RT18 240V 30A 8.64kW HRE

Rectifier Specification

The RT18 240V 30A 8.64kW HRE Rectifier is a high reliability and high efficiency switched mode rectifier (SMR) module that converts 220VAC to 240VDC at 30A output. It is suitable for high reliability applications such as Internet Data Centres (IDC) and DC UPS. The RT18 is fully compliant with China YD/T-2378-2011 and it delivers a power saving peak efficiency of > 95.5%.

The compact dimensions of the RT18 in its magazine (2.5U high, 3 units across) allow high power density in 800mm x 800mm footprint racks.

The addition of a MCSU-4 controller allows sophisticated power system management with network connectivity and advanced rectifier sleep mode functionality for additional power savings.

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Detailed specifications at 220VAC in, 270VDC out, 25 °C, unless otherwise stated:

Input

Voltage	Single phase, nominal range: 187 – 242VAC; Voltage tolerance: 165 – 275VAC; Full output power available above 187VAC; Frequency: 50Hz ± 5Hz; Voltage distortion: ≤ 5%;
Current	42A RMS max at 220 VAC; 50A RMS max below 187VAC;
Protection	Overvoltage: operates to 300VAC typically and will sustain 420VAC without damage; Undervoltage: operates at reduced power to 90VAC typically; Surge protection to 6kV/3kA;
Voltage Withstand Test	2800VDC input to chassis for 1 minute;
Harmonic Distortion of input current: Type 1	Less than 5% at full load; 10% at half load;
Power Factor: Type 1	Greater than 0.99 at full load; 0.98 at half load;
Startup and hot plug	Inrush less than 100% input current; Soft start approx 10 seconds to match diesel generator start-up characteristics;

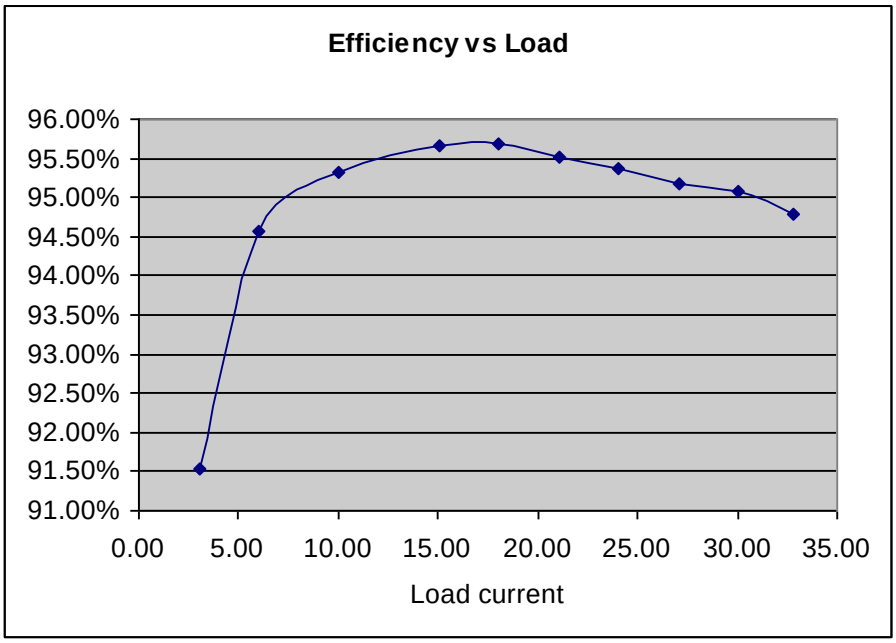
Output

Voltage	Float adjustment range: 204 – 290V; Equalise adjustment range: 204 – 300V; Precision: <±0.5%;
Current Limit	Range: 6 - 33A; Precision: <±1%;
Power Limit	Current limit is automatically reduced to limit output power to 8640W; Available current: • 33A at 204V • 33A at 240V • 32A at 270V • 30A at 288V
Voltage Withstand Test	2800VDC output to chassis for 1 minute;

Static Regulation	Load: terminal voltage drops by 2.5V ± 0.2V from zero to 30A load (for passive current sharing) for stand-alone units, or regulates to better than ±0.05% for MCSU-4 controlled units;
Dynamic Regulation	± 5% for 25/50/25% and 50/75/50% step load change; ± 0.5% of final value within 200us of step change;
Noise	< 0.5% peak to peak (0 - 20MHz);
Load Sharing	Better than ± 5% of full scale with active current sharing from MCSU;
Protection	Overcurrent: can sustain short circuit at output terminals indefinitely; Inrush: no voltage dip on bus on hot plug; Surge protection to 5kV/2.5kA; Overshoot: 2% max at start-up;

General

Isolation	Input and output are isolated, all components that cross the isolation barrier are tested to 4000VAC or 5600VDC or higher;
Efficiency	>95.5% peak efficiency; >95% typical from 10 – 30A;



Standards

Product	Designed to YD/T-2378-2011
Safety	Designed to IEC60950-1, Second Edition (2005)
EMC Emissions and Immunity	Designed to IEC61000-6-4:2006; IEC61000-6-2:2005

Environmental

Operating range	-5°C to +40°C, ≤90% RH;
Storage and transport	-40°C to +70°C, ≤95% RH;
Altitude	1000m without de-rating;
Vibration	10-55Hz, 0.35mm sine;

Mechanical

Dimensions	Height: 88 mm Width: 178 mm Depth: 640mm
Mass	< 11kg
Acoustic Noise	≤ 55dB (A Weighted)
Magazine size	Width: 23 inch standard; Height: 110mm (2.5U);

Connections

Input, Output, and Communications:
A multifunction hot-plug connector is mounted on the back of the rectifier module that carries the AC, DC and communications lines. A matching connector is located at the back of the magazine. Reliable mating is ensured by a spring latch in the magazine that mechanically secures the rectifier.