DEEP CYCLE SYSTEMS

DCS 12V 12Ah LiFePO4 Battery

UPS, Security, CCTV & Gate Motor Lead-Acid Replacement Guide

Complete Cross-Reference for All Compatible 12V Lead-Acid, AGM & Gel Batteries

Covering Australian UPS, POS, Security/Alarm, Access Control, Gate Motor, CCTV, Telecom & Lighting Systems Since 2000

April 2026

1. Executive Summary

This report provides a comprehensive cross-reference guide for trade professionals and end users seeking to replace existing 12V lead-acid, AGM, and gel standby batteries with the **DCS 12V 12Ah LiFePO4 lithium battery** — an ultra-long-life, drop-in replacement engineered specifically for standby and backup power applications including UPS systems, POS terminals, security/alarm panels, access control, gate motors, CCTV, telecommunications equipment, and emergency lighting.

The DCS 12V 12Ah delivers its full **12Ah (11.4Ah nominal) at 100% depth of discharge**, providing the same usable energy as a **24Ah lead-acid battery** limited to 50% DoD. At just **1.3 kg** in a standard 7Ah SLA form factor (150mm × 92mm × 64mm), it is a true drop-in replacement for the hundreds of millions of 12V 7Ah sealed lead-acid batteries deployed across Australian infrastructure since 2000.

> **Key Finding:** The DCS 12V 12Ah is a direct drop-in replacement for approximately **200+ lead-acid, AGM, and gel battery models** across 25+ manufacturers — covering all standard 12V standby batteries from 4Ah to 12Ah in the same physical form factor, and can functionally replace lead-acid batteries up to **30Ah** when the application does not require physical drop-in fitment.

Key Selling Points

- **Ultra-long-life cell chemistry** — Over 2,000 charge cycles, delivering up to 10× the service life of standard SLA batteries
- **Ultra-low standby power consumption** — Less than 3.5% monthly self-discharge, ideal for float/standby applications where the battery may sit on charge for months or years
- **Exceptional high-temperature performance** — Very low cell capacity decay in elevated temperatures, making it particularly suited for hot parts of Australia (NT, QLD, WA) where lead-acid batteries suffer accelerated degradation
- **Solar MPPT charging compatible** — Can be charged via a 10A MPPT charger supporting 300% PV oversizing (e.g. 10 × 12.8V = 128W × 3 = up to 385W of solar panels for demanding off-grid applications)
- **10A continuous load handling** — Handles loads up to 10A continuous, far exceeding the typical standby current requirements of UPS, alarm, CCTV, and gate motor systems

2. DCS 12V 12Ah Specifications

Product	DCS 12V 12Ah UPS/Gate Motor Lithium Battery
SKU	DCS-12V-12Ah
Dimensions (L × H × W)	150mm × 92mm × 64mm
Weight	1.3 kg

Nominal Voltage	12.8V (4S LiFePO4)
Nominal Capacity	12Ah (11.4Ah nominal, C1 rate)
Nominal Energy	145.9Wh
Usable Capacity	12Ah (100% DoD — no derating required)
Cell Chemistry	Cylindrical LFP (LiFePO4)
Maximum Charge Current	10A
Maximum Discharge Current	10A
Charge Voltage	14.0V – 14.6V
Cycle Use Range	11.5V – 14.6V
Self-Discharge	<3.5% per month
Cycle Performance	2,000+ cycles @ 100% DoD (≥80% capacity retention)
Operating Temperature	-20°C to +60°C
IP Rating	IP54
Case Material	ABS (flame retardant plastic)
BMS	DCS internal — Over/Under Voltage, Over Current charge/discharge, automatic low/high cell temperature protection
Terminals	Spade Connectors (F1/F2 compatible)
Parallel Connections	Up to 4
Certifications	UN 38.3, UL 1642, IEC 62133 & 62619, CE
RRP	$139.00 AUD

Drop-In Form Factor: The DCS 12Ah uses the exact same physical dimensions (150mm × 92mm × 64mm) and spade terminal layout as the ubiquitous 12V 7Ah / 7.2Ah SLA battery found in virtually every alarm panel, small UPS, and gate motor in Australia. No wiring changes, no bracket modifications, no charger replacements required — remove the old lead-acid, insert the DCS LiFePO4.

High Temperature Advantage: Lead-acid battery life is halved for every 8–10°C above 25°C. In Australian conditions where equipment enclosures routinely reach 40–55°C, a standard 7Ah SLA may last only 1–2 years. The DCS 12Ah's LiFePO4 chemistry exhibits dramatically lower capacity decay at elevated temperatures, making it the ideal choice for outdoor gate motors,

roof-mounted CCTV enclosures, and equipment rooms without climate control across Northern Australia.

Solar MPPT Charging: The DCS 12Ah can be charged via a 10A MPPT solar charge controller supporting up to 300% PV oversizing. For demanding off-grid applications: 10A × 12.8V = 128W capacity × 3 = up to **385W of solar panels**. This makes it ideal for remote CCTV, telecom repeater sites, and solar-powered gate/lighting systems where mains power is unavailable.

3. Replacement Criteria

A lead-acid battery qualifies as a **direct drop-in replacement** by the DCS 12V 12Ah when:

- **Voltage:** 12V nominal system
- **Physical size:** Standard 7Ah SLA case (approx. 151mm × 65mm × 94mm) — the DCS 12Ah at 150mm × 92mm × 64mm fits within the same battery compartments
- **Terminals:** F1 (4.8mm) or F2 (6.3mm) spade connectors
- **Current draw:** Continuous load ≤10A
- **Charging:** System charger outputs 13.5–14.6V (covers all standard SLA float and cycle charger profiles)

A lead-acid battery qualifies as a **functional replacement** (usable capacity match, may not be same physical size) when:

- **Rated capacity:** Up to 30Ah lead-acid (delivering ≤15Ah usable at 50% DoD — the DCS provides 12Ah at 100% DoD)
- **Current draw:** ≤10A continuous
- **Voltage:** 12V nominal

4. Cross-Reference List 1 — Direct Drop-In Replacements (Same Form Factor, 4–12Ah)

The following batteries use the standard 7Ah SLA case (approx. 151mm × 65mm × 94mm with F1/F2 spade terminals). The DCS 12Ah fits directly into the same battery compartment and provides **1.7× to 3×** the usable energy.

4.1 UPS Systems

UPS Brand	UPS Model(s)	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
APC	Back-UPS BE400, BE500, BE550G, BE600, BE650G, BE700G, BE725, BE750G, BE850G, BK350, BK500,	RBC2, RBC17, RBC110, RBC114	AGM	7–9Ah	3.5–4.5Ah	✓

	BK650, BN450M, BN600, BN650M1, BN700MC, BN750M					
APC	Smart-UPS SC420, SC450, SUA750, SMT750	RBC2, RBC48	AGM	7–9Ah	3.5–4.5Ah	✓
CyberPower	CP600LCD, CP685AVR, CP800AVR, CP850AVRLCD, CP900AVR, CP1000AVRLCD, CP1200AVR, CP1350AVRLCD, CPS585AVR, CPS625AVR, CPS720VA	12V 7–9Ah SLA	AGM	7–9Ah	3.5–4.5Ah	✓
Eaton / Powerware	3105 350/500/700, 5110 500/700, 5115 500/750, Ellipse ECO 650/800, PW3110 550/700	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Tripp Lite	BC350, BC400, BC450, INTERNET350U, INTERNET500U, INTERNET550U, INTERNET750U, OMNIVS800, OMNIVS1000, SMART550USB	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Belkin	F6C550-AVR, F6C600, F6C750-AVR, F6C1000-TW-RK, BU3DC000-12V	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
MGE / Pulsar	Pulsar Evolution 500/800, Ellipse 300/500/650/800	12V 7–9Ah SLA	AGM	7–9Ah	3.5–4.5Ah	✓
Vertiv / Liebert	PowerSure PSA500, PSA700, PSA1000, GXT2-500RT, Nfinity 4kVA (per battery)	12V 7–9Ah SLA	AGM	7–9Ah	3.5–4.5Ah	✓

4.2 Security / Alarm Systems

Brand	System Model(s)	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
Bosch	Solution 2000/3000/6000, AMAX 2100/3000/4000, D7412GV4, DS7400Xi, B Series (B3512/B4512/B5512/B6512/B8512/B9512)	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Hills / Reliance	NX-4, NX-6, NX-8, NX-8E, NX-12, NX-16, NX-24, ComNav	12V 4–7Ah SLA	AGM	4–7Ah	2–3.5Ah	✓
Ness	D8x, D16x, M1, 5000, 116-000 series, SmartLiving	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
DSC (Digital Security Controls)	PC1555, PC1565, PC1616, PC1832, PC1864, PowerSeries Neo HS2016/HS2032/HS2064/HS2128	12V 4–7Ah SLA	AGM	4–7Ah	2–3.5Ah	✓
Honeywell / Ademco	Vista-10P, Vista-15P, Vista-20P, Vista-32FB, Vista-50P, Vista-128BPT,	12V 4–7Ah SLA	AGM	4–7Ah	2–3.5Ah	✓

	Lynx Plus, Lynx Touch L5210/L7000, MAXPRO					
Paradox	EVO48, EVO192, SP4000, SP5500, SP6000, SP7000, MG5050, MG5075	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Texecom	Premier 412, Premier 816+, Premier Elite 48/64/88/168/640	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Crow	Runner 4/8/16, PowerWave 4/8/16/32, Shepherd	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Tecom	Challenger V8, Challenger V10, TS0870	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Inner Range	Concept 2000, Concept 3000, Concept 4000, Integriti	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Risco	LightSYS, ProSYS Plus, Agility 3/4, WisDom	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓

4.3 Access Control Systems

Brand	System Model(s)	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
Bosch	AMC2 4W, AMC2 4R, APC-AMC2-4WCF	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Honeywell	NetAXS-123, WIN-PAK, PRO-WATCH	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Inner Range	Integriti Controllers, Concept 4000 DGP	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Gallagher	C300, C5000, T20, T30 Readers/ Controllers	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Paxton	Net2 Plus, Net2 Entry	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
HID / Mercury	EP1501, EP1502, LP1501, LP1502, MR50, MR52	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Generic PSU	Dycon D1524-W, Elmdene STX2402-C, PSU enclosures	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓

4.4 Gate Motors / Automatic Gate Openers

Brand	Model(s)	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
Centurion	D3, D5 Evo, D5 Smart, D10, D10 Smart, D10 Turbo, A10, RSO, SDO	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓

Nice / Nice Automation	RB400, RB600, RB1000, Robus 400/600/1000, Pop, Spin, WINGO	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
FAAC	740, 741, 746, 844, 884, S418, S450H, 770N, 415	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
BFT	DEIMOS, PHOBOS, IGEA, LUX, ARES, VIRGO, ELI	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
CAME	BX74, BX78, BXV, BK, FAST, KRONO, FROG, AXI, V0682	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Mighty Mule	FM200, FM350, FM500, FM502, FM600, MM360, MM371W, MM572W	12V 7–12Ah SLA	AGM	7–12Ah	3.5–6Ah	✓
ET Systems	ET500, ET500N, DC 12V Swing/ Slide gate motors	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
ATA (Automatic Technology)	NeoSlider, GDO-2v7, Axess Pro	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓

4.5 CCTV / Surveillance Systems

Application	Typical Systems / Brands	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
CCTV PSU backup	12V power supply enclosures for Hikvision, Dahua, Swann, Uniview, Axis cameras & NVR/DVR units	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
UPS for NVR/ DVR	Small format UPS units (APC BE550G, CyberPower CP685AVR etc.) powering Hikvision, Dahua, Swann, Reolink NVR units	12V 7–9Ah SLA	AGM	7–9Ah	3.5–4.5Ah	✓
Solar CCTV systems	Remote solar-powered cameras (Hikvision DS-2XS6A87G1 series, Dahua PFM378, DIY solar CCTV kits)	12V 7–12Ah SLA	AGM	7–12Ah	3.5–6Ah	✓

4.6 Telecommunications

Application	Typical Equipment	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
NBN NTD backup	NBN Connection Box / NTD battery backup units	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Repeater/ booster PSU	Cel-Fi, SureCall, WeBoost cellular repeaters with UPS backup	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
PABX/PBX			AGM		3.5–6Ah	✓

	Small PABX systems (NEC, Panasonic, Avaya) with standby battery	12V 7–12Ah SLA	7–12Ah

4.7 Emergency Lighting & Exit Signs

Brand	Typical Products	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
Legrand / HPM	Emergency LED battens, exit sign battery packs	12V 4–7Ah SLA	AGM	4–7Ah	2–3.5Ah	✓
Stanilite / Clevertronics	Emergency luminaire packs, central battery systems	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓
Ektor / Pierlite	Emergency inverter modules, self-contained emergency fittings	12V 4–7Ah SLA	AGM	4–7Ah	2–3.5Ah	✓
Generic	Any 12V emergency lighting pack using standard 7Ah SLA form factor	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓

4.8 POS (Point of Sale) Systems

Application	Typical Systems	Original Battery	Type	Rated	Usable @50%	DCS Replaces?
POS UPS backup	Small UPS units powering POS terminals, receipt printers, EFTPOS machines (APC, CyberPower, Eaton models listed in 4.1)	12V 7–9Ah SLA	AGM	7–9Ah	3.5–4.5Ah	✓
Integrated POS battery	Standalone POS terminals with internal 12V backup (NCR, HP, Epson, Partner Tech)	12V 7Ah SLA	AGM	7Ah	3.5Ah	✓

4.9 Cross-Reference by OEM Battery Brand (Drop-In Compatible Models)

The following lead-acid, AGM, and gel battery models are direct drop-in replacements — same physical dimensions and terminal type.

Battery Brand	Model(s)	Type	Rated	Usable @50%	Typical Dims (L×W×H mm)	Weight	DCS Replaces?
Yuasa	NP7-12, NPW36-12, NP12-12, RE7-12, NPH5-12	AGM	5–12Ah	2.5–6Ah	151×65×94	2.3–4.4 kg	✓
CSB	GP1272, GP1272F2, HR1234W, GP12120, EVX1272, HC1221W, UPS12360, HRL1234W	AGM	7.2–12Ah	3.6–6Ah	151×65×94	2.3–4.2 kg	✓

Ritar	RT1270, RT1272, RT1290, RT12120, RT1250, HR12-28W, HR12-34W	AGM	5–12Ah	2.5–6Ah	151×65×94	2.1–4.0 kg	✓
Power Sonic	PS-1270, PS-1272, PS-1290, PS-12120, PS-640, PS-1250	AGM	5–12Ah	2.5–6Ah	151×65×94	2.2–4.2 kg	✓
Panasonic	LC-R127R2P, LC-R127R2PG, LC-RA1212P, LC-R121R3P, UP-RW1245P1	AGM	7.2–12Ah	3.6–6Ah	151×65×94	2.4–4.5 kg	✓
Vision	CP1270, CP1272, CP1290, HP12-46W, 6FM7.2	AGM	7–12Ah	3.5–6Ah	151×65×94	2.3–4.0 kg	✓
Haze	HZS12-7.5, HZS12-9, HZS12-12	AGM	7.5–12Ah	3.75–6Ah	151×65×94	2.4–4.2 kg	✓
B.B. Battery	BP7-12, BP7.5-12, BP8-12, BP12-12, SH4.5-12, HR9-12	AGM	4.5–12Ah	2.25–6Ah	151×65×94	2.0–4.2 kg	✓
Enersys / Genesis	NP7-12, NP12-12, NPX-35	AGM	7–12Ah	3.5–6Ah	151×65×94	2.5–4.5 kg	✓
Drypower	12SB7.2TL, 12SB9TL, 12SB12TL	AGM	7.2–12Ah	3.6–6Ah	151×65×94	2.3–4.2 kg	✓
DiaMec	DM12-7, DM12-9, DM12-12	AGM	7–12Ah	3.5–6Ah	151×65×94	2.2–4.0 kg	✓
Century / AUScell	PS1270, PS1290, PS12120	AGM	7–12Ah	3.5–6Ah	151×65×94	2.3–4.2 kg	✓
Remco	RM12-7.2, RM12-9, RM12-12	AGM	7.2–12Ah	3.6–6Ah	151×65×94	2.3–4.0 kg	✓
Doss / Doss Power	12V 7Ah, 12V 9Ah, 12V 12Ah	AGM	7–12Ah	3.5–6Ah	151×65×94	2.2–4.0 kg	✓
SSB (Sunstone)	SB7-12, SB9-12, SB12-12	AGM	7–12Ah	3.5–6Ah	151×65×94	2.3–4.0 kg	✓
AmpTech	AT1270, AT1290	AGM	7–9Ah	3.5–4.5Ah	151×65×94	2.2–2.8 kg	✓
Ultratech	UT-1270, UT-1290	AGM	7–9Ah	3.5–4.5Ah	151×65×94	2.2–2.8 kg	✓

5. Cross-Reference List 2 — Functional Replacements Up to 30Ah Lead-Acid

The following lead-acid batteries are rated 14–30Ah (delivering 7–15Ah usable at 50% DoD). The DCS 12Ah at 12Ah usable (100% DoD) matches or exceeds the usable capacity of lead-acid batteries up to 24Ah rated, and comes within 20% of a 30Ah lead-acid. These are **functional replacements** — the DCS 12Ah is physically smaller than these batteries, so mounting/wiring adaptation may be required.

5.1 Larger Standby / UPS Batteries (14–30Ah Rated)

Battery Brand	Model(s)	Type	Rated	Usable @50%	Typical Dims (L×W×H mm)	Weight	DCS Replaces?
Yuasa	NP17-12, NP18-12, NP24-12, NP26-12, REC26-12	AGM	17–26Ah	8.5–13Ah	181×76×167 to 166×175×125	5.5–9.5 kg	✓
CSB	GP12170, EVX12170, GP12260, HRL1210W	AGM	17–26Ah	8.5–13Ah	181–166mm cases	5.5–9.0 kg	✓
Ritar	RT12170, RT12180, RA12-24, RT12260	AGM	17–26Ah	8.5–13Ah	181–166mm cases	5.4–8.5 kg	✓
Power Sonic	PS-12170, PS-12180, PS-12260, PS-12280	AGM	17–28Ah	8.5–14Ah	181–166mm cases	5.5–9.5 kg	✓
Panasonic	LC-XD1217P, LC-P1220P, LC-P1228P	AGM	17–28Ah	8.5–14Ah	181–166mm cases	6.0–9.5 kg	✓
Vision	6FM17, 6FM18, 6FM24, 6FM26	AGM	17–26Ah	8.5–13Ah	181–166mm cases	5.5–9.0 kg	✓
B.B. Battery	BP17-12, BP20-12, BP26-12, BP28-12	AGM	17–28Ah	8.5–14Ah	181–166mm cases	5.5–9.5 kg	✓
Haze	HZS12-18, HZS12-26	AGM	18–26Ah	9–13Ah	181–166mm cases	5.5–8.5 kg	✓
Drypower	12SB18CL, 12SB20TL, 12SB26CL	AGM	18–26Ah	9–13Ah	181–166mm cases	5.5–9.0 kg	✓
Sacred Sun	SP12-17, SP12-24, SP12-26	AGM	17–26Ah	8.5–13Ah	181–166mm cases	5.5–8.5 kg	✓
Narada	6-GFM-17, 6-GFM-24, 6-GFM-26	AGM	17–26Ah	8.5–13Ah	181–166mm cases	5.5–9.0 kg	✓

5.2 UPS Systems Using Larger Internal Batteries

UPS Brand	Model(s)	Type	Rated

		Original Battery			Usable @50%	DCS Replaces?
APC	Back-UPS Pro 1000/1100/1200 (single battery slot), BR1000G, BR1200GI, BX1400U	RBC31, RBC32, RBC33	AGM	12–18Ah (per battery)	6–9Ah	✓
CyberPower	PR1000ELCDRT, OR1000LCDRM1U (per battery position)	12V 9–17Ah SLA	AGM	9–17Ah	4.5–8.5Ah	✓
Eaton / Powerware	5S 1000, 5SC 1000, 9PX 1000 (per battery)	12V 7–17Ah SLA	AGM	7–17Ah	3.5–8.5Ah	✓

Note on Functional Replacements: The DCS 12Ah is physically smaller (150mm × 92mm × 64mm) than 17–30Ah lead-acid batteries (typically 181mm × 76mm × 167mm). While the usable capacity matches or exceeds, the battery will need to be secured appropriately in the larger battery compartment. Foam spacers, battery straps, or 3D-printed brackets can ensure a clean installation.

6. Runtime & Performance Comparison

Metric	DCS 12Ah (LiFePO4)	Typical 7Ah SLA	Typical 12Ah SLA	Typical 18Ah SLA
Rated Capacity	**12Ah**	7Ah	12Ah	18Ah
Usable Capacity (recommended DoD)	**12Ah (100%)**	3.5Ah (50%)	6Ah (50%)	9Ah (50%)
Usable Energy	**145.9Wh**	42Wh	72Wh	108Wh
Weight	**1.3 kg**	2.3 kg	4.2 kg	5.5 kg
Cycle Performance @100% DoD	**2,000+**	200–300	200–300	200–300
Service Life (float @ 25°C)	**8–10+ years**	3–5 years	3–5 years	3–5 years
Service Life (float @ 40°C)	**6–8 years**	1–2 years	1–2 years	1–2 years
Self-Discharge	**<3.5%/month**	~5%/month	~5%/month	~5%/month

Runtime Example — Alarm Panel: A typical alarm panel draws 250–500mA in standby. With a 7Ah SLA (3.5Ah usable), backup runtime is 7–14 hours. With the DCS 12Ah (12Ah usable), backup runtime increases to **24–48 hours** — over 3× longer standby during mains power failure.

Runtime Example — Gate Motor: A typical DC gate motor draws 3–5A per open/close cycle (10–20 seconds each). With a 7Ah SLA, the gate can perform approximately 50–70 operations

> on battery backup. With the DCS 12Ah, this increases to **170–240 operations** — enough for several days of normal residential use during a power outage.

7. Charging Compatibility

Charge Voltage	14.0V – 14.6V
Maximum Charge Current	10A
Float Voltage Range	13.5V – 13.8V (standard SLA float chargers are compatible)

Compatibility with Existing Chargers:

The DCS 12Ah LiFePO4 is designed to be charged by the existing charging circuits in the equipment it replaces. Most UPS systems, alarm panels, gate motor control boards, and CCTV PSU enclosures use simple float-charge circuits operating at 13.5–13.8V with charge currents of 0.3–2A. These are fully compatible with the DCS 12Ah — **no charger modification or replacement is required.**

Solar MPPT Charging:

For off-grid applications, the DCS 12Ah can be charged via a 10A MPPT solar charge controller. With 300% PV oversizing capability:

- 10A × 12.8V = 128W battery charge capacity
- 128W × 3 (300% oversize) = **up to 385W of solar panels**
- Ideal for remote CCTV, telecom repeaters, weather stations, and solar-powered gate/lighting systems
- Recommended controller: Victron SmartSolar MPPT 75/10 or 75/15

8. Installation Notes

- **Drop-in replacement** — Matches the standard 12V 7Ah SLA form factor. Remove old battery, install DCS 12Ah in same position with same spade connectors.
- **Terminal type** — Spade connectors (F1/F2). If existing battery uses F1 (4.8mm narrow) and DCS has F2 (6.3mm wide), standard F2-to-F1 adaptor sleeves are available at any electrical wholesaler.
- **Orientation** — Install upright. The DCS LiFePO4 is spillproof and maintenance-free.
- **Parallel** — Up to 4 batteries in parallel (48Ah total bank).
- **Temperature** — Operating range -20°C to +60°C. The BMS provides automatic low/high temperature protection.
- **Existing wiring** — No changes needed. Standard alarm panel, UPS, or gate motor wiring is fully compatible.
- **BMS protection** — Built-in over-voltage, under-voltage, over-current (charge & discharge), and temperature protection. If the BMS enters low-voltage cutoff, apply a LiFePO4-compatible charger or connect an unregulated solar panel briefly to wake the BMS.

Important: Do NOT use a lead-acid charger/maintainer that outputs above 14.6V. Standard equipment float chargers (13.5–13.8V) are compatible. If your UPS or alarm panel has a fixed charge voltage above 14.6V, contact the equipment manufacturer for adjustment guidance.

9. Total Cost of Ownership

Scenario	7Ah SLA (~$25)	DCS 12Ah ($139)	Saving
Alarm panel (replace every 3 yrs @ 25°C)	3.3 batteries over 10 yrs = $83	1 battery over 10 yrs = $139	3× longer runtime + fewer callouts
Gate motor (replace every 2 yrs @ 35°C+ outdoor)	5 batteries over 10 yrs = $125	1 battery over 10 yrs = $139	Zero replacement labour + 3× backup runtime
CCTV PSU (replace every 2 yrs in roof cavity @ 40°C+)	5 batteries over 10 yrs = $125	1 battery over 10 yrs = $139	No roof access callouts + 3× backup
UPS (replace every 3–4 yrs)	2.5–3.3 batteries over 10 yrs = $63–83	1 battery over 10 yrs = $139	3.4× usable capacity + zero downtime

The Hidden Cost of SLA: The real cost of a 7Ah SLA battery is not the $25 battery — it is the **$100–$200+ technician callout** every 2–3 years to replace it. Alarm companies, security installers, and gate motor technicians all charge callout fees. A single DCS 12Ah at $139 eliminates 3–5 callouts over its lifetime, delivering total savings of **$300–$900+ per battery position** when labour is included.

This guide is intended for informational purposes. All specifications sourced from publicly available manufacturer data. Battery dimensions and weights may vary slightly between production runs. Always verify physical fitment before installation. Lead-acid usable capacity calculated at industry-standard 50% depth of discharge.

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