SolarEdge commercial Power Optimizer inter-compatibility - Technical note

Revision history

- Version 1.6, May 2025 – Changes in row R800 in table 2
- Version 1.5, April 2025 – Add S1500, Add R800
- Version 1.4, January 2025 – Updated S-Series inter-compatibility
- Table Version 1.3, October 2024 – General update
- Version 1.2, August 2024 – Added retrofit and RMA guidelines

This technical note specifies the inter-compatibility between different models of Commercial S-Series and P-Series SolarEdge Power Optimizers. It also specifies the inter-compatibility of P-Series Commercial Power Optimizers with previous series of Commercial Power Optimizers (PBxxx and OPxxx), S-Series and future Service part numbers.

For Inter-Compatibility of Residential Power Optimizers Visit: Technical Note – SolarEdge Residential Power Optimizer Inter-Compatibility

NOTES

- Inter-compatibility refers to the ability to use different Power Optimizer types in the same PV string.
- All Power Optimizers that are installed within the same PV string must be inter-compatible with each other as specified in the inter-compatibility Tables 1 and 2.
- A single PV string refers to Power Optimizers that are connected using their output wires to form a string.

Guidelines for replacing Power Optimizers

When replacing a Power Optimizer, ensure that it is compatible with the other Power Optimizers in the string. Use the following general guidelines:

- You can include different series and models of Power Optimizers in the same installation if you install them in separate PV strings. Inter-compatible Power Optimizers may be installed in the same PV string.
- When replacing a Power Optimizer always use SolarEdge Designer to verify that the power, current and voltage specifications of the PV module(s) are compatible with the replacement Power Optimizer. Ensure that the PV module(s) Voc (at minimum ambient temperature) does not exceed the replacement Power Optimizer's maximum input voltage. Refer to the Power Optimizer datasheet for details.

P-Series and S-Series compatibility

Installing P-Series together with S-Series Power Optimizers is only possible when:

- They are installed in separate strings. For example, one full string comprised of P1100 Power Optimizers, and one full string comprised only of S1200 Power Optimizers.
- Replacing a complete single inverter or a sub-unit in a Synergy system.

When adding S-Series Power Optimizers to an inverter that already includes P-Series Power Optimizers, verify that the inverter firmware version is updated as follows:

- For inverters with LCDs the minimum required version is 3.2537.
- For SetApp enabled inverters the minimum required version is 4.8.xx.

The following tables summarize Power Optimizer series and models that may be used in the same PV string during initial site installation or when a Power Optimizer is being replaced. Where a cell contains a check mark, the relevant Power Optimizers may be installed in the same string.

S-Series commercial Power Optimizer inter-compatibility

Commercial		S1000	S1200	S1201	S1400	S1500
S-Series	S1000	✓				
	S1200		✓			
	S1201[1]		✓	✓		
	S1400				✓	✓
	S1500				✓	✓
P-Series	P850/P950	✓				
	P860/P960/P1100/P1101	Not interchangeable with S-Series				

Table 1

NOTES

- Support for all phased-out P-Series Power Optimizer models by SolarEdge support centers will continue with a compatible replacement while supplies last, followed by replacement with compatible Service Part numbers from the S-Series.
- In systems where both S-Series and P-Series Power Optimizers are connected to the same Inverter unit, the Sense Connect feature is enabled only in the S-series connectors. For the Sense Connect inverter compatibility table refer to https://knowledge-center.solaredge.com/sites/kc/files/se-sense-connect-application-note.pdf

[1] S1201 can replace S1200 only in ground-mount installations but NOT vice-versa.

P-Series commercial Power Optimizer inter-compatibility

	P600	P605	P650	P700	P701	P730	P750	R800	P800p	P801	P850	P860	P950	P960	P1100	P1101
P600	✓		✓	✓	✓	✓				✓						
P605		✓						✓								
P650	✓		✓	✓	✓	✓	✓	✓		✓						
P700	✓		✓	✓	✓	✓				✓						
P701	✓		✓	✓	✓	✓		✓		✓						
P730	✓		✓	✓	✓	✓		✓		✓						
P750							✓									
R800	✓	✓	✓	✓	✓	✓		✓		✓						
P800p		✓	✓		✓	✓			✓	✓	✓		✓		✓	
P801	✓		✓	✓	✓	✓		✓		✓						
P850									✓		✓		✓		✓	
P860												✓		✓		✓
P950									✓		✓		✓		✓	
P960												✓		✓		✓
P1100									✓		✓		✓		✓	
P1101												✓		✓		✓

Table 2

NOTES

- Older Commercial Power Optimizers (“OPxxx”) are compatible with equivalent-power Residential Power Optimizer Models as specified in: https://knowledge-center.solaredge.com/sites/kc/files/se-power-optimizer-residential-inter-compatibility-technical-note.pdf
- P860 and P960 Power Optimizers can be replaced by P1101, but P1101 cannot be replaced by P860 or P960. When doing this replacement, you need to connect PV modules in series, and in specific cases, you might need to use an extension cable between two PV modules connected in series. For more details, refer to: https://knowledge-center.solaredge.com/sites/kc/files/se-extension-cables-with-power-optimizer-application-note.pdf
- The same replacement options apply for both the single and dual input versions of the P800p. When replacing the P800p Dual input Power Optimizer with an inter-compatible single input model, install an approved DC Branch splitter cable. Refer to Application Note: Connecting SolarEdge Power Optimizers to Multiple PV Modules.
- P850 replaced P800s. They can be used interchangeably and can be connected in the same string.
- M1600 series Power Optimizers cannot be used interchangeably and cannot be connected to any other Power Optimizer in the same string.
- Commercial Power Optimizers with Part Numbers of the form PxxxH (e.g P801H) are inter-compatiblewith other PxxxH Power Optimizers according to the rules for equivalent power Power Optimizer models Pxxx –in Table 2.
- Commercial Power Optimizers having part numbers of the form PxxxH and Pxxx are inter-compatible with each other in accordance with Table 2 only if the following conditions are met:
  - with a three-phase inverter having no more than four (4) strings connected in parallel
  - with a single-phase inverter having no more than two (2) strings connected in parallel and the inverter’s manufacturing date is later than WW42, 2021.