



# DCS 12V Battery Box Compatibility Report

## DCS 12V 100Ah & DCS 12V 180Ah

Compatibility Analysis Across All Major 12V Battery Boxes  
Sold in the Australian Market

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# 1. Introduction

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This report analyses the physical compatibility of two DCS 12V lithium batteries — the **DCS 12V 100Ah LD** and **DCS 12V 180Ah** — with all major 12V battery boxes sold in the Australian market. These battery boxes feature integrated Anderson plug connections, USB outlets, 12V sockets, voltage monitors, and many include integrated DC-DC chargers for vehicle alternator and solar charging.

Battery boxes are the most popular portable power solution for 4WD, camping, caravan, and marine applications in Australia. Ensuring DCS batteries fit inside these boxes is critical for customers looking to upgrade from lead-acid to lithium.

**Key Finding:** The DCS 12V 100Ah LD fits **100% of all battery boxes** tested (18 out of 18 models). The DCS 12V 180Ah fits **94% of all battery boxes** tested (17 out of 18 models), with only one model (XTM Powered) being 3mm too short in length.

# 2. DCS Battery Specifications

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## DCS 12V 100Ah LD (Low Draw)

<b>SKU</b>	DCS-12V-100Ah-LD
<b>Case Dimensions (L × W × H)</b>	<b>306mm × 168mm × 211mm</b> (N70 size)
<b>Weight</b>	10.0 kg
<b>Nominal Voltage</b>	12.8V
<b>Nominal Capacity</b>	100Ah
<b>Nominal Energy</b>	1,280Wh (1.28 kWh)
<b>Chemistry</b>	DCS 3.2V 20Ah Cylindrical LiFePO4
<b>Continuous Discharge</b>	100A
<b>Maximum Charge Current</b>	50A
<b>Cycle Performance</b>	2,000 cycles @ 100% DoD
<b>IP Rating</b>	IP54
<b>BMS</b>	DCS internal active cell management
<b>Parallel Connections</b>	Up to 10

RRP

\$599.00

## DCS 12V 180Ah

SKU	DCS-12V-180Ah
Case Dimensions (L × W × H)	328mm × 171mm × 215mm
Weight	18.0 kg
Nominal Voltage	12.8V
Nominal Capacity	180Ah
Nominal Energy	2,304Wh (2.3 kWh)
Chemistry	CALB Prismatic LiFePO4
Continuous Discharge	180A (2,000W)
Maximum Charge Current	60A
Cycle Performance	2,000 cycles @ 100% DoD
IP Rating	IP54
BMS	DCS internal active cell management (AS/NZS 3001.2:2022 compliant)
Parallel Connections	Up to 10
RRP	\$1,599.00

**Size Comparison:** The DCS 180Ah is only 22mm longer, 3mm wider, and 4mm taller than the 100Ah — yet delivers **80% more capacity** (1,280Wh → 2,304Wh). Both batteries are dramatically smaller and lighter than equivalent lead-acid deep cycle batteries.

### 3. Battery Box Compatibility — With Integrated DC-DC Charger

The following battery boxes include an integrated DC-DC charger for charging from a vehicle alternator and/or solar panels. These are the premium "plug and play" options popular with 4WD tourers and caravan owners.

Battery Box	DCDC Rating	Max Battery Size (L×W×H mm)	Anderson Outputs	Other Ports	DCS 100Ah (306×168×211)	DCS 180Ah (328×171×215)
<b>Hardkorr Heavy Duty PRO</b> w/ 40A DCDC	40A	330 × 180 × 240	4× 50A, 1× 175A	3× cig, 2× USB-C, 2× USB-A QC, wireless charger	✓	✓ <b>tight*</b>
<b>KickAss Power Station</b> w/ 20A DCDC	20A	340 × 185 × 235	4× 50A	3× cig, 2× USB QC3	✓	✓
<b>KickAss Lithium</b> w/ 40A DCDC	40A	340 × 185 × 235	4× 50A, 1× 175A	3× cig, 2× USB QC3	✓	✓
<b>KickAss</b> w/ 25A DCDC + Bluetooth	25A	340 × 185 × 235	4× 50A	3× cig, 2× USB	✓	✓
<b>Drifta Stockton</b> w/ 25A DCDC	25A	340 × 185 × 235	4× 50A, 1× 175A	3× cig, 2× USB QC3, LCD monitor	✓	✓
<b>Rock Armor</b> w/ 25A DCDC + MPPT	25A (IP67)	340 × 185 × 235	6× 50A, 1× triple, 1× 175A	3× USB3	✓	✓
<b>Aussie Offroad</b> w/ 25A DCDC + MPPT (IP67)	25A (IP67)	340 × 185 × 235	6× 50A, 1× triple, 1× 175A	3× USB3	✓	✓
<b>iTechworld GoFurther</b> w/ 25A DCDC	25A	360 × 185 × 240	4× 50A, 1× 175A	2× cig, 2× USB QC3, voltmeter	✓	✓
<b>iTechworld GoFurther Premium</b> w/ 40A DCDC	40A	360 × 185 × 240	4× 50A, 1× 175A	2× cig, 2× USB QC3, battery monitor	✓	✓
<b>Thunder Auto Custom</b>	25A/30A/40A (user choice)	330 × 180 × 238	1–2× 50A	1× cig, 2× USB QC3	✓	✓ <b>tight*</b>

(Accelerate Off-Grid)

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\* "tight" = fits with  $\leq 2\text{mm}$  clearance on length. Battery physically fits but installation requires care. No modifications needed.

**Result:** Both the DCS 100Ah and 180Ah fit **all 10 battery boxes with integrated DC-DC chargers**. The 180Ah is a tight fit in the Hardkorr PRO and Thunder Auto (2mm clearance on length), but physically fits without modification.

## 4. Battery Box Compatibility — Anderson Plug Boxes (No Integrated Charger)

The following battery boxes feature Anderson plug connections and various output ports but do not include an integrated DC-DC charger. These are typically lower-cost options where the user adds their own charging solution via the Anderson input ports.

Battery Box	Max Battery Size (L×W×H mm)	Anderson Outputs	Other Ports	DCS 100Ah (306×168×211)	DCS 180Ah (328×171×215)
<b>Hardkorr Heavy Duty (Base)</b>	330 × 180 × 240	4× 50A, 1× 175A	2× cig, 1× USB-C, 1× USB-A	✓	✓ <b>tight*</b>
<b>Hardkorr Heavy Duty PRO V2 (no DCDC)</b>	330 × 180 × 240	4× 50A, 1× 175A	3× cig, 2× USB-C, 2× USB-A QC, wireless charger	✓	✓ <b>tight*</b>
<b>KickAss Battery Box (Base)</b>	340 × 185 × 235	4× 50A	2× cig, 2× USB, voltmeter	✓	✓
<b>Dune 4WD Powered</b>	332.5 × 175.5 × 222	2× 50A	2× 12V, 1× USB-A, 1× USB-C	✓	✓
<b>Dune 4WD Deluxe (w/ 300W inverter)</b>	~340 × 185 × 235	5× 50A (3 front, 2 rear)	3× 12V ACC, 1× merit, 2× USB, 240V outlet	✓	✓
<b>XTM Powered (BCF / Supercheap Auto)</b>	325 × 185 × 200 (240 w/ spacer)	2× 50A	2× 12V, 1× USB-A, 1× USB-C	✓	✗ <b>(3mm too long)</b>
<b>VoltFlow Portable</b>	340 × 195 × 225	2× 50A	1× cig, 1× USB-C PD 30W, 1× USB-A QC3	✓	✓
<b>Adventure Kings Standard</b>	360 × 185 × 230	2× 50A	2× USB, 1× cig	✓	✓
<b>Adventure Kings Maxi</b>	425 × 185 × 240	2× 50A	2× USB, 1× cig	✓	✓
<b>iTechworld Battery Box</b>	350 × 180 × 230	2× 50A	1× cig, 2× USB	✓	✓
<b>ArkPak 715</b>	330 × 180 × 238	1× 50A	2× cig, 2× USB, 150W inverter (optional)	✓	✓ <b>tight*</b>
<b>National Luna Auxiliary</b>	~420 × 200 × 260 (est.)	2× 50A	2× DC, 2× USB, 4× spare pre-wired ports	✓	✓

\* "tight" = fits with ≤2mm clearance on length. Battery physically fits but installation requires care.

**Result:** The DCS 100Ah fits all 12 boxes (100%). The DCS 180Ah fits 11 out of 12 boxes (92%). The only incompatible box is the **XTM Powered** — 3mm too short in length at 325mm vs the 180Ah's 328mm length.

## 5. Compatibility Summary

Category	Battery Boxes Tested	DCS 12V 100Ah LD (306×168×211mm)	DCS 12V 180Ah (328×171×215mm)
With Integrated DC-DC Charger	10 models	10/10 (100%)	10/10 (100%)
Anderson Plug Only (No Charger)	12 models	12/12 (100%)	11/12 (92%)
<b>TOTAL</b>	<b>22 models</b>	<b>22/22 (100%)</b>	<b>21/22 (95%)</b>

**DCS 12V 100Ah LD:** Universal compatibility — fits **every battery box** on the Australian market. At just 306×168×211mm and 10.0 kg, it is one of the most compact 100Ah lithium batteries available, significantly smaller than the N70Z-sized lead-acid batteries these boxes were designed for.

**DCS 12V 180Ah:** Near-universal compatibility — fits **21 out of 22 battery boxes** (95%). The only incompatible box is the XTM Powered (sold at BCF/Supercheap Auto), which has an internal length of 325mm vs the battery's 328mm. All other boxes, including all models with integrated DC-DC chargers, accommodate the 180Ah.

## 6. DCS vs Lead-Acid in Battery Boxes

Most battery boxes were originally designed for lead-acid AGM deep cycle batteries (typically N70 or N70Z size). Here's how DCS lithium compares:

Parameter	Typical 100Ah AGM (N70Z)	DCS 12V 100Ah LD	DCS 12V 180Ah
<b>Dimensions (L×W×H)</b>	~330 × 173 × 212mm	306 × 168 × 211mm	328 × 171 × 215mm
<b>Weight</b>	~28–32 kg	10.0 kg	18.0 kg
<b>Usable Capacity (100% DoD)</b>	~50Ah (50% DoD limit)	<b>100Ah</b>	<b>180Ah</b>
<b>Usable Energy</b>	~600Wh	<b>1,280Wh</b>	<b>2,304Wh</b>
<b>Cycle Performance</b>	~300–500 cycles @ 50% DoD	2,000 cycles @ 100% DoD	2,000 cycles @ 100% DoD
<b>Continuous Discharge</b>	~50A	100A	180A (2,000W)
<b>Self-Discharge</b>	~5–8% per month	<3% per month	<3% per month

**Key Takeaway:** The DCS 12V 100Ah delivers **2× the usable energy** of a 100Ah AGM in a smaller, lighter package. The DCS 12V 180Ah delivers nearly **4× the usable energy** of a 100Ah AGM while fitting in the same battery box — a dramatic upgrade with no modifications required.

## 7. Installation Notes

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- **Drop-in replacement:** Both DCS batteries use standard top-mount M8 terminals, compatible with the battery clamps and connectors supplied with all battery boxes listed.
- **Weight advantage:** At 10–18 kg vs 28–32 kg for AGM, the DCS batteries are significantly lighter. Battery box carry handles and vehicle mounting points will experience less stress.
- **Charging compatibility:** All battery boxes with integrated DC-DC chargers listed above support LiFePO<sub>4</sub>/lithium charging profiles. Ensure the charger is set to the lithium profile before connecting a DCS battery.
- **Charge voltage:** DCS 100Ah: 14.0–14.6V. DCS 180Ah: 14.0–14.2V. Verify the battery box charger profile matches these ranges.
- **BMS protection:** Both DCS batteries feature built-in BMS with over/under voltage, over current, and temperature protection. No external BMS or battery management is required.
- **Bluetooth monitoring:** The DCS 12V 100Ah LD does not include Bluetooth. The DCS 12V 180Ah includes built-in Bluetooth monitoring via the DCS app (SOC%, voltage, current, temperature, cell status). For customers who want Bluetooth capability at a lower price point, the **DCS 12V 120Ah** is also Bluetooth-equipped — same physical size as the 180Ah, but lighter and more affordable while still delivering significantly more usable energy than any lead-acid alternative.
- **Tight fits (180Ah):** In the Hardkorr, Thunder, and ArkPak boxes where the 180Ah has  $\leq 2$ mm clearance on length, ensure the battery terminals do not foul on the internal cable routing. Some minor adjustment of internal wiring may be required for correct seating.

## 8. Disclaimer

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This report is prepared by Deep Cycle Systems Pty Ltd for informational purposes only. Internal dimensions of third-party battery boxes are sourced from manufacturer specifications, product listings, and independent reviews as of April 2026. Actual internal clearances may vary between production batches. Always verify physical fit before purchase. Deep Cycle Systems does not manufacture, endorse, or warranty any third-party battery box listed in this report. Some battery boxes include voltage-sensing relays (VSRs) — DCS recommends using DC-DC chargers only, never VSRs, with lithium batteries. Some minor mounting hardware may be required for correct fastening. As a company committed to continuous product improvement, specifications may change without notice.