

4. Troubleshooting

Problem	Possible cause	Solution
Charger does not function	Reversed PV connection	Connect PV correctly
	Reverse battery connection	Non replaceable fuse blown. Return to VE for repair.
	A bad battery connection	Check battery connection
	Cable losses too high	Use cables with larger cross section
The battery is not fully charged	Large ambient temperature difference between charger and battery ($T_{\text{ambient_chg}} > T_{\text{ambient_bat}}$)	Make sure that ambient conditions are equal for charger and battery
	Only for a 24V system: wrong system voltage chosen (12V instead of 24V) by the charge controller	Disconnect PV and battery, after making sure that the battery voltage is at least >19V, reconnect properly (reconnect battery first)
The battery is being overcharged	A battery cell is defect	Replace battery
	Large ambient temperature difference between charger and battery ($T_{\text{ambient_chg}} < T_{\text{ambient_bat}}$)	Make sure that ambient conditions are equal for charger and battery

5. Specifications

Charge controller		MPPT 100/30 (100/50)
System voltage		12/24 V Auto Select
Maximum battery current		30 A (60 A)
Maximum PV power, 12V 1a,b)		440/720W (MPPT range 15 V to 80 V)
Maximum PV power, 24V 1a,b)		880/1440W (MPPT range 30 V to 80 V)
Maximum PV open circuit voltage		100 V
Peak efficiency		98 %
Self consumption		Less than 10 mA
Charge voltage 'absorption'		Default setting: 14,4 V / 28,8 V (adjustable)
Charge voltage 'equalization'		Default setting: 16,2 V / 32,4 V (adjustable)
Charge voltage 'float'		Default setting: 13,8 V / 27,6 V (adjustable)
Charge algorithm		multi-stage adaptive (eight preprogrammed algorithms)
Temperature compensation		-16 mV / °C resp. -32 mV / °C
Protection		Battery reverse polarity (fuse, not user accessible) Output short circuit / Over temperature
Operating temperature		-30 to +60°C (full rated output up to 40°C)
Humidity		95 %, non-condensing
Maximum altitude		2000m
Environmental condition		Indoor, unconditioned
Pollution degree		PD3
Data communication port and remote on/off		VE-Direct See the data communication white paper on our website
ENCLOSURE		
Colour		Blue (RAL 5012)
Terminals (m/single wire)		13 mm ² / AWG6
Protection category		IP43 (electronic components) IP 22 (connection area)
Weight		1,25 kg (1,60kg)
Dimensions (X x Y x Z)		130 x 186 x 70 mm
STANDARDS		
Safety		ENIEC 62109
		1a) If more PV power is connected, the controller will limit input power to 440/720W resp. 880/1440W
		1b) PV voltage must exceed Vbat + 5V for the controller to start. Thereafter minimum PV voltage is Vbat + 1V.