DEEP CYCLE SYSTEMS

DCS 12V 120Ah & 24V 120Ah Marine Batteries

12V & 24V Trolling Motor Compatibility Report

Australian Market — All 12V & 24V Trolling Motor Models Sold in the Last 15 Years

April 2026

1. Executive Summary

This report analyses the compatibility of the **DCS 12V 120Ah** and **DCS 24V 120Ah** lithium marine batteries with all 12V and 24V electric trolling motors sold in the Australian market over the last 15 years (2011–2026).

Trolling motors operate at moderate current draws over extended periods — typically 10–56A at full thrust. Both DCS batteries' 200A continuous discharge ratings far exceed the requirements of every trolling motor on the market, making them **universally compatible**.

> **Key Finding:** The DCS 12V 120Ah and DCS 24V 120Ah Marine batteries are compatible with **100% of all 12V and 24V trolling motor models** sold in Australia over the last 15 years — covering approximately **75+ distinct models** across 9 brands. The 120Ah capacity at 100% DoD provides exceptional runtime, delivering 2–3× the usable energy of standard lead-acid deep cycle batteries.

2. DCS Battery Specifications

DCS 12V 120Ah Marine Battery

Nominal Voltage	12.8V (12V nominal)
Nominal Capacity	120Ah
Nominal Energy	1,536Wh (1.5 kWh)
Chemistry	LiFePO4 (LFP)
Continuous Discharge	200A
Cycle Performance	4,000+ cycles (100% DoD)
Self-Discharge	<3% per month
Operating Temperature	-20°C to 60°C
BMS & Monitoring	Built-in BMS with Bluetooth App (SOC%, voltage, current, cycles, temperature)

DCS 24V 120Ah Marine Battery

Nominal Voltage	25.6V (24V nominal)
Nominal Capacity	120Ah

Nominal Energy	3,072Wh (3.0 kWh)
Chemistry	LiFePO4 (LFP)
Continuous Discharge	200A
Cycle Performance	4,000+ cycles (100% DoD)
Self-Discharge	<3% per month
Operating Temperature	-20°C to 60°C
BMS & Monitoring	Built-in BMS with Bluetooth App (SOC%, voltage, current, cycles, temperature)

> **Key Advantage — Single Battery 24V:** Traditional 24V trolling motor setups require two 12V lead-acid batteries wired in series, adding weight, complexity, and potential points of failure. The DCS 24V 120Ah is a single-unit 24V battery — eliminating series wiring, reducing weight, and simplifying installation.

3. Trolling Motor Current Draw — How It Works

Unlike bow thrusters (which draw hundreds of amps in short bursts), trolling motors draw moderate current over extended periods. Key facts:

- **Rule of thumb:** A 12V trolling motor draws approximately 1 amp per pound of thrust at maximum speed
- **Variable speed:** Most modern trolling motors have 5-speed or variable digital speed control — anglers typically operate at 30–60% throttle
- **Digital Maximizer/Variable speed:** Motors with PWM digital speed control (e.g. Minn Kota Digital Maximizer) are significantly more efficient than 5-speed stepped motors, using only the power needed for the selected speed
- **Typical fishing use:** 2–6 hours of intermittent trolling at varying speeds, averaging 30–50% throttle

Typical 12V Trolling Motor Amp Draw by Speed Setting

Thrust Rating	Voltage	Speed 1 (~20%)	Speed 3 (~50%)	Speed 5 / Max	Max Draw (A)
30 lb	12V	~5A	~15A	~26A	~30A
40 lb	12V	~6A	~18A	~35A	~40A
45 lb	12V	~6A	~20A	~40A	~42A
50 lb	12V	~7A	~22A	~42A	~46A
55 lb	12V	~8A	~25A	~46A	~52A
65 lb	12V	~9A	~28A	~50A	~56A

70 lb	12V	~10A	~30A	~52A	~58A

Typical 24V Trolling Motor Amp Draw by Speed Setting

Thrust Rating	Voltage	Speed 1 (~20%)	Speed 3 (~50%)	Speed 5 / Max	Max Draw (A)
70 lb	24V	~5A	~15A	~28A	~30A
80 lb	24V	~6A	~18A	~34A	~40A
100 lb	24V	~8A	~22A	~42A	~46A
112 lb (24V mode)	24V	~9A	~25A	~48A	~52A

> **DCS 120Ah vs Maximum Trolling Motor Draw:** The largest 12V trolling motor (70 lb thrust) draws ~58A max. The largest 24V trolling motor (112 lb thrust in 24V mode) draws ~52A max. Both DCS 120Ah batteries are rated for **200A continuous** — providing 3–4× headroom above the most demanding trolling motor at full throttle.

4. Compatible Trolling Motor Models — Full Listing

4.1 Minn Kota

US manufacturer, dominant market leader in Australia. Distributed by Johnson Outdoors through extensive dealer network.

Transom-Mount Models (12V)

Model	Thrust (lb)	Max Draw (A)	Speeds	Years	DCS 120Ah Runtime*	Compatible
Endura C2 30	30	~30	5-speed	2011–present	~4h full / 20h+ low	✓
Endura C2 40	40	~40	5-speed	2011–present	~3h full / 18h+ low	✓
Endura C2 45	45	~42	5-speed	2011–present	~2.8h full / 18h+ low	✓
Endura C2 50	50	~46	5-speed	2011–present	~2.5h full / 16h+ low	✓
Endura C2 55	55	~52	5-speed	2011–present	~2.3h full / 14h+ low	✓
Endura Max 40	40	~40	Digital Variable	2018–present	~3h full / 20h+ low	✓
Endura Max 45	45	~42	Digital Variable	2018–present	~2.8h full / 20h+ low	✓

Endura Max 50	50	~46	Digital Variable	2018–present	~2.5h full / 18h+ low	✓
Endura Max 55	55	~52	Digital Variable	2018–present	~2.3h full / 16h+ low	✓
Traxxis 45	45	~42	Digital Variable	2011–present	~2.8h full / 20h+ low	✓
Traxxis 55	55	~52	Digital Variable	2011–present	~2.3h full / 16h+ low	✓
Riptide Transom 45	45	~42	5-speed	2011–present	~2.8h full / 18h+ low	✓
Riptide Transom 55	55	~52	5-speed	2011–present	~2.3h full / 14h+ low	✓
Riptide Terrova 55 (12V)	55	~52	Digital Variable	2016–present	~2.3h full / 16h+ low	✓

*Runtime estimates based on typical draw at stated speed; actual runtime varies with water/wind conditions and boat load.

Bow-Mount Models (12V)

Model	Thrust (lb)	Max Draw (A)	Speeds	Years	DCS 120Ah Runtime	Compatible
PowerDrive 45	45	~42	Digital Variable	2011–present	~2.8h full / 20h+ low	✓
PowerDrive 55	55	~52	Digital Variable	2011–present	~2.3h full / 16h+ low	✓
PowerDrive V2 45	45	~42	Digital Variable	2011–2019	~2.8h full / 20h+ low	✓
PowerDrive V2 55	55	~52	Digital Variable	2011–2019	~2.3h full / 16h+ low	✓
Terrova 55 (12V)	55	~52	Digital Variable	2011–present	~2.3h full / 16h+ low	✓
Maxxum 45	45	~42	Digital Variable	2011–2018	~2.8h full / 20h+ low	✓
Maxxum 55	55	~52	Digital Variable	2011–2018	~2.3h full / 16h+ low	✓
Edge 45	45	~42	5-speed	2011–2016	~2.8h full / 18h+ low	✓
Edge 55	55	~52	5-speed	2011–2016	~2.3h full / 14h+ low	✓
Edge 70	70	~58	5-speed	2011–2016		✓

					~2h full / 12h+ low	
Riptide PowerDrive 55 (12V)	55	~52	Digital Variable	2011–present	~2.3h full / 16h+ low	✓

Note: Minn Kota also produces 24V and 36V models (80lb, 101lb, 112lb thrust) — these are outside the scope of this 12V report.

4.2 MotorGuide

US manufacturer (Mercury Marine). Strong presence in Australian bass and estuary fishing market.

Model	Thrust (lb)	Max Draw (A)	Speeds	Years	DCS 120Ah Runtime	Compatible
R3 30 HT	30	~30	5-speed	2014–present	~4h full / 20h+ low	✓
R3 40 HT	40	~40	5-speed	2014–present	~3h full / 18h+ low	✓
R3 45 HT	45	~42	Digital Variable	2014–present	~2.8h full / 20h+ low	✓
R3 55 HT	55	~52	Digital Variable	2014–present	~2.3h full / 16h+ low	✓
X3 45 FW	45	~42	Digital Variable	2016–present	~2.8h full / 20h+ low	✓
X3 55 FW	55	~52	Digital Variable	2016–present	~2.3h full / 16h+ low	✓
X3 70 FW	70	~58	Digital Variable	2016–present	~2h full / 12h+ low	✓
Xi3 45 FW	45	~42	Digital Variable	2018–present	~2.8h full / 20h+ low	✓
Xi3 55 FW / SW	55	~52	Digital Variable	2018–present	~2.3h full / 16h+ low	✓
Xi3 70 FW	70	~58	Digital Variable	2018–present	~2h full / 12h+ low	✓
Xi5 55 FW / SW (12V)	55	~52	Digital Variable	2015–2022	~2.3h full / 16h+ low	✓
X5 45 / 55 (12V)	45–55	~42–52	5-speed	2011–2016	~2.3–2.8h full	✓

4.3 Watersnake (Australian Brand)

Australian-designed brand (Jarvis Walker group). Very popular in Australia for kayak and small boat fishing. All models are 12V.

Model	Thrust (lb)	Max Draw (A)	Max Watts	Years	DCS 120Ah Runtime	Compatible
ASP T18	18	~15	180W	2011–present	~8h full / 24h+ low	✓
ASP T24	24	~20	240W	2011–present	~6h full / 24h+ low	✓
Venom 34	34	~28	336W	2015–present	~4.3h full / 22h+ low	✓
Venom 44	44	~36	420W	2015–present	~3.3h full / 20h+ low	✓
Venom 54	54	~45	540W	2015–present	~2.7h full / 16h+ low	✓
Venom 65	65	~50	630W	2019–present	~2.4h full / 14h+ low	✓
Geo Spot GPS SW54	54	~45	540W	2020–present	~2.7h full / 16h+ low	✓
Geo Spot GPS SW65	65	~50	420W	2020–present	~2.4h full / 14h+ low	✓
Shadow (discontinued)	30–54	~25–45	—	2011–2018	~2.7–4.8h full	✓
Cobra (kayak series)	18–24	~15–20	—	2011–2017	~6–8h full	✓

4.4 Haswing

Chinese manufacturer with significant Australian market presence. Popular for GPS spot-lock feature at accessible price point.

Model	Thrust (lb)	Max Draw (A)	Max Watts	Years	DCS 120Ah Runtime	Compatible
Osapian 30	30	~25	300W	2013–present	~4.8h full / 24h+ low	✓
Osapian 40	40	~38	480W	2013–present	~3.2h full / 20h+ low	✓
Osapian 55	55	~52	660W	2013–present	~2.3h full / 14h+ low	✓
Protruar 1.0 (12V)	55	~52	660W	2016–present	~2.3h full / 14h+ low	✓
Cayman B 55 (12V)	55	~52	660W	2018–present	~2.3h full / 14h+ low	✓
Cayman T 55 (12V)	55	~52	660W			✓

				2019–present	~2.3h full / 14h+ low	
Cayman GPS 55 (12V)	55	~52	660W	2020–present	~2.3h full / 14h+ low	✓

Note: Haswing also produces 24V models (Cayman 80lb) — outside scope of this 12V report.

4.5 Newport Vessels

US brand, popular budget option in Australia via online retailers.

Model	Thrust (lb)	Max Draw (A)	Speeds	Years	DCS 120Ah Runtime	Compatible
NV-Series 36	36	~32	8 variable	2014–present	~3.8h full / 20h+ low	✓
NV-Series 46	46	~40	8 variable	2014–present	~3h full / 18h+ low	✓
NV-Series 55	55	~50	8 variable	2014–present	~2.4h full / 16h+ low	✓
NV-Series 62	62	~52	8 variable	2016–present	~2.3h full / 14h+ low	✓

4.6 Jarvis Marine (Australian)

Australian brand offering budget-friendly trolling motors for freshwater and saltwater use.

Model	Thrust (lb)	Max Draw (A)	Speeds	Years	DCS 120Ah Runtime	Compatible
Watersnake branded (see 4.3)	18–65	~15–50	Various	2011–present	See above	✓
Savage Gear Thruster 12V	36–55	~32–50	5-speed	2018–present	~2.4–3.8h full	✓

4.7 Other Brands Sold in Australia

Brand	Models (12V)	Thrust Range (lb)	Max Draw (A)	DCS 120Ah Compatible
Sevylor	Electric Trolling Motor 12V	18–30	~15–25	✓
Lowrance	—	*Ghost series is 24V/36V only — N/A for 12V*		—
Garmin	—	*Force/Force Pro is 24V/36V only — N/A for 12V*		—
Shakespeare (discontinued)	Ugly Stik range	30–55	~25–50	✓
Generic/Unbranded (eBay/ Amazon AU)	Various 12V models	18–65	~15–55	✓

5. 24V Trolling Motor Models — Full Listing

The following section covers all major 24V trolling motor models sold in the Australian market over the last 15 years, powered by a single DCS 24V 120Ah battery.

5.1 Minn Kota (24V Models)

Model	Thrust (lb)	Max Draw (A)	Speeds	Mount	Years	DCS 24V 120Ah Runtime	Compatible
Terrova 80 (24V)	80	~40	Digital Variable	Bow	2011–present	~3h full / 18h+ low	✓
Terrova QUEST 90 (24V)	90	~44	Digital Variable	Bow	2024–present	~2.7h full / 16h+ low	✓
Terrova QUEST 115 (24V)	115	~52	Digital Variable	Bow	2024–present	~2.3h full / 14h+ low	✓
Ulterra 80 (24V)	80	~40	Digital Variable	Bow (auto-stow/deploy)	2014–present	~3h full / 18h+ low	✓
Ultrex 80 (24V)	80	~40	Digital Variable	Bow	2017–present	~3h full / 18h+ low	✓
PowerDrive 70 (24V)	70	~30	Digital Variable	Bow	2011–present	~4h full / 22h+ low	✓
Maxxum 70 (24V)	70	~30	Digital Variable	Bow	2011–2018	~4h full / 22h+ low	✓
Riptide Terrova 80 (24V)	80	~40	Digital Variable	Bow	2016–present	~3h full / 18h+ low	✓
Riptide Ulterra 80 (24V)	80	~40	Digital Variable	Bow (auto-stow/deploy)	2016–present	~3h full / 18h+ low	✓
Riptide PowerDrive 70 (24V)	70	~30	Digital Variable	Bow	2011–present	~4h full / 22h+ low	✓

5.2 MotorGuide (24V Models)

Model	Thrust (lb)	Max Draw (A)	Speeds	Mount	Years	DCS 24V 120Ah Runtime	Compatible
Xi5 80 FW (24V)	80	~40	Digital Variable	Bow	2015–present	~3h full / 18h+ low	✓
Xi5 105 FW (24V)	105	~48	Digital Variable	Bow	2015–present	~2.5h full / 14h+ low	✓

Xi5 80 SW (24V)	80	~40	Digital Variable	Bow	2015–present	~3h full / 18h+ low	✓
Xi5 105 SW (24V)	105	~48	Digital Variable	Bow	2015–present	~2.5h full / 14h+ low	✓
Tour 82 (24V)	82	~42	Digital Variable	Bow	2011–2016	~2.9h full / 18h+ low	✓
Tour 109 (24V)	109	~50	Digital Variable	Bow	2011–2016	~2.4h full / 14h+ low	✓

5.3 Garmin (24V Models)

US manufacturer (acquired from Force Marine). Premium GPS-integrated trolling motors. 24V/36V dual-voltage capable.

Model	Thrust (lb) at 24V	Max Draw (A) at 24V	Speeds	Mount	Years	DCS 24V 120Ah Runtime	Compatible
Force 50" (24V mode)	80	~46	Digital Variable	Bow	2019–present	~2.6h full / 16h+ low	✓
Force 57" (24V mode)	80	~46	Digital Variable	Bow	2019–present	~2.6h full / 16h+ low	✓
Force Pro 50" (24V mode)	80	~46	Digital Variable	Bow	2024–present	~2.6h full / 16h+ low	✓
Force Pro 57" (24V mode)	80	~46	Digital Variable	Bow	2024–present	~2.6h full / 16h+ low	✓
Force Kraken (24V mode)	80	~46	Digital Variable	Bow	2024–present	~2.6h full / 16h+ low	✓

5.4 Lowrance (24V Models)

US/Mexico manufacturer. Ghost series is the quietest brushless trolling motor on the market. 24V/36V capable.

Model	Thrust (lb) at 24V	Max Draw (A) at 24V	Speeds	Mount	Years	DCS 24V 120Ah Runtime	Compatible
Ghost 47" (24V mode)	97	~50	20-step variable	Bow	2020–present	~2.4h full / 14h+ low	✓
Ghost 52" (24V mode)	97	~50	20-step variable	Bow	2022–present	~2.4h full / 14h+ low	✓

Ghost 60" (24V mode)	97	~50	20-step variable	Bow	2022–present	~2.4h full / 14h+ low	✓
Ghost X (24V mode)	~116	~56	20-step variable	Bow	2025–present	~2.1h full / 14h+ low	✓

5.5 Haswing (24V Models)

Model	Thrust (lb)	Max Draw (A)	Speeds	Mount	Years	DCS 24V 120Ah Runtime	Compatible
Osapian 80 (24V)	80	~38	Digital Variable	Transom	2015–present	~3.2h full / 20h+ low	✓
Cayman B 80 (24V)	80	~38	Digital Variable	Bow	2019–present	~3.2h full / 20h+ low	✓
Cayman GPS 80 (24V)	80	~38	Digital Variable	Bow	2020–present	~3.2h full / 20h+ low	✓

6. Compatibility Summary

Brand	Country	12V Models	Thrust Range (lb)	Max Current Draw	DCS 120Ah Compatible
Minn Kota	USA	~25	30–70	30–58A	✓ **All models**
MotorGuide	USA	~12	30–70	30–58A	✓ **All models**
Watersnake	Australia	~10	18–65	15–50A	✓ **All models**
Haswing	China	~7	30–55	25–52A	✓ **All models**
Newport Vessels	USA	~4	36–62	32–52A	✓ **All models**
Shakespeare / Sevylor / Other	Various	~4	18–55	15–50A	✓ **All models**
TOTAL 12V		**~55+ models**	**18–70 lb**	**15–58A**	✓ **100% — DCS 12V 120Ah**

24V Models Summary

Brand	Country	24V Models	Thrust Range (lb)	Max Current Draw	DCS 24V 120Ah Compatible
Minn Kota	USA	~10	70–115	30–52A	✓ **All models**
MotorGuide	USA	~6	82–109	42–50A	✓ **All models**
Garmin	USA	~5	80 (24V mode)	~46A	✓ **All models**
Lowrance	USA	~4	97–116	50–56A	✓ **All models**

Haswing	China	~3	80	~38A	✓ **All models**
TOTAL 24V		**~28 models**	**70–116 lb**	**30–56A**	✓ **100% — DCS 24V 120Ah**

> **Combined Total:** Approximately **75+ distinct trolling motor models** across 9 brands — **100% compatible** with DCS batteries. The DCS 12V 120Ah covers all 12V models; the DCS 24V 120Ah covers all 24V models as a single-battery solution.

7. Runtime Analysis — Real-World Fishing Scenarios

Scenario	Motor Size	Avg Speed	Avg Draw	Estimated Runtime (DCS 120Ah)
Kayak fishing (light trolling)	18–24 lb	~30%	~5–8A	**15–24 hours**
Estuary / flatwater (casual trolling)	30–40 lb	~40%	~12–18A	**6.5–10 hours**
Bass fishing (spot-to-spot, GPS lock)	45–55 lb	~50%	~20–25A	**4.8–6 hours**
Offshore slow trolling (against current)	55–65 lb	~70%	~30–40A	**3–4 hours**
Full throttle sustained (max speed transit)	55–70 lb	100%	~50–58A	**2–2.4 hours**

> **Key Advantage — Usable Capacity:** A standard 100Ah lead-acid deep cycle battery should only be discharged to 50% DoD for longevity, yielding ~50Ah usable. The DCS 120Ah LiFePO4 delivers its full 120Ah (100% DoD rated) — providing **2.4× the usable energy** of a comparable lead-acid battery while weighing significantly less.

8. DCS vs Lead-Acid for Trolling Motor Applications

Parameter	Typical Lead-Acid (100Ah AGM)	DCS 12V / 24V 120Ah LiFePO4
Rated capacity	100Ah	120Ah
Usable capacity (recommended DoD)	~50Ah (50% DoD)	120Ah (100% DoD)
Usable energy	~600Wh	1,536Wh
Weight	~28–32 kg	~14 kg
Voltage under load	Drops progressively (12.8V → 10.5V)	Flat curve (~12.8V until nearly depleted)

Trolling motor performance impact	Noticeable thrust reduction as battery drains	Consistent full thrust until battery is empty
Recharge time	8–12 hours	2–4 hours
Cycle performance	300–500 cycles	4,000+ cycles
Self-discharge	5–15% per month	<3% per month (seasonal storage friendly)
Maintenance	Terminal cleaning, occasional equalization	Zero maintenance
Orientation sensitivity	Must remain upright (wet cell)	Any orientation — ideal for tight boat installs

Critical advantage for anglers: Lead-acid batteries deliver progressively less voltage as they discharge, meaning your trolling motor loses thrust throughout the day. The DCS LiFePO4 battery maintains a flat voltage curve — your motor delivers **the same thrust at 10% charge as it does at 100%**. This means consistent boat speed and GPS spot-lock performance all day long.

9. Installation Notes

- **Drop-in replacement (12V):** The DCS 12V 120Ah fits standard battery boxes and trays used for Group 27/31 marine batteries.
- **Single-battery 24V:** The DCS 24V 120Ah eliminates the need for two 12V batteries wired in series — a single battery replaces two, saving weight, space, and eliminating series wiring complexity and potential connection failures.
- **Wiring:** Use minimum 8 AWG (8mm²) wire for trolling motor connections. Maintain the existing circuit breaker or fuse as per the trolling motor manufacturer's recommendation.
- **Charging:** Use a dedicated LiFePO4-compatible charger or a LiFePO4-compatible DC-DC charger from the engine battery bank. Never use voltage-sensing relays — best practice is to use a dedicated DC-DC charger and ensure the battery is permanently isolated from the starting system.
- **Weight savings:** At approximately 14 kg vs 28–32 kg for lead-acid, the DCS 120Ah saves 14–18 kg — a significant advantage for kayak and small boat anglers where every kilogram counts.
- **BMS protection:** The built-in BMS provides over-current, over-voltage, under-voltage, short-circuit, and temperature protection. The 200A continuous rating ensures the BMS will never trip during normal trolling motor operation (max draw ~58A).
- **Bluetooth monitoring:** Use the DCS app to monitor state of charge in real-time — know exactly how much runtime you have remaining.

Note on some minor mounting hardware: Some minor mounting hardware may be required for correct fastening depending on the battery box or tray configuration in the vessel. Standard marine battery hold-downs and straps are suitable.

10. Disclaimer

This report is provided as a general compatibility guide based on publicly available manufacturer specifications. Actual current draw and runtime will vary based on water conditions, wind, current, boat weight, propeller condition, and throttle usage patterns. Runtime estimates assume new battery at full charge and typical operating conditions. Some trolling motor models have been produced in multiple generations with varying specifications — installers should verify the exact current draw rating of their specific motor model. Deep Cycle Systems recommends consulting the trolling motor manufacturer's battery sizing guide alongside this report. All product specifications are subject to change.

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