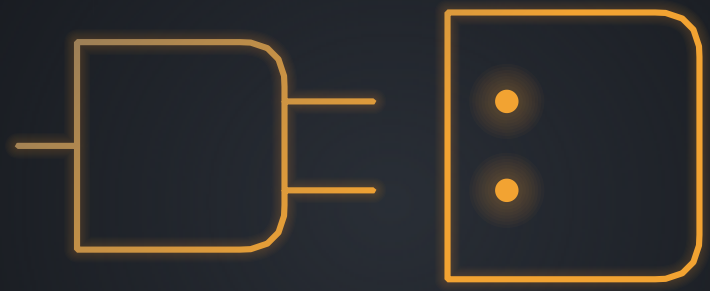
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# AERL Systems

Batteries, Inverters, Chargers and Monitoring



LiFe² · Kakadu 120 · CoolMax SRX · All-In-One · Nexus

**Compatibility Guide**

REV 1.0.0, 8 NOV 2026



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## Document

Revision
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Effective
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Audience
**System designers, installers and integrators**

Covers
**LiFe² 5120S · Kakadu 120 · CoolMax SRX and SRX-R · All-In-One · Solinteg M2HT · Nexus · EarthGuard**

Format
**A4 · 14 pages**

# About This Guide

This guide lists which AERL products work together, and with which third-party inverters, batteries and monitoring equipment. Each row names the AERL document that gives the connection details and settings. Use this guide to choose the equipment; use the named document to install it.

Every combination listed here is covered by a published AERL or manufacturer document. A combination that is not listed may still work, but AERL has not documented it: contact AERL before you design it in.

Settings and firmware requirements can change with third-party firmware. They are correct at the date of publication. Use the latest firmware the manufacturer offers.

Deye, Victron Energy, Selectronic, SP PRO, SP LINK, Solis, SMA, Sunny Island, Noark, Morningstar, Pylontech, Solinteg and other third-party names are trademarks of their respective owners. They are used here only to identify compatible equipment.

## How to Read the Tables

| Term | Meaning |
|---|---|
| **Managed** | The battery's BMS talks to the inverter over CAN bus and sends its charge and discharge limits and state of charge (SOC). |
| **Self-Managed** | No communication. The charge settings are programmed into the inverter or charger by hand. |
| **DC-coupled** | A CoolMax SRX or SRX-R charges the battery directly from PV; the inverter is a separate device on the same battery. |
| **Minimum modules** | The smallest number of LiFe² 5120S modules that supports the full output of that inverter or charger. |
| **Contact AERL** | Not covered by a published document. AERL can advise on the combination. |

# At a Glance

01

Batteries with inverters and chargers, products with AERL Cloud

## 1.1 Batteries With Inverters and Chargers

| Battery | Victron Energy | Deye | Selectronic SP PRO | Solis | SMA Sunny Island | CoolMax SRX / SRX-R |
|---|---|---|---|---|---|---|
| **LiFe² 5120S (51.2 V)** | Managed | Managed | Managed or Self-Managed | Managed or Self-Managed | Self-Managed | 48 V models |
| **Kakadu 120 (140.8 V)** | Contact AERL | Contact AERL | SPLC1200, SPLC1202, with the Nexus EMS | Contact AERL | Contact AERL | 120 V models, at least one per cabinet |
| **All-In-One battery cabinets** | — | — | — | — | — | — |

The All-In-One battery cabinets are supplied with their Solinteg M2HT inverter, as one system (section 2.4).

## 1.2 Products With AERL Cloud

| Product | Through the Nexus Gateway | Notes |
|---|---|---|
| **CoolMax SRX, SRX-R** | Yes (CAN) | Also read-only Modbus RTU for third-party monitoring |
| **LiFe² 5120S** | Yes (CAN) | Nexus inline on the battery–inverter CAN bus |
| **Kakadu 120** | Yes (CAN): the Nexus is required | The Nexus is also the system EMS |
| **Selectronic SP PRO 2i** | Yes (RS485 Modbus) | SP PRO ACC Port 1 |
| **Battery Sense** | Yes (CAN) | On the SRX's CAN bus |
| **CoolPro CP30** | Yes (RS485 Modbus) | Through the CoolPro Meter Board |
| **EarthGuard EG-600, EG-600-SC** | Contact AERL | Alarm relays to any monitoring input |
| **All-In-One, Solinteg M2HT** | Contact AERL | Solinteg's own monitoring app and cloud |

# Batteries and Inverters

LiFe² 5120S: Managed (CAN bus)

02

## 2.1 LiFe² 5120S: Managed (CAN Bus)

The LiFe² 5120S starts in Managed mode by default. The master battery's **COMM** port carries CAN on pins 4 and 5. Default depth of discharge for every managed inverter: 80% (20% SOC low cut-off).

| Inverter | Models | Battery setting | Document |
|---|---|---|---|
| **Victron Energy** | All 48 V Multis, MultiPlus, Quattros and RS models, through a GX device (BMS-Can port) | CAN-bus profile **CAN-bus BMS LV (500 kbit/s)**; the battery shows as **Pylontech** | LiFe² Managed Battery Integration Guide, ch. 03 |
| **Deye** | Low-voltage hybrids on Deye's approved battery list: single phase SUN-(3.6–8)K-SG05LP1-EU and -AU, SUN-(3–6)K-SG03LP1-EU, SUN-(3–6)K-SG04LP1-EU and -AU, SUN-(7.6–8)K-SG01LP1-EU, SUN-(12–16)K-SG01LP1-EU, SUN-(5–8)K-SG01LP1-US; three phase SUN-(5–12)K-SG04LP3-EU and -AU | Batt Mode **Lithium**, Lithium Mode **00** | LiFe² Managed Battery Integration Guide, ch. 04 |
| **Selectronic SP PRO** | Series 2i SPMC480, SPMC481, SPMC482; Series II with Selectronic's Managed Battery Upgrade Kit (005295). Not Series I | SP LINK battery type **AERL LiFe2-5120S** | LiFe² Managed Battery Integration Guide, ch. 05 |
| **Solis** | S6-EH1P(3–8)K-L-PRO, S6-EH1P(3–6)K-L, S6-EO1P(4–5)K-48, S5-EH1P(3–6)K-L | Battery Model **Lithium Battery LV** (not the RS485 variant) | LiFe² Managed Battery Integration Guide, ch. 06 |
| **CoolMax SRX / SRX-R (48 V)** | SRX 600/70-48, SRX-R 600/60-48 | Charge profile in AERL Link, within the battery's charge settings; on the battery's CAN bus the SRX stops charging on a battery alarm | CoolMax SRX DC-Coupling Design Guide |
| **Noark** | Ex9N-DH-3KS-AU to Ex9N-DH-12KT-AU | Contact AERL | LiFe² PCE Integration Guide, §1.4 (minimum modules) |

## 2.2 LiFe² 5120S: Self-Managed (No Comms)

Use Self-Managed mode with inverters and chargers that have no communication link to the battery. Program the charge settings by hand: charge voltage 56 V, maximum charge current 70 A and maximum discharge current 100 A per module, 90% maximum depth of discharge (recommended setting).

| Inverter or charger | Models | Document |
|---|---|---|
| **Selectronic SP PRO** | SPMC480, SPMC481, SPMC482 | LiFe² PCE Integration Guide, ch. 3 |
| **Solis** | RHI-(3–6)K-48ES-5G, RAI-3K-48ES-5G, S5-EH1P(3–6)K-L, S5-EO1P(4–5)K-48(-P), S6-EO1P(4–5)K-48, S6-EH1P(3–6)K-L-EU, S6-EH1P(3–8)K-L-PRO | LiFe² PCE Integration Guide, ch. 4 |
| **SMA Sunny Island** | SI 4.4M, SI 6.0H, SI 8.0H (with an external shunt for SOC) | LiFe² PCE Integration Guide, ch. 5 |
| **CoolMax SRX / SRX-R (48 V)** | SRX 600/70-48, SRX-R 600/60-48 | CoolMax SRX DC-Coupling Design Guide |
| **Other inverters and chargers** | Any that allow the charge settings to be set to the battery's requirements | Contact AERL for the settings |

The minimum number of modules for each inverter is in the LiFe² System Sizing Guide.

## 2.3 Kakadu 120

The Kakadu 120 (140.8 V nominal) needs an AERL Nexus Gateway on its CAN bus, and is designed for DC coupling with the CoolMax SRX 120 V.

| Equipment | Combination | Document |
|---|---|---|
| **Selectronic SP PRO SPLC1200, SPLC1202** | One SP PRO per Kakadu 120 cabinet. The SP PRO runs the Kakadu as a managed battery: SP LINK battery type **BMS – SelectCell River Gum** | Kakadu Commissioning Guide (SPLC1202 and CoolMax SRX); Kakadu 120 SPLC12xx Sizing Guide |
| **CoolMax SRX 600/30-120** | At least one per Kakadu cabinet, on the Kakadu CAN bus; charges to target points set by the Nexus | Kakadu Commissioning Guide |
| **AERL Nexus Gateway** | One per system: the EMS. AERL installs the EMS firmware on the Nexus and every SRX during commissioning | Kakadu Commissioning Guide |
| **Other inverters** | Contact AERL | — |

## 2.4 All-In-One and Solinteg M2HT Batteries

The All-In-One is supplied with its own Solinteg battery cabinet and needs no other battery:

| System | Inverter | Battery |
|---|---|---|
| **All-In-One 25–50 kW** | Solinteg M2HT-25-150 to M2HT-50-150 | Solinteg E2BR-S64K-C, -S80K-C, -S96K-C or -S112K-C |
| **All-In-One Max 125/257 (off-grid; grid connection pending CEC listing)** | Solinteg M2HT-125K-300 | Solinteg E2BR-S257K-C |

For a Solinteg M2HT 75–125 kW sold on its own (grid connection pending CEC listing), contact AERL. A Solinteg M2HT 25–50 kW inverter sold on its own works only with high-voltage LFP batteries with a BMS on Solinteg's compatibility list, connected over CAN, within its 150–840 V battery range. These are the batteries Solinteg lists for the M2HT 25–50 kW (Solinteg compatibility list Ver. 2.03, 22 July 2025):

| Battery brand | Battery ID in the inverter | Battery models |
|---|---|---|
| **Solinteg** | Solinteg_HV | EBS-B2K5-B, EBA-B5K1; EBR-B5K3-A |
| **Pylontech** | Pylon_HV | Force H1/H2/H2(-V2)/H3; Powercube X1/X2/H1/H2(-V2); Powercube M1/M2/M3/M5A |
| **Dyness** | Dyness | Tower/Tower Pro; PowerRack (HV1/HV2/HV4/HV4F), PowerStone, Stack100 |
| **Wattsonic** | Wattli_HV | 3.84kWh Commercial (6–17/Rack) |
| **Soluna** | Soluna_HV | Soluna 10K HV, Soluna 15K HV; Power Cell-60 Series, Power Cell-150 Series |
| **Weco** | Weco_HV | 4K5XP ULTRA; 5K3XP, 14K3XP (High Voltage) |
| **Lithium Valley** | Default HV_1 | LV-BST-H2.56 / 5.12 |
| **Sunwoda** | Sunwoda_HV | SunESS-H |
| **Raystech** | Default HV_1 | RT5427 HV, RT5427 SHV; RT5000B, RT5427-HV-RACK |
| **Zetara** | Default HV_1 | Inspiration DC3000; Zbox100 |
| **Uhome** | Default HV_1 | LFP 5427 HV, LFP 5427 SHV; LFP 5000 HV, LFP 5000S HV, LFP 5000B |
| **Shoto** | Default HV_1 | HP-SG |
| **Cegasa** | Default HV_1 | E/Scal HV |

**Unlisted batteries**

Solinteg states that a battery not on its list voids the inverter warranty, unless Solinteg has issued a compatibility statement for it. Solinteg updates its list from time to time: check with AERL that a battery is still listed before you order it.

# CoolMax SRX and SRX-R Charge Controllers

03

Batteries, inverters (DC coupling), Communications

## 3.1 Batteries

| Battery | Controllers | How it works |
|---|---|---|
| **AERL LiFe² 5120S (48 V)** | SRX 600/70-48, SRX-R 600/60-48 | The SRX charges to its own profile, set within the battery's charge settings; on the battery's CAN bus it stops charging when the battery reports an alarm. Minimum 1 module (LiFe² PCE Integration Guide, §1.1). |
| **AERL Kakadu 120 (140.8 V)** | SRX 600/30-120 | Through the Nexus EMS (Kakadu Commissioning Guide). |
| **Batteries that publish Pylontech-style CAN frames** | All | The SRX listens to the battery's alarm frame (0x359): an alarm stops charging. No configuration; the SRX charges to its own profile (CoolMax SRX DC-Coupling Design Guide, section 2.3). |
| **Other lithium and lead-acid batteries** | All, within the battery voltage range: 18–30 Vdc (24 V) or 40–60 Vdc (48 V); 90–170 Vdc (120 V) | Standalone, with a charge profile set in AERL Link to the battery manufacturer's specification. Banks without their own temperature reporting (typically lead-acid) need an AERL Battery Sense, on a CoolMax SRX. |

The SRX default charge profile suits a generic LiFePO4 battery. AERL supports most other chemistries that do not need external BMS communication. The SRX-R 600/30-120 and SRX 600/30-120 are for 120 V batteries only.

## 3.2 Inverters (DC Coupling)

The SRX does not communicate with third-party inverters. It charges the battery directly, and the inverter shares the battery.

| Inverter | What is documented | Document |
|---|---|---|
| **Selectronic SP PRO (48 V)** | A current shunt in the SRX output gives the SP PRO the solar current; the SP PRO's SOC resets to 100% on a voltage offset, as the SRX has no float switch output | SP PRO with CoolMax SRX Integration Guide; Selectronic DC Coupled Example System |
| **Selectronic SP PRO SPLC1200, SPLC1202 (120 V)** | With the Kakadu 120, through the Nexus EMS | Kakadu Commissioning Guide |
| **Victron Energy, Deye and other battery inverters** | Standalone SRX with a charge profile, on a battery the inverter manages | CoolMax SRX DC-Coupling Design Guide |



**Other charge controllers**

Do not connect CoolMax controllers in parallel with third-party charge controllers.

## 3.3 Communications

| Interface | Use |
|---|---|
| **CAN bus** | Monitoring and control: enable and disable, Power Targets, firmware updates. Two linked RJ45 sockets labelled CANBUS. 500 kbps default (125 and 250 kbps selectable). |
| **RS485 (Modbus RTU)** | Read-only monitoring. Two linked RJ45 sockets labelled MODBUS, with their own pin-out. |
| **USB** | AERL Link (Windows 10/11): charge profile, settings and firmware updates. |

# Monitoring and Accessories

AERL Nexus Gateway, Battery Sense

04

## 4.1 AERL Nexus Gateway

The Nexus connects equipment to AERL Cloud. It finds supported devices on its CAN bus by itself; a Modbus or SNMP device is set up on the gateway in AERL Cloud (one of each per gateway).

| Device type | Supported equipment | Connects by |
|---|---|---|
| **Charger** | AERL CoolMax SRX, SRX-R | CAN |
| **Battery** | AERL LiFe² 5120S, AERL Kakadu 120, Pylontech US5000 | CAN |
| **Inverter** | Selectronic SP PRO 2i; Deye hybrid inverter (low-voltage, three-phase) | RS485 Modbus to SP PRO ACC Port 1 (SP PRO); contact AERL (Deye) |
| **Cathodic protection** | AERL CoolPro CP30 | RS485 Modbus (CoolPro Meter Board) |
| **Sensor** | AERL Battery Sense | CAN (on the SRX bus) |
| **Earth-fault monitor** | AERL EarthGuard | Contact AERL |
| **UPS** | ABB Upscale UPS | SNMP |

The authoritative, current list is in the AERL Cloud documentation at docs.aerl.cloud. The Nexus CAN ports run at a fixed 500 kbps: every device on the bus must use 500 kbps. The two CAN sockets are linked inside the Nexus and have no built-in termination: at an end of the bus, fit a 120 Ω plug in the spare socket.

| Model | Ports |
|---|---|
| **Nexus Lite (NEXUS-LITE)** | 2 × CAN (RJ45, linked), 1 × RS485, Ethernet, dual-band Wi-Fi; 12–60 Vdc or 5 V USB-C |
| **Nexus 4G (NEXUS-4G)** | As the Nexus Lite, plus a 4G cellular modem, digital inputs and output relays |

## 4.2 Battery Sense

The AERL Battery Sense gives a CoolMax SRX the battery's temperature and voltage, for banks without a BMS that reports them. It plugs into a CANBUS port on the SRX (which powers it at 5 V; turn the SRX's CANBUS 5 V switch on), on cable up to 10 m, and measures 18–200 Vdc.

## 4.3 EarthGuard EG-600 and EG-600-SC

The EarthGuard monitors insulation on DC circuits from 40 Vdc to 600 Vdc (two circuits on the EG-600, one on the EG-600-SC), powered from 12–60 Vdc. All AERL products are compatible. Third-party equipment listed in the EarthGuard manuals:

- Selectronic SP Pro Series 1, 2 & 2i
- Victron SmartSolar & BlueSolar MPPT Series
- Victron MultiPlus & Quattro Series
- Morningstar TriStar Series

For other equipment, check the device's earth-leakage specification before installation. Some third-party devices can exceed the permissible leakage and trip the EarthGuard. The alarm relays (dry contact, normally open, fail-safe) can signal a monitoring input such as a Victron Cerbo GX relay input.

## 4.4 CoolPro CP30

The CoolPro CP30 Meter Board connects to the Nexus RS485 Modbus port for AERL Cloud monitoring (CoolPro User Manual and CoolPro Modbus RTU Communications Protocol).

# Minimum Firmware and Software

05

| Equipment | Minimum version | Needed for |
|---|---|---|
| **Selectronic SP PRO firmware** | 16.11 | LiFe² 5120S Managed |
| **Selectronic comms card firmware** | 5.31 | LiFe² 5120S Managed |
| **Selectronic SP LINK** | 16.11 (includes both firmware versions) | LiFe² 5120S Managed |
| **Selectronic SP PRO firmware** | V14.47 | Kakadu 120 |
| **Selectronic SP PRO ACC firmware** | V4.31 | Kakadu 120 |
| **Selectronic SP LINK** | A version that lists **BMS – SelectCell River Gum** | Kakadu 120 |
| **Victron VE.Bus firmware** | 469 | LiFe² 5120S Managed |
| **Victron Inverter RS / Multi RS firmware** | 1.16 | LiFe² 5120S Managed |
| **Victron GX device** | Latest | LiFe² 5120S Managed |
| **CoolMax SRX / SRX-R firmware** | 2.15.8 | The SRX and SRX-R user manuals |
| **CoolMax SRX / SRX-R firmware** | Any release from 2.0.1 | Ground fault trip fixed at 50 kΩ (earlier firmware had a sensitivity setting) |
| **AERL Nexus and SRX EMS firmware** | Installed by AERL | Kakadu 120 with the Nexus EMS |
| **AERL Link** | Latest, from aerl.com.au/professionals | SRX, SRX-R, EarthGuard settings and firmware |
| **Solinteg M2HT firmware** | Confirm with AERL | Parallel and generator systems |

# Warranty and Support

Using unlisted equipment, support, change log

06

## 6.1 Using Unlisted Equipment

Third-party equipment must be installed and set up as its manufacturer instructs. Damage caused by incompatible equipment or by settings outside a battery's specification is not covered by AERL's warranties: see each product's warranty statement, at aerl.com.au. For Solinteg inverters, an unlisted battery voids the inverter warranty.

## 6.2 Support

Before you contact AERL about a combination, note the equipment models and firmware versions. Contact AERL support on 1800 950 865 or support@aerl.com.au.

## 6.3 Change Log

| Revision | Date | Change |
|---|---|---|
| **1.0.0** | 11 / 2026 | First issue. |

# Thank You for Choosing AERL

If you have any questions or need support, contact AERL.

Sincerely,

The AERL Team

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