

### DESCRIPTION

Unipower Telecom's Radian Series are hot-swappable, modular rectifiers which produce up to 1200 watts output. There are 19 different models with different output voltages and power levels. The modules are ultra-compact with power density up to 17 watts per cubic inch. Companion 19-inch shelves hold up to three rectifiers which can also be operated in a 2+1 redundant mode. The modules have automatic load sharing and output ORing diodes so they can be hot-swapped while the system is operating. Module output voltage can be controlled by 0V to +5V analog input.

Green LEDs indicate AC and DC power good. The rectifiers also have control and monitoring features and a +5V standby output. Operating temperature range is -20°C to +70°C.

### FEATURES

- ◆ 1U- High: 1.72"
- ◆ -20°C to +70°C Operation
- ◆ Wide Range AC Input
- ◆ Up to 1200W Module Output
- ◆ Up to 3600W Shelf Output
- ◆ 0.99 Power Factor
- ◆ Output Voltages: 12 to 54.4VDC
- ◆ 80-87% Efficiency
- ◆ Power Density to 17W/Cu. Inch
- ◆ Hot Swappable
- ◆ Integral ORing Diodes
- ◆ Class B EMI Filter
- ◆ LED Indicators
- ◆ I<sup>2</sup>C Serial Data Option
- ◆ 19- or 23-Inch Rack Mounting

### TWO-YEAR WARRANTY

### SAFETY STANDARDS

UL60950-1  
CSA22.2, No. 60950-1  
EN60950-1

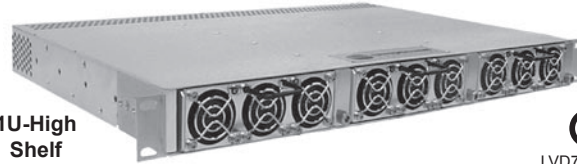
[www.unipowertelecom.com](http://www.unipowertelecom.com)



RPCM, TPCM,  
RPCP, TPCP



RPCG, TPCG



1U-High  
Shelf

CE  
LVD73/23/EEC

### RECTIFIER MODULES

OUTPUT VOLTAGE	OUTPUT CURRENT	MAX. POWER	VAC INPUT RANGE	MODEL NUMBER
54.4VDC	22.0A	1200W	90-264	RPCP48/22
	15.0A	800W	85-264	RPCM48/15
	8.0A	435W	85-264	RPCG48/8
48.0VDC	25.0A	1200W	85-264	TPCP7000
	16.7A	800W	85-264	TPCM7000
	9.4A	450W	85-264	TPCG7000
27.2VDC	33.0A	900W	85-264	RPCP24/33
	25.0A	690W	85-264	RPCM24/25
	15.0A	400W	85-264	RPCG24/15
24.0VDC	41.7A	1000W	85-264	TPCP5000
	29.2A	700W	85-264	TPCM5000
	16.7A	400W	85-264	TPCG5000
13.6VDC	50.0A	680W	85-264	RPCP12/50
	45.0A	600W	85-264	RPCM12/45
	27.0A	370W	85-264	RPCG12/27
12.0VDC	66.7A	800W	85-264	TPCP3000
	54.2A	650W	85-264	TPCM3000
	30.8A	370W	85-264	TPCG3000

### OPTION

CODE	DESCRIPTION
-Z	I <sup>2</sup> C Serial Data Bus

### NOTES:

1. Add Option Code as suffix to model number.
2. In the case of RPCG/RPCM/RPCP, only for use with DSC1000 and Gravitas Systems.

### 19-INCH SHELVES

RECTIFIER MODULES	HEIGHT	DEPTH	AC CONN.	MODEL NO.
RPCG, TPCG RPCM, TPCM	1U (1.72")	11.56"	C14	TPCMR1U3
RPCP, TPCP	1U (1.72")	12.66" 13.15" 14.88"	Term. Blk. C20 C20*	TPCPR1U3A TPCPR1U3B TPCPR1U3C

\*Has extra input filter

### Rack Adaptor Modules & Accessories: Order by Part No.

Type	Function	PART NO.
Relay Adaptor	Converts TTL level DC Good signal to Form-C dry contact. (See separate datasheet for details.)	009-1005-0000
I <sup>2</sup> C Adaptor	Required when using RPCG, RPCM or RPCP rectifiers with DSC1000 Controller. Specify -Z option. (See DSC1000 Manual for full details.)	009-1001-0000
Blanking Kit	Used to blank off unused module slots. One fitted as standard.	775-1450-0000

# SPECIFICATIONS, RADIAN SERIES MODULES

Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

## INPUT

Voltage Range	See Table
Power Factor	0.99
Total Harmonic Distortion, Max.	5%
Frequency	47-63Hz
Inrush Current Limiting, Max.	50A Peak
EMI Filter, Conducted	FCC20780 pt. 15J Curve B
	EN55022 Curve B
Fast Transients	EN61000-4-4
Surges	EN61000-4-5
Analog Voltage Adjust	0 to +5V
Input Protection	Internal Fuse, 20A

## OUTPUT

Current & Voltage	See Table
Output Power	370-1200W
Voltage Adjustment Range, Approx.	+/- 5%
Standby Output	+5V@250mA
Line & Load Regulation, Max.	2.0%
Holdup Time	20msec.
Overvoltage Protection	Latch Off
Filtering: Wideband Noise, 20MHz BW	
48V Out, P-P	500mV
24V Out, P-P	250mV
12V Out, P-P	125mV
Voice Band Noise	<32dBnC
Current Limit	105% Rated Current
Efficiency	80-87%

**SAFETY STANDARDS** ..... UL60950, CSA22.2 No. 60950, EN60950

## STATUS INDICATORS

AC Good	Green LED & Logic LO Output
DC Good	Green LED & Logic LO Output

## ENVIRONMENTAL

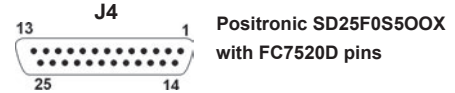
Operating Temp. Range	-20°C to +70°C
Output Current Derating	2.5%/°C, 50°C to 70°C
Storage Temp. Range	-40°C to +85°C
Humidity	0% to 95%, Non-Condensing
ESD	Bellcore GR-1089-Core and EN61000-4-2
MTBF, 35°C (Bellcore)	200,000 Hours
Cooling	Integral Ball Bearing Fans

## PHYSICAL SPECIFICATIONS

Case Material, Rectifier Module	Aluminum
Shelf	Aluminum
Dimensions, Inches (mm)	
Rectifier Module <sup>2</sup>	1.60 H x 5.00 W x 10.00 D (40.6 x 127 x 254)
19" Shelf, TPCMR1U3	1.72 H x 19.00 W x 11.56 D (44 x 483 x 294)
19" Shelf, TPCPR1U3	1.72 H x 19.00 W x 13.15 D (44 x 483 x 334)
Weight	
Rectifier Module	3.15 lbs. (1.43 kg.)
19" Shelf	3.75 lbs. (1.70 kg.)

- NOTE:**
1. RPCG & TPCG do not have this.
  2. RPCG & TPCG depth is 10.16 inches (258mm).

## SHELF J4 SIGNAL CONNECTOR



J4 PIN CONNECTIONS			
PIN	FUNCTION	PIN	FUNCTION
1	Inhibit	14	AC Power Good - 1
2	Overtemp. Warning -1*	15	DC Power Good - 1*
3	Current Monitor - 1*	16	AC Power Good - 2
4	Overtemp. Warning - 2*	17	DC Power Good - 2*
5	Current Monitor - 2*	18	AC Power Good - 3
6	Overtemp. Warning - 3*	19	DC Power Good - 3*
7	Current Monitor - 3*	20	Module Present - 1
8	+5V Standby	21	Module Present - 2
9	SDA	22	Module Present - 3
10	Current Share	23	-Sense
11	+ Sense	24	Remote Adjust - 1
12	Remote Adjust - 2	25	Remote Adjust - 2
13	SCL		

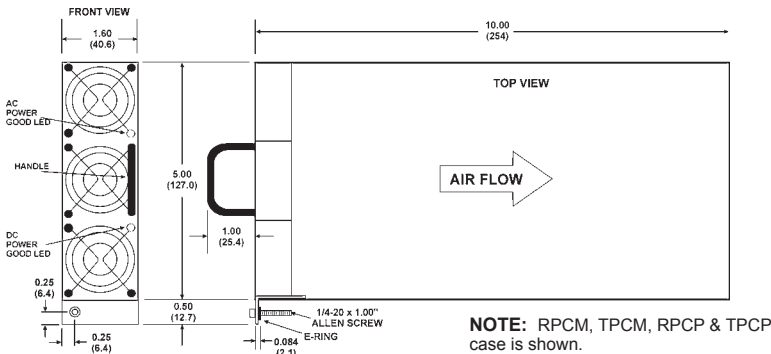
\* These pins are open when I<sup>2</sup>C option is used.

**NOTE:** Standby return is connected to -Sense lead. Current rating of +5V standby is 250mA. All signals are referenced to -Sense lead.

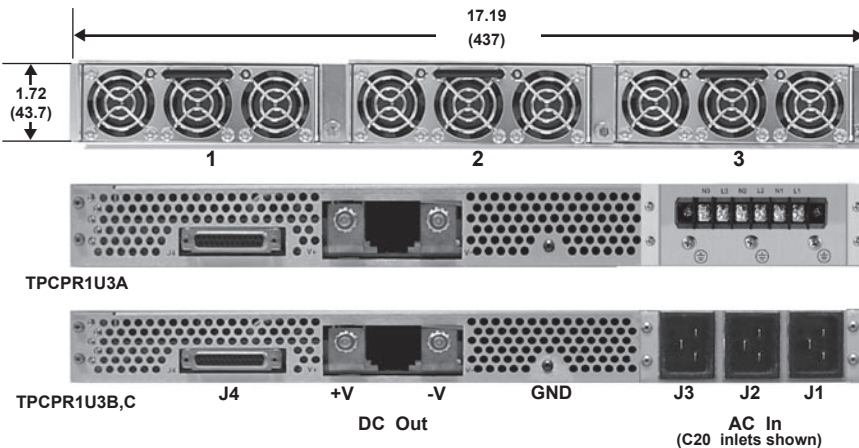
## RADIAN 19-INCH SHELVES

There is one shelf model for the RPCG, TPCG, RPCM and TPCM modules, and three shelf models for the RPCP and TPCP modules. The A, B, and C versions of the TPCPR1U3 shelf have rear housings that extend 1.10" (27.9mm), 1.59" (40.4mm) and 3.32" (84.3mm), respectively, beyond the 11.56" (294mm) shelf depth. The "C" version of the TPCPR1U3 shelf includes an AC line filter with each IEC 60320 C20 AC inlet. For further information, see the shelf data sheets. Universal brackets permit 19-inch or 23-inch rack mounting.

## HOT-SWAP RECTIFIER MODULE



## SHELVES



**ALL DIMENSIONS IN INCHES (mm).**

All specifications subject to change without notice.

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