SWITCH MODE RECTIFIER 2800 WATTS

HTR20006-030

HiTek Power

FEATURES

- 2.8kW Output power
- 30VDC Nominal DC O/P
- Power Factor Correction
- 184 – 264VAC Input voltage
- High power density
- Fan cooled
- Active or droop current sharing
- Front panel indicators
- Over voltage protection
- Complies with European EMC, Safety and Environmental Standards

APPLICATIONS

- Telecom power
- Modular power system
- CO_2 Laser systems
- ATE

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DESCRIPTION

The HiTek Power HTR20006-030 is a switched mode rectifier that is capable of providing 2800 Watts output power. Designed to meet the stringent requirements of telecoms applications the rectifier is equally at home in professional applications requiring high quality DC power such as Laser RF Generators. This rectifier is intended for use as a component power supply in a system.

SPECIFICATION

Input Voltage:	184V to 264V AC at Full Load
Input Current:	20A rms max (13.5A Typical)
Peak Inrush Current:	20A max @ 264V
Input Frequency:	45 to 65Hz
Input Power:	3210W max @ 2800W Output Power
Power Factor Correction:	Greater than 0.9 (Typically 0.99 for Loads in Excess of 25% Inom)
Efficiency:	Greater than 85% at Full Load (Typically 87%)
Input Fuse:	20A T 250V
Output Voltage:	25V to 31V (Nominal 30V @ 92A)
Output Current:	92A to 95A
Combined Regulation:	0.2% for a change in Input Voltage, 184V to 264VAC and Output Current, 0 to Nominal Current
Dynamic Regulation:	For a load change of 10% to 90% or 90% to 10% Nominal Current results in a peak deviation of 1.5V max, recovering to within 500mV of the final value within 10ms.
Quiescent Leakage:	The current into the output of a non-energised rectifier will not exceed 10mA when the source voltage is equal to the nominal voltage of the rectifier
Temperature Coefficient:	±0.05%/°C max. over the operating temperature of the unit
Ripple and Noise:	The psophometrically weighted noise, in accordance with CCITT does not exceed 2mV rms and noise over the frequency range 10Hz to 100MHz does not exceed 50mV rms
Output Current Limit:	Designed to operate continuously in current limit down to 70% of nominal output voltage.
Output Overvoltage:	Nominal Trip Point 33V ± 0.5V. Unit is reset by interrupting mains input for 20s or by strobing the Remote On/Off port.
Parallel Voltage:	The unit can withstand voltages of up to 35V applied to the output terminals when it is inoperative.
Overtemperature:	Thermal sensors are fitted to the main heatsinks which, under thermal overload conditions, will cause the unit to inhibit until the temperature has reduced to an acceptable level.
Turn on Delay:	The output will attain final voltage within 3s from application of power to the power supply input.
Hold Up Time:	With the output loaded to 2800W, a hold up time of at least 20ms is available when operating at 198V input

ALARMS AND SIGNALS

Remote Sense:	Provided as standard to allow for compensation of up to 500mV total voltage drop in the power leads.
Parallel Operation:	Units may be operated with outputs connected in parallel without limitation. The use of forced current share or operation droop is recommended.
Forced Current Share:	A current sharing facility is provided as standard which will enable up to 5 units to share the total load current to within 10% of full load current of one rectifier.
Remote On/Off:	An isolated TTL compatible input is provided to allow for remote switching of the rectifier. Input current <=5mA at 5V. Logic low or open circuit turns the rectifier on.
Output Healthy Relay:	Standard units have isolated change-over relay contacts. The normally open contact being made when the output and input voltage are within the specified range. Relay contact rating 50V at 500mA DC

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The following signals are provided via opto-couplers with open collectors and common emitters. They are floating with respect to the power output and other signal interfaces. A maximum working voltage of 75V between signal ports and power output is permissible. Maximum applied voltage, 30V. Output capability, IOL = -5.4mA @ VOL <= 0.5V. Each output is also mimicked by a front panel indicator.

Input Healthy: Active low when the mains input is sufficient for the unit to operate. Green LED indicator

Output Healthy: Active low when the output voltage is greater than approximately 75% of the nominal output voltage and the unit is capable of delivering output power. Green LED indicator

Current Limit: Active low when the current limit circuitry is operative and has reduced the output voltage by approximately 5%. Red LED indicator

Overvoltage Trip: Active low when overvoltage protection circuitry is latched. Red LED indicator

Remote Interface: Connections are made via a 15 way D-Type Connector.

Pin 1: Positive Sense
Pin 2: Opto Common Emitter
Pin 3: Opto Input Healthy
Pin 4: Opto Output Healthy
Pin 5: Opto Current Limit
Pin 6: Opto Overvoltage
Pin 7: Negative Sense
Pin 8: Negative Sense
Pin 9: Remote On / Off Positive
Pin 10: Remote On / Off Negative
Pin 11: Current Share
Pin 12: Output Healthy Relay N/O Contact
Pin 13: Output Healthy Relay Common Contact
Pin 14: Output Healthy Relay N/C Contact
Pin 15: Opto Fan Fail

Operating Temperature: 0 to +50°C

Storage Temperature: -40°C to +85°C

Humidity: 0 to 85% R.H. non-condensing, operating
0 to 95% R.H. non-condensing, non-operating

Altitude: Up to 3000m operating
Up to 10000m non-operating

Vibration: To BSEN60068-2-6:1996

Pollution: Designed to operate in office type environments - pollution degree 2 environments, as defined in EN60950

Safety Approvals: EN60950
CSA C22.2 # 234
cUL to UL60950

EMC: Emissions to EN55022 and EN55011 curve B
ESD EN61000-4-2
Radiated Immunity EN61000-4-3 (10V/m)
Fast Transients EN61000-4-4 (±2kV)
Surge Immunity EN61000-4-5 (±1kV differential / ±2kV common mode)
Conducted Immunity EN61000-4-6 (10V emf)

ISOLATION

Primary Earth: Tested to 2.12kV DC from input to earth with both input lines connected together

Secondary to Earth: Units are tested to 707V DC from output to earth, with all outputs and secondary ports (signals) connected together

Primary to Secondary: Input to output isolation barriers, including layout and wiring, are specified to 3kV AC rms for one minute. Primary to secondary isolation is tested by applying the input to earth isolation test voltage of 1.5kV AC rms simultaneously and in phase with 500V AC rms output to earth test voltage

Earth Leakage Current: The earth leakage current does not exceed 3.5mA at 240V 50Hz. Earth connection is required

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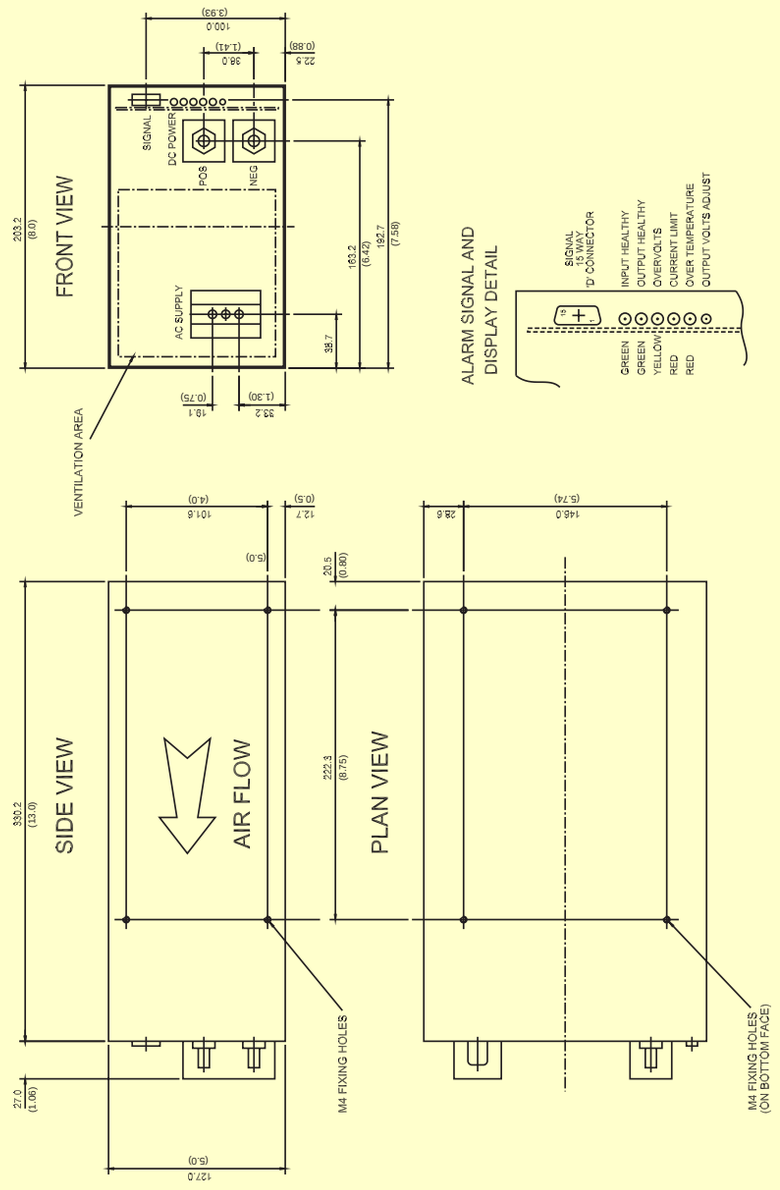
OUTLINE DRAWING



Revision: 07/03

GERMANY

HiTek Power GmbH
Joh.-Friedr.-Boettger Str. 21
D-63322 Roedermark
Tel.: +49 6074 69285-0
Fax.: +49 6074 69285-10
Email: sales.de@hitekp.com

HiTek Power