Voltem **solar charge controller**

MPPT 150/45D,150/60D,150/70D

Untra-fast Maximum Power Point Tracking (MPPT)

Especially in case of a clouded sky, when light intensity is changing continuously, an ultra-fast MPPTcontroller will improve energy harvest by up to

30%

compared to PWM charge controllers and by up to 10% compared to slower MPPT controllers.

Advanced Maximum Power Point Detection in case of partial shading conditions

If partial shading occurs, two or more maximum power points may be present on the power-voltage curve.
Conventional MPPT's tend to lock to a local MPP, which may not be the optimum MPP.
The innovative Fangpusun algorithm will always maximize energy harvest by locking to the optimum MPP.

Outstanding conversion efficiency

No cooling fan. Maximum efficiency exceeds 98%.

Flexible charge algorithm

Fully programmable charge algorithm (see the software page on our website), and eight preprogrammed algorithms,
selectable with a rotary switch (see manual for details).

Extensive electronic protection

- Over-temperature protection and power derating when temperature is high.
- PV short circuit and PV reverse polarity protection.
- PV reverse current protection.

Internal temperature sensor

Compensates absorption and float charge voltage for temperature.

Display

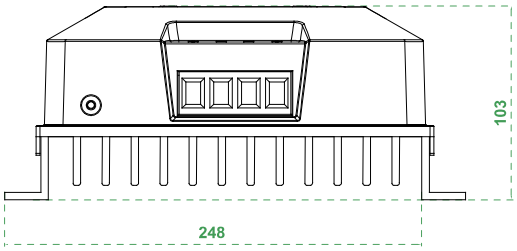
Graphical LCD display

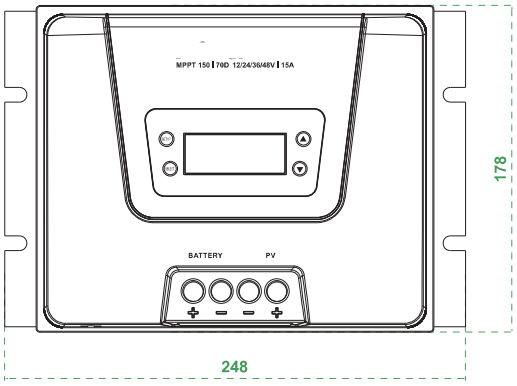
Operation

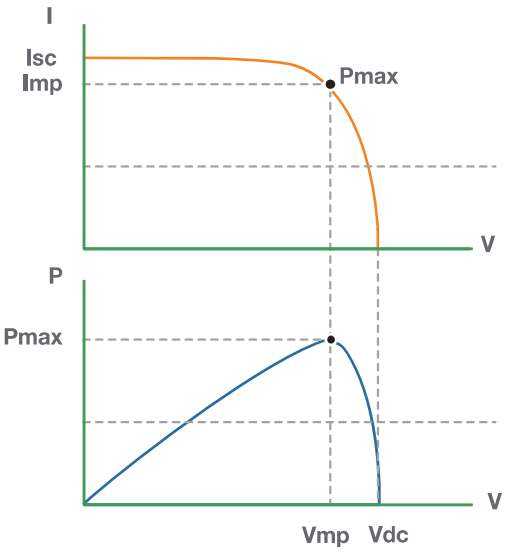
Simple menu-driven operation
Programming by buttons

Certificates

- Compliant with European Standards (CE)
- RoHS compliant
- SGS
- ISO 9001
- Made in China







Maximum Power Point Tracking

Upper curve:

Output current (I) of a solar panel as function of output voltage (V).

- The maximum power point (MPP) is the point Pmax along the curve where the product I x V reaches its peak .

Lower curve:

- Output power P = I x V as function of output voltage.

When using a PWM (not MPPT) controller the output voltage of the solar panel will be nearly equal to the voltage of the battery, and will belower than Vmp.

Solar Charge Controller	MPPT 150/45D	MPPT 150/60D	MPPT 150/70D
Battery voltage	**12 / 24 /48 V Auto Select (Only Factory setting 36V)**		
Rated charge current	**45A**	**60A**	**70A**
Maximum PV power, 12V 1a,b)	**650 W**	**860W/**	**1000W**
Maximum PV power, 24V 1a,b)	**1300W**	**1720W**	**2000W**
Maximum PV power, 48V 1a,b)	**2600W**	**3440W**	**4000W**
Maximum PV open circuit voltage	**150V absolute maximum coldest conditions, 145V start-up and operating maximum**		
Maximum efficiency	**98%**		
Self-consumption	**20 mA**		
Charge voltage 'absorption '	Default setting: 14,4 / 28,8 / 43,2 / 57,6 V (adjustable)		
Charge voltage 'float '	Default setting: 13,8 / 27,6 / 41,4 / 55,2 V (adjustable)		
Charge algorithm	multi-stage adaptive		
Temperature compensation	-16 mV / °C resp.-32 mV / °C		
Protection	Battery reverse polarity (fuse, not user accessible) PV reverse polarity / Output short circuit / Over temperature		
Operating temperature	-30 to +60°C (full rated output up to 40°C)		
Humidity	95%,non-condensing		
Parallel operation	Yes (not synchronized)		
ENCLOSURE			
PV terminals 2)	**35 mm2 / AWG2 (Tr models)**		
Battery terminals	**35 mm² / AWG2**		
Protection category	IP43 (electronic components), IP22 (connection area)		
Weight	3 kg		
Dimensions (h x w x d)	Tr models: 248 x 178 x 103 mm		
STANDARDS			
Safety	IEC 62109-1-2010		

1a) If more PV power is connected, the controller will limit input power to the stated maximum.
1b) PV voltage must exceed Vbat + 5V for the controller to start.Thereafter minimum PV voltage is Vbat + 1V