

## RF748U 700W 48V DC Flat Mount Rectifier

Efficient and reliable, these rack mounting rectifiers allow for easy paralleling of modules to provide redundancy or higher power outputs.

Internal options include low voltage disconnect (LVD) and an alarm card with relay outputs.

The unique design allows for mounting two rectifiers in a 1U x 19" rackspace. Custom configurations can be specified and additional features can be added.

Easy to install and compact, these robust, reliable rectifiers are forced cooled by a speed controlled and monitored fan.

- Forced cooled.
- Thermally protected.
- Power factor corrected.
- Input/output voltage and current protected.
- Temperature compensation.
- Automatic float/boost charge cycle.
- Alarm and control interface including active load sharing.
- Optional built-in low voltage disconnect.
- Optional internal alarm card with relay outputs.



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## Specifications

AC Input	
Nominal:	110/220V, 50/60Hz
Voltage Range:	100-275V AC (full power output) 85-100V AC (reduced power output)
Frequency Range:	45-66Hz
Power Factor:	>0.93 (full load)
Efficiency:	89%
Input Fuses:	HRC fuses in phase & neutral
Maximum Input Current:	8.5A
Protection:	
Input Voltage:	Automatic shutdown, Restarts automatically when correct voltage restored
Input Rush:	<2x maximum input current
DC Output	
Nominal Voltage:	48V
Rated Voltage:	58V
Voltage Range:	45-60V
Maximum Current:	12A
Line:	±0.1%
Load:	±0.5% (no load to full load)
Hold-up Time:	>15ms for 20% output voltage drop
Start-up Time:	Walk-in delay 2 seconds (depends on AC input voltage)
Protection:	
Current Limit:	Adjustable to 50-100% of maximum rated current
Over temp:	Automatic current turndown, backup shutdown protection
Polarity Reversal:	Output fuse with crowbar diode
Over Voltage:	Adjustable limit
Noise: (under nominal conditions)	
Ripple <100Hz:	<10mV rms unweighted
Voice Band 100Hz to 5KHz:	<2mV rms psophometric
Wide Band 5kHz to 1 MHz:	<10mV rms unweighted
Peak to Peak 0 to 20MHz:	<50mV p-p unweighted
Isolation:	
Input to Output:	3000V AC
Input to Chassis:	2500V AC (VDR to chassis removed)
Output to Chassis:	1500V AC
Environmental Requirements	
Ambient Temperature:	
Nominal:	25+/-5°C
Range:	-10 to +50°C
Storage Temperature:	-20 to +70°C
Humidity:	5-95% RH (non-condensing.)
Altitude:	<2500m, De-rate maximum ambient temperature by +4° per 1000m above sea level
Mechanical	
Dimensions, W, H, D:	227mm, 44mm (1U), 270mm, (293mm over handle)
Weight:	1.5kg
Shipping Dimensions, W, H, D:	377mm, 235mm, 122mm
Shipping Weight:	2.4kg
Cooling:	Forced cooled
Connections:	
Mains:	IEC 320 universal connection
Output to Load:	4 way lumberg macromodule
Temperature Sensor:	2 way lumberg macromodule
Monitor Connection:	RJ45
Internal Alarm Card:	Mini combicon
Standard Features	
Temperature Compensation:	Output voltage slope adjustable 0.1 to 0.2%/°C (standard)
Auto Float/Boost:	Rectifier enters boost mode at power up. When battery current reduces to float threshold limit (adjustable from 0.1A to 40% MRC), unit reverts to float voltage setting. When in boost but out of current limit, rectifier will automatically switch back to float after approximately four hours. If battery current exceeds the float threshold limit when the rectifier is in float mode it will automatically switch to boost mode.
Alarm and Indicator Controls:	Positive V out, Load share signal (in/out), External shutdown, Open collector 'off normal' alarm, (OSVD, over temp., current limit, fan fail), LVD synchronisation signal (in/out), Temperature compensation input signal, Open collector rectifier fail (via 4k7 resistor), Open collector mains fail, Negative V out.
Options	
Low Voltage Disconnect:	
Voltage Adjustment Range:	38-48V
Maximum Load Current:	12A
Internal Alarm Card:	4x N.O or N.C (selectable) relay contacts with single common for rectifier fail, off normal, float low, float high. 1x VF changeover relay contact for mains fail. Relay contacts rated at 100V DC 1A. Connections via "mini combicon" connector accepts 1.5mm dia wire.
Maintenance	
LED Indicators:	Green - Mains on. (primary converter operating) Green - Temperature probe connected and within normal limits. Red - Rectifier 'failed'. Green - Rectifier in 'float' mode. Yellow - Rectifier in 'boost' mode. Yellow - Rectifier in 'current' limit. Red - Rectifier 'off normal'. (over temp., OVSD, low output volts)
Internal Adjustments:	Float voltage, Boost voltage, Over voltage shut down, Current limit, Temperature compensation slope, Auto boost to float threshold limit, Load disconnect voltage (if fitted), Load disconnect hysteresis voltage (if fitted)
Compliances	
Safety:	EN60950, Electrostatic Discharge: CISPR24, Radiated Radio Frequency: CISPR22, AC Harmonics: EN61000-3-2, AC Flicker and Fluctuation: EN61000-3-3
Ordering Information	
RF748U-10:	Standard with temperature compensation, Auto float boost, Alarm and control I/F
RF748U-11:	Standard with temperature compensation, Auto float boost, Alarm and control I/F, Low volts disconnect
RF748U-20:	Standard with temperature compensation, Auto float boost, Alarm and control I/F, Alarm card
RF748U-21:	Standard with temperature compensation, Auto float boost, Alarm and control I/F, Low volts disconnect, Alarm card
Standard Accessories	
	1x 2m AC lead, 2x DC output connectors and an operating manual