



RackMS SOLUTION

AN 'OUT OF BOX' PROFESSIONAL SOLUTION



PROFESSIONAL POWER & ENVIRONMENTAL MONITORING SOLUTION

SUMMARY OVERVIEW

As part of Unite Technologies' continued commitment to the provision of fully integrated power, environmental and security monitoring solutions into the data centre space, Unite has launched its' new Professional Rack Management Solution, RackMS. The new RackMS is an easy to install, 'out of the box', ready to run solution, deployed on a per rack basis, to monitor, alert and manage 'real time' power in both legacy and new build data centres. Utilising the highest levels of enterprise platform technology and best in class monitoring accuracy of better than 1% at outlet level, the RackMS solution requires fewer IP addresses and brings greater resilience and higher reliability than many of the other IP based power distribution solutions currently within the marketplace.

Greater resilience and higher reliability are achieved as the RackMS has been developed in line with Unite's unique design philosophy. By moving the intelligence/electronics which supports the power strip functionality out of the power strip and into the RackMS platform, the need for an internal power supply to the strip is eliminated. This ensures there is no compromise to resilience nor that any unacceptable operational disruption and downtime caused by elevated exhaust temperature fluctuations from the rack Servers is introduced.

The Professional Rack MS solution is also fully scalable and future proofed for enhanced and automated reporting.

KEY FEATURES

RackMS Solutions

- Easy to use, 'out of the box' modular solution.
- Single Part Number System
- Enables monitoring of RMS Volts, RMS Amps, kVA, kW, kWhrs, Power Factor and Frequency.
- Best in class monitoring accuracy – better than 1% at the outlet.
- High reliability utilising 'enterprise' platform technology for greater resilience.
- Supports up to two power strips and four auto sense sensors per rack.
- Requires only one IP address per rack.
- A choice of two power devices per rack, either:
 - Intelligent power strip functionality; aggregated monitoring/control, per outlet monitoring or outlet control.
 - 'Non-Invasive' monitoring devices for legacy data centre applications.
 - In-Line 'Intelligent IQ-Adaptor for unrivalled monitoring or any 3rd party non-intelligent power strips.
- Two temperature sensors provided as standard.
- Two spare sensor ports with an optional choice of sensors, which can be retrofitted at any time.
- Easy to install 'client' based monitoring software included.
- Fully scalable for enhanced and automated reporting.

Other Unite product sheets:

CL-Amp	Link Box Distribution Unit	Intelligent Power Strips
Eagle-i	Hawk-i ³	Sensors

To order these call the NBM Sales Team on 01923 270301 or email sales@nbm-distribution.co.uk



THE SOLUTION

As an all in one, 'out of the box' solution, the 'Professional' RackMS is a modular solution, supporting four sensors and any two of the following power devices:

- Intelligent power strips, monitoring RMS Volts, RMS Amps, kVA, kW, kWhrs, Power Factor and Frequency with better than 1% accuracy at outlet level.
- 'Non-invasive' CL-Amps to monitor Amps in legacy data centres where zero power downtime is paramount.
- In-Line Intelligent Adaptors to bring intelligence to any 3rd party non-intelligent power strips, monitoring RMS Volts, RMS Amps, kVA, kW and kWhrs, Power Factor and Frequency.

This solution requires only one single IP address, as opposed to many of the solutions on the market which utilise multiple IP address per cabinet. Two temperature sensors are provided as standard with the two other spare sensor ports and the optional ability to monitor either temperature, humidity, voltage free contact switches or analogue 0~10VDC inputs; sensors which can be retro-fit at any time.

To further enhance the RackMS solution, a simple client software application, is included, known as Env-U3. Env-U3 provides both a live and historical view of current, temperature and humidity data readings, in addition to providing simple trending information of the parameters monitored where basic management reports can be easily created and exported into Excel or CSV formats.

COMPONENT PARTS OF THE SOLUTION

RACKMS MANAGEMENT PLATFORM

As part of the 'Professional' 'out of the box' solution, it is the RackMS platform which is used to power either the Power strips, 'non-invasive' CL-Amps or In-Line IQ-Adaptors and read the associated data. The RackMS is a cost effective power and environmental monitoring and control solution, which enhances the Unite Technologies family of channel specific product portfolio, taking zero 'U' height.

The RackMS has specifically been designed with simplicity in mind, to provide single rack level power and environmental monitoring, using a single IP address.

Ideal for single cabinet installations, the RackMS supports up to two Power Strips, two CL-Amps or two IQ-Adaptors.

In addition, four environmental input sensors are supported, two temperature sensors are provided as standard and the other two spare sensor ports can be any combination of optional temperature, humidity, voltage free contact switches or analogue 0~10VDC inputs.

PRODUCT FEATURES

RackMS Platform

- Installed at zero 'U' height.
- Requires one single IP address.
- SNMP agent optimised for single rack management.
- Allows up to two power strips or two IQ-Adaptors, monitoring RMS Volts, RMS Amps, kW, kVA, kWhrs, PF and Hz.
- Alternatively two 'non-invasive' CLAmps, monitoring amps, can be monitored.
- Allows up to four auto sense analogue input channels per cabinet. Two standard temperature sensors and the other two ports can be any combination of temperature, humidity, voltage free contact switches or analogue 0~10VDC inputs.
- HTTP/HTTPS web interface for management and power strip control.
- All alarm thresholds can be user defined and configured through an easy to use web interface or managed via SNMP for configuration and monitoring.



POWER MONITORING DEVICES

The RackMS professional solution allows the monitoring of two IP based power strips, two 'non-invasive CL-Amps or two in-line IQ-Adaptors.

INTELLIGENT POWER STRIPS

The Unite intelligent power strips provide a modular and flexible solution for the 'real time' remote load monitoring and management of today's power and energy needs to mission critical and remote equipment, where zero down time and maximisation of operations are a pre-requisite.

The Unite power strips have an accuracy of better than 1% at outlet level and have been developed in line with Unite's design philosophy, meaning power is derived from the management platform.

Power strips are available in 16A and 32A in a range of 8, 16 and 24 way and are supported in the following power strip formats:

MOUNT	AMP	MONITOR TYPE	C13	C19	FUSE/NEON	FEED
Horizontal	16A	Monitor & Control	8	0	Ind Neon	Rear
Horizontal	32A	Monitor & Control	8	0	Ind Neon	Rear
Vertical	16A	Monitor & Control	14	2	Ind Neon	Both
Vertical	32A	Monitor & Control	14	2	Ind Neon	Both
Vertical	16A	Monitor & Control	21	3	Ind Neon	Both
Vertical	32A	Monitor & Control	21	3	Ind Neon	Both
Horizontal	16A	Monitor Only	8	0	No F/N	Rear
Horizontal	32A	Monitor Only	8	0	No F/N	Rear
Vertical	16A	Monitor Only	14	2	No F/N	Both
Vertical	32A	Monitor Only	14	2	No F/N	Both
Vertical	16A	Monitor Only	21	3	No F/N	Both
Vertical	32A	Monitor Only	21	3	No F/N	Both
Horizontal	16A	Per Outlet M&C	8	0	Ind Neon	Rear
Horizontal	32A	Per Outlet M&C	8	0	Ind Neon	Rear
Vertical	16A	Per Outlet M&C	14	2	Ind Neon	Both
Vertical	32A	Per Outlet M&C	14	2	Ind Neon	Both
Vertical	16A	Per Outlet M&C	21	3	Ind Neon	Both
Vertical	32A	Per Outlet M&C	21	3	Ind Neon	Both
Horizontal	16A	Per Outlet Monitor	8	0	No F/N	Rear
Horizontal	32A	Per Outlet Monitor	8	0	No F/N	Rear
Vertical	16A	Per Outlet Monitor	14	2	No F/N	Both
Vertical	32A	Per Outlet Monitor	14	2	No F/N	Both
Vertical	16A	Per Outlet Monitor	21	3	No F/N	Both
Vertical	32A	Per Outlet Monitor	21	3	No F/N	Both
Both	-	CL-Amp	-	-	-	CLAMP
Vertical	16A	IQ-Adapter	-	-	No F/N	Rear
Vertical	32A	IQ-Adapter	-	-	No F/N	Rear

PRODUCT FEATURES

Intelligent Power Strips

- Monitors amps, volts, kW, kVA, kWhr, PF and Hz via digital display power balancing ensuring the individual phases available within the data centre are correctly balanced helping prevent infrastructure failure and makes more efficient use of power delivery components.
- Better than 1% accuracy at outlet level.
- Available in 16 & 32A load ratings
- A choice of aggregated monitoring, aggregated monitoring and control, per outlet monitoring and per outlet monitoring and control.
- Supports a wide range of socket outlets. Up to 24 outlets per strip, compatible with C13, C19, Shuko & UK13A.
- Sockets angled for optimum cable dressing.
- Optional remote power cycling of up to a maximum of 24 individual outlets. Sequential power-up protects against inrush current.



'NON-INVASIVE' CL-AMP

The CL-Amp is a unique innovative new product, designed and manufactured by Unite Technologies, to provide the urgently needed 'non-invasive' and retrofit current monitoring solution into retrofit, legacy and new build data centres.

For the purpose of the 'out of the box' RackMS solution, the CL-Amp is powered by the RackMS platform, which also provides the necessary communication link to the CL-Amp, allowing the measured electrical current to be read.

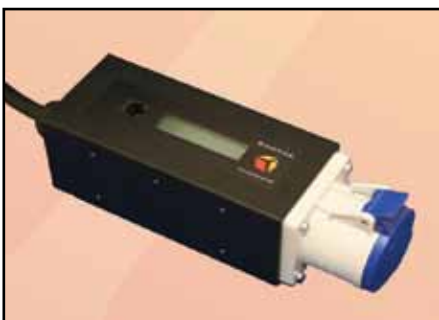


The CL-Amp enables the 'non-invasive' real-time monitoring of current for any device or power strip, rated up to 32A. Devised with an open fork in the high quality and robust plastic, it is placed directly over a power cable with a choice of locking-ring collars to suit most international 13A, 16A and 32A cable sizes provided.

Local and remote monitoring is achieved by connecting the CL-Amp to the RackMS monitoring device, with local monitoring via an integral LED display on the CL-Amp.

IN-LINE IQ-ADAPTOR

Unite's In-Line IQ-Adaptor is a quick and simple solution to bring monitoring functionality to 'non-intelligent' power strips. As a unique and retrofit solution, it sits between the power supply and existing power strip to optimise power consumption; measuring real time RMS Volts, RMS Amps, kVA, kW, kWh, PF and Hz in legacy and new build data centres.



The professional RackMS solution can monitor two IQ-Adaptors per rack, allowing a real time and consolidated view of your energy status. This consolidation of granular information and monitoring accuracy provides flexible energy usage, management and control.

PRODUCT FEATURES

'Non-Invasive' CL-Amp

- Current measuring range 1.0 Ampere to 60 Amperes.
- RS232 / RS485 Communication link to the RackMS management platform. Providing SNMP data collection, monitoring, and configuration of the CL-Amp.
- RJ45 connector for direct connection to RackMS unit.
- 12V DC power supply @60mA supplied direct from the RackMS platform.
- Cable collars supplied to support: 8mm, 10mm, 12mm, 13mm, 14mm, 15mm, 16mm & 18mm diameter cables.
- Local LED display provides two digit readout.
- Can be calibrated to cable types to provide typically $\pm 3\%$ accuracy Ampere current readings.

PRODUCT FEATURES

In-Line IQ-Adaptor

- Available in 16A and 32A.
- Single Phase and Three Phase Solutions.
- Designed to be installed between mains power supply and power strip.
- Ability to set alarm thresholds via the SNMP RackMS platform to provide management and trend reporting.
- Can be freestanding or supplied with mounting plate without the use of valuable 'U' space.
- RS485 communication link to the RackMS management platforms.
- Available in a variety of sizes and configurations.

ENV-U3 CLIENT APPLICATION

Env-U3 is an 'in-house' developed client application, included as part of the 'out of the box' RackMS solution to provide both a live and historical view of current, temperature and humidity data readings, coupled with simple trending information of the parameters monitored, allowing basic management reports to be easily created and exported into Excel or CSV formats.

The Env-U3 application is intended to collect all data and readings from the RackMS device. Using standard SNMP protocol, Env-U3 will monitor up to a maximum of 60 networked power devices.

Based on Microsoft .NET framework version 2.0, Env-U3 is capable of logging any SNMP alarms which are generated by the management platforms.

The management platforms will be polled at regular intervals and the read data collected and stored in the applications database at one minute intervals, for a maximum of 186 days.

PRODUCT FEATURES

Env-U3 Client Application

- Simple client based application.
- Uses standard SNMP protocol to support the RackMS device.
- Supports up to a maximum of 60 power devices.
- Polls devices and creates and logs SNMP traps as alerts.
- Live and historical view of data.
- Simple trending information and management reports.

