



Ampt-x Module Optimizer

Module-level MPPT with patented
Ampt Mode[®] and String Stretch[®] technology

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- Increase energy production
 - Recover shade losses
 - Reduce electrical BOS costs
 - Mitigate lifetime degradation
 - Maximize system footprint
 - Flexible rooftop orientation
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Ampt module optimizers are DC/DC converters that put maximum power point tracking (MPPT) and optional wireless communication capabilities on each PV module. Ampt's patented Smart Panel Technology[™] allows for flexible designs that maximize energy production from each module while lowering the cost of system components. The result? A lower cost of energy and higher return on investment.

Features:

- High efficiency power conversion
- Fast and accurate MPPT per PV module
- Ampt Mode® technology to optimize inverter cost and performance
- String Stretch® technology to build longer strings
- Output voltage and current limits
- Instrument-grade precision measurement
- Optional two-way wireless communication
- Independent power optimization without reliance on communication
- Inverter and PV module compatible
- Compatible with 3rd party monitoring
- High reliability with 25 year warranty



Benefits:

- Decrease inverter cost and increase efficiency with Ampt Mode®
- Decrease the cost of wiring and combiners and reduce wire losses with String Stretch®
- Deliver more power by correcting for mismatch between PV modules and strings
- Recover lifetime degradation losses
- Prevent failed PV modules from dropping a full string
- Maximize system footprint
- Simplify module binning and inventory
- Remove risk of module obsolescence

Results:

- Increase lifetime performance and uptime of PV systems
- Reduce electrical BOS costs
- Gain deeper knowledge, predictability, and control to operate system more efficiently
- Realize a lower cost of energy and increase return on investment

Ampt-x Optimizer Model		V40-x	V50-x	V100-x
Electrical*				
Input				
Maximum module voltage (Voc) at coldest design temperature	V	46	58	102
Module MPP DC voltage range	V	10 - 38	17 - 48	25 - 80
Maximum module current (Imp) at STC	A	8.5	9.2	6.1 **
Maximum module short circuit current (Isc) at STC	A	9.2	9.2	6.7
Output				
Maximum optimizer output voltage	V	33.3	40.6	63.6
Maximum optimizer output current	A	9.4	9.2	6.7 **
Maximum optimizer output power	W	260	320	360
Maximum operating efficiency	%	99.0	99.2	99.2
Mechanical				
Dimensions		5.9" x 4.7" x 1.4" (150 mm x 119 mm x 36 mm)		
Weight		12 oz. (300 g)		
Ambient temperature operating range		-40 °F to +158 °F (-40 °C to +70 °C)		
Cooling		Convection		
General				
Communication		Two-way wireless (optional)		
Compliance		CSA to UL 1741, FCC Part 15 Class B IEC 62109, 61000-6-1, 61000-6-3		
Enclosure type		3R		
Demonstrated MTBF at 40°C continuous		90 million hours		
Warranty		25 years		

* Standard test condition (STC) irradiation level of 1000 W/m² at 25°C.

** 6.1 A input and 6.7 A output at 60°C. 5.45 A input and 5.55 A output at 70°C.

