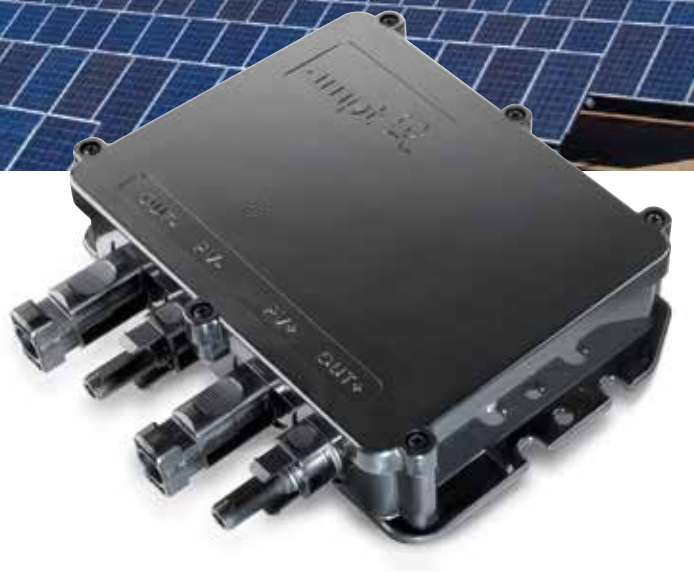
Module Optimizer
Ampt-x Series



Ampt-x
Module Optimizer

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

- Increase energy production
- Reduce electrical BOS costs
- Maximize system footprint
- Recover shade losses
- Mitigate lifetime degradation
- Flexible rooftop orientation

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 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:

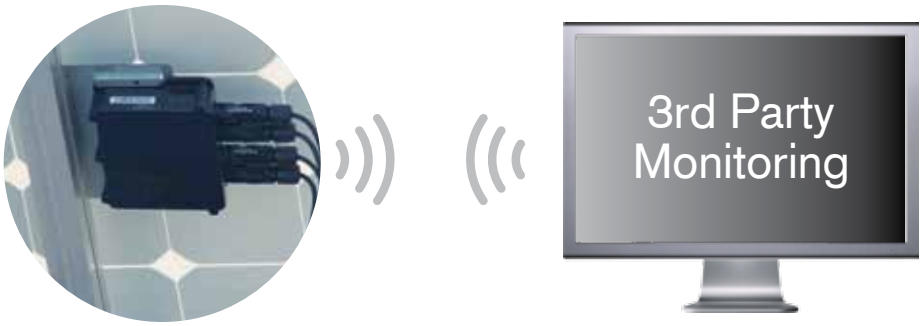
- High efficiency power conversion
- Fast and accurate MPPT per PV module
- Ampt Mode® technology to optimize inverter cost and performance
- String Stretch® technology to build longer strings
- Output voltage and current limits
- Instrument-grade precision measurement
- Optional two-way wireless communication
- 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.

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