

RW312U 300W 12V DC Wall Mount Rectifier

These highly efficient rectifiers offer a range of output voltages and power levels.

Easy to install and compact, these robust, reliable rectifiers are convection cooled and are available with temperature compensation, and options for internal low voltage disconnect (LVD) and alarm card with relay outputs.

They can be used as standalone power sources or can be operated in parallel to provide redundancy or higher output ratings.

Choose from a range of internal options including load disconnect, current indicators, alarm and control interface and auto float/boost. Custom configurations can be specified and additional features can be added.

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



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:	>0.99 (full load)
Efficiency:	85%
Input Fuses:	HRC Fuses in phase & neutral
Maximum Input Current:	4A
Protection:	
Input Voltage:	Automatic shutdown, restarts automatically when correct voltage restored.
Input Rush:	<2x maximum input current.
DC Output	
Nominal Voltage:	12V
Rated Voltage:	14.5V
Voltage Range:	11.5-15V
Maximum Current:	20A
Regulation:	
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:	<5mV rms unweighted
Voice Band 100Hz to 5KHz:	<0.5mV rms psophometric
Wide Band 5kHz to 1 MHz:	<2.5mV 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	
Nominal Ambient Temperature:	25+/-5°C
Range:	-10 to +60°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:	311mm, 163mm, 62mm
Weight:	1.5kg
Shipping Dimensions, W, H, D:	377mm, 235mm, 122mm
Shipping Weight:	2.4kg
Cooling:	Convection cooled
Connections:	
Mains:	IEC 320 universal connection
Output to Load:	4 way lumberg macromodule
Output to batteries:	4 way lumberg macromodule
Temperature Sensor:	2 way lumberg macromodule
Monitor Connection:	RJ45
Internal Alarm Card:	Mini combicon
Standard Features	
Output Current Indicator:	Ten segment red LED "dot" display (standard)
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. limit), 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:	9.5-12V
Maximum Load Current:	20A
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	
RW312U-10:	Standard with temperature compensation, Auto float boost, Alarm and control I/F
RW312U-11:	Standard with temperature compensation, Auto float boost, Alarm and control I/F, Low volts disconnect
RW312U-20:	Standard with temperature compensation, Auto float boost, Alarm and control I/F, Alarm card
RW312U-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

