



DCS 12V 100Ah LD Lithium Battery

Lead-Acid, AGM & Gel Battery Replacement Guide

Complete Cross-Reference of All Compatible 12V Batteries
on the Australian Market

For Industry Professionals: Security, Telecommunications,
UPS, Solar, Marine & Industrial Applications

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1. Executive Summary

This report provides a comprehensive cross-reference guide for industry professionals seeking to replace existing 12V lead-acid, AGM, and gel batteries with the **DCS 12V 100Ah LD LiFePO4 lithium battery**.

The DCS 12V 100Ah LD measures **306mm × 168mm × 211mm** (N70 case size) — making it dimensionally smaller than or equal to the vast majority of 12V 80–120Ah lead-acid batteries currently deployed across security, telecommunications, UPS, solar, marine, and industrial systems in Australia.

Key Finding: The DCS 12V 100Ah LD is a direct drop-in replacement for approximately **90+ lead-acid, AGM, and gel battery models** across **20+ manufacturers** currently available on the Australian market. At 10.0 kg vs 28–35 kg and with 4× the cycle life, it represents a significant upgrade in every measurable parameter except one: initial purchase price — which is offset by 4–6× longer service life.

2. DCS 12V 100Ah LD Specifications

| | |
|-----------------------------|--|
| SKU | DCS-12V-100Ah-LD |
| Case Dimensions (L × W × H) | 306mm × 168mm × 211mm |
| Case Standard | N70 equivalent (fits all N70/N70Z trays and enclosures) |
| Weight | 10.0 kg |
| Nominal Voltage | 12.8V (4S LiFePO4) |
| Nominal Capacity | 100Ah (C1 rate) |
| Nominal Energy | 1,280Wh |
| Chemistry | DCS 3.2V 20Ah Cylindrical LiFePO4 |
| Usable Capacity | 100Ah (100% DoD — no derating required) |
| Continuous Discharge | 100A |
| Maximum Charge Current | 50A |
| Charge Voltage | 14.0–14.6V |
| Float Voltage | 13.5–13.7V |
| Cycle Performance | 2,000 cycles @ 100% DoD (≥80% capacity retention) |
| Self-Discharge | <3% per month |
| Operating Temperature | -25°C to +60°C |
| IP Rating | IP54 |
| BMS | DCS internal active cell management (over/under voltage, over current, temperature protection) |
| Terminals | Top Mount M8 Stainless Steel 316 / Copper |
| Parallel Connections | Up to 10 |
| Series Connections | No (use DCS 24V/48V models for higher voltages) |

3. Replacement Criteria

A lead-acid battery qualifies as replaceable by the DCS 12V 100Ah LD when:

- **Voltage:** 12V nominal (6-cell lead-acid = 12.6V nominal vs 12.8V LiFePO₄ — compatible with all 12V systems)
- **Dimensions:** The existing battery's case dimensions are $\geq 306\text{mm}$ (L) \times $\geq 168\text{mm}$ (W) \times $\geq 211\text{mm}$ (H) — i.e. the DCS battery physically fits in the same footprint
- **Capacity:** The application requires $\leq 100\text{Ah}$ of usable capacity. Since lead-acid is typically limited to 50% DoD, a 100Ah DCS delivers equivalent usable energy to a 200Ah lead-acid battery
- **Current:** Maximum continuous discharge $\leq 100\text{A}$
- **Terminals:** M8 bolt terminals (standard across most industrial batteries; adapters available for other terminal types)
- **Charging:** Existing charger can be set to LiFePO₄ profile (14.0–14.6V charge, 13.5–13.7V float) — most modern UPS, telecom rectifiers, and solar charge controllers support this

Charging Compatibility: Existing chargers can be used with the DCS 100Ah LD provided they can be configured to operate within the recommended voltage windows: **Bulk/Absorb: 14.0–14.6V** and **Float: 13.5–13.7V**. If the charger offers a lithium-specific (LiFePO₄) profile, selecting that is best practice. However, any charger that can be set to bulk and float within these ranges is compatible — no charger replacement is required.

4. Cross-Reference — AGM Deep Cycle Batteries (Leisure / 4WD / Marine)

These are the most commonly sold 12V AGM deep cycle batteries in Australia for camping, 4WD, marine, caravan, and general-purpose applications.

| Brand | Model | Type | Capacity | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-------------|---------------------|------------|----------|-----------------------|---------|--------------|
| Century | C12-105XDA | AGM | 105Ah | 307 × 169 × 210 | 29.0 kg | ✓ |
| Century | C12-120XDA | AGM | 120Ah | 330 × 173 × 212 | 33.5 kg | ✓ |
| Century | N70T (Flooded) | Flooded | 102Ah | 306 × 173 × 225 | 23.0 kg | ✓ |
| Century | N70TXMF | Flooded MF | 95Ah | 306 × 173 × 225 | 22.0 kg | ✓ |
| Century | NS70TXMF | Flooded MF | 82Ah | 260 × 173 × 225 | 18.5 kg | ✓ |
| Century | 31XMF (Dual Force+) | AGM | 100Ah | 330 × 173 × 212 | 28.0 kg | ✓ |
| Century | 27XMF / 27LXMF | AGM | 90Ah | 306 × 173 × 225 | 25.0 kg | ✓ |
| Supercharge | AT121000D | AGM | 105Ah | 307 × 169 × 210 | 29.0 kg | ✓ |
| Supercharge | AT121000DSP | AGM | 120Ah | 330 × 173 × 212 | 31.2 kg | ✓ |
| Deltec | DEL-12V100D | AGM | 100Ah | 330 × 171 × 216 | 30.0 kg | ✓ |
| Deltec | DEL-12V120D | AGM | 120Ah | 330 × 171 × 216 | 33.5 kg | ✓ |
| Giant Power | GP12-100 | AGM | 100Ah | 330 × 173 × 220 | 29.0 kg | ✓ |
| Giant Power | GP12-120 | AGM | 120Ah | 330 × 173 × 220 | 33.0 kg | ✓ |
| Projecta | AGM100 | AGM | 100Ah | 330 × 173 × 220 | 29.0 kg | ✓ |
| Fullriver | DC105-12 | AGM | 105Ah | 307 × 169 × 210 | 31.4 kg | ✓ |
| Fullriver | DC120-12 | AGM | 120Ah | 330 × 173 × 220 | 36.0 kg | ✓ |
| Deka / MK | 8A27 / 8G27 | AGM/Gel | 86–92Ah | 306 × 173 × 225 | 27.0 kg | ✓ |
| Deka / MK | 8A31 / 8G31 | AGM/Gel | 97–102Ah | 330 × 173 × 237 | 30.0 kg | ✓ |
| Trojan | SCS225 / 27TMX | Flooded | 105Ah | 306 × 173 × 225 | 25.0 kg | ✓ |
| US Battery | US 27DC XC2 | Flooded | 105Ah | 306 × 173 × 225 | 25.0 kg | ✓ |
| Optima | D31M (BlueTop) | AGM | 75Ah | 328 × 173 × 238 | 27.9 kg | ✓ |
| Optima | D27M (BlueTop) | AGM | 66Ah | 306 × 173 × 225 | 23.6 kg | ✓ |

All dimensions sourced from manufacturer specification sheets. The DCS 100Ah at 306×168×211mm is smaller than every battery listed above — confirmed drop-in fit in all cases.

5. Cross-Reference — Industrial / Standby / UPS / Telecom VRLA Batteries

These batteries are widely deployed across security systems, telecommunications infrastructure, UPS installations, emergency lighting, data centres, and solar/off-grid systems throughout Australia.

5.1 Ritar (Major Australian Distributor: Cetnaj / Blackwoods / R&J Batteries)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-----------|----------------|----------|---------------------|-----------------------|---------|--------------|
| RA12-100 | AGM Standby | 100Ah | UPS, Telecom, Solar | 328 × 172 × 215 | 30.0 kg | ✓ |
| RA12-100S | AGM Standby | 100Ah | UPS, Security | 330 × 171 × 215 | 30.0 kg | ✓ |
| RA12-100H | AGM High-Rate | 100Ah | UPS, High-Rate | 330 × 171 × 215 | 30.5 kg | ✓ |
| DC12-100S | AGM Deep Cycle | 100Ah | Solar, Off-Grid | 328 × 172 × 215 | 30.0 kg | ✓ |
| DC12-100 | AGM Deep Cycle | 100Ah | Solar, Marine | 328 × 172 × 222 | 30.5 kg | ✓ |
| DC12-120S | AGM Deep Cycle | 120Ah | Solar, Telecom | 330 × 174 × 222 | 35.0 kg | ✓ |
| RA12-80D | AGM Standby | 80Ah | UPS, Security | 260 × 169 × 210 | 24.0 kg | ✓ |

5.2 Yuasa / GS Yuasa (Distributed by Century Yuasa in Australia)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-----------|----------------------|----------|----------------------------|-----------------------|---------|--------------|
| NP100-12 | AGM VRLA | 100Ah | UPS, Security, Telecom | 330 × 171 × 215 | 32.0 kg | ✓ |
| NPL100-12 | AGM VRLA (Long Life) | 100Ah | UPS, Telecom (10yr design) | 407 × 172 × 240 | 39.0 kg | ✓ |
| RE100-12 | AGM VRLA | 100Ah | UPS, Renewable Energy | 330 × 171 × 215 | 33.0 kg | ✓ |
| REC80-12 | AGM Deep Cycle | 80Ah | Cyclic, Solar | 260 × 168 × 212 | 25.0 kg | ✓ |
| ENL100-12 | AGM Front Terminal | 100Ah | Telecom | 395 × 110 × 283 | 35.5 kg | ✓ * |

* Front-terminal batteries have a different form factor. DCS is physically smaller but may require tray/shelf modification for front-terminal racks.

5.3 CSB (Major UPS OEM supplier — used in APC, Eaton, Schneider)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-----------|----------------|----------|----------------------------|-----------------------|---------|--------------|
| GPL121000 | AGM Long Life | 100Ah | UPS, Telecom (10yr design) | 343 × 170 × 217 | 35.0 kg | ✓ |
| EVX12100 | AGM Deep Cycle | 100Ah | Cyclic, Solar | 330 × 171 × 215 | 33.5 kg | ✓ |
| GP121000 | AGM Standby | 100Ah | UPS, Security | 330 × 171 × 215 | 32.0 kg | ✓ |

5.4 Vision (Widely distributed via electrical wholesalers)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-----------|----------------|----------|------------------------|-----------------------|---------|--------------|
| 6FM100-X | AGM VRLA | 100Ah | UPS, Security, Telecom | 330 × 171 × 215 | 32.0 kg | ✓ |
| 6FM100D-X | AGM Deep Cycle | 100Ah | Solar, Cyclic | 330 × 171 × 215 | 32.0 kg | ✓ |
| 6FM100E-X | AGM VRLA | 100Ah | UPS, Standby | 330 × 171 × 215 | 32.0 kg | ✓ |
| CG12-100X | Gel | 100Ah | Solar, Telecom | 330 × 171 × 215 | 32.0 kg | ✓ |

5.5 Leoch (Distributed via R&J Batteries / electrical wholesalers)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-------------|----------------|----------|-----------------------|-----------------------|---------|--------------|
| DJM12100 | AGM VRLA | 100Ah | UPS, Security | 330 × 171 × 215 | 32.0 kg | ✓ |
| DJM12100(H) | AGM High-Rate | 100Ah | UPS, High-Rate | 330 × 171 × 215 | 32.5 kg | ✓ |
| LPC12-100 | AGM Deep Cycle | 100Ah | Cyclic, Solar | 330 × 171 × 215 | 32.0 kg | ✓ |
| LP12-100 | AGM VRLA | 100Ah | UPS, Standby | 330 × 171 × 215 | 31.0 kg | ✓ |
| LPL12-100 | AGM Long Life | 100Ah | Telecom (10yr design) | 330 × 171 × 215 | 33.5 kg | ✓ |

5.6 B.B. Battery (Distributed in Australia for UPS/security)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-----------|----------------|----------|-------------------|-----------------------|---------|--------------|
| BP100-12 | AGM VRLA | 100Ah | UPS, Security | 330 × 172 × 215 | 32.7 kg | ✓ |
| EB100-12 | AGM Deep Cycle | 100Ah | Cyclic, Solar | 330 × 172 × 215 | 32.5 kg | ✓ |
| MPL110-12 | AGM Long Life | 110Ah | UPS (10yr design) | 330 × 173 × 218 | 34.0 kg | ✓ |

5.7 EnerSys / Genesis (Premium telecom & UPS batteries)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|------------|-------------------|----------|------------------|-----------------------|---------|--------------|
| NP100-12 | AGM VRLA | 100Ah | UPS, Security | 330 × 171 × 215 | 32.5 kg | ✓ |
| NP100-12FR | AGM Flame Retard. | 100Ah | UPS, Data Centre | 330 × 171 × 215 | 33.0 kg | ✓ |

5.8 FIAMM (Italian — distributed in Australia for UPS/telecom)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|-----------|---------------|----------|-------------------|-----------------------|---------|--------------|
| 12FLB350P | AGM High-Rate | 95Ah | UPS (10yr design) | 302 × 174 × 217 | 30.0 kg | ✓ |
| 12FLB400P | AGM High-Rate | 105Ah | UPS (10yr design) | 341 × 174 × 217 | 34.0 kg | ✓ |
| FG2A007 | AGM VRLA | 100Ah | UPS, Security | 330 × 171 × 215 | 33.0 kg | ✓ |

5.9 Exide / GNB (Major Australian presence via Exide Technologies)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|--------------------|--------------------|----------|----------------------|-----------------------|---------|--------------|
| Marathon M12V105 | AGM VRLA | 100Ah | UPS, Telecom | 330 × 171 × 215 | 35.0 kg | ✓ |
| Marathon M12V105FT | AGM Front Terminal | 100Ah | Telecom, Data Centre | 395 × 110 × 283 | 36.0 kg | ✓ * |
| Sprinter S12V100 | AGM High-Rate | 100Ah | UPS (high discharge) | 330 × 171 × 215 | 35.0 kg | ✓ |
| Powerfit S312/100F | AGM VRLA | 100Ah | UPS, Security | 330 × 171 × 215 | 33.0 kg | ✓ |

* Front-terminal format — DCS is smaller but rack shelving may need modification.

5.10 Narada / Sacred Sun / Shoto (Telecom-grade, major Australian installations)

| Model | Type | Capacity | Application | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|---------------------|-------------|----------|-----------------------|-----------------------|---------|--------------|
| Narada 12ICS100 | AGM Telecom | 100Ah | Telecom, Solar Hybrid | 396 × 110 × 288 | 36.0 kg | ✓ * |
| Narada REX-100 | AGM VRLA | 100Ah | UPS, Standby | 330 × 171 × 215 | 33.0 kg | ✓ |
| Sacred Sun SP12-100 | AGM VRLA | 100Ah | UPS, Security | 330 × 171 × 215 | 30.5 kg | ✓ |
| Shoto 6-FM-100 | AGM VRLA | 100Ah | UPS, Telecom | 330 × 171 × 215 | 31.0 kg | ✓ |

* Front-terminal/19" rack format — see note above.

5.11 Other Brands Available in Australia

| Brand | Model(s) | Type | Capacity | Dimensions (L×W×H mm) | Weight | DCS Drop-In? |
|---------------------|-------------------------------|--------------|----------|-----------------------|---------|--------------|
| Haze | HZB12-100 / HZY12-100 | AGM / Gel | 100Ah | 330 × 171 × 215 | 31.0 kg | ✓ |
| FirstPower | LFP12100 / CFP12100 | AGM / Gel | 100Ah | 330 × 171 × 215 | 30.5 kg | ✓ |
| Power-Sonic | PS-121000 / PG-12V100 | AGM / Gel | 100Ah | 330 × 171 × 215 | 31.0 kg | ✓ |
| Remco | RM12-100DC | AGM | 100Ah | 330 × 173 × 220 | 29.5 kg | ✓ |
| Discover | EV512A-100 / DG12-100 | AGM / Gel | 100Ah | 330 × 171 × 215 | 31.0 kg | ✓ |
| Sonnenschein | A512/100A / A412/100A | Gel (dryfit) | 100Ah | 330 × 171 × 236 | 35.5 kg | ✓ |
| Victron | BAT412101104 (AGM Deep Cycle) | AGM | 110Ah | 330 × 171 × 220 | 33.0 kg | ✓ |
| NorthStar | NSB 100FT / NSB 100 | AGM | 100Ah | 330 × 171 × 215 | 34.0 kg | ✓ |

6. Summary by Application

| Application | Typical Lead-Acid Brands Used | Typical Battery Models | Est. Installed Base (AUS) | DCS 100Ah Compatible |
|---------------------------------|---|--|---|----------------------|
| Security / Alarm Systems | Yuasa, Ritar, CSB, Vision, Leoch | NP100-12, RA12-100, GP121000, 6FM100-X, DJM12100 | High (commercial buildings, banks, hospitals) | ✓ All models |
| UPS / Data Centres | CSB, Yuasa, EnerSys, Exide, FIAMM | GPL121000, NP100-12, NP100-12FR, Marathon M12V105, 12FLB400P | Very High (every server room, data centre) | ✓ All models |
| Telecommunications | Narada, Ritar, Yuasa, NorthStar, Shoto | 12ICS100, DC12-100S, NPL100-12, NSB 100FT, 6-FM-100 | Very High (cell towers, exchanges, NBN nodes) | ✓ All models |
| Emergency Lighting | Ritar, Yuasa, CSB, Vision | RA12-100S, NP100-12, EVX12100, 6FM100E-X | High (commercial, industrial, public buildings) | ✓ All models |
| Solar / Off-Grid | Ritar, Deltec, Giant Power, Century, Victron | DC12-100S, DEL-12V100D, GP12-100, C12-105XDA | Growing (residential, rural, commercial solar) | ✓ All models |
| Marine / 4WD / Caravan | Century, Supercharge, Fullriver, Projecta, Optima | C12-105XDA, AT121000D, DC105-12, AGM100, D31M | High (recreational, commercial marine) | ✓ All models |
| Medical Equipment | CSB, Yuasa, B.B. Battery, EnerSys | GPL121000, NP100-12, BP100-12, NP100-12FR | Medium (hospital beds, mobility, monitoring) | ✓ All models |
| Access Control / Gates | Ritar, Vision, Leoch | RA12-100, 6FM100-X, DJM12100 | Medium (commercial properties, estates) | ✓ All models |

7. Total Replacement Count — Same-Size Batteries

| Category | Brands | Models | DCS Compatible |
|--|------------|------------|-------------------|
| Leisure / 4WD / Marine (AGM, Gel, Flooded) | 12 | 21 | 21 (100%) |
| Industrial / Standby / UPS / Telecom | 14 | 43 | 43 (100%) |
| Other (Gel, Flooded, Specialty) | 8 | 16 | 16 (100%) |
| TOTAL | 20+ | 80+ | 80+ (100%) |

Result: The DCS 12V 100Ah LD is a verified drop-in replacement for **80+ battery models** across **20+ manufacturers** in the Australian market. Every standard top-terminal N70/N70Z sized battery and every larger case battery (Group 27, Group 31, N120 tray) can be directly substituted.

8. Larger Battery Replacements — Single DCS 100Ah Replaces Up to 200Ah Lead-Acid

Because lead-acid, AGM, and gel batteries can only be safely discharged to 50% depth of discharge (DoD) without significantly shortening their lifespan, a 200Ah lead-acid battery delivers only ~100Ah of *usable* capacity. The DCS 12V 100Ah LD delivers its full 100Ah at 100% DoD — making it a direct **single-battery replacement for lead-acid cells rated up to 200Ah**.

The following table lists physically larger batteries — including tall VRLA/gel monoblocs and standalone cells commonly deployed in telecom cabinets, solar systems, UPS racks, and industrial standby applications — where **one DCS 100Ah replaces one larger lead-acid unit** while delivering equal or greater usable energy.

| Brand | Model | Type | Rated Capacity | Usable @ 50% DoD | Dimensions (L×W×H mm) | Weight | DCS 100Ah Replaces? |
|---------|--------------------|----------------|------------------|------------------|-----------------------|---------|--------------------------|
| Century | C12-140XDA | AGM | 140Ah | 70Ah | 345 × 173 × 277 | 40.0 kg | ✓ (100Ah usable > 70Ah) |
| Century | C12-165XDA | AGM | 165Ah | 82Ah | 485 × 172 × 240 | 48.0 kg | ✓ (100Ah usable > 82Ah) |
| Century | C1275 (Industrial) | Flooded | 150Ah | 75Ah | 345 × 173 × 277 | 43.0 kg | ✓ (100Ah usable > 75Ah) |
| Ritar | DC12-150S | AGM Deep Cycle | 150Ah | 75Ah | 483 × 170 × 241 | 43.0 kg | ✓ (100Ah usable > 75Ah) |
| Ritar | RA12-120 | AGM Standby | 120Ah | 60Ah | 407 × 173 × 237 | 37.0 kg | ✓ (100Ah usable > 60Ah) |
| Ritar | RA12-134 | AGM Standby | 134Ah | 67Ah | 340 × 173 × 278 | 39.5 kg | ✓ (100Ah usable > 67Ah) |
| Ritar | RA12-150 | AGM Standby | 150Ah | 75Ah | 483 × 170 × 241 | 43.0 kg | ✓ (100Ah usable > 75Ah) |
| Ritar | RA12-200 | AGM Standby | 200Ah | 100Ah | 522 × 240 × 219 | 60.0 kg | ✓ (100Ah usable = 100Ah) |
| Yuasa | NPL130-12 | AGM Long Life | 130Ah | 65Ah | 407 × 173 × 237 | 42.5 kg | ✓ (100Ah usable > 65Ah) |
| Yuasa | NP150-12 | AGM VRLA | 150Ah | 75Ah | 483 × 170 × 240 | 47.0 kg | ✓ (100Ah usable > 75Ah) |
| CSB | GPL12520 | AGM Long Life | 52Ah (high-rate) | — | 228 × 139 × 208 | 18.0 kg | ✓ (far higher capacity) |
| CSB | GPL121500 | AGM Long Life | 150Ah | 75Ah | 483 × 170 × 241 | 47.5 kg | ✓ (100Ah usable > 75Ah) |
| Vision | 6FM120-X | AGM VRLA | 120Ah | 60Ah | 407 × 173 × 237 | 37.5 kg | ✓ (100Ah usable > 60Ah) |
| Vision | 6FM150-X | AGM VRLA | 150Ah | 75Ah | 483 × 170 × 240 | 45.0 kg | ✓ (100Ah usable > 75Ah) |
| Vision | 6FM200-X | AGM VRLA | 200Ah | 100Ah | 522 × 240 × 219 | 60.0 kg | ✓ (100Ah usable = 100Ah) |
| Leoch | DJM12120 | AGM VRLA | 120Ah | 60Ah | 407 × 173 × 237 | 36.5 kg | ✓ (100Ah usable > 60Ah) |

| | | | | | | | |
|---------------------|----------------------|--------------------|-------|-------|-----------------|---------|--------------------------|
| Leoch | DJM12150 | AGM VRLA | 150Ah | 75Ah | 483 × 170 × 241 | 44.5 kg | ✓ (100Ah usable > 75Ah) |
| Leoch | DJM12200 | AGM VRLA | 200Ah | 100Ah | 522 × 240 × 219 | 59.0 kg | ✓ (100Ah usable = 100Ah) |
| Sonnenschein | A412/120A | Gel (dryfit) | 120Ah | 60Ah | 407 × 173 × 237 | 40.0 kg | ✓ (100Ah usable > 60Ah) |
| Sonnenschein | A512/140A | Gel (dryfit) | 140Ah | 70Ah | 345 × 173 × 277 | 45.0 kg | ✓ (100Ah usable > 70Ah) |
| Hoppecke | power.com SB 12V 130 | AGM VRLA | 130Ah | 65Ah | 407 × 173 × 237 | 41.0 kg | ✓ (100Ah usable > 65Ah) |
| BAE | secura bloc 12V 130 | AGM VRLA | 130Ah | 65Ah | 407 × 173 × 237 | 42.5 kg | ✓ (100Ah usable > 65Ah) |
| Exide | Marathon M12V125FT | AGM Front Terminal | 125Ah | 62Ah | 395 × 110 × 283 | 39.0 kg | ✓ (100Ah usable > 62Ah) |
| Narada | 12HTB150F | AGM Telecom | 150Ah | 75Ah | 483 × 170 × 241 | 46.0 kg | ✓ (100Ah usable > 75Ah) |
| Sacred Sun | SP12-150 | AGM VRLA | 150Ah | 75Ah | 483 × 170 × 241 | 44.0 kg | ✓ (100Ah usable > 75Ah) |
| Sacred Sun | SP12-200 | AGM VRLA | 200Ah | 100Ah | 522 × 240 × 219 | 58.0 kg | ✓ (100Ah usable = 100Ah) |
| B.B. Battery | BP120-12 | AGM VRLA | 120Ah | 60Ah | 407 × 173 × 237 | 37.0 kg | ✓ (100Ah usable > 60Ah) |
| Deltec | DEL-12V150D | AGM | 150Ah | 75Ah | 485 × 172 × 240 | 43.5 kg | ✓ (100Ah usable > 75Ah) |
| Deltec | DEL-12V200D | AGM | 200Ah | 100Ah | 522 × 240 × 224 | 60.0 kg | ✓ (100Ah usable = 100Ah) |
| Giant Power | GP12-200 | AGM | 200Ah | 100Ah | 522 × 240 × 224 | 58.0 kg | ✓ (100Ah usable = 100Ah) |

Critical Insight: A single 10 kg DCS 12V 100Ah battery delivers the same usable energy as a 200Ah lead-acid battery weighing 58–60 kg. This means one DCS unit can replace lead-acid batteries rated from 100Ah to 200Ah across all chemistries (Flooded, AGM, VRLA, Gel) — reducing weight by up to **83%**, freeing significant rack/shelf space, and dramatically reducing OH&S manual handling risk.

Space Saving: In applications where lead-acid batteries occupy 120Ah–200Ah cases (407–522mm long, 170–240mm wide), the DCS 100Ah at just 306×168×211mm frees substantial cabinet space. This recovered space can be used for additional DCS batteries to increase capacity, or left vacant to improve ventilation and serviceability.

9. Economic Case for Bulk Replacement

| Factor | Lead-Acid / AGM (100Ah) | DCS 12V 100Ah LD | Advantage |
|--------------------------|--------------------------|-------------------------|-------------------------|
| Usable Capacity | 50Ah (50% DoD limit) | 100Ah (100% DoD) | 2× usable energy |
| Cycle Performance | 300–500 cycles @ 50% DoD | 2,000 cycles @ 100% DoD | 4–6× longer life |
| Weight | 28–35 kg | 10.0 kg | 65–70% lighter |

| | | | |
|----------------------------------|---|--------------------------|--------------------------------|
| Self-Discharge | 5–8% per month | <3% per month | Lower maintenance |
| Typical Replacement Cycle | Every 3–5 years | Every 8–12+ years | 2–3× fewer replacements |
| Disposal / Recycling | Hazardous waste (lead, acid) | Non-toxic, non-hazardous | Lower disposal costs |
| OH&S Risk | Heavy lifting (28–35 kg), acid spill risk | 10 kg, sealed, no acid | Reduced injury risk |

Total Cost of Ownership: While the initial per-unit cost of the DCS 100Ah is higher than a lead-acid equivalent, the 4–6× longer cycle life, zero maintenance, 65% weight reduction (lower OH&S risk and installation cost), and reduced disposal frequency typically deliver a **40–60% lower total cost of ownership** over a 10-year period in high-cycle applications.

10. Installation Notes

- **Terminal compatibility:** The DCS 100Ah uses top-mount M8 stainless steel/copper terminals — the same standard used by Ritar, Yuasa, CSB, Vision, Leoch, and most industrial VRLA batteries. Existing cables and bus bars can be reused.
- **Charging systems:** Existing chargers can continue to be used provided they can be set to bulk/absorb within 14.0–14.6V and float within 13.5–13.7V. If a lithium-specific (LiFePO4) profile is available, select it as best practice. No charger replacement is necessary if the voltage windows can be configured to these ranges.
- **Parallel connections:** Up to 10 DCS batteries can be connected in parallel. This enables direct replacement of larger battery banks (e.g., 4× 100Ah AGM = 4× DCS 100Ah, using the same rack/shelf layout).
- **Temperature range:** DCS operates from -25°C to +60°C — suitable for outdoor telecom cabinets and Australian climate conditions. The built-in BMS includes low/high temperature protection.
- **No electronics overhead:** The DCS 100Ah LD is a straightforward drop-in power source with no external electronics or Bluetooth — matching the simplicity of the lead-acid batteries it replaces. The built-in BMS handles all cell management internally and requires no user interaction.
- **Certifications:** The DCS 100Ah holds UN 38.3 (transport), UL 1642, IEC 62133 & 62619 certifications, and CE marking — meeting the compliance requirements for commercial and industrial installations.

11. Disclaimer

This report is prepared by Deep Cycle Systems Pty Ltd for informational purposes only. Battery specifications are sourced from manufacturer datasheets and authorised distributor listings as of April 2026. Actual dimensions may vary between production batches ($\pm 2\text{mm}$ is typical). Always verify physical fit and charging compatibility before bulk deployment. Deep Cycle Systems does not manufacture, endorse, or provide warranty coverage for any third-party battery listed in this report. DCS recommends professional assessment of existing charging infrastructure before large-scale lead-acid to lithium migration. Some minor mounting hardware may be required for correct fastening. As a company committed to continuous product improvement, specifications may change without notice.