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IN0062 - SelectConnect wireless communication for SCERT Fronius inverters

Installation Notes



Installation Note: IN0062 - Rev 02

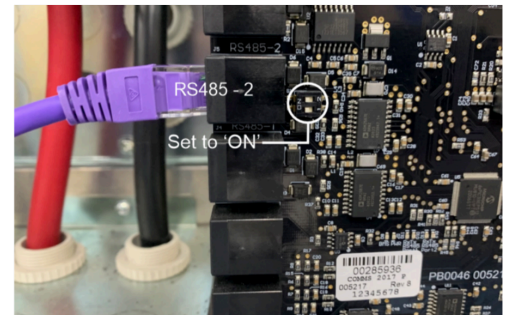
SelectConnect wireless communication for SCERT Fronius inverters



This document outlines the steps required to install a wireless Managed AC coupled system with a Fronius Selectronic Certified grid inverter.

Summary of the installation steps:

- Install the SP PRO and Fronius Inverters according to the [SP PRO](#) and [Fronius](#) installation manuals.
- Connect the pre-configured **Transmitter** SelectConnect adaptor to the SP PRO.



ACC connection in SP PRO.

Connect the **Receiver** SelectConnect adaptor(s) to the Fronius inverter(s).



Ethernet cable to AC Coupled inverter

- Connect power, via the plug packs, to all the SelectConnect wireless adaptors.
- Configure the Fronius inverter(s) and SP PRO/s according to the relevant document: [IN0049 - Installing a Fronius SCERT in a Managed AC Coupled system \(Full Manual\)](#) or [IN0061 - SP PRO SCERT Fronius GEN24 Primo Managed AC Coupling](#)
- Terminate the signals at the end of each communications chain.

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1. Applicability (Fronius)

- Suitable for Selectronic SP PRO
 - Series 2i
 - Series II with Advanced Comms Card upgrade
 - Powerchain systems
- Suitable for all Selectronic Certified Fronius
 - Gen24 Primo
 - SnapINverter Primo*
 - SnapINverter Symo Advanced*

*Only the SCERT Gen24 is able to be used with multiple Receivers on the same phase. For SnapINverter types, only a wireless link between the phase manager SP PRO and the master SCERT Fronius is supported. In other words, you can have one wireless link on each phase when using SnapINverters.

2. Arrangements

The SelectConnect adaptors provide a cable-free solution to allow Fronius AC coupled inverters to be installed remotely from the SP PROs. One to One, and One to Many (Gen24 only) configurations also allow the AC coupled inverters to be further distributed.

The wireless kits are configured and tested by Selectronic for reliable connection. SelectConnect adaptors must be pre-configured for a particular phase so that signals from other phases do not interfere with each other. In other words, SP PRO L1 must be used with L1 SelectConnect adaptors, and likewise with L2 and L3. Each phase can have one Transmitter which can then communicate to multiple uniquely identified Receivers.

The following describes the possible configurations, which kits should be used and where the individual components go within that system.

Note: Only the SCERT Gen24 is able to be used with multiple Receivers on the same phase.

Fig 1 shows a simple system using base kit L1 (Product No. 005441) with up to 5 AC coupled inverters that are co-located. The wireless adaptor is fitted to the first AC coupled inverter and the rest are connected by cables. The signal is terminated on the last Fronius inverter.

Fronius L1 Base Kit - **Product No. 005441**



Fig 1: Single-phase system with up to 5 co-located AC coupled inverters.

Fig 2 shows a system where the AC coupled inverters are in two separate groups. For this system a base kit L1 (Product No. 005441) is required along with an Additional Receiver kit (Product No. 005442). The signal is terminated at the last Gen24 of each group.

The total number of AC coupled inverters must not exceed 5 per phase.

Fronius L1 Base Kit - **Product No. 005441**Fronius L1 Additional Receiver - **Product No. 005442**

Fig 2: Single-phase system with two sets of co-located AC coupled inverters.

Fig 3 shows a system where all AC coupled inverters are dispersed. For this system a base kit L1

(Product No. 005441) is required along with four Additional Receiver kits (Product No. 005442). The signal is terminated at each Gen24.

The total number of AC coupled inverters must not exceed 5 per phase.



Fig 3: Single-phase system with five dispersed AC coupled inverters.

In the systems described above all AC coupled inverters are connected to a single SP PRO and all the kits used are configured alike. The kit parts are identified with L1 for single-phase systems.

For multi-phase or Powerchain configurations, different base and extension kits must be used for each SP PRO. The arrangements shown in Fig 1, 2 and 3 are also possible for each phase.

Fronius L2 Base Kit - **Product No. 005443**Fronius L3 Base Kit - **Product No. 005445**

Fig 4: Three-phase system with one AC coupled inverter per phase.

In addition, for multi-phase systems where AC coupled inverters on each phase are dispersed the appropriate base and additional receiver kits should be used. This is shown in Fig 5.

Fronius L1 Base Kit - **Product No. 005441**



Fronius L1 Additional Receiver
Product No. 005442



Fronius L2 Base Kit - **Product No. 005443**



Fronius L2 Additional Receiver
Product No. 005444





Fig 5: Three-phase system with multiple dispersed AC coupled inverters per phase.

3. Wireless Link Restrictions

The SelectConnect kits are tested to perform at a distance of 500m with direct line of site between antennas.

The adaptors are not designed to be installed outside. Maximum distance of 500m is achieved with clear line of site between the adaptor at the SP PRO and the receiver adaptor at the SCERT Solar inverter. Buildings, walls, trees etc will restrict distance. If performance with these obstructions is restrictive, use of an external antenna is recommended.



SelectConnect External Antenna with 5m cable - **Product No.** 005453

4. Installation

Remove all SelectConnect adaptors from packaging and screw on the supplied antennas.

In the base kit the Transmitter wireless adaptor marked as follows will be connected to the SP PRO.



Fig 5: SP PRO inverter Transmitter adaptor label

Connect an ethernet cable into the wireless adaptor and into the SP PRO ACC as shown below.

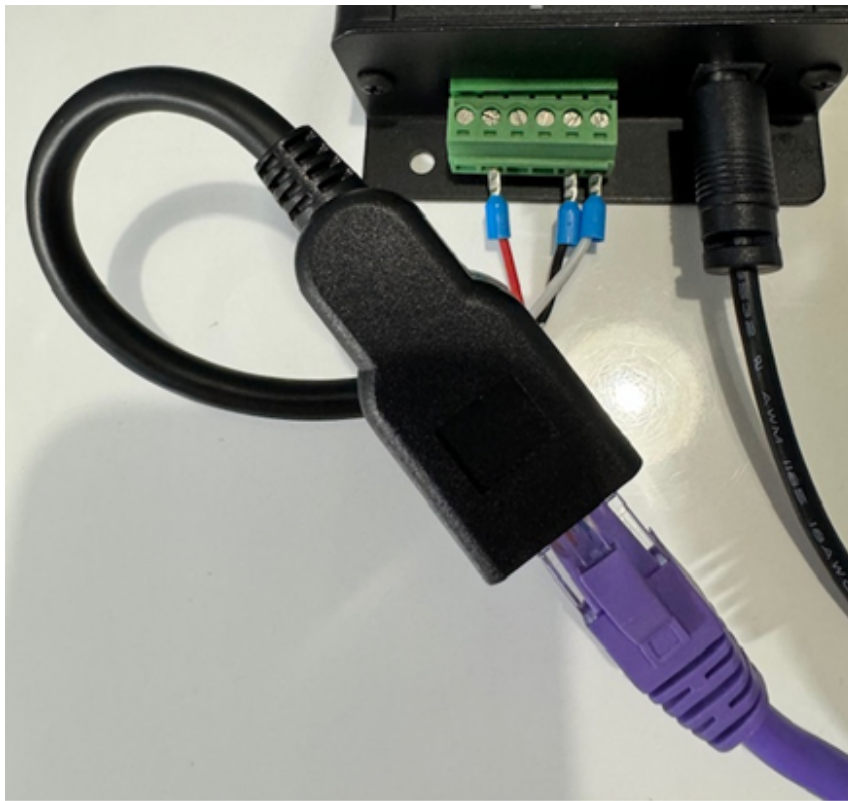


Fig 6: Ethernet cable to wireless adaptor connection.

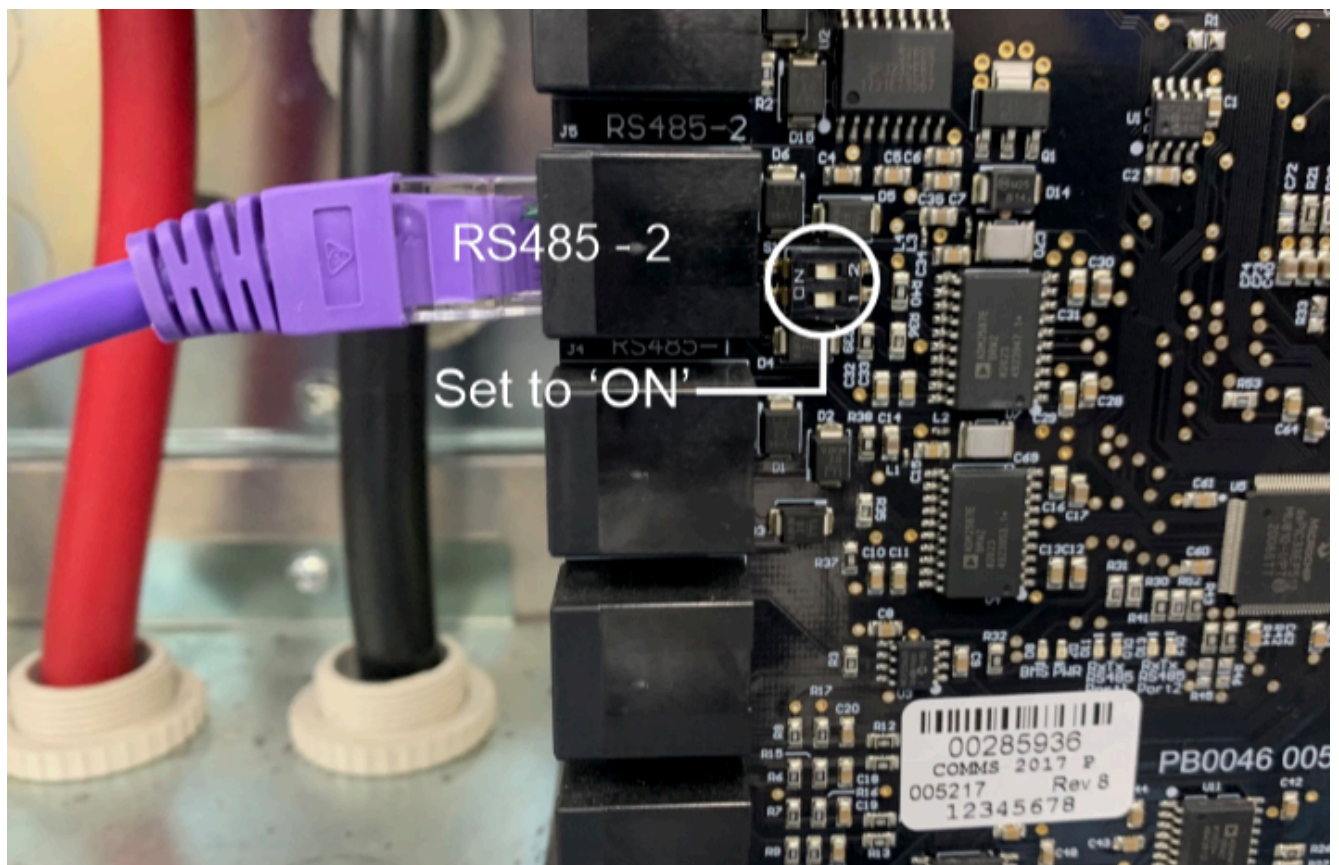


Fig 7: ACC connection in SP PRO

In the base kit and the extension kit the Receiver wireless adaptors are marked as follows and will be connected to AC Coupled inverters.



Fig 8: AC Coupled inverter Receiver adaptor label

The wireless adaptors come fitted with a loom to allow a standard ethernet cable with RJ45 ends to be plugged. Connect an ethernet cable into the AC coupled inverter as shown in the images below.



Fig 9: Ethernet cable to AC Coupled inverters (Left: Gen24 Right: SnapINverter)

When all the wireless adaptor cables have been connected, plug in power supplies. The green power and the red link LEDs should illuminate. When the SP PRO is configured the Rx and Tx LEDs will flicker to indicate active communications.

5. Configuration settings for SP PRO / Fronius managed AC coupling

The wireless system utilises Modbus communications. The appropriate addresses for each AC coupled inverter must be set.

For information on setting up and commissioning the inverters, including addressing, refer to the installation instructions:

[IN0049 - Installing a Fronius SCERT in a Managed AC Coupled system \(Full Manual\)](#)

or

[IN0061 - SP PRO SCERT Fronius GEN24 Primo Managed AC Coupling](#)

6. Product Kit Contents

Product No. 005441 – Fronius L1 Base Kit

- 1 x SELECTCONF1TX
- 1 x SELECTCONF1RX
- 2 x RJ45 loom
- 2 x Power supply
- 2 x Antenna

Product No. 005442 – Fronius L1 Additional Receiver

- SELECTCONF1RX
- RJ45 loom
- Power supply
- Antenna

Product No. 005443 – Fronius L2 Base Kit

- 1 x SELECTCONF2TX
- 1 x SELECTCONF2RX
- 2 x RJ45 loom
- 2 x Power supply
- 2 x Antenna

Product No. 005444 – Fronius L2 Additional Receiver

- SELECTCONF2RX
- RJ45 loom
- Power supply
- Antenna

Product No. 005445 – Fronius L3 Base Kit

- 1 x SELECTCONF3TX
- 1 x SELECTCONF3RX
- 2 x RJ45 loom
- 2 x Power supply
- 2 x Antenna

Product No. 005446 – Fronius L3 Additional Receiver

- SELECTCONF3RX
- RJ45 loom

- Power supply
- Antenna

Product No. 005453 – SelectConnect External Antenna

- Antenna with Bracket
- ANT Adaptor

Additional Information:

Visit the Selectronic: [Knowledge Base](#) or contact Selectronic via the [Customer Portal](#).