

HE solar charger for Telecom applications

With the MPPT algorithm ensuring close to 100% panel utilization and an efficiency above 97%, the galvanic isolated solar charger sets new standards for renewable power in telecom.

The combination of innovative design, efficiency and reliability makes the Flatpack2 HE SOLAR stand out.



Flatpack2 48V Solar Charger

48/3200 HE Solar

Doc PEDM0000712842 v00

APPLICATIONS

TELEKOM - WIRELESS

- Radio base stations / Cell sites
- LTE / 4G / WIMAX
- Distributed Antenna Systems
- Microwave
- Broadband

TELECOM - FIXED

- Telephony servers / switches
- Fiber Optics / FTTx
- Microwave

OTHER

- Rural electrification



Multisite fleet management tool



Flatpack2 hybrid power core



2U PV connection drawer (PN: 354812/390E35481200 & 351355/390E35135500)

KEY FEATURES

- HIGH EFFICIENCY – 97 %
- MPPT – MAXIMUM POWER POINT TRACKING
- GROUND FAULT DETECTION ON INPUT
- SUPPORTS HIGH STRING VOLTAGE (UP TO 430V) → LOW LOSSES / SMALLER CABLES
- TELECOM SPECIFICATION
- FULLY INTEGRATED IN ELTEK CONTROL SYSTEM
- GLOBAL COMPLIANCE
- VOLTAGE KEYING
- PATENTED HE TECHNOLOGY



12.8kW per 1U

Flatpack2 48V Solar Charger



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Model	48/3200 HE SOLAR
Part number	241119.650
INPUT DATA	
Voltage (MPPT range) ¹⁾	100 - 380 V _{DC}
Voltage (operating range)	85 - 430 V _{DC}
Voltage (start-up)	150 V _{DC}
Maximum current	20.3 A _{DC}
Protection	Fuse, varistor for transient protection, reversed polarity, shutdown when V _{IN} is too low, earth fault check during start-up
OUTPUT DATA	
Voltage (default)	53.5 V _{DC}
Voltage (adjustable range)	42 ²⁾ - 57.6 V _{DC}
Max power, V _{IN} ≥ 170 V _{DC}	3200 W
Max power, de-rated @V _{IN} = 85 V _{DC}	1500 W
Max current, @V _{OUT} = 48 V _{DC}	66.7 A
Current sharing	Passive to optimize power available from each string of solar panels
Static voltage regulation (10-100% load)	±0.5% from 10 - 100% load and supplied power not limited by PV panels
Dynamic voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms
Ripple	< 250 mV _{PP} , 30 MHz bandwidth
Protection	Fuse, Overvoltage shutdown, short circuit proof, high temperature, hot plug-in inrush current limiting
OTHER SPECIFICATIONS	
Peak Efficiency	97 %
Isolation	4.2 kV _{DC} – input and output, 2.5 kV _{DC} – input earth, 0.5 kV _{DC} – output earth
Alarms (Red LED)	High and low temperature shutdown, Converter Failure, Overvoltage shutdown on output, Fan failure, Low voltage alarm, CAN bus failure
Warnings (Yellow LED)	Low input voltage, Converter in power derate mode, Remote current limit activated, Input voltage out of range, flashing at overvoltage
Normal (Green LED)	Input and output ok
MTBF (Telcordia SR-332 Iss.3 Method II Case L1)	1 440 000 (@ T _{ambient} : 25°C)
Operating temperature (5 - 95% RH non-cond.)	-40 - 75°C [-40 - 167°F]
Max output power de-rates above temp / to	45°C [+113°F] / 2400 W
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing
Dimensions[WxHxD] / Weight	109 x 41.0 x 327mm [4.25 x 1.61 x 13"] / < 2 kg [4.4lbs]
DESIGN STANDARDS	
Electrical safety	IEC/EN 62109-1:2010/-2:2011, EN 62368-1:2020+A11:2020, IEC 62368-1:2018 UL 62368-1:2019, IEC 60950-1:2013
EMC	EN 61000-6-1:2016, -6-2:2016, -6-3:2007 + A1:2011, -6-4:2007 + A1:2011, IEC 61000-6-5:2015, EN 300 386:v2.1.1, FCC CFR 47 Part 15:2013
Environment	ETSI EN 300 019: 2-1 (Class 1.2) & 2-2 (Class 2.3) 2011/65/EU (RoHS) & 2012/19/EU (WEEE) Normal operating conditions as per IEC 62040-5-3:2016 clause 4.2. Other operating conditions as per IEC 62040-5-3:2016 clause 4.3, must be advised
<small>1) At nominal output voltages. MPPT will operate down to 100V, but the maximum input current limitation will de-rate maximum output power 2) Stand-by / test operation (V_{OUT} < 48 V_{DC}) limited for V_{IN} > 250 V_{DC}</small>	

Specifications are subject to change without notice