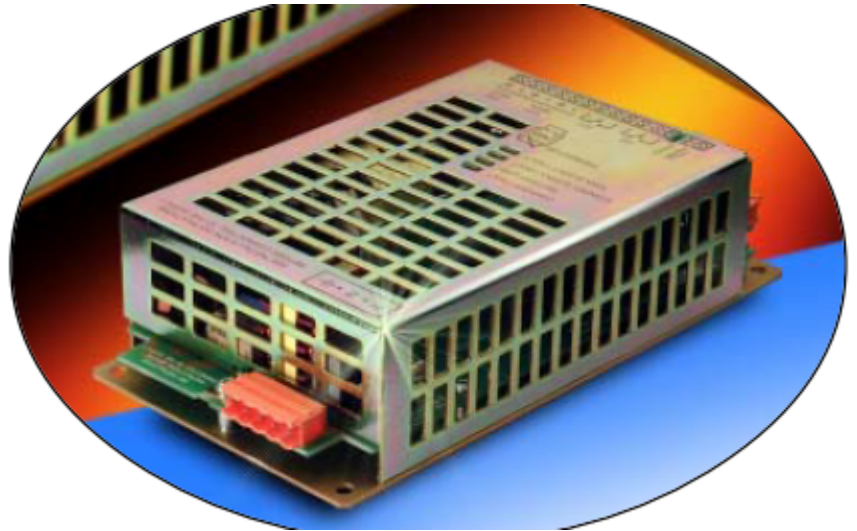
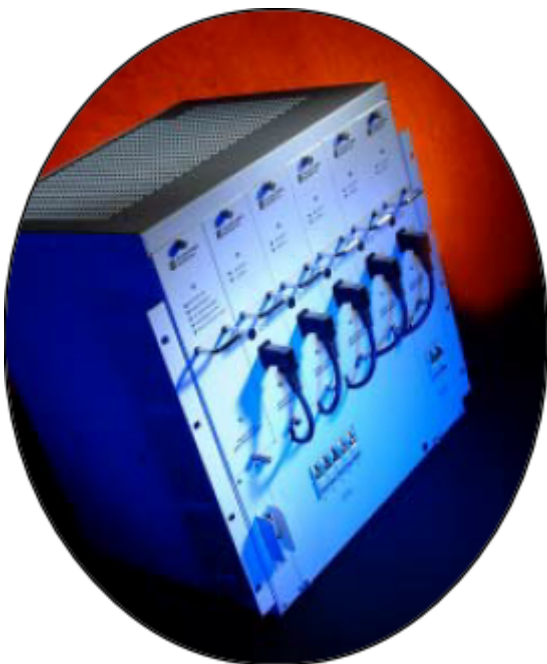


# Mission Critical Power Supplies Catalogue



# POWER FOR YOUR PRODUCT LTD®



## Oracle Series 45w Battery Backed Power Supply

- Universal Input, AC - DC Switch Mode PSU.
- 12 or 24v Models.
- Din Rail or Panel Mounting.
- Signal Output.
- Overload & Short Circuit Protection.
- Current Limit & Polarity Protection.
- Overvoltage Protection.
- Undervoltage Lockout Protection.



### General Features.

The Oracle II-45 is the smallest unit in the Oracle range and satisfies the minimum requirements of the EN54-4 standard for local power supplies used in fire-detection and alarm systems.

Operating from a universal 90 to 260V AC input, the power supply comes in 12V and 24V versions, providing one main output and one battery-charge output. As standard the battery charge current is set to 0.5A for both output voltage options, but can be factory configured for different applications.

The Oracle II-45 features temperature-compensated charging to ensure maximum battery capacity at low temperatures and maximum battery life at high temperatures. Also, independent current-limited charging protects the system against faulty batteries and ensures that the main output can function immediately on reconnection of the mains supply after a failure, regardless of the state of charge of the battery.

Other standard protection circuitry safeguards both the user equipment and the batteries from fault conditions such as reverse polarity, incorrect battery voltage and short circuits, while undervoltage lockout prevents damage to the battery when it is fully discharged. The PSU is equipped with one TTL output and 2 LED indications.

As well as being EN54-4 compliant, the power supply also meets the requirements of the EN60950 safety standard and all relevant European EMC standards.

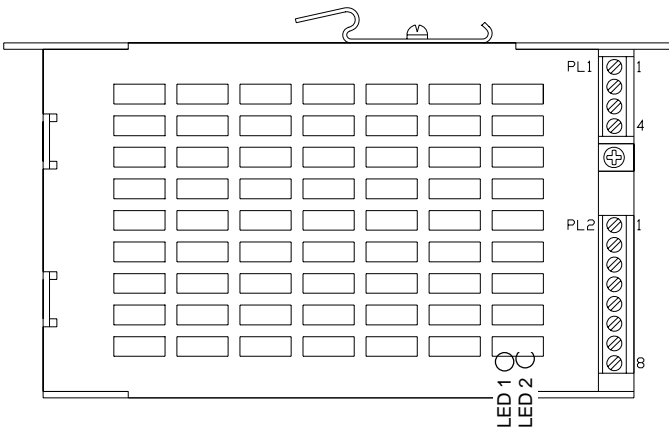
Overall dimensions of the unit are 170 x 90 x 40 mm, and, if required, it can be specified with Klippon quick-release input and output connections instead of the standard screw terminals.

As with all our products, custom specifications can be engineered upon request.

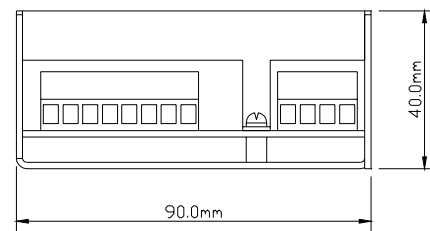
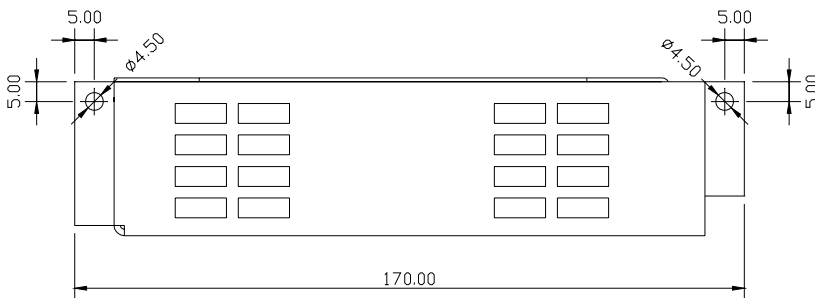
	12V UNIT	24V UNIT
<b>DC Output Voltages</b> V01 Main O/P V02 Battery Charge O/P @ 20°C 5mA float current. Temp compensated float voltage.	14.3V +/- 50mV 13.7V +/- 100mV	28.6V +/- 100mV 27.4V +/- 200mV
<b>DC Output Current</b> Shared across V01 & V02 V02 Battery Charge Current Limit	3A Total 0.5A	1.5A Total 0.5A
<b>Line Regulation</b> (full load) <b>Load regulation</b> V01 (over range 0 - 3A) V02 (over range 0 - 1.5A)	<0.5% 50mV Max 1.5V Typical	<0.5% 50mV Max 1.5V Typical
<b>Output Ripple and Noise</b> PSU loaded to 60W @ 240Vrms over a bandwidth of 0 - 30MHz Noise/Ripple (peak-peak all outputs)	<100mV	<100mV
<b>Standby Operation</b>	3A Nom.	1.5A Nom.
<b>Overload Protection</b> V01 (Primary power limit) V02 (Constant current limit) <b>Over voltage Protection</b> V01 Voltages exceeding V02 Voltages exceeding	120-150% Max Up to 0.5A (Factory Set) 16V 16V	120%-150% Max Up to 0.5A (Factory Set) 32V 32V
<b>Volt free relay contacts/LEDs</b> I/O LEDs	Pin 1 - Cold Start (Connect to 0V to start) Pin 2 - Fault * Led 1 - Fault * Led 2 - AC OK *	
* For larger quantities these can be configured at the factory for specific customer needs.		

<b>EMC</b>	EN50081-1 Emissions EN50082-2 Immunity EN61000-4-2 ESD EN61000-4-3 Radiated Electro Interference EN61000-4-4 Fast Bursts
<b>Environmental</b> <b>Ambient Operating Temp</b> <b>De-rating @ 2.5% per °C</b> <b>Storage Temperature</b>	-20°C to +50°C (No De-rating) +50°C to 70°C ambient -30°C to +85°C
<b>Connectors</b> <b>Input</b> <b>Output</b>	4 way, 5.08mm Screw Terminal 8 way, 5.08mm Screw Terminal
<b>Input Voltage</b> <b>Input Frequency</b> <b>Input Current</b>	90V - 260V AC rms 47 - 63Hz 1.2A rms typ @ 110V 0.6A rms typ @ 230V
<b>Input Fusing</b> PCB Mounted fuse	T2A, 250V AC HRC UL/CSA Approved - non-user replaceable.
<b>Inrush Current</b>	Max ltd to <30A peak Cold start 20°C ambient - 265V AC
<b>Efficiency</b>	12V UNIT >75% under all loads line and environmental conditions 24V UNIT >82%
<b>Battery Input</b> <b>Battery Fusing</b>	Protected by reverse parallel diode & fuse 12V UNIT T3.15A 24V UNIT T1.6A

Model Numbers: 14841-000 12v  
14842-000 24v



Connector (Pin Functions)	
PL1 (Input)	PL2 (Output)
Pin1: Live	Pin1: Cold Start
Pin2: Neutral	Pin2: Fault
Pin3: N/C	Pin3: 0V
Pin4: Earth	Pin4: 0V
	Pin5: +Vout
	Pin6: +Vout
	Pin7: Batt-
	Pin8: Batt+



## Oracle Series 75w Battery Backed Power Supply

- Universal Input, AC - DC Switch Mode PSU.
- 12 or 24v Models.
- Designed to meet EN54-4

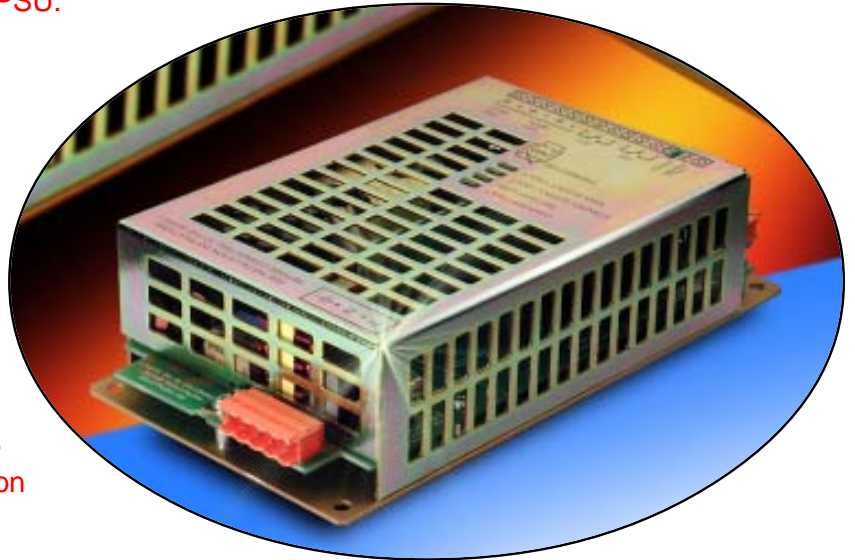
- Din Rail or Panel Mounting.
- Volt free relays/signals.
- Battery and load protection

### Options

- Regulated main output
- Auxillary outputs
- Dual path fusing, Choice of connectors
- Battery test, SPI port for local connection

### Standards

- EN54-4 Compliant, CE & EMC Compliant, EN60950 Compliant.



## General Features.

### Built on Success:

The latest models in the growing range of Oracle Power Supplies build on the advances of other units in the successful Oracle range.

### Intelligent Design:

Designed specifically for applications within the Fire Protection, Telemetry and Control industries, the 75W unit represents a high level of functionality tailored to the requirements of these users.

Conceived as a multi application platform, the unit is designed to meet EN54-4, and offers options normally only found on larger units, such as auxillary outputs, configurable I/O and an SPI port.

Signal outputs are provided as standard, the factory default volt free relays being EN54-4 compliant. Other configurations are available - consult the factory for details.

Our standard protection circuitry safeguards your equipment, and batteries during normal and fault conditions. Temperature compensated charging and deep discharge protection allow the maximum life to be obtained from your batteries.

As with all our products, custom specifications can be engineered upon request.

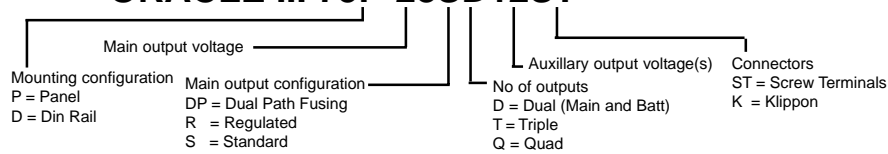
	12V UNIT	24V UNIT																
<b>DC Output Voltages</b> V01 Main O/P (standard)	14.3V +/- 50mV <small>Tracks battery voltage on standby</small>	28.6V +/- 100mV <small>Tracks battery voltage on standby</small>																
V02 Battery Charge O/P	13.7V +/- 100mV <small>Temperature compensated</small>	27.4V +/- 200mV <small>Temperature compensated</small>																
<b>DC Output Current</b> Shared across V01 & V02 <small>Total available output is 75W, main output current will be reduced where an auxiliary output is fitted</small>	5A Total	2.8A Total																
<b>Line Regulation</b> (full load) <b>Load regulation</b> V01 (over range 10-100%) V02 (over range 10-100%)	<0.5%  50mV Max 1.5V Typical	<0.5%  50mV Max 1.5V Typical																
<b>Output Ripple and Noise</b> PSU loaded to 60W @ 230Vrms over a bandwidth of 0 - 30MHz Noise/Ripple (peak-peak all outputs)	<100mV	<100mV																
<b>Standby Operation</b>	5A Nom.	2.8A Nom.																
<b>Overload Protection</b> V01 (Primary power limit) V02 (Constant current limit)	120-150% Max Up to 5A (Factory Set)	120%-150% Max Up to 2.8 (Factory Set)																
<b>Battery Input</b> <b>Battery Fusing</b>	Inherent reverse protection F6A	Inherent reverse protection F4A																
<b>Over voltage Protection</b> V01 Voltages exceeding V02 Voltages exceeding	16V 16V	32V 32V																
<b>Volt free relays/signals/LEDs</b>	<p>Conditions for active signals:</p> <table border="0"> <tr> <td>IO1 VFR BATTERY LOW</td> <td><input checked="" type="checkbox"/></td> <td>IO2 VFR SYSTEM FAULT</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>IO3 TTL SYSTEM FAULT</td> <td><input checked="" type="checkbox"/></td> <td>IO4 TTL SYSTEM FAULT (INVERTED)</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>LED1 CHARGER FAULT</td> <td><input checked="" type="checkbox"/></td> <td>LED2 BATTERY LOW (LED FLASHES WHEN CHARGING)</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>LED3 STANDBY SUPPLY FAULT</td> <td><input checked="" type="checkbox"/></td> <td>LED4 MAIN SUPPLY FAULT</td> <td><input checked="" type="checkbox"/></td> </tr> </table> <p>Other configurations are available-consult factory for details</p>		IO1 VFR BATTERY LOW	<input checked="" type="checkbox"/>	IO2 VFR SYSTEM FAULT	<input checked="" type="checkbox"/>	IO3 TTL SYSTEM FAULT	<input checked="" type="checkbox"/>	IO4 TTL SYSTEM FAULT (INVERTED)	<input checked="" type="checkbox"/>	LED1 CHARGER FAULT	<input checked="" type="checkbox"/>	LED2 BATTERY LOW (LED FLASHES WHEN CHARGING)	<input checked="" type="checkbox"/>	LED3 STANDBY SUPPLY FAULT	<input checked="" type="checkbox"/>	LED4 MAIN SUPPLY FAULT	<input checked="" type="checkbox"/>
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LED3 STANDBY SUPPLY FAULT	<input checked="" type="checkbox"/>	LED4 MAIN SUPPLY FAULT	<input checked="" type="checkbox"/>															

<b>EMC</b>	EN50081-1 Emissions EN50082-2 Immunity EN61000-4-2 ESD EN61000-4-3 Radiated Electro Interference EN61000-4-4 Fast Bursts
<b>Susceptibility</b>	
<b>Environmental</b> Ambient Operating Temp Storage Temperature	-5°C to +55°C -30°C to +85°C
<b>Connectors</b> Input/Output/Signal Thermistor	Screw Terminal or Weidmuller Klippon 0.1" Molex 2 way
<b>Input Voltage</b> <b>Input Frequency</b> <b>Input Current</b>	85V - 264V AC rms 47 - 63Hz 2A rms typ @ 110V 1A rms typ @ 230V
<b>Input Fusing</b> PCB Mounted fuse <b>Inrush Current</b> <b>Efficiency</b>	UL/CSA Approved <30A peak, cold start 20°C ambient - 265V AC 12V UNIT >75% under all conditions 24V UNIT >82% under all conditions

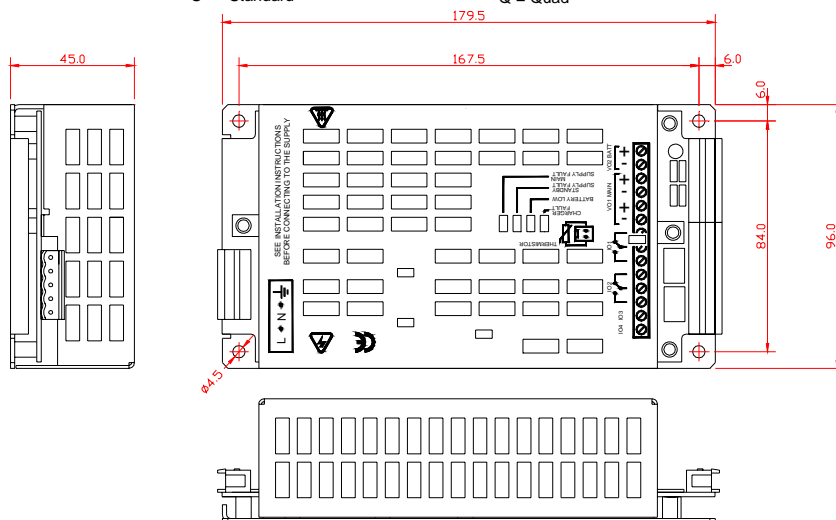
Options	Regulated main output	Auxillary output	Dual Path fusing (split main output)
<b>Spec</b>	12 or 24V	5V, 12-15V, 24V	2 x pcb 4A*fuses
<b>Output current</b>	2.5A/1.5A**	5V/3A, 12-15V 2A 24V 1.25A	
<b>Line regulation (full load)</b>	<0.5%	<0.5%	
<b>Load regulation (10-100%)</b>	<0.5%	<0.5%	
<b>Overcurrent protection</b>	120% nom	120% nom	
<b>Overvoltage protection</b>	120% nom	120% nom	
<b>Ripple/noise (Full load, pk-pk)</b>	<1%	<1%	

**Ordering information:**

**ORACLE III 75P-28SD12ST**



**Dimensions**



\* consult factory for 12V dual path fusing applications

\*\*total output power is reduced by 10% when regulated main output is used

## Oracle Series 130w Battery Backed Power Supply

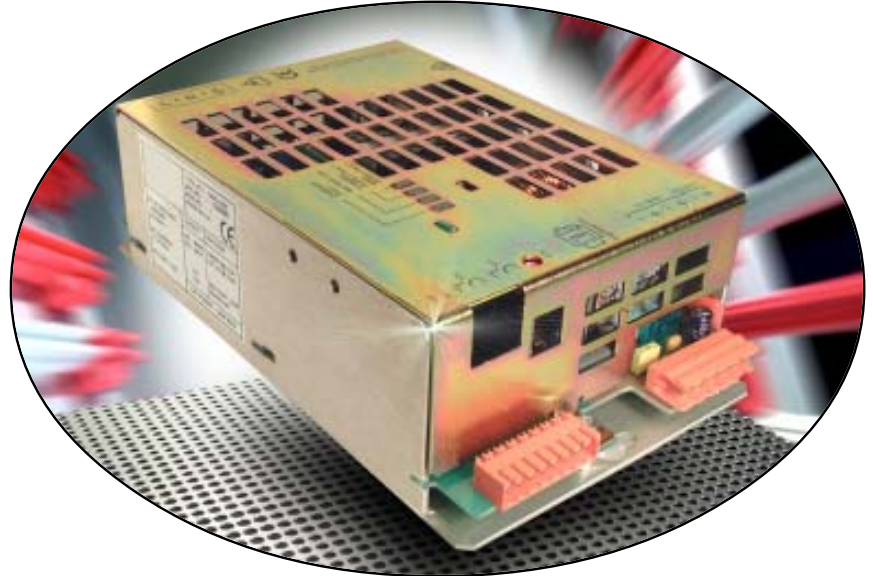
- AC - DC Switch Mode PSU.
- 115V / 230V Link Selectable.
- 12 or 24v Models.
- Designed to meet EN54-4
- 200W Peak Capability
  
- Din Rail or Panel Mounting.
- Volt free relays/signals.
- Battery and load protection

### Options

- Regulated main output
- Auxillary outputs
- Dual path fusing, Choice of connectors
- Battery test, SPI port for local connection

### Standards

- EN54-4 Compliant, CE & EMC Compliant, EN60950 Compliant.



## General Features.

**The Oracle II-130W offers a higher power output option to the 75watt unit and shares many features of its EN54-4 compatible sibling.**

Designed specifically for applications within the Fire Protection, Telemetry and Control industries, the 130W unit represents a high level of functionality tailored to the requirements of these users.

As with the 75W, features such as such as auxillary outputs, configurable I/O and an SPI port are available.

Signal outputs are provided as standard, the factory default volt free relays being EN54-4 compliant. Other configurations are available - consult the factory for details.

Our standard protection circuitry safeguards your equipment, and batteries during normal and fault conditions. Temperature compensated charging and deep discharge protection allow the maximum life to be obtained from your batteries.

As with all our products, custom specifications can be engineered upon request.

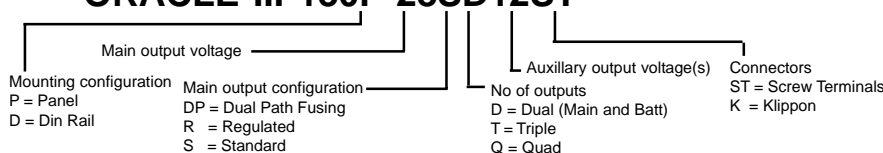
	12V UNIT	24V UNIT											
<b>DC Output Voltages</b> V01 Main O/P (standard)	14.3V +/- 50mV <small>Tracks battery voltage on standby</small>	28.6V +/- 100mV <small>Tracks battery voltage on standby</small>											
V02 Battery Charge O/P @ 20°C	13.7V +/- 100mV <small>Temperature compensated</small>	27.4V +/- 200mV <small>Temperature compensated</small>											
<b>DC Output Current</b> V01 V02 <small>Max output not to exceed 130W</small>	10A 4A	5A 2A											
<b>Line Regulation</b> (full load) <b>Load regulation</b> V01 (over range 10-100%) V02 (over range 10-100%)	<0.5% 50mV Max 1.5V Typical	<0.5% 50mV Max 1.5V Typical											
<b>Output Ripple and Noise</b> PSU loaded to 60W @ 230Vrms over a bandwidth of 0 - 30MHz Noise/Ripple (peak-peak all outputs)	<100mV	<100mV											
<b>Standby Operation</b>	10A Nom.	5A Nom.											
<b>Overload Protection</b> V01 (Primary power limit) V02 (Constant current limit)	120-150% Max Up to 4A (Factory Set)	120%-150% Max Up to 2A (Factory Set)											
<b>Battery Input</b> <b>Battery Fusing</b>	Inherent reverse protection NON USER REPLACEABLE	Inherent reverse protection NON USER REPLACEABLE											
<b>Over voltage Protection</b> V01 Voltages exceeding V02 Voltages exceeding	16V 16V	32V 32V											
<b>Volt free relays/signals/LEDs</b>													
<table border="0"> <tr> <td>I01 VFR BATTERY LOW</td> <td rowspan="10"> <b>Conditions for active signals:</b>  </td> </tr> <tr> <td>I02 VFR SYSTEM FAULT</td> </tr> <tr> <td>I03 TTL UVLO (OPEN COLLECTOR)</td> </tr> <tr> <td>I04 TTL GENERAL FAULT (OPEN COLLECTOR)</td> </tr> <tr> <td>LED1 CHARGER FAULT</td> </tr> <tr> <td>LED2 BATTERY LOW</td> </tr> <tr> <td>LED3 STANDBY SUPPLY FAULT</td> </tr> <tr> <td>LED4 MAIN SUPPLY FAULT</td> </tr> <tr> <td colspan="2"><small>Other configurations are available-consult factory for details</small></td> </tr> </table>			I01 VFR BATTERY LOW	<b>Conditions for active signals:</b> 	I02 VFR SYSTEM FAULT	I03 TTL UVLO (OPEN COLLECTOR)	I04 TTL GENERAL FAULT (OPEN COLLECTOR)	LED1 CHARGER FAULT	LED2 BATTERY LOW	LED3 STANDBY SUPPLY FAULT	LED4 MAIN SUPPLY FAULT	<small>Other configurations are available-consult factory for details</small>	
I01 VFR BATTERY LOW	<b>Conditions for active signals:</b> 												
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LED1 CHARGER FAULT													
LED2 BATTERY LOW													
LED3 STANDBY SUPPLY FAULT													
LED4 MAIN SUPPLY FAULT													
<small>Other configurations are available-consult factory for details</small>													

<b>EMC</b>	EN61000-6-2: 2005 Immunity EN61000-6-3: 2001 Emissions EN61000-6-4: 2001 Emissions
<b>Environmental</b> <b>Ambient Operating Temp</b> <b>Storage Temperature</b>	-25°C to +55°C -30°C to +85°C
<b>Connectors</b> <b>Input/Output/Signal</b> <b>Thermistor</b>	<b>Screw Terminal or Weidmuller Kilppon</b> <b>0.1" Molex 2 way</b>
<b>Input Voltage</b> <b>Input Frequency</b> <b>Input Current</b>	90-132/180-264V AC rms link selectable 47 - 63Hz 2.5 A rms typ @ 110V 1.25 A rms typ @ 230V T4A, 250V AC HRC
<b>Input Fusing</b> <b>PCB Mounted fuse</b> <b>Inrush Current</b> <b>Efficiency</b>	UL/CSA Approved <30A peak, cold start 20°C ambient - 265V AC 12V UNIT >75% under all conditions 24V UNIT >82% under all conditions

Options	Regulated main output	Auxillary output	Dual Path fusing (split main output)
<b>Spec</b>	<b>12 or 24V</b>	<b>5V, 12-15V, 24V</b>	<b>2 x pcb 4A*fuses</b>
<b>Output current</b>	2.5A/1.5A**	5V/3A, 12-15V 3.5A 24V 1.25A	
<b>Line regulation (full load)</b>	<0.5%	<0.5%	
<b>Load regulation (10-100%)</b>	<0.5%	<0.5%	
<b>Overcurrent protection</b>	120% nom	120% nom	
<b>Overvoltage protection</b>	120% nom	120% nom	
<b>Ripple/noise (Full load, pk-pk)</b>	<1%	<1%	

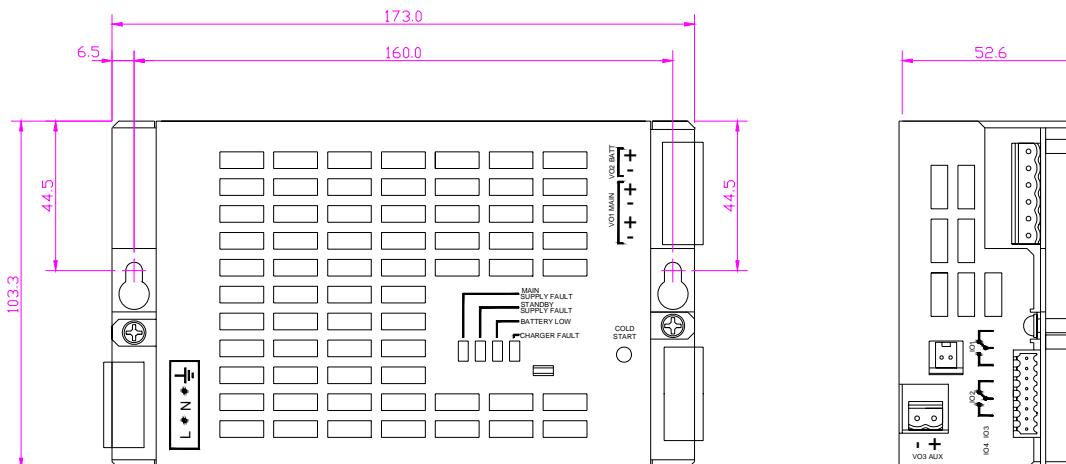
**Ordering information:**

**ORACLE III 130P-28SD12ST**



\* consult factory for 12V dual path fusing applications  
\*\*total output power is reduced by 10% when regulated main output is used

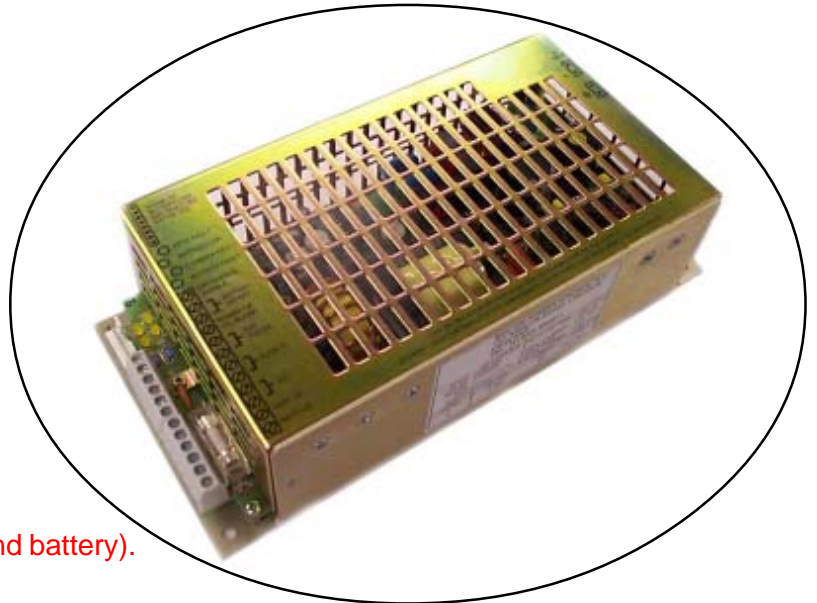
**Dimensions**



# Power For Your Product Ltd.

## Oracle Series 170w Battery Backed Power Supply

- AC - DC Switch Mode PSU.
- 115V / 230V Link Selectable.
- Operable in Mains-Free Standby Mode.
  
- Main Output - 6A(24V), 12A(12V)
- Battery Charger Output - 2A(24V), 4A(12V)
- Panel or Din Rail Mounting Options.
- PCB Conformal Coating Available.
  
- Overload & Short Circuit Protection.
- Current Limit & Polarity Protection.
- Overvoltage Protection. (Main equipment and battery).
- Undervoltage Lockout Protection.
  
- CE Compliant, EN50082-1 Compliant, EN50082-2 Compliant.



## General Features

### Customer Inspired Design:

Building to satisfy demand, we've added a new 12volt model to partner our existing 24volt units.

With separate load and battery charging outputs, all models in the range are ideal for critical battery backed applications such as *Fire Panels*, *Security Systems*, and *Process Control Equipment*, in fact anywhere that your systems must function when the AC supply fails.

### Simple, Reliable, Effective:

Identical in every way but voltage, the units are built for panel mounting and feature the option for fitting a Din Rail Mounting Kit.

Connections are made using screw-down terminals and 'Molex' Pin Headers. User accessible fuse protection is included as are high visibility status and alarm indicators.

Built in electronic protection automatically prevents deep discharge of backup batteries whilst temperature sensing and float charging ensures that cells are always at peak capacity.

As an added feature, an external TTL signal can reroute charging power to supply the main output during periods of intense use when greater load currents may be required.

As with all our products, custom specifications can be engineered upon request.



	12V Unit	24V Unit
<b>DC Output Voltages</b> V01 Main O/P V02 Battery Charge O/P @ 20°C 5mA float current. Temp compensated float voltage.	14.4V +/- 50mV@10A 13.7V +/- 100mV	28.7V +/- 100mV@4A 27.3V +/- 200mV
<b>DC Output Current *</b> V01 V02	10A Nom, 12A Pk 4A	4A Nom, 6A Pk 2A
<b>Line Regulation</b> (Full Load) <b>Load regulation</b> V01 V02 <b>Output Ripple and Noise</b> Noise/Ripple peak-peak all outputs:	<0.5% Max  50mV Max 1.5V Typical  <75mV	<0.5% Max  50mV Max 1.5V Typical  <150mV
<b>Standby Operation</b>	12A Max	6A Max
<b>Overload Protection</b> V01 (Primary power limit) V02 (Constant current limit) <b>Overvoltage Protection</b> V01 Voltages exceeding V02 Voltages exceeding	120-150% Max output 4A +/- 200mA dc  16.7V 16V	120-150% Max output 2A +/- 200mA dc  32V 30V
<b>Volt free relay contacts/LEDs</b> <b>Power OK Signal</b>  <b>Charger fault</b> <b>Battery Overdischarge</b> <b>Battery Low Alarm</b> <b>Input Voltage Fault</b> <b>Battery Fault</b>	LED and TTL compatible signal-operates when any of the following alarms activated. Loss of charge current/battery voltage. Uses Internal Relay. 10V +/- 250mV 13.1-15.75V 9V	
		20V +/- 500mV 26.2-31.5V 18V

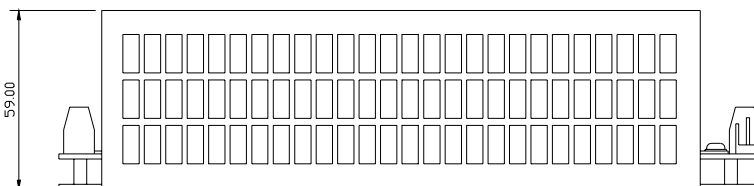
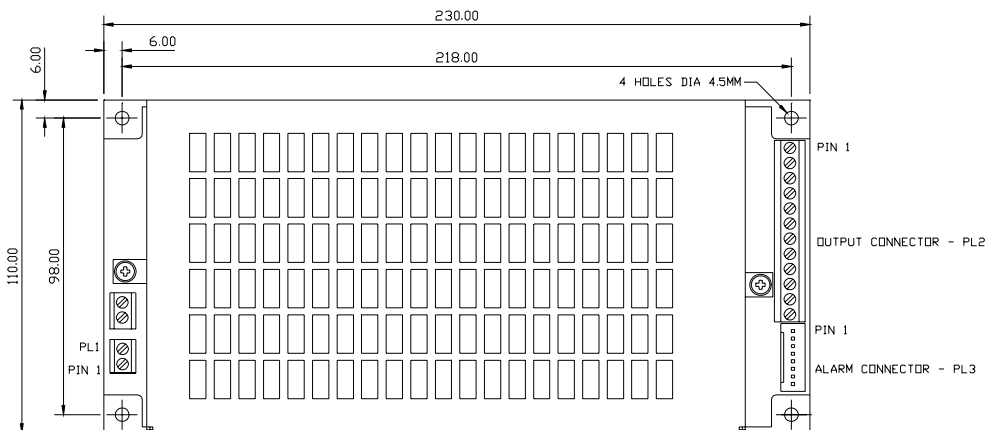
<b>EMC</b> <b>Susceptibility</b>	EN50082-1 Emissions EN50082-2 Immunity EN61000-4-2 ESD EN61000-4-3 Radiated Electromagnetic Interference EN61000-4-4 Fast Bursts EN61000-4-5 Voltage Transients - Slow High energy
<b>Environmental</b> <b>Ambient Operating Temp</b> <b>De-rating @ 2.5% per °C</b> <b>Storage Temperature</b>	-20°C to +50°C (No De-rating) +50°C to 70°C ambient -30°C to +85°C
<b>Connectors</b> <b>Input</b> <b>Output</b> <b>Signals</b>	Screw terminals Screw terminals Molex
<b>Input Voltage</b> <b>Input Frequency</b> <b>Input Current</b>	120V/230V AC RMS Nom (Link selectable) 47 - 63Hz 2.9A rms typ @ 110V 1.6A rms typ @ 230V
<b>Input Fusing</b>	PCB Mounted fuse T4A, 250V AC HRC UL/CSA Approved - non-user replaceable.
<b>Inrush Current</b>	Max limited to <30A peak Cold start 20°C ambient - 265V AC
<b>Efficiency</b>	>75% under all loads line and environmental conditions
<b>Battery Input</b> <b>Battery Fusing</b>	Protected by reverse parallel diode & fuse T10A

\* - TOTAL POWER MUST NOT EXCEED 170W.

Model Numbers: 14669-000 12v  
14575-000 24v  
14613-000 Din Rail Kit

### External Connections

- PL1**  
Pin 1 Live  
Pin 2 Neutral  
Pin 3 NC  
Pin 4 Earth  
Pin 5 Earth
- PL2**  
Pin 1 V02 Battery +ve  
Pin 2 V02 Battery -ve  
Pin 3 V01 Main +ve O/P  
Pin 4 V01 Main +ve O/P  
Pin 5 0v  
Pin 6 0v  
Pin 7 Thermistor  
Pin 8 Thermistor  
Pin 9 Power OK TTI Alarm  
Pin 10 Battery Defeat  
Pin 11 Battery Defeat  
Pin 12 Ext Charge Disable
- PL3**  
Pin 1 N/C  
Pin 2 N/C  
Pin 3 N/C  
Pin 4 External OK LED  
Pin 5 External Fault LED  
Pin 6 Battery Low  
Pin 7 Signal 0V  
Pin 8 N/C



## Oracle Series 200w Battery Backed Power Supply

- 300W Peak Capability
- Auto-ranging Input, AC - DC Switch Mode PSU.
- 12 or 24v Models.
- Intelligent battery charging.
  
- Overload & Short Circuit Protection.
- Current Limit & Polarity Protection.
- Overvoltage Protection  
(Main equipment and battery).
- Undervoltage Lockout Protection.

### Options

- Boost & Cyclic Charge Modes.
- Optional Auxiliary Output.
- Optional serial communications.
- Interchangeable Din Rail, Panel Mounting.
- PCB Conformal Coating Available.

### Standards

- CE, EMC & EN60950 Compliant.

## General Features.

The Oracle III 200 provides a flexible platform and is configurable to suit a wide range of applications.

The temperature compensated, intelligent adjust battery circuit can be set to a maximum of 5A for a rapid recharge whilst the 'powershift' software can be used to auto reduce the charge level if the current is required for the main load.

Built-in protection circuitry guards against: short circuit overloads, current limits, reverse polarity, over & undervoltages, battery disconnection and low battery conditions.

The unit is supplied standard with convection cooling at 200watts and can be fitted with a temperature controlled fan option to extend the operating temperature and the power output to 250watts continuous.

Over temperature conditions are controlled by reducing the battery charge current automatically at high temperatures.

### Status Monitoring:

LEDs are provided for local monitoring of system status, along with the options of RS232/RS485, Canbus and Devicenet communications.

The serial port is designed to connect directly to other hardware for incorporation into a SCADA System or can be used to download data to a pc or similar device.

LEDs and fault relays can be mapped to a number of fault and status conditions.

As with all products, custom specifications can be engineered upon request.



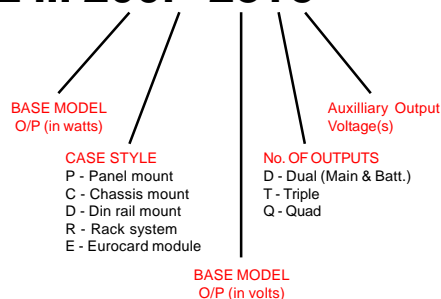
	12V UNIT	24V UNIT
<b>DC Output Voltages</b>		
V01 Main O/P (Continuous) (Maximum)	14.4V @ 12.0A 14.4V @ 18.5A	28.75V @ 7.0A 28.75V @ 10A
V02 Battery Charge O/P (Temperature Compensated)	200W - 13.7V @ 0-10A	200W - 27.4V @ 0-5A
V03 Auxiliary O/P	See configuration chart	See configuration chart
<b>Line Regulation</b> (full load)	<0.5%	<0.5%
<b>Load regulation</b>	<1%	<1%
<b>Overload Protection</b>		
V01 (Primary power limit)	<b>Nominal 320w</b> Selectable 0-10A	<b>Nominal 320w</b> 0-5A
V02 (Constant current limit)		
<b>Over voltage Protection</b>		
V01 Voltages exceeding	16V	32V
V02 Voltages exceeding	16V	32V
<b>Volt free relay contacts/LEDs</b>	See configuration chart	See configuration chart

<b>EMC</b>	EN50081-1 Emissions EN50082-2 Immunity
<b>Connectors</b>	
<b>Input</b>	5 way, 5.08mm 90° Klippon
<b>Output - V01</b>	2 way, 5.08mm 90° Klippon
<b>- V02</b>	2 way, 5.08mm 90° Klippon
<b>- V03</b>	2 way, 5.08mm 90° Klippon
<b>Signals</b>	6 way, 3.5mm 90° Klippon
<b>External Thermistor</b>	2 way, 5.08mm 90° Klippon
<b>Input Voltage</b>	85V - 264V AC autoranging
<b>Input Frequency</b>	47 - 63Hz
<b>Input Fusing</b>	T6.3A
<b>Inrush Current</b>	<20A peak
<b>Efficiency</b>	>75% under all loads line and environmental conditions
<b>Battery Input</b>	External fuse is required

**Ordering information:**

# ORACLE III 200P-28T5

\*Note: Option suffixes are added at the end of order description, eg. B-S1A for battery test and Modbus, top mount serial port - see options above.



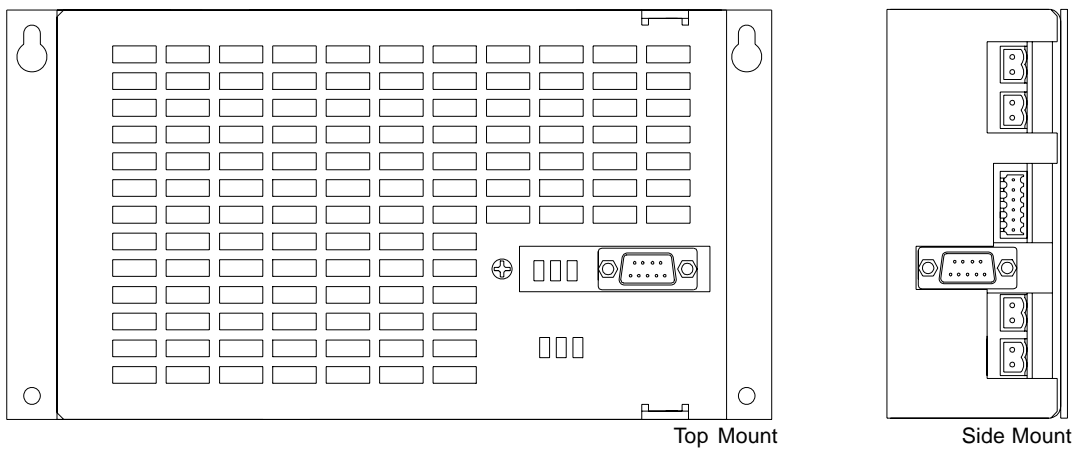
**Configuration Chart (Features explained)**

Feature	Option	Description
Battery Backed	Standard	Internal diode maintains output with no interruption on loss of mains supply.
Auxilliary Output	Option T'x'	Auxilliary output, available in several Voltage/Current configurations as standard. Other output configurations are available on request. T5= 5V @ 4A, T12= 12V @ 3.3A, T24= 24V @ 1.9A
Battery Test	Option B	Battery test offers the user the option of testing the battery at factory set, or user defined (with a serial communications option) intervals. Battery test software is available for a wide range of batteries, from several manufacturers.
Serial RS232 Comms	Option S'xx'	Serial RS232 communications is available in two formats in a range of protocols. Available in "monitoring only" or "configurable data" (option C below). S1x = ModBus, S2x = DeviceNet, S3x = Canbus, S4x = IrDa The card provides two volt free relays as standard.
Configurable data	Option C	Configurable data allows the user to input system parameters data using a laptop or terminal via the RS232 link. Allows the selection of parameters such as battery type, battery test interval, battery current limit etc.
Volt Free Relays / LED's	Option V	An Additional Volt Free Relay card is available as an alternative to the Relays RS232 card to provide signal outputs. These can be functionally defined at the factory in software to user requirements.  Standard on-board Volt Free Relays are 'Battery Fault' and 'PSU Present'. Standard LED's are 'PSU OK', 'BATT OK' & 'BATT LOW' (The 'BATT LOW' LED flashes when charging.)

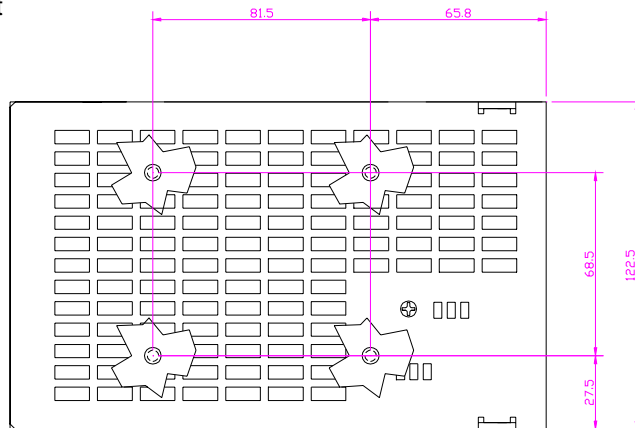
**Connection details:**



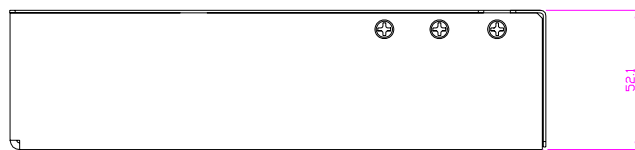
**Optional Serial Communications Socket Mounting Positions:**



**General Arrangement Diagram:**  
Chassis Mount Format

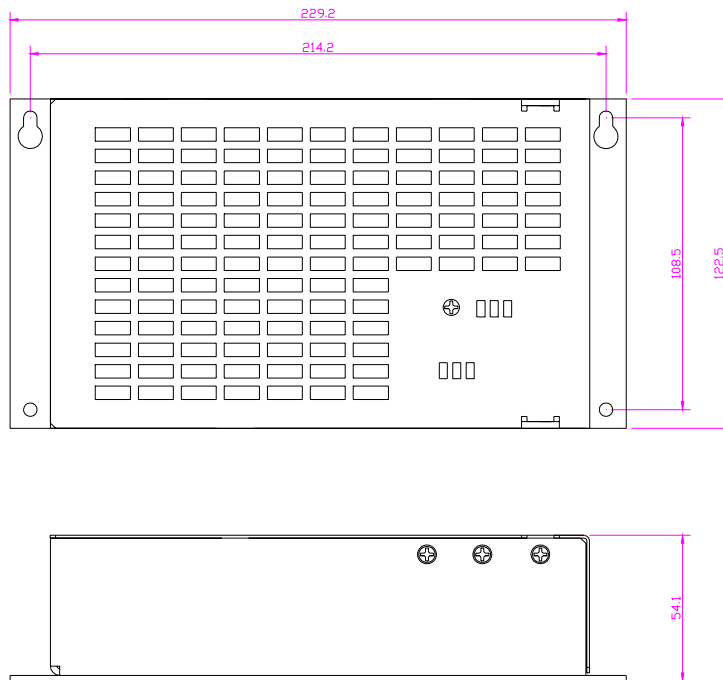


**Mounting information**  
4 mounting bushes M3, screws should not penetrate the unit chassis by more than 5mm.

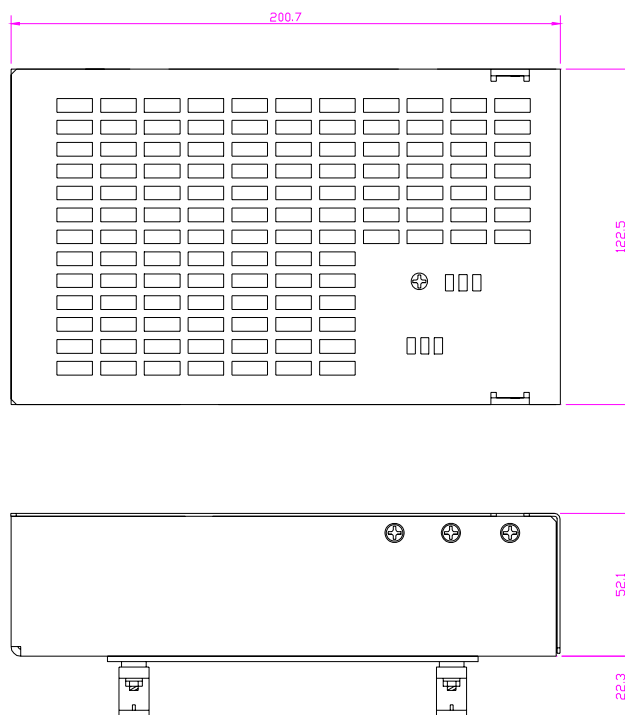


Note: Add 25mm to overall height for thermo fan option.  
Adequate airflow through the unit must be provided for all configurations.

**General Arrangement Diagram:**  
Panel Mount Format



**General Arrangement Diagram:**  
Din Rail Mount Format



## Oracle Series 560w Power Supply & Battery Charger

- Operable in Mains-Free Standby Mode
- Boost & Cyclic Charge Modes
- Configurable via RS232/485
- Temperature Compensated Charge Cycles
- CE & EMC Compliant



### Product Details

#### Built on Success:

The Oracle 560W PSU is designed for critical locations where you can't afford downtime. Its fully configurable interface links to industry standard PC software and hardware, just set it up and walk away.

Using existing communications equipment the whole assembly, including auxiliary equipment and back-up batteries, can be remotely monitored giving you peace of mind and a source of valuable data on the continuity of your service.

The unit will run test procedures automatically or upon a manual request.

#### Easy Installation:

A small footprint and a low mass brings the advantages of flexible mounting options. The unit's built-in, intelligent cooling abilities enhance this further by enabling mounting in less than favourable locations.

Connecting the PSU couldn't be simpler. A standard IEC cable feed from the mains, while inexpensive Phoenix and Klippon - BLC connectors provide for other equipment. Interface connections are made using the universal RS232 standard.

Other connections options may be made available upon request.

#### Robust Design:

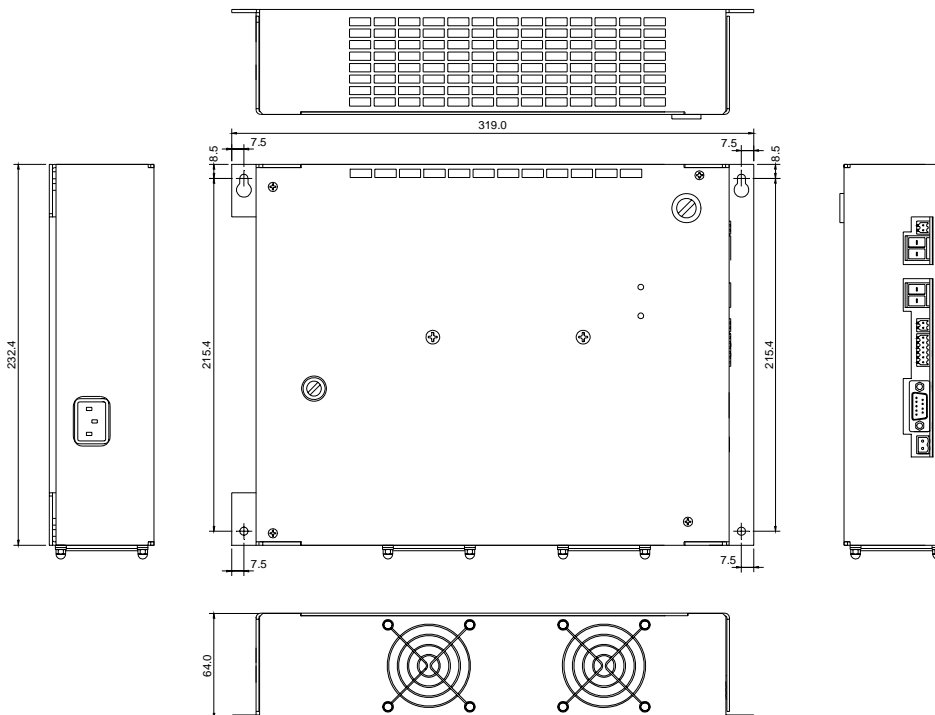
Efficient self-cooling coupled to 'Engineered' electronic and mechanical protection provides for a supremely robust system capable of consistent high-powered running at optimum efficiency, whilst still maintaining high levels of serviceability.

As with all our products, custom specifications can be engineered upon request.

<b>DC Output Voltages</b> V01  V02 V03	28V max 22.8V min (Dependant on battery charge voltage) Battery voltage 1.3V max when running from standby battery 27.4V +/- 0.2V at 20°C 5mA Float current. Temperature compensated float voltage 12V +/- 0.2V
<b>DC Output Current</b> V01 V02 V03	20A max when battery charge not required Up to 10A max (Software selectable) 2A max continuous
<b>Line Regulation</b> (Full load) <b>Load Regulation</b> V01 V02 V03 <b>Output Ripple &amp; Noise</b> PSU load = 560w, nominal input 240V rms Ripple-Mains & Switching	0.5% max all outputs  300mV max over the range 0 - 10A N/A 150mV max over the range 0 - 2A  150mV Ripple 300mV pk-pk noise (0 - 30 MHz)
<b>Input Voltage</b> Input Frequency Input Current  Inrush Current (Hot/Cold start)  Fusing PSU Fusing Battery  Efficiency at 560W Output	90 to 264V rms 45 to 66Hz 9A rms max at 90V 3.2A rms max at 240V <10A Peak at 240V rms  10A, 250V AC HRC Fuse 20A, 250V F HRC Fuse  >75% min at 110 - 264V Input (20 to 25°C ambient) 70% min at 90V

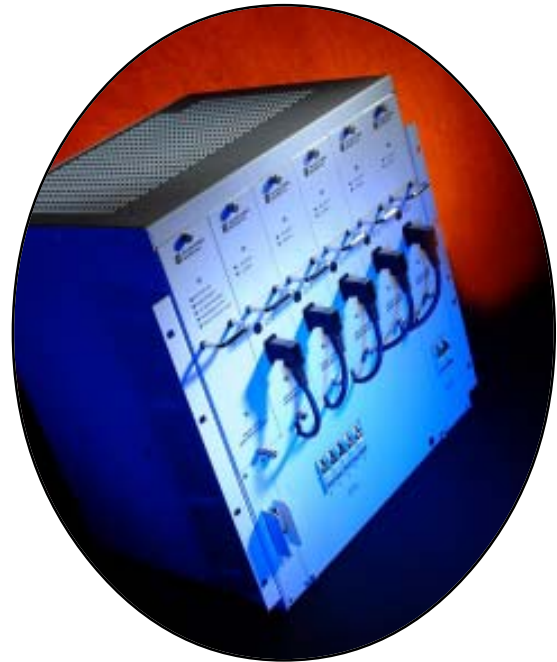
Model Number: 14653-000

<b>EMC</b>  <b>Safety</b> <b>Mean Time to Failure</b>	EN50081-2 Emissions EN50082-2 Immunity/Susceptibility Meets EN60950 Not less than 45,000 Hours in the specified environment.
<b>Environmental</b> Ambient Operating Temp Storage Temperature Humidity Vibration	-10 to +50°C -20 to +85°C 5 - 95% non-condensing 0.5g at 10-50 Hz on each axis
<b>Earthing PSU</b> <b>Negative Earth Battery</b> <b>Positive Earth</b>	Negative earth Negative earth Unit can operate in a +ve earth environment but only one source must be earthed. Either the PSU or the Battery can be +ve earthed but NEVER both simultaneously.
<b>Battery Test</b>  <b>Test Limits</b>  Load at test	Can be set to automatic or manual via RS232 port Configured via serial port. Dependant upon battery capacity Fixed at 2.1A
<b>Communication</b> Baud Rate Data Bits Parity Stop bit Protocols	RS232/485 Data Port Available 9600 baud (internally set) 8 Odd 1 1. Terminal Communications Mode 2. MODBUS A full Data Port specification is available on request
<b>Connectors</b> Mains Input System V01 Battery V02 Thermistor Bat Low / Mains Fail Serial Aux V03	3 pin IEC Phoenix, PC4/2-ST-7,62 max Ø 4mm² Phoenix, PC4/2-ST-7,62 max Ø 4mm² Klippon BL3.5/2 max Ø 1.5 mm² Klippon BL3.5/6 max Ø 1.5 mm² 9 way Male D RS232 Klippon BL5.08/2 max Ø 1.5 mm²



## Oracle Series 2400w Cascadable PSU with Battery Management

- Operable in Mains-Free Standby Mode
- Boost & Cyclic Charge Modes
- N+1 Redundancy
- Power Sharing & Hot Swapable
- Configurable via RS232/485
- 19" Rack Mountable
- CE & EMC Compliant



### Product Details

#### **Engineered For Performance:**

Setting the standard for mission-critical, high-powered output the Oracle Series Cascadable unit houses up to FIVE individually configurable 540W PSUs.

Modular design gives N+1 redundancy allowing on-line replacement of individual PSUs. Even the system management card is removable for minimum down times.

#### **Configurable Output:**

Each Cascadable PSU can be configured to match your needs using standard PC hardware and Microsoft Excel software.

The same interface can be used to simply monitor the equipment providing you with valuable data on the continuity of your service.

#### **Easy Installation:**

With three interchangeable heavy-duty mounting options the Cascadable PSU can find a home in almost any enclosure.

Built-in high capacity cooling ensures efficient and consistent operation in less than favourable locations.

As with all our products, custom specifications can be engineered upon request.



<b>DC Output Voltages</b> V01 System Supply Output.  V02 Battery Charger Output.	28V max 22.8V min (Dependant on battery charge voltage). Battery voltage -1V max when running from standby battery. 27.2V+/- 0.2V at 20°C 5mA Float current. Temperature compensated float voltage.
<b>DC Output Current</b> 20A per module, Split between V01 & V02 to the following limits: Rack Total V01 Rack Total V02	0 - 65A (requires 4 modules) 0 - 45A (requires 3 modules) (Default V02 setting = 10A)
<b>Line Regulation</b> 90 - 246V RMS <b>Load Regulation</b> V01 V02 <b>Output Ripple &amp; Noise</b> <b>PSU load = 560w,</b> <b>nominal input 240V rms</b> Ripple-Mains & Switching	0.5% max all outputs.  300mV max over the range 0 - 10A. N/A.  150mV Ripple (0 - 500Khz). 300mV pk-pk noise (0 - 30 MHz).
<b>Input Specification</b> <b>AC Voltage</b> AC Frequency Input Current per Module  Inrush Current (Hot/Cold start)  Fusing PSU per module Isolation Efficiency at 560W Output	90 to 264V rms. 45 to 66Hz. 9A rms max at 90V. 3.2A rms max at 240V. Max inrush current I <sub>td</sub> to > 15A peak @240V RMS. 18A peak @90V RMS 10A, 250V AC HRC Fuse. 65A Front Panel Mounted Isolator. >75% min at 110 - 264V Input (20 to 25°C ambient) 70% min at 90V.
<b>DC Input 24V Lead Acid Battery</b> DC Current Protection Reverse Protection  Over Discharge Protection	20 - 30V Nominal input range. 65A Max. Dependant on system load. 80A DC. Circuit Breaker Integral protection against reversed polarity connections. Automatic battery disconnect below 20V
<b>Dimensions (Approximate)</b> Width Height Depth Weight Management Card Module PSU Module Cascadable Chassis Weight + 6 modules	435mm. + Close profile bracket = 570mm 490mm. 360mm. + Close profile bracket = 380mm  1.0Kg 2.4Kg 21.0Kg 46.0Kg

<b>EMC</b>  <b>Safety</b>	EN50081-2 Emissions. EN50082-2 Immunity/Susceptibility. Meets EN60950.
<b>Environmental</b> Ambient Operating Temp Storage Temperature Humidity Ingress Protection	-10 to +50°C. -20 to +85°C. 5 - 95% non-condensing. IP41.
<b>Earthing</b> Negative Earth	Earthed at either or, both the battery and the power supply.
<b>Battery Test</b>  <b>Test Limits</b>  Load at test	Can be set to automatic or manual via RS232 / RS 485 port. Start voltage, duration & max deviation. Configurable via RS 232 / RS 485. Fixed at 6A.
<b>Communication</b> Baud Rate Data Bits Parity Stop bit Protocols	RS232/485 Data Port Available 9600 baud (internally set) 8 Odd 1 1. Terminal Communications Mode 2. MODBUS A full Data Port specification is available on request
<b>Cable Specifications</b> Battery power cables Mains supply cables Output Cables	80A rated, 10mm <sup>2</sup> minimum. 25A rated, 2.5mm <sup>2</sup> minimum. 50A rated, 6mm <sup>2</sup> minimum. 20A rated, 2.5mm <sup>2</sup> minimum. 65A rated, 10mm <sup>2</sup> minimum.
<b>Connectors</b> Mains Input  Earth V01 +ve  V01 -ve (30Volts) Thermistor Battery Sense Bat Low / Mains Fail RS 485 Serial RS232 Battery Switch Battery Input	63 Amp Screw down, circuit breaker. max Ø 16 mm <sup>2</sup> 6mm Stud. 20 Amp Screw down, circuit breaker. max Ø 16 mm <sup>2</sup> . Screw down terminal block. max Ø 16 mm <sup>2</sup> . Klippon BL5.08/2 max Ø 1.5 mm <sup>2</sup> . Klippon BL5.08/3 max Ø 1.5 mm <sup>2</sup> . Klippon BL3.5/6 max Ø 1.5 mm <sup>2</sup> . Klippon BL3.5/3 max Ø 1.5 mm <sup>2</sup> . 9 way Male D. 80 Amp. Weidmüller, din rail mounted connector. max Ø 33 mm <sup>2</sup> .

Model Number: 14665-000

