

# 280 Watt Li-Ion Battery Charger Data Sheet



## Description:

Green Watt Power’s “Black Diamond” series 36V Li-ion battery chargers are designed with high efficiency, as well as having a full metal case enclosure. The extraordinary performances of low-power dissipation and waterproof provide high reliability and long life time. This series of chargers offer solid and safe power conversion for applications such as e-vehicles, e-bikes, e-motorcycles, e-boat, e-machines, etc.

## Features:

- Universal AC Input (90~264Vac)
- Output Power: 280W
- Ultra High Reliability
- High Efficiency: Up to 93%
- All-Around Protections: OVP, OCP, SCP, OTP
- Low Temperature Start Up @ -20°C
- High Temperature Full Load Operation @ 50°C
- IP65 Ingress Grade



Model Number	Output Power	Input Voltage Range (Vac)	Output Voltage Range (Vdc)	Output Current	Temperature Range / IP Rating
EVC-42-280 (PLD280-EVCS06-42)	280W	90~264Vac	25~42	6.6A	-20~50°C / IP65
EVC-54-280 (PLD280-EVCN09-54)	280W	90~264Vac	30~54.1	5.20	-20~50°C / IP65
EVC-58-280 (PLD280-EVCS10-58)	280W	90~264Vac	30~58	4.80	-20~50°C / IP65
EVC-70-280 (PLD280-15CF03)	280W	90~264Vac	46~70.4	4.00	-20~50°C / IP65
EVC-83-280 (PLD280-EVCS11-83)	280W	90~264Vac	50~83	3.50	-20~50°C / IP65

Note: Model numbers in parenthesis are factory numbers

<b>Input &amp; Output Specifications</b>					
Model	EVC-42-280 (PLD280-EVCS06-42)	EVC-54-280 (PLD280-EVCN09-54)	EVC-58-280 (PLD280-EVCS10-58)	EVC-70-280 (PLD280-15CF03)	EVC-83-280 (PLD280-EVCS11-83)
Output Voltage	25~42V	30~54.1V	30~58V	46~70.4V	50~83V
Output Current	6.6A	5.2A	4.8A	4.0A	3.5A
Max. Output Voltage	42V	54.1V	58V	70.4V	83V
Output Voltage @ Open Circuit	42V	54.1V	58V	70.4V	83V
Current Accuracy	±5%	±5%	±5%	±5%	±5%
Voltage Accuracy	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Output Power	280W	280W	280W	280W	280W
Input Voltage	90~264Vac	90~264Vac	90~264Vac	90~264Vac	90~264Vac
Input Freq.	47~63Hz	47~63Hz	47~63Hz	47~63Hz	47~63Hz
Max. Input Current	3A@115Vac 1.6A@230Vac	3A@115Vac 1.5A@230Vac	3A@115Vac 1.6A@230Vac	3A@115Vac 1.5A@230Vac	3A@115Vac 1.6A@230Vac
Max. Input Pwr.	320W	320W	320W	320W	320W
Power Factor	>0.97@115Vac >0.95@230Vac	>0.97@115Vac >0.95@230Vac	>0.97@115Vac >0.95@230Vac	>0.97@115Vac, >0.95@230Vac	>0.97@115Vac >0.95@230Vac
THD	20%Max	20%Max	20%Max	20%Max	20%Max
Efficiency	90%@115Vac 93%@230Vac	90%@115Vac 93%@230Vac	90%@115Vac 93%@230Vac	90%@115Vac 93%@230Vac	90%@115Vac 93%@230Vac
Protections	OVP, OCP, SCP, OTP	OVP, OCP, SCP, OTP	OVP, OCP, SCP, OTP	OVP, OCP, SCP, OTP	OVP, OCP, SCP, OTP
Ingress Protection	IP65	IP65	IP65	IP65	IP65
Working Temp.	-20~50°C	-20~50°C	-20~50°C	-20~50°C	-20~50°C
Cooling	Natural Cooling	Natural Cooling	Natural Cooling	Natural Cooling	Natural Cooling
Max. Case Temp.	<55°C@25°C Ambient Temperature	<55°C@25°C Ambient Temperature	<55°C@25°C Ambient Temperature	<55°C@25°C Ambient Temperature	<55°C@25°C Ambient Temperature
EMI	EN55014	EN55014	EN55014	EN55014	EN55014
Surge Protection	1kV DM, 2kV CM	1kV DM, 2kV CM	1kV DM, 2kV CM	1kV DM, 2kV CM	1kV DM, 2kV CM
Isolation	<u>Primary to Sec.:</u> 3000Vac/10mA max./60s <u>Primary to Earth:</u> 1500Vac/10mA max./60s <u>Secondary to Earth:</u> 500Vac/10mA max./60s	<u>Primary to Sec.:</u> 3000Vac/10mA max./60s <u>Primary to Earth:</u> 1500Vac/10mA max./60s <u>Secondary to Earth:</u> 500Vac/10mA max./60s	<u>Primary to Sec.:</u> 3000Vac/10mA max./60s <u>Primary to Earth:</u> 1500Vac/10mA max./60s <u>Secondary to Earth:</u> 500Vac/10mA max./60s	<u>Primary to Sec.:</u> 3000Vac/10mA max./60s <u>Primary to Earth:</u> 1500Vac/10mA max./60s <u>Secondary to Earth:</u> 500Vac/10mA max./60s	<u>Primary to Sec.:</u> 3000Vac/10mA max./60s <u>Primary to Earth:</u> 1500Vac/10mA max./60s <u>Secondary to Earth:</u> 500Vac/10mA max./60s
Dimensions (LxWxH)	210x88x51mm	210x88x51mm	210x88x51mm	210x88x51mm	210x88x51mm
Weight	1.92kg	1.92kg	1.92kg	1.92kg	1.92kg
Life Time	30,000 Hours at 25°C, 230Vac Input, and Continuous Full Load Output	30,000 Hours at 25°C, 230Vac Input, and Continuous Full Load Output	30,000 Hours at 25°C, 230Vac Input, and Continuous Full Load Output	30,000 Hours at 25°C, 230Vac Input, and Continuous Full Load Output	30,000 Hours at 25°C, 230Vac Input, and Continuous Full Load Output

Note: Unless otherwise noted, the data are based on 25oC ambient temperature, 230Vac input voltage and full load.