



## Front Connect Rectifier (FCR) 500 / 600 Watt AC to DC Technical Specifications

### AC INPUT

**Voltage:** 90—264VAC (tested to 300Vac)  
**Frequency:** 47-63Hz  
**Peak Inrush Current:** <45A  
**Power Factor:** 0.99 typical  
**Efficiency:** 90% typical, with 230VAC input at 50-100% load  
**Hold-Up Time:** 20mS min. at 46V threshold  
**Input Overcurrent:** 8A Fuse in Line and Neutral

### DC OUTPUT

**Voltage:** 42—56V  
**Power:** 500W (600W at 180-275VAC)  
**Initial Accuracy at center load:**  $\pm 50\text{mV}$   
**Ripple & Noise:** 1% V P-P Measured with 20Mhz Bandwidth  
**Line Regulation:** Less than  $\pm 0.25\%$   
**Load Regulation:**  $\pm 2\%$  max (1.0% typical) from nominal value  
**Parallel Use:** May be paralleled with other like units for increased system output, an isolation OR-ing device included  
**Current Sharing:** Slope program current share, (droop)  
**Temperature Coefficient:**  $< \pm 0.02\%$  per $^{\circ}\text{C}$   
**Acoustic Noise** TBD

### ELECTRONIC ALARMS (Basic Set, others available)

**AC Fail:** low when AC input is out of range (activates 5ms before output falls below 46V)  
**Output Low:** A TTL Low signal if the output voltage falls 10% below the actual output voltage set point (10 mA sink capability)  
**Over-temperature warning:** TTL Low 5 $^{\circ}\text{C}$  below over-temperature shutdown  
(NOTE: above signals are referenced to signal ground)  
**Isolated Output Low:** open collector signal, isolated from both AC input and DC output: high impedance if the output voltage falls below 10% of its set point.  
**Power Supply present** (shorted internally to signal ground)

### VISUAL FAULT INDICATORS

**Power Good:** A front panel Green "Power Good" LED will be lit if the AC input is within the acceptable range.  
**Output Low:** An amber summary fault front panel indicator "Fault" LED will be lit if the output voltage falls 10% below voltage set point.

### ELECTRONIC CONTROL INPUTS

**Remote Inhibit:** Application of a TTL High input signal referenced to signal ground will cause the supply to shut down and an Output Low fault alarm will be issued. (TTL High = Inhibit). Inhibit Low or open circuit enables power supply.  
**Remote Program:** Provides about +7.5%, -30% of set point voltage with 0 to 5V control signal (which is +4/-16V for 54V output). Open circuit or 4V control= no output change  
**PS ON:** Remote Enable (need to be shorted to signal ground to turn on power supply)- last make first break pin.

### ORDERING INFORMATION

| Part no.  | Description  |
|-----------|--|
| 800871002 | 500W, 1U, -54Vdc, Droop CS, standard alarms (signal ground connected to +)                   |
| 800871009 | 500W, 1U, -54Vdc, Droop CS, standard alarms, eLink compatible (signal ground connected to -) |
| 800871011 | 500W, 1U, +48Vdc, Droop CS, standard alarms, eLink compatible (signal ground connected to -) |

### TEMPERATURE

**Normal Operation:** -10 to +55 $^{\circ}\text{C}$   
**Low Temperature Turn On:** -10 $^{\circ}\text{C}$  requires 1 minute warm-up  
**Storage / Transportation:** -40 $^{\circ}\text{C}$  to +85 $^{\circ}\text{C}$   
**Humidity Operating:** 0% to 95% RH non-condensing  
**Storage:** 0% to 95% RH non-condensing

### PHYSICAL DIMENSIONS

**Dimensions:** 1U, H38.4x W106 x D219mm max (1.51 x 4.16 x 8.61" max) excluding handle and output connector

**Weight:** 2.5 lb (1.1kg)

### AGENCY COMPLIANCE

**CE Marked:** Low Voltage Directive only  
**Electrical safety:** EN60950-1, CUL UL 60950-1  
**EMI (conducted):** FCC Part 15, Sub-part J, class A and EN55022, class A  
**EMI (radiated):** EN55022, class A in a rack.  
**Harmonics:** EN 61000-3-2, Class A  
EN 61000-4-3 Electromagnetic Immunity (error-free), Level 2 stand-alone  
RoHS with Lead Solder Exemption

**Contact Factory for Options and full Product Specification and matching shelves**



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DEMANDING APPLICATIONS DEMAND TDI POWER

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## Uses & Benefits

The 500 Watt Front Connect rectifier is an efficient, high-reliability power conversion module which installs in 1U Power Shelves. It's AC input range of 90-264 Volts makes this parallelable, fan-cooled rectifier an ideal choice for solving power needs. This rectifier can be deployed nearly anywhere.

This fan-cooled rectifier solves power problems.

This product can be installed in TDI Power's 1U Power Center to make a compact Power System with redundant rectifiers, power distribution, monitoring and battery connections.

## Features

- 500 Watts
- 91% Efficient
- Parallelable
- Front Panel Input
- 1U High
- RoHS & WEEE Compliant

## Outline

