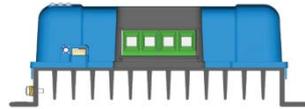


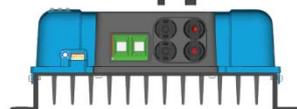
# BlueSolar charge controllers with screw- or MC4 PV connection

## MPPT 150/45, MPPT 150/60, MPPT 150/70, MPPT 150/80, MPPT 150/100

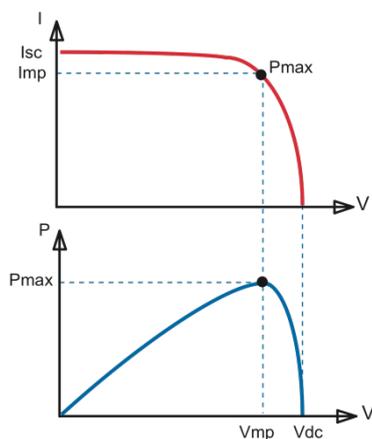
www.victronenergy.com



**Solar charge controller  
MPPT 150/70-Tr**



**Solar charge controller  
MPPT 150/70-MC4**



### 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 be lower than Vmp.

### Ultra-fast Maximum Power Point Tracking (MPPT)

Especially in case of a cloudy sky, when light intensity is changing continuously, an ultra-fast MPPT controller 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 BlueSolar 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.

### Real-time data display options

- Apple and Android smartphones, tablets and other devices: see the VE.Direct to Bluetooth Smart dongle
- ColorControl panel



BlueSolar charge controller	MPPT 150/45	MPPT 150/60	MPPT 150/70	MPPT 150/85	MPPT 150/100
Battery voltage	12 / 24 / 48 V Auto Select (software tool needed to select 36 V)				
Rated charge current	45 A	60 A	70 A	85 A	100 A
Maximum PV power, 12V 1a,b)	650 W	860 W	1000 W	1200 W	1450 W
Maximum PV power, 24V 1a,b)	1300 W	1720 W	2000 W	2400 W	2900 W
Maximum PV power, 48V 1a,b)	2600 W	3440 W	4000 W	4900 W	5800 W
Maximum PV open circuit voltage	150V absolute maximum coldest conditions 145V start-up and operating maximum				
Maximum efficiency	98 %				
Self-consumption	10 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				
Data communication port and remote on-off	VE.Direct (see the data communication white paper on our website)				
Parallel operation	Yes (not synchronized)				
<b>ENCLOSURE</b>					
Colour	Blue (RAL 5012)				
PV terminals 2)	35 mm <sup>2</sup> / AWG2 (Tr models), or Dual MC4 connectors (MC4 models)				
Battery terminals	35 mm <sup>2</sup> / AWG2				
Protection category	IP43 (electronic components), IP22 (connection area)				
Weight	3 kg			4,5 kg	
Dimensions (h x w x d)	Tr models: 185 x 250 x 95 mm MC4 models: 215 x 250 x 95 mm			Tr models: 216 x 295 x 103 mm MC4 models: 246 x 295 x 103 mm	
<b>STANDARDS</b>					
Safety	EN/IEC 62109				
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					
2) MC4 models: several splitter pairs will be needed to parallel the strings of solar panels					