INSTALLER GUIDE

Selectronic SP PRO → AERL Cloud

Via an AERL Nexus Gateway

AERL Nexus · Rev 1.0.2

REVISION	EFFECTIVE	AUDIENCE	FORMAT
1.0.2	11 / 2026	Installers	A4 · 7 pages
INVERTER	**GATEWAY**	**TRANSPORT**	**REFERENCE**
SP PRO Series 2i (ACC Rev ≥ 8)	AERL Nexus	Modbus RTU · RS485	SP PRO Manual §4.3.1

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CHAPTER 01

Confirm the SP PRO Supports Modbus

Open SP LINK, connect to the inverter, and perform the following checks.

Inverter Details Checks

Go to **Data View → Inverter Details** and confirm **all** of the following:

#	REQUIREMENT
1	The inverter is a **Series 2i** (or equivalent newer model).
2	The **Comms Card Revision is 8 or higher**. This card is called the “ACC”.
3	The SP PRO firmware is **V14.47 or newer**.
4	The ACC firmware is **V4.31 or newer**.

Then physically locate the RJ45 socket on the SP PRO comms card labelled **Port 1**.

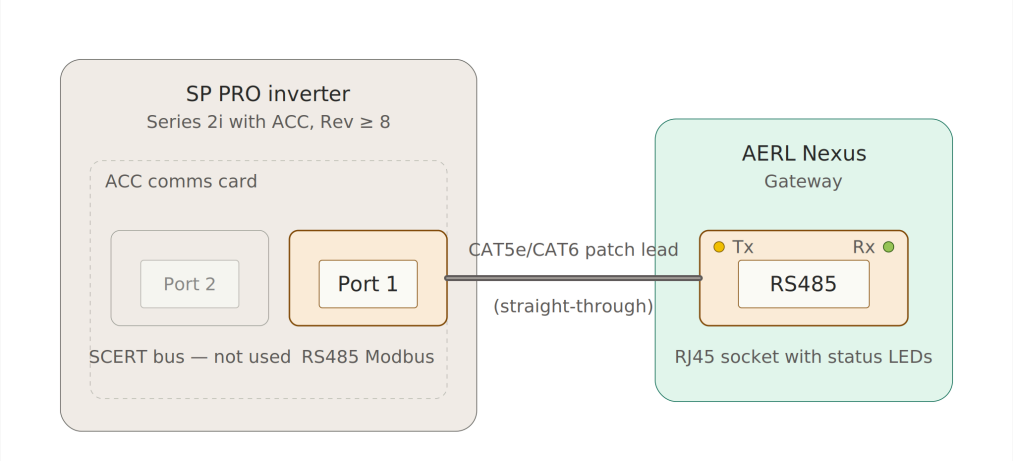
CHAPTER 02

Wiring and Switching on Modbus

The Cable

The SP PRO and the Nexus use the same RJ45 wiring layout, so a normal straight-through CAT5e or CAT6 patch lead is required. Plug one end into **Port 1** on the Selectronic ACC and the other into the Nexus's RS485 socket.

> **KEEP THE RUN SHORT**
> Ensure the Nexus is installed as close as possible to the SP PRO.



SP PRO ACC Port 1 → Nexus RS485

Turning Modbus On

The SP PRO ships with Modbus switched off. To enable it in SP LINK:

1. Go to **Configuration Settings → System → Communication**.
2. Set the serial parameters — these must match what the Nexus expects:
   - **Comm Card Input:** Internal (RJ45)
   - **Modbus Address:** `1`
   - **Baud rate:** `9600`
   - **Modbus port:** 8 data bits, 1 stop bit, no parity (written as `8 bit, None 1 stop`)
3. Save and upload the new config to the SP PRO.

> **POWERCHAIN SYSTEMS**
> On a PowerChain system, the connection and setting should be done on the PowerChain master.

CHAPTER 03

Getting the Nexus Online

Plug It in and Get It Online

1. Connect the Nexus's RS485 port to the SP PRO if not already done.
2. Plug an **Ethernet** cable into the Nexus's network port from your internet router.
3. Power the Nexus on.

As soon as the Nexus detects the Ethernet link, it automatically connects to AERL Cloud.

> **IF ETHERNET ISN'T AVAILABLE**
> Contact AERL for support with a Wi-Fi setup.

Linking the Nexus to Your AERL Cloud Account

In a new browser tab, open https://aerl.cloud, then:

1. Sign in. If you don't have an organisation set up yet, create one for the site.
2. Click **Add Gateway** on the dashboard or the Gateways page (or the **+** button in the top bar).
3. On **Claim Your Gateway**, enter the **serial number** and **pin code** from the sticker on the Nexus, then click **Claim Gateway**. AERL Cloud adds the gateway to your organisation.
4. Assign the gateway to a **location** — pick an existing one or create a new one with the site address and coordinates.

Providing Customer Access

To give the customer access, go to **Organisation → Invitations** and invite them.

> **WRONG ACCOUNT CLAIMED**
> If a gateway has been claimed by the wrong account by mistake, contact AERL support.

CHAPTER 04

Adding the SP PRO in AERL Cloud

Add the Inverter as a Modbus Device

You need the Owner or Admin role in the organisation. In the AERL Cloud web app, go to **Gateways** and click **Manage** beside your Nexus. In **Edit Gateway**, under **Modbus Devices**, click **Add Device**.

1. **Device Product:** pick **Selectronic SP PRO** from the dropdown.
2. **Click Add Device.** The Nexus is automatically configured to connect to the SP PRO via its RS485 port.

The Nexus should download new config from the cloud within about five minutes. You don't need to restart the device.

Make sure the SP PRO's Modbus settings in SP LINK (slave 1, 9600, 8N1 — see Chapter 02) match the defaults the Nexus expects.

> **SOLE MASTER ON THE COMMS LINK**
> The Nexus Gateway does not support other Modbus master devices on the comms link with the SP PRO.

Confirming Data Is Being Received

Within about five minutes of saving, inverter data should start appearing in the gateway view. You'll see readings grouped as:

GROUP	READINGS
Battery	Voltage, state of charge, power, current, temperature.
AC Load	Power, voltage, frequency, accumulated energy.
AC Source (grid or generator)	Power, voltage, current, frequency, reactive power, total imports and exports.
AC Inverter	Power, current, reactive power.
Output state	Off, Econo, On, or Synchronised.
Battery charging state	Normal, Override, Off, Renewable, or Restricted.
Thermal readings	Battery, transformer, and heatsink temperatures.

CONFIG APPLY	TELEMETRY · ETHERNET	TELEMETRY · CELLULAR	WAN TYPE
≤ 5 min	1 min	10 min	Auto-detect

How often data is sent depends on how the Nexus connects to the internet. The Nexus automatically determines which type of connection it has. It sends data every minute when connected via Ethernet and every ten minutes via cellular.

CHAPTER 05

Troubleshooting

> **MORE DETAILED HELP**
> Refer to the **SP PRO Manual, §4.3.1** for more detailed troubleshooting.

The Nexus has two status LEDs next to its RS485 socket, labelled **Tx** and **Rx**. Tx flickers when the Nexus sends a Modbus request; Rx flickers when the SP PRO replies. Use these LEDs (on the Nexus, not the SP PRO) to diagnose the link.

SYMPTOM ON THE NEXUS	LIKELY CAUSE & WHAT TO CHECK
Tx LED isn't flickering	The Nexus itself isn't polling. Check that the Nexus shows as **online** in AERL Cloud and that the Modbus device entry exists.
Tx flickers but Rx doesn't	The Nexus is sending requests but the SP PRO isn't replying. Check the cable is connected to **Port 1** on the ACC, that you're using a straight-through Ethernet cable (not one with Rx/Tx swapped), and that the ACC's power LED is on. If the wiring is good, likely causes are: wrong slave address, wrong baud rate, wrong format, Modbus not actually saved as enabled in SP LINK, firmware too old, or an internal comms fault on the SP PRO itself. If SP LINK shows an attention flag saying *"Inverter, No response on Com Card Internal Link Port 2"*, contact Selectronic service.
Both LEDs flicker but no data in the cloud	The electrical link is working but the configuration in AERL Cloud probably doesn't match the SP PRO's settings. Double-check the slave ID, baud rate, and that you picked the right product profile in **Edit Gateway**. If everything looks right, contact AERL support with the Nexus serial number and a screenshot of the SP LINK *Inverter Details* page.

When to Involve AERL Support

If the LED test looks healthy but data still isn't flowing, AERL support can run a bus-discovery check on the Nexus from our end. That separates *"is the electrical connection working"* from *"is the cloud configuration right"*. When you raise a ticket, give us the Nexus serial number and a quick note on what the LEDs are doing.

No Support for Multiple Modbus Masters

The Nexus expects to be the only device polling the SP PRO. If there is another Modbus master on the same wires (another gateway, a data logger, or a remote screen interface), the devices will interfere with each other. Connect the other device to another comms card or inverter.

CHAPTER 06

Managed Batteries & Final Checklist

CAN Bus and Managed Batteries

Some installations also have a battery management system talking to the SP PRO over CAN bus. The Nexus automatically supports managed batteries over CAN bus; there is nothing to set up. If you connect the Nexus to that bus, CAN 1 and CAN 2 are linked internally, so it can sit inline. The Nexus has no built-in termination: if it is at an end of the bus, fit a 120 Ω RJ45 termination plug in its unused CAN socket.

> **RANDOM COMMS DROPOUTS**
> Ensure the Nexus is on the latest firmware before raising a ticket.

Quick Commissioning Checklist

1. Confirm the SP PRO is suitable: ACC Rev 8 or higher, firmware V14.47 and V4.31 or newer, Series 2i.
2. Run a CAT5e or CAT6 patch lead from the SP PRO's ACC Port 1 to the Nexus's RS485 socket.
3. In SP LINK, turn on Modbus. Slave 1, 9600 baud, 8N1.
4. Plug an Ethernet cable into the Nexus and power it on.
5. Claim the gateway in AERL Cloud using the **serial number** and **pin code** from the sticker.
6. Add the Modbus device: pick **Selectronic SP PRO** as the Device Product and click **Add Device**.
7. Wait five minutes. Data should appear.

Getting Help

AERL SUPPORT

Email: support@aerl.com.au

Phone: **1800 950 865**

Web: aerl.com.au

WHEN EMAILING ABOUT AN SP PRO

Attach an SP LINK *Inverter Details* screenshot and include the **Nexus serial number**.