

CHLORIDE

Secure Power Always

Connectivity solutions



Central monitoring integration - automated incident response - trend analysis

Data centres



Profile

Large data centres are typically powered by redundant power feeds covered by redundant UPS, backed by generators. In smaller data centres, a single UPS may be the only defence against downtime from utility failures.

Server Consolidation and Mainframe Migration promise lower costs, greater flexibility - and new problems.

Unified infrastructure monitoring

Heat from high density server racks and blade frames can result in hotspots that reduce server life and reliability.

Safe server shutdown & load shedding

Today's data centre staff are outnumbered by server computers. Instead of one or two servers powered by a small rack UPS, multiple server racks share a central or zone UPS.

Needs assessment

- Would unified monitoring of power, environment and related physical infrastructure give you the insight you need without the complexity of multiple monitoring systems?
- Do you need to shut down servers automatically before UPS batteries are depleted during a prolonged outage or when room or enclosure temperatures exceed a threshold?
- Would it be helpful to shutdown less essential servers sooner during an extended power fail, to reserve battery capacity for business-critical servers?
- You have a parallel/redundant UPS system. Who should be notified by e-mail when situations develop that threaten redundancy in the power delivery system?



Solutions for data centres

Chloride offers several families of mid and high power UPS and static switches for large and small data centre projects.



MopUPS P/R is software that installs on a server computer to monitor multiple UPS modules configured as a *parallel or redundant system*. P/R watches for system events and module events including lost redundancy due to load changes or module faults. MopUPS P/R will shutdown the host server safely, as well as other servers on the network, when events threaten power availability.



MopUPS NSA (Network Shutdown Agent) is software that installs on server computers to listen on the network for a shutdown signal from MopUPS P/R or ManageUPS NET ADAPTER. Sequenced automated shutdown of less critical server groups reduces the load on the UPS and extends battery time to the most critical servers and network infrastructure.



ManageUPS NET ADAPTERS

For smaller, stand-alone facilities with a small number of UPS, ManageUPS adapters are a complete UPS monitoring and management tool with embedded e-mail alert sender, WEB server, network server shutdown controller and on-board event/data logging.

Optional Environment Sensor monitors ambient temperature and humidity plus three inputs for monitoring status of generators, air conditioning units, enclosure doors or other devices that communicate status via standard volt-free relay contact points.

For large facilities with enterprise monitoring systems for ICT Network or Building Infrastructure, ManageUPS adapters host UPS management agents that support SNMP or MODBUS-TCP over ethernet, or Modbus-RTU (JBUS) over RS232/422/485 networks. ManageUPS adapters also host optimized management agents for central monitoring of distributed UPS via Chloride's ManageUPS CIO.



ManageUPS CIO software for central management of multiple UPS and Environment Sensors in larger or multiple data centre facilities. A multi-level pin map helps visualize problem spots by country, city, building or room floor plan.

Total solutions approach

Secure power consultancy

Chloride works closely with facilities managers, consultants, contractors and power specialists to ensure that secure power is designed in from the start.

Our project management teams work alongside customers to manage your complete project rollout and ensure a successful implementation.



You can rely on our comprehensive power consultancy team to audit requirements and propose solutions.

Each Data Centre, Server Room, Facility Complex or Remote Location is different - different systems from different vendors, supporting different business processes.

Each Facilities Management and ICT team have different priorities, policies and methods.

Monitoring systems integration

Facilities and ICT teams may each want to monitor UPS status through separate building and network monitoring systems.

Automated incident response

The ICT team may want automatic safe shutdown of server computers during extended mains failures, environment over-temperature situations or other faults.

Facilities team may want UPS powered off after servers have been secured to reduce heat generation when air conditioning systems are without power.

Incident notification

Network operations managers, server administrators, help desk personnel or facilities managers - each want to be notified of incidents that threaten uptime in their area of responsibility.



Needs assessment

- Who needs to know about incidents that put power availability at risk?
- Should we integrate UPS status into systems for building monitoring, network monitoring or both?
- Are there other parts of the critical infrastructure that should be monitored along with the UPS?
- Have we provided for automated safe shutdown of server computers during extended mains fail?

Whatever the situation or requirement, Chloride Connectivity Specialists are ready to help with planning and installation of best practice solutions for both ICT and Facilities Management communities.



Distributed UPS in campus or building complexes

Profile

Education, Healthcare, Manufacturing, Research and Office facilities are complex networks with distributed UPS modules in many locations.

Transportation networks present a similar challenge - a significant amount of real property with distributed power systems, managed by a small team of Facilities Managers.

Simplified monitoring optimized for UPS management

Full scale Building Monitoring and Control Systems can be expensive and complex. Chloride has elegantly simple yet effective solutions that allow central monitoring of alarm conditions, provide automated incident notification via email, and allow remote visibility of key performance measures.

Needs assessment

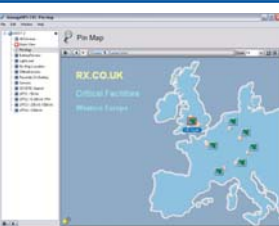
- Do your facilities power systems specialists need a central monitoring system that is simple to install and still lets them monitor power loadings, line voltage variations, battery usage history and current alarms in distributed UPS?
- Do you prefer to use the existing IT communications network to reduce cabling expenses and allow incident messages to be sent simultaneously to multiple communities who need to know?
- Would you like to consolidate messaging from simultaneous events to avoid alarm storms?
- Do you have existing 3rd-party UPS as well as Chloride UPS that you would like to monitor under one unified system?



Solutions for distributed UPS in campus building complex



ManageUPS NET ADAPTER is a *self contained remote monitoring system* for Facilities or ICT Managers responsible for a small number of UPS systems. Adapters provide for simple e-mail incident notification and remote access for follow-up via internet-enabled PDA.



ManageUPS CIO software for central management of multiple UPS and Environment Sensors.

The optional BACnet service module simplifies integration with higher level building monitoring systems.

UPS in remote branch locations

Profile

Government Service Offices, Restaurants, Convenience Stores, Hotels, Retail Banking and other remote site operations face a combined challenge:

- Facilities and ICT teams need to manage a significant and variably ageing asset base, comprised of hundreds of low power UPS systems, located in geographies far from central expertise.
- Hundreds of low-power UPS provide secure power to hundreds of customer-facing ICT systems that record financial transactions, report inventory flow and manage labour time tracking.

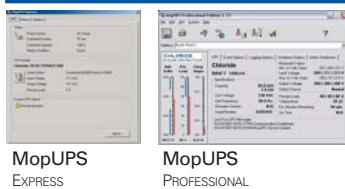
Needs assessment

- You plan to install software for UPS monitoring and safe server shutdown. How do you configure systems for remote locations - load a master system image at a staging lab, or use automated "bare metal" provisioning?
- Would it be useful if the UPS monitoring software works together with the UPS and server system to enable scheduled server shutdown and restart for periodic system grooming, energy saving or security?
- Would you like to receive an e-mail notification whenever incidents occur that may require investigation and corrective action to ensure UPS assets deliver expected ROI?.
- How will you keep track of the status of remote UPS? Would you be interested in evaluating a central monitoring system to help simplify this task?



Solutions for remote branch locations

Chloride offers several families of low power UPS at different price points and feature sets to allow cost/benefit matching that best suits specific project requirements.



Localized software is bundled with low power UPS in two editions:

MopUPS EXPRESS provides safe OS shutdown and system restart on power fail or low battery conditions. GUI and feature set is simplified for remote site personnel.

MopUPS PROFESSIONAL is network enabled, server shutdown and UPS monitoring software that supports scheduled system shutdown and restart and includes proxy agent functionality for integration with ManageUPS CIO or SNMP-based network monitoring systems.



Options for enhanced manageability and flexibility include;

Full Featured **ManageUPS NET ADAPTER** with embedded SNMP/WEB agent, Network Shutdown Controller, Event/Data Logging and optional Environment Sensor for unified infrastructure monitoring.

ManageUPS ValuePoint NET ADAPTER with embedded SNMP/WEB agent and essential management features.



ManageUPS CIO software for central management of remote-site UPS in wide area network environments with "always-on" TCP/IP connections between remote locations and central monitoring location.

Portfolio of solution elements

Chloride's Connectivity portfolio includes network adapters and software that work alone or together to deliver simple solutions to complex requirements.

Message:

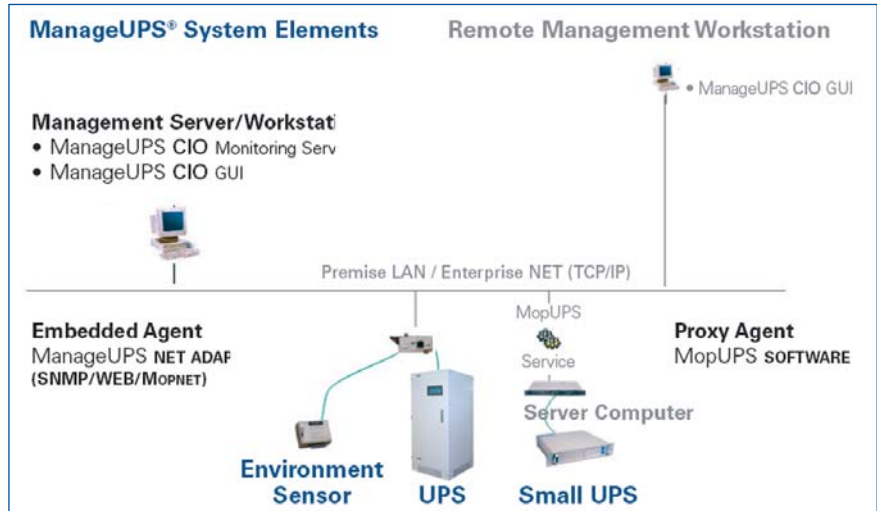
Automated messages on faults or events.

Manage:

Incident history logged for event correlation, system improvement and maintenance planning.

Shutdown:

Safe server shutdown on power or environment faults to protect data and equipment.



ManageUPS adapter and MopUPS Professional software can each be complete UPS monitoring solutions for people responsible for small numbers of UPS systems.

ManageUPS and MopUPS can also serve as management agents for central monitoring systems that oversee larger populations of distributed UPSs.

ManageUPS NET ADAPTERS

Specialized Micro-Computers with embedded software for UPS monitoring



ManageUPS NET ADAPTER P SERIES - SNMP/WEB for one-phase and three-phase UPS

ManageUPS NET ADAPTER VP and P Series features: Embedded WEB server for configuration and information access, SNMP agents for UPS, Data/event logging, e-mail event messaging, network shutdown controller, DHCP client for automatic configuration, FTP server for network update of firmware and configuration files via ManageUPS DCU.

+E- Environment option

Each sensor measures ambient temperature, relative humidity, three input volt-free relay points. Support of up to 16 environmental sensors.

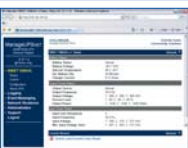
+B MODBUS (Jbus) RS232/485 or MODBUS IP (TCP/IP Ethernet) option

Provides UPS status information via embedded WEB server and MODBUS (JBUS) protocol converter for direct integration and building monitoring systems. Media support includes MODBUS RTU via RS232, RS422 and RS485 serial protocols and MODBUS IP over ethernet.



MANAGE UPS NET ADAPTER VP SERIES- SNMP/WEB FOR ONE-PHASE UPS

ManageUPS NET VP Series Adapters features: Embedded WEB server for configuration and Information access, SNMP agents for UPS, Data/event logging, e-mail event messaging, network shutdown controller, DHCP client for automatic configuration, FTP server for network update of firmware and configuration files via ManageUPS DCU.



MANAGE UPS DCU- SOFTWARE FOR SIMPLIFIED CONFIGURATION AND FIRMWARE MAINTENANCE

A tool to simplify installation of Manage UPS Adapters. ManageUPS DCU software will discover adapters connected to LAN or WAN and keep an inventory list of discovered adapters for easy navigation. List entries expand to offer quick links to key configuration pages - or link to each adapter main WEB page for full navigation. Integrated file upload utility enables 1-step update for all adapters in the inventory.



VOLT-FREE RELAY CARD

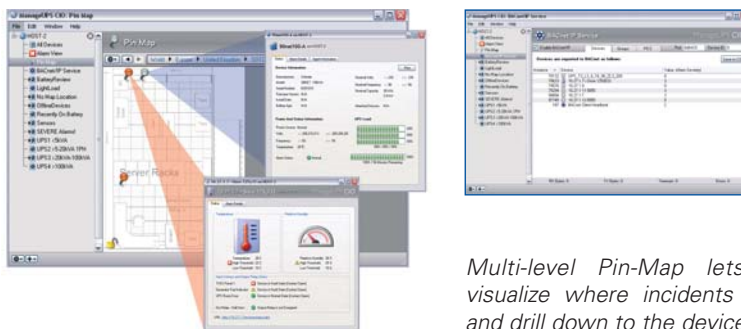
Provides essential UPS status information via volt-free signal contacts. Indicates On-Battery, Low Battery and Summary alarm conditions. Compatible with ACTIVE, LinearPlus and Linear MKII UPS model families.

ManageUPS CIO
SOFTWARE

Central monitoring system for distributed UPS and critical infrastructure

Manage UPS CIO software that provides a central monitoring and management system for critical infrastructure distributed within a building, campus or wide area network environment. Designed specifically for fast relevance for facilities or IT operations managers.

Features include: drag and drop map background for simplified setup and configuration, define rules for specific interests with the SmartGroup mechanism, keep informed on SmartGroup incident activity via e-mail notification, print report or export lists of devices and properties of interest, thin client GUI installs on multiple workstations for easy access anywhere. Supports Windows®, Linux.



The optional BACnet service allows easy integration with most building monitor systems over TCP/IP.

Multi-level Pin-Map lets you easily visualize where incidents are occurring and drill down to the device detail.



MopUPS
SOFTWARE

Software for UPS monitoring and safe shutdown of computers running Microsoft® Windows® or open systems.



MopUPS® Express

Used in stand-alone PC or LAN server applications with local administrators. MopUPS Express is included with Despower and Despower Plus. Features include, on screen status, data and event logging, controlled shutdown of a single computer, proxy agent for Manage UPS CIO Supports Windows®.



MopUPS® PROFESSIONAL

Used in applications where one or more servers on a single UPS require graceful shutdown during extended power failures. Professional networking capabilities include e-mail event messaging, remote administration, remote monitoring integration with ManageUPS CIO and shutdown of multiple Windows® servers via remote log-in over TCP/IP. Included with ACTIVE Series UPS. Supports Windows®, Linux, Unix and NetWare® OS.



MopUPS® PROFESSIONAL P/R EDITION - FOR PARALLEL/REDUNDANT UPS SYSTEMS

Serves as a central monitoring station for parallel UPS system. UPS status information is retrieved via tcpip network connection to ManageUPS NET ADAPTERS.

Perfect for server clusters and blade servers powered by redundant UPS. P/R monitors redundant server UPS and remote UPS powering SANs, switches, routers or other IT infrastructure that servers may depend on. Notifies when load levels or module faults threaten UPS redundancy or availability of remote network resources. Run MopUPS P/R on one or two hosts in a server set and control shutdown of remaining servers via integrated Network Shutdown Controller. Supports Windows®, Linux, Unix.



MopUPS® NSA (NETWORK SHUTDOWN AGENT)

Use MopUPS NSA when centralized shutdown of multiple computers simplifies configuration and setup. MopUPS NSA listens on the network for shutdown notification from the Network Shutdown Controller in MopUPS P/R (shared parallel UPS) or ManageUPS II (shared single UPS). Supports Windows®, Linux, Unix, and VMware® ESX Server.

This publication is issued to provide outline information only and is not deemed to form any part of any offer and contract. The company has a policy of continuous product development and improvement, and we therefore reserve the right to vary any information without prior notice. MKA3SW0UKSOFT Rev.4 07/2008

Chloride Systems
WORLD HEADQUARTERS

Via Fornace 30
40023 Castel Guelfo (BO)
Italy

T +39 0542 632 111
F +39 0542 632 120
E enquiries@chloridepower.com

CHLORIDE

www.chloridepower.com

Closest Chloride Contact in Australia:

Chloride Australia

Ground Floor
16 Giffnock Avenue, North Ryde
NSW 2113
Australia

T +61 2 9888 1266
F +61 2 9888 1966
E australia.sales@chloridepower.com

www.chloridepower.com.au

Closest Chloride Contact in UK:

Chloride UK

George Curl Way
Southampton, Hampshire
SO18 2RY
United Kingdom

T +44 (0) 23 8061 0311
F +44 (0) 23 8061 0852
E uk.enquiries@chloridepower.com

www.chloridepower.co.uk

Closest Chloride Contact in Vietnam:

Chloride Vietnam

Unit 613, 6 floor, Melinh Point Tower
2 Ngo Duc Ke, District 1,
Ho Chi Minh City
Vietnam

T +84 8 5202971
F +84 8 5202800

www.chloridepower.com/en-gb/vietnam

Closest Chloride Contact in UAE:

Chloride UPS Systems Middle East

Building 5, Office 104
Dubai Internet City - Dubai
UAE
PO Box 72536

T +971 4 391 3205
F +971 4 391 6803
E middleeast.sales@chloridepower.com

www.chloridepower.com/middle-east

Closest Chloride Contact in USA:

Chloride

27944 North Bradley Road
Libertyville
IL 60048
USA

T +1 847 816 6000 / +1 800 327 8801
F +1 847 680 5124
E usa.info@chloridepower.com

www.chloridepower.com/usa

Closest Chloride Contact in South East Asia:

CHLD Singapore Pte Ltd

2 Corporation Road
#03-07 Corporation Place
Singapore
618494

T +65 6481 4776
F +65 6481 0552
E singapore.sales@chloridepower.com

www.chloridepower.com.sg

Closest Chloride Contact in Thailand:

Chloride Thailand

Panjathani Tower, 20th Floor
127/25 Nonsee Road , Chongnonsee,
Yannawa, Bangkok 10120
Thailand

T +662 296 9800
F +662 681 0109
E thailand.sales@chloridepower.com

www.chloridepower.com/th



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