

## The original HE rectifier

The most efficient power conversion module in the industry!  
 Since the launch, the Flatpack2 family has expanded into a wide selection of power ratings and voltages.

The Flatpack2 24/1800 HE is a cost efficient rectifier for 24V lead acid battery systems.



# Flatpack2 24V HE Rectifier

24V 1800W

Doc 241115.205.DS3 – v8

### APPLICATIONS

#### RAILWAY & METRO

- Control and protection

#### POWER UTILITIES

- Control and monitoring systems
- Alarm systems
- PLC systems



Smartpack S Panel Mount controller



Flatpack2 3.6kW Wallbox



Flatpack2 2U Bulk feed power core

### KEY FEATURES

- PROVEN RELIABILITY
- HIGH EFFICIENCY (HE)
- POWER DENSE, 22 W/INCH<sup>3</sup>
- WIDE TEMPERATURE RANGE
- APPLICATION FLEXIBILITY  
1.8KW→MULTI CABINET INSTALLATIONS
- GLOBAL COMPLIANCE (CE, UL)
- PATENTED HE TECHNOLOGY



7.2kW per 1U shelf (individual or common AC feed)

# Flatpack2 24V HE Rectifier

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Model	24/1800 HE
Part number	241115.205
INPUT DATA	
Voltage (nominal)	185 - 275 V <sub>AC</sub> / 185 - 300 V <sub>DC</sub>
Voltage (range)	85 - 300 V <sub>AC</sub> / 85 - 300 V <sub>DC</sub>
Frequency	45 - 66 Hz, 15-18.5 Hz <sup>1)</sup> / 0 Hz
Current (maximum) @ nominal input, full load	11.25 A <sub>DC</sub>
Power Factor	0.99 (@ 50-100% load)
THD (@ 230 V <sub>AC</sub> )	< 4 % (@ full load)
Protection	Fuse in both lines, varistor for transient protection, shutdown when V <sub>IN</sub> is out of range
OUTPUT DATA	
Voltage (default)	26.75 V <sub>DC</sub>
Voltage (adjustable range)	21.75 - 28.8 V <sub>DC</sub>
Max power, nominal input	1800 W
Max power, de-rated @ V <sub>IN</sub> = 85 V <sub>DC</sub>	750 W
Max current, @ V <sub>OUT</sub> ≤ 24 V <sub>DC</sub>	75 A
Hold-up time, default voltage and 1000 W load	20 ms, V <sub>OUT</sub> > 21 V <sub>DC</sub>
Current sharing	± 5% of maximum current from 10 to 100% load
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 <sub>PP</sub> , 30 MHz bandwidth
Psophometric noise	< 2 mV <sub>RMS</sub>
Protection	Overvoltage shutdown, short circuit proof, high temperature, hot plug-in inrush current limiting
OTHER SPECIFICATIONS	
Peak Efficiency	95 %
Isolation	3 kV <sub>AC</sub> – input and output, 1.5 kV <sub>AC</sub> – input earth, 0.5 kV <sub>DC</sub> – output earth
Alarms (Red LED)	Low mains shutdown, High and low temperature shutdown, Rectifier Failure, Overvoltage shutdown on output, Fan failure, Low voltage alarm, CAN bus failure
Warnings (Yellow LED)	Rectifier in power derate mode, Remote battery current limit activated, Input voltage out of range, flashing at overvoltage
Normal (Green LED)	Input and output ok
MTBF (Telcordia SR-332 Iss.I method III (a))	>300 000 (@ T <sub>ambient</sub> : 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] / 1200W
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"] / 1.950 kg [4.3lbs]
DESIGN STANDARDS	
Electrical safety	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013, IEC 60950-1:2013 UL 60950-1:2014
EMC	EN 61000-6-1:2007, -6-2:2005, -6-3:2007 + A1:2010, -6-4:2007 + A1:2010 IEC 61000-6-5:2015, EN 300 386:v2.1.1, FCC CFR 47 Part 15:2008
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
1) Maximum power de-rated to 1000W @230Vac & 16 2/3Hz input	

Specifications are subject to change without notice.

***Authorised, valued-added distributor***

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