

Technical Note – SolarEdge Power Optimizer Inter-Compatibility

Version History

- Version 15 (Nov 2022) – updated compatibility of OP250LV and OP300LV, with P401.
- Version 14 (Aug 2022) – updated compatibility options and compatibility definitions.
- Version 13 (July 2022) – clarified compatibility options.
- Version 12 (Jun 2022) – updates for commercial Power Optimizer compatibility, P1101 and P860/P960.
- Version 11 (May 2022) – added note about SolarEdge Sense Connect; added note about a retrofit installation or an RMA replacement.
- Version 10 (Dec 2021) – updates for commercial Power Optimizer compatibility, P850, P860, P950, P960, P1100.
- Version 9 (Nov 2021) – added S440, S500 and S500B.
- Version 8 (Aug 2021) – marked P400 and P401 as being inter-compatible.
- Version 7 (May 2021) – added P375, P601, P605, P960, P1100. Re-added P300, P600, P700.
- Version 6 (Sep 2020) – marked P950 as compatible with P850 and P800p.
- Version 5 (Jun 2020) - added P320, P340, P370T, P395, P400, OP400-EV, OP-480, P401, P485, P700, P801, P850, P860, P950 OP300-LV , OP350-LV, OP350-MV, OP600-96; Deleted P300, P600, P700; Added remark about M2640 and M1600; Merged Europe and APAC and NAM to a single document.

This technical note specifies the inter-compatibility between the S-Series and P-Series SolarEdge power optimizers, as well as the inter-compatibility of the P-Series power optimizers with previous series of power optimizers (PBxxx and OPxxx). Note:

- Inter-compatibility refers to the ability to use different power optimizer types in the same PV string.
- All 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."
- For the purposes of this document, a single PV string refers to power optimizers that are connected between them using output cable to form a string.

Guidelines for Replacing Power Optimizers

When replacing a power optimizer, make sure that it is compatible with the other power optimizers in the string by following these guidelines:

General

- Installing different series and models of power optimizers in the same installation is allowed as long as they are installed in separate PV strings. However, power optimizers that are inter-compatible may be installed in the same PV string.
- When replacing a power optimizer always verify with the SolarEdge Designer that the power, current and voltage specifications of the PV module are compatible with the replacement power optimizer specifications. Ensure that the module Voc (at minimum ambient temperature) does not exceed the replacement power optimizer's maximum input voltage. Use the [SolarEdge Designer](#) to quickly validate electrical compatibility. Refer to the power optimizer datasheet for details.

P-Series and S-Series Inter-Compatibility

Do not mix P-series and S-series in **new** installations.

In **existing** installations, avoid installing P-Series and S-Series Power Optimizers in the same PV string. If this is unavoidable:

- Any P-Series Power Optimizer that is compatible with the P401 Power Optimizer is also compatible with the S440 and S500 Power Optimizers.
- Any P-Series Power Optimizer that is compatible with the P505 Power Optimizer is also compatible with the S500B Power Optimizer. See, Table 2: P-Series Power Optimizer Inter-compatibility, on page 4.
- When replacing P-Series Power Optimizers with S-Series Power Optimizers verify that the inverter firmware version is updated as follows:
 - For inverters with LCDs - minimum required version 3.2537.
 - For SetApp enabled inverters - minimum required version 4.8.xx.

The following table summarizes the Power Optimizer series and models that can be installed in the same PV string, during installation or in case a power optimizer is being replaced. If a cell contains a check mark, the relevant power optimizers can be installed in the same string.

Table 1: S-Series Power Optimizer Inter-compatibility

		S440	S500	S500B
S-Series	S440	✓	✓	
	S500	✓	✓	
	S500B			✓
P-Series	P401	✓	✓	
	P505			✓

SolarEdge Sense Connect technology monitors the S-Series Power Optimizer cable connectors and the direct connection created between them and other connectors.



NOTE

In the case of a retrofit installation or RMA replacement, you might need to mix P-series and S-series on the same string, which requires an extension cable. See [Using Extension and Adapter cables with Power Optimizers](#).



NOTE

SolarEdge Sense Connect technology will not function if P-Series and S-Series Power Optimizers are installed in the same PV string.



NOTE

When performing a retrofit installation or an RMA replacement you may need to replace a P-Series Power Optimizers with a compatible S-Series Power Optimizers in the same string.

Table 2: P-Series Power Optimizer Inter-Compatibility

		P300	P320	P340	P350	P370	P370T	P375	P395	P400	P401	P404	P405	P485	P500	P505	P600	P601	P605	P650	P700	P701	P730	P800p **	P801	P850 ***	P860	P950	P960	P1100	P1101			
P-Series	P300	✓	✓	✓	✓	✓		✓	✓	✓	✓				✓																			
	P320	✓	✓	✓	✓	✓		✓	✓	✓	✓				✓																			
	P340	✓	✓	✓	✓	✓		✓	✓	✓	✓				✓																			
	P350	✓	✓	✓	✓	✓		✓	✓	✓	✓				✓																			
	P370	✓	✓	✓	✓	✓		✓	✓	✓	✓				✓																			
	P370T						✓																											
	P375	✓	✓	✓	✓	✓		✓	✓	✓	✓					✓																		
	P395	✓	✓	✓	✓	✓		✓	✓		✓					✓																		
	P400	✓	✓	✓	✓	✓		✓			✓	✓				✓																		
	P401	✓	✓	✓	✓	✓		✓	✓	✓	✓					✓																		
	P404												✓	✓	✓		✓		✓															
	P405 **												✓	✓	✓		✓		✓															
	P485												✓	✓	✓		✓		✓															
	P500	✓	✓	✓	✓	✓		✓	✓	✓	✓					✓																		
	P505												✓	✓	✓		✓		✓															
	P600												✓	✓	✓		✓		✓		✓	✓	✓	✓		✓								
	P601												✓	✓	✓		✓		✓															
	P605																			✓														
	P650																✓			✓	✓	✓	✓	✓		✓								
	P700																✓			✓	✓	✓	✓	✓		✓								
	P701																✓			✓	✓	✓	✓	✓		✓								
	P730																✓			✓	✓	✓	✓	✓		✓								
	P800p **																	✓							✓		✓		✓			✓		✓
	P801																✓			✓	✓	✓	✓	✓		✓								
	P850 ***																								✓		✓		✓			✓		✓
	P860 *																											✓		✓		✓		✓
	P950																								✓		✓		✓			✓		✓
	P960 *																											✓		✓		✓		✓
P1100																								✓		✓		✓			✓		✓	
P1101 *																											✓		✓		✓		✓	

		P300	P320	P340	P350	P370	P370T	P375	P395	P400	P401	P404	P405	P485	P500	P505	P600	P601	P605	P650	P700	P701	P730	P800p **	P801	P850 ***	P860	P950	P960	P1100	P1101	
OP-Series	OP250-LV		✓	✓	✓	✓		✓			✓				✓																	
	OP300-LV		✓	✓	✓	✓		✓			✓				✓																	
	OP300-MV		✓	✓	✓	✓		✓		✓					✓																	
	OP350-LV		✓	✓	✓	✓		✓	✓	✓	✓				✓																	
	OP350-MV		✓	✓	✓	✓		✓		✓					✓																	
	OP400-MV		✓	✓	✓	✓		✓		✓					✓																	
	OP400-EV		✓	✓	✓	✓		✓		✓					✓																	
	OP480		✓	✓	✓	✓		✓	✓	✓	✓				✓																	
	OP500-IV															✓																
	OP600-96																	✓				✓	✓	✓	✓		✓					
PB-	PB250-AOB		✓	✓	✓	✓		✓	✓	✓	✓				✓																	
	PB350-AOB		✓	✓	✓	✓		✓	✓	✓	✓				✓																	
	PB350-TFI		✓	✓	✓	✓		✓	✓	✓	✓				✓																	
Module Embedde	OP250-LV		✓	✓	✓	✓		✓	✓	✓	✓			✓																		
	PB250-CSI		✓	✓	✓	✓		✓	✓	✓																						
	OPJ300-LV		✓	✓	✓	✓		✓	✓	✓	✓				✓																	

Remarks:

* The P860 and P960 can be replaced by the P1101. Note that the P1101 cannot be replaced by the P860/P960.

** For P405, P485 and P800p, the same replacement options apply for both the single and dual input versions.

*** P850 replaced P800s. They can be used interchangeably and can be connected in the same string.

M series power optimizers (M2640 and M1600); cannot be used interchangeably and cannot be connected with any other power optimizer in the same string.