



Magnetek
Telecom Power Group



MAG48V200AMP **48-Volt 200 Amp 3-Phase Rectifier**



- High efficiency >92%
- True 3-phase rectifier
- Low THD <5%
- Active power factor correction >0.95
- Very high power density >7W/inch³
- Equipped with microprocessor for data processing
- Local or remotely programmable
- 19" or 23" rack mountable
- Hot pluggable
- Input undervoltage protection
- Surge and lightning protected
- Built-in self protecting circuits
- Full compliment of alarms
- Extended temperature operation
- Field replaceable fans
- EMI to Class A, with 3dB of margin
- Bellcore compliant design
- Worldwide agency approvals

The MAG48V200A rectifier provides superior performance in telecom, industrial and EDP applications. The high efficiency and reliability of this unit ensures maximum system uptime for critical applications. This unit is ideal for use in larger communications applications up to 12,000 Amps, to minimize cost and reduce installation time.

Magnetek's 48-Volt 200 Amp rectifier is designed for single or multiple unit operation. Up to 60 rectifier modules connected in parallel will meet output requirements without loss of functionality. The rectifier is designed to operate in three different modes. Digitally in REMOTE MODE through RS-485 interface, analogically in TRIMMING MODE through the analog input Vtrim and LOCALLY through the unit's built-in keypad. All major rectifier parameters are remotely or locally programmable.

Other MAG48V200A rectifier features include:

Remote voltage adjust	Remote overvoltage adjust
AC input sensing	Rectifier failure signal
Remote standby signal	Remote sense signals
Output voltages test points	Thermal alarm
Current limit alarm	Lamp test signal
Current share signal	Local standby switch
Enable signal	Output current mirror
Input undervoltage protection	AC ground connection point

High Power Density

The compact size of the MAG48V200A rectifier make it one the most compact 200 Amp rectifiers in service. Measuring just 5.25"H x 17.33"W x 19"D this unit has a power density in excess of 7 Watts per cubic inch.

MAG48V200AMP

48Volt 200 Amp Rectifier Specifications

INPUT PARAMETERS

Voltage Range: 340-528 VAC 3 ϕ Continuous Range operation from 47-63 Hz. Input Frequency transient per Bellcore TR-TSY-000947. **Protected by internal circuit breaker.**

Low AC Voltage Protection: Rectifier will shut down if input voltage drops below 320 \pm 5V. Unit will soft start when voltage is above 340 \pm 10V.

Input Current: Less than 25A/phase. Maximum unbalanced between current phases of \pm 10%.

Inrush Current: <38 Apeak per phase. Protected by power NTCs circuitry.

Power Factor and Harmonic Correction: >0.99 Active (Pout >25%) Compliant to EN61000-3-2.

Efficiency: Typically 92% at 50% load. Greater at nominal input.

Phase Failure: Derates to 50% nominal output. Communicates alarm to serial port and writes alarm message on LCD display.

Heat Dissipation: 54 Volts @ 200 Amps = 960 Watts, 3,276 BTUs.

THD: < 5%

OUTPUT PARAMETERS

Output Power: 12,000 Watts from -5°C to 55°C. Derate linearly to 50% at 70°C internal fuse on negative and **output circuit breaker.**

Output Ratings and Ranges: 42-60VDC, set to 54.50V. 200A max. at 60V, 220A max at 54.5V.

Turn-on Time: <2 seconds.

Current Walk-in: Programmable up to 10 seconds via serial comm port from 0 to 90% load per Bellcore.

Regulation Total (line, load and initial setting): With OR'ing diode at remote sense point, \pm 0.4 from 0 to full load.

Output Ripple and Noise: 100mV rms max, 500 mV max. peak to peak with bandwidth of 20 m Hz.

Voice Frequency Noise: <32 dBm0 without battery connected.

Temperature Coefficient: \pm 0.01%/°C.

Voltage Drift: \pm 0.02% of its set value for a period of 8 hours.

Dynamic Response: \pm 2.5% with step load from 0 to 100% or 100% to 0%, recovery in 4 mSec.

Hold-Up Time: At full load, low line, output will remain in regulation for a minimum of 20 mSec.

Remote Sense: The voltage measured at the output terminals is not more than 1V above the regulation set point.

Output Or'ing Diode: Internal.

Current Sharing: Rectifier is typically 2% with accuracy of sharing no higher than 5%.

Over-current Protection: 102%-110% constant current with automatic recovery.

Over Voltage Protection: Programmable from 58-61.5V, 100 mSec clear time latching.

Data subject to change without notice.

Over Voltage Protection, Latching: The dynamic OVP setting is 65V for <100mSec and is latching.

Reverse Voltage Protection: To 100% of rated output current.

PROGRAMMABLE FUNCTIONS THROUGH RS-485 SERIAL PORT.

FRONT PANEL INDICATORS

Rectifier On: Solid Green LED when ON and normal operating condition. Flashing Green in standby mode.

Rectifier Fail: Solid Red LED when an alarm is present or phase missing.

Fan Fail: Solid Red when fan in a faulty condition (speed <80% of nominal)

Overvoltage: Solid Red LED when OVP is detected.

Over Temperature: Solid Red LED when an internal over temperature condition is detected.

ALARMS TO SYSTEM

Output Failure: Output voltage below 41V \pm 1V.

Over-current: Output in over current condition.

Overvoltage: Output overvoltage condition has latched the unit off.

True AC Sense: Input voltage is not present prior to unit's input fuse.

CONTROL SIGNALS

Standby: System signal OR's with the front panel standby switch.

Output Voltage Adjust, Linear: Used for continuous control of the output voltage setting.

Output Voltage Shift, Digital: Used to set the default system voltage to 54.50V or 52.08V

ENVIRONMENTAL

Temperature: Operating -5°C to 55°C. Storage -40°C to 85°C.

Humidity: 10-85% Non condensing.

Altitude: -200 TO +13,000 feet per Bellcore TR-EOP-000083

Vibration: 0.5g 5-100 Hz and 1.5g 100-500Hz per Bellcore TR-NWT-000063, issue 4, complies with ETS300-019-1-2 class 2.2

Lightning Protection: Per Bellcore TR-NWT-001089.

Cooling: Fan assisted by two 120mm ball-bearing fans.

Acoustical Noise: Less than 54dBA at 1 meter per Bellcore TR-TSY-000967.

Size: 17.33"W x 19"D x 5.25"H (482.6 mm x 435.6 x 133 mm)

Weight: 41.89 lbs (19 kgs)

APPROVALS

Safety: IEC950

EMI: EN55022, class A with 3dB margin, all applicable EN61000 documents.

MTBF: Greater than 250,000 hours per Bellcore TR-TSY-000332.