BlueSolar Charge Controllers with screw- or MC4 PV connection
MPPT 150/45, MPPT 150/60, MPPT 150/70, MPPT 150/100 VE.Can
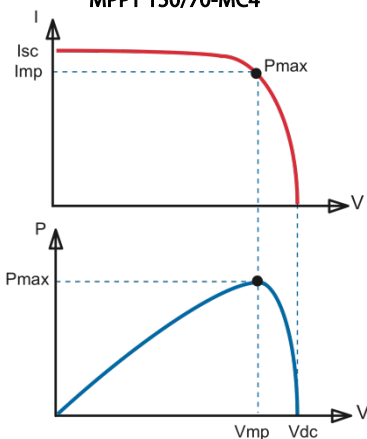
www.victronenergy.com

**Solar Charge Controller
MPPT 150/70-Tr**

**Solar Charge Controller
MPPT 150/70-MC4**

Ultra-fast Maximum Power Point Tracking (MPPT)
Especially in case of a clouded 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 MPPTs 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 pre-programmed algorithms, selectable with a rotary switch (see manual for details).

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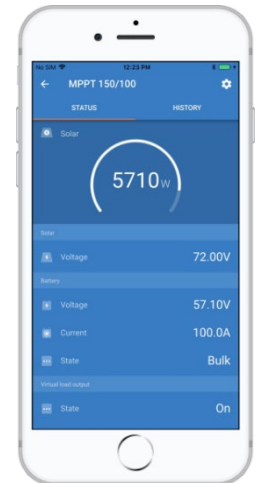PV short circuit and PV reverse polarity protection.
PV reverse current protection.

Internal temperature sensor
Compensates absorption and float charge voltage for temperature.

Real-time data display options
- Color Control GX or other GX devices:
   see the **Venus** documents on our website.
- **A smartphone or other Bluetooth-enabled device:**
   VE.Direct Bluetooth Smart dongle needed.

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.

BlueSolar Charge Controller	MPPT 150/45	MPPT 150/60	MPPT 150/70	MPPT 150/100 VE.Can
Battery voltage	12 / 24 / 48V Auto Select (software tool needed to select 36V)			
Rated charge current	45A	60A	70A	100A
Nominal PV power, 12V 1a,b)	650W	860W	1000W	1450W
Nominal PV power, 24V 1a,b)	1300W	1720W	2000W	4350W
Nominal PV power, 48V 1a,b)	2600W	3440W	4000W	5800W
Max. PV short circuit current 2)	50A	50A	50A	70A
Maximum PV open circuit voltage	150V absolute maximum coldest conditions 145V start-up and operating maximum			
Maximum efficiency	98%			
Self-consumption	10 mA			30 mA
Charge voltage 'absorption'	Default setting: 14,4 / 28,8 / 43,2 / 57,6V (adjustable)			
Charge voltage 'float'	Default setting: 13,8 / 27,6 / 41,4 / 55,2V (adjustable)			
Charge algorithm	multi-stage adaptive			
Temperature compensation	-16 mV / -32 mV / -64 mV / °C			
Protection	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 comm. port and remote on-off	VE.Direct (see the data communication whitepaper on our website) 150/100 only: VE.Can			
Parallel operation	Yes (not synchronized) 150/100: max 25 units			
ENCLOSURE				
Colour	Blue (RAL 5012)			
PV terminals 3)	35 mm² / AWG2 (Tr models) Two sets of MC4 connectors			
Battery terminals	35 mm² / AWG2			
Protection category	IP43 (electronic components), IP22 (connection area)			
Weight	3kg			
Dimensions (h x w x d) in mm	Tr models: 185 x 250 x 95	MC4 models: 215 x 250 x 95		Tr only: 216 x 295 x 103
STANDARDS				
Safety	EN/IEC 62109-1, UL 1741, CSA C22.2			

1a) If more PV power is connected, the controller will limit input power.
1b) PV voltage must exceed Vbat + 5V for the controller to start.
     Thereafter minimum PV voltage is Vbat + 1V.
2) A PV array with a higher short circuit current may damage the controller.
3) MC4 models: several splitter pairs may be needed to parallel the strings of solar panels.
     Maximum current per MC4 connector: 30A (the MC4 connectors are parallel connected to one MPPT tracker)

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