



Tigo Energy® Module Maximizer™ -EP (MM-EP) Data Sheet



For residential, commercial and utility scale photovoltaic solar arrays, the Tigo Energy® Maximizer™ system optimizes power output of each module (solar panel); delivers module-level data for operational management and performance monitoring; and provides the ability to deactivate the high voltage DC bus for safer installation, maintenance or fire fighting. Tigo Energy Module Maximizers are key components of the system which reside at each module (one per solar module). The Module Maximizer provides data acquisition, communication to the Tigo Energy® Maximizer™ Management Unit, energy harvesting control, and galvanic isolation. The very small electronics footprint has been designed to minimize cost and maximize reliability.

The Tigo Energy output optimization starts with dynamic module balancing – a Module Maximizer (patented) attached to each module manages the energy harvest and sends information to the Maximizer Management Unit for reporting and control. The Parallel Module (MM - EP) Maximizer is available with or without module level isolation and is connected in either a series or parallel topology. MM - EP maintain best-in-class system conversion efficiencies.

The Tigo Energy Module Maximizer includes a unique technology (patented), which greatly enhances the safety of a PV solar installation. The Module Maximizer enables each module to be removed from the high voltage DC cabling, limiting the voltage exposure to the open-circuit voltage (Voc) of a single module. As part of the Tigo Energy Maximizer system, this function can be activated with a safety button or via a remote management console. The system can be installed, maintained or approached by fire personnel without the exposure to voltage levels typically in excess of 400 volts.



The Tigo Energy Module Maximizer is packaged in a NEM3R enclosure (water and weather resistant), conforms to UL and IEEE safety standards. There are Module Maximizer options to fit any PV module, crystalline silicon or thin-film, regardless of output voltage or nominal power rating. Ask your PV Solar distribution partner for the Tigo Energy Module Maximizer pre-installed on many of their most popular framed solar panels for simple on-site system installation for your new or existing PV system. Also watch for modules that include the Tigo Energy technology fully integrated into the junction-box – available soon from leading PV module manufacturers.

Module Maximizer-EP Technical Specifications

	35V modules MM-EP35	45V modules MM-EP45	65V modules MM-EP65
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Input data

Maximum power	280W	280W	280W
Maximum input DC voltage (VOC)	55V	64V	90V
Recommended Vmp range *	28-42V	38-52V	55-75V
Maximum continuous current (Imp)	5.7A	4.4A	3.3A
Maximum input current (Isc)	6.5A	5A	3.8A

* Vmp = Voltage at maximum power = Maximum power voltage


Output Data (DC)

Maximum output power	280W	280W	280W
Maximum continuous current	0.55A	0.55A	0.55A
Nominal Voltage / range	375V ±1%	375V ±1%	375V ±1%

Mechanical Data

Operating temperature range	-30°C +70°C
Cooling	Natural Convection
Enclosure environmental rating	IP-65, NEMA3R

Features

Compliance	 per UL1741 IEEE 1547.1 FCC part 15, class B EN 61000
Panel connector	NEC 2008 compliant MC4 compatible (for retrofit) MC3 connectors
Bus connector	NEC 2008 compliant 40AMP

Optimize the energy harvest of your PV system using the Tigo Energy Maximizer to:

- accelerate system payback;
- maximize the power output of individual modules;
- reconsider previously unfavorable projected rejected because of shade or orientation;
- maintain best-in-class conversion efficiency;
- manage the system with module-level data to minimize operational costs and keep the system at peak performance throughout its lifetime;
- introduce an unprecedented level of safety for new and existing PV solar installations (patented);
- simplify the balance-of-system design, especially for high Voc or thin-film modules.



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