



Activate the display by quickly pressing the power button.
Turn the display off by holding the power button for 3 seconds

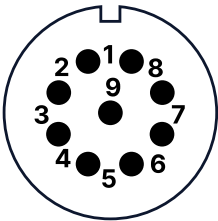
CAN + FET Control

CAN and FET control features are for experienced users only. You must have knowledge of wire harness building and CAN communications to use these features. Improper wiring can damage the BMS and cause battery malfunction. This damage is not covered by the warranty.

Physical Plug

Connector type:

The battery has a 9-pin female aviation connector (Waipu, SP17-series). Interfacing your system with the battery CAN and FET control functions will require you to develop a custom cable.



Male Contact Face View

PIN	FUNCTION	NOTES
1	CAN-H	
2	CAN-L	
3	CAN-GND	Warning - do not connect CAN GND to power GND
4	FET Key	
5	No Connection	
6	Charge FET	Connect PIN6<>PIN4 to disable charging Disconnect PIN6 from PIN4 to enable charging Charge current must be <1A at the time of FET disabling
7	Discharge FET	Connect PIN7<>PIN4 to disable discharging Disconnect PIN7 from PIN4 to enable discharging Discharge current must be <1A at the time of FET disabling
8	RS485A	Reserved for service purposes
9	RS485B	Reserved for service purposes

Pinout

Function Descriptions

Pins 1-3 can be used for CANBus communications. Refer to the CAN command table for details about the CAN protocol and PGNs. A .dbc file is also available.

Pins 4, 6, and 7 can be used to interface with switches or relays to provide control over the battery charge and discharge functions.

To use, wire a switch or relay between PIN4 and PIN6 to control charging. Wire a switch or relay between PIN4 and PIN7 to control discharging. When the switch or relay is open, the battery will charge or discharge normally. When the switch or relay is closed, the charging or discharging function will not work even if the battery is connected to a charger or load.

The current must be less than 1A for the switch control to work. If a current of more than 1A is flowing when the switch is closed, the charge or discharge will not disable until the current drops below 1A.

5-pin Port

Not used, reserved for future functions.

Performed Operation Data

Disclaimer: Performance graphs are based on general LiFePO4 cell chemistry under controlled conditions. Actual results may vary slightly between individual battery packs.

