

# CHLORIDE

*Secure Power Always*

**60-NET** from 10 to 20 kVA



**Uninterruptible power supply**

## 60-NET from 10 to 20 kVA

**Chloride's 60-NET** offers an excellent integrated autonomy of up to 30 minutes, combined with a reduced footprint and optimum input performances, making it the best solution in its power range.

### Performances in real ratings 10-20 kVA

60-NET provides electrical continuity upon failure or degradation of the commercial AC source as a result of its intelligent double conversion architecture (Figure 1) with a DSP-based IGBT inverter. This allows reliable filtering of the mains network disturbances and provides stable interference-free power

to the load, in turn ensuring a clean and regulated output sine wave. Equipped with an independent static bypass switch, 60-NET guarantees power system redundancy and continuity, while its enhanced connectivity suite, safe disconnection features and parallelability ensure complete load protection.

60-NET provides reliable and secure power protection to electronic equipment loads by stocking up on high quality AC power and offering the following features:

- IGBT intelligent double conversion technology
- Excellent input performances:
  - PF > 0.99
  - THDi < 5%
- Inverter overload capability:
  - 125% for 10 min
  - 150% for 1 min
- High conversion efficiency (certified up to 98%)
- Full compatibility with any installation irrespective of the PF (leading or lagging)
- Minimised footprint, easy installation and maintenance
- Battery care
- Excellent backup time

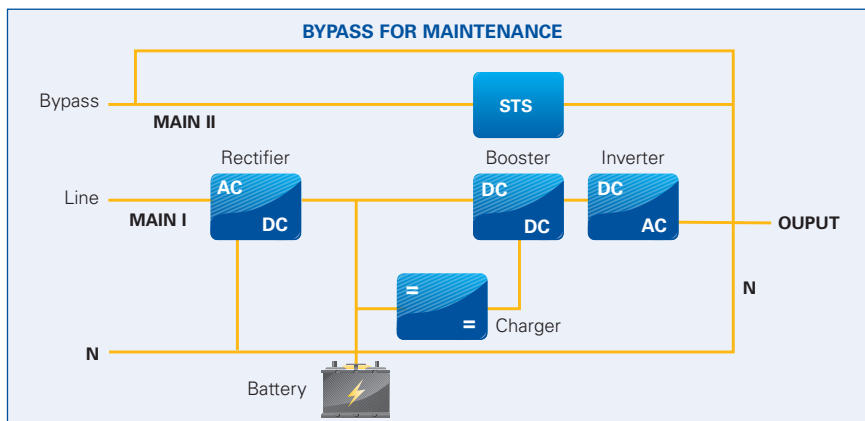


Figure 1. Single block diagram.

### Parallel ready

60-NET is able to connect up to eight units in parallel without the need for an additional parallel board (Figure 2), thus allowing maximum power reliability and flexibility. A single unit can be upgraded to parallel by using a simple cable.

The Loop Bus connection used in paralleling the system allows for prompt communication and eliminates the possibility of a single point of failure.

Parallel features:

- Modular parallel redundant configurations N+1
- Modular parallel scalable configurations, allowing on-site power increase.

### Automatic AC Bypass

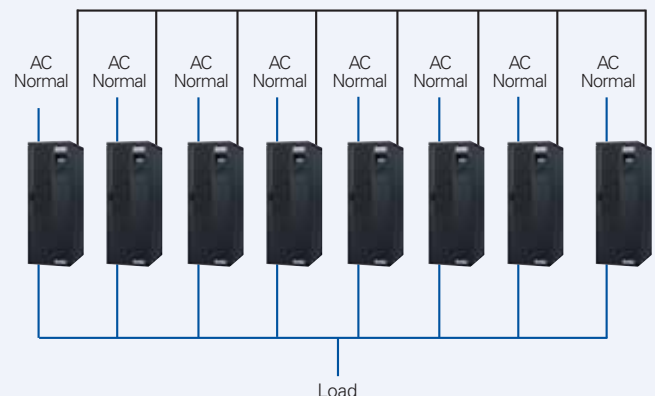


Figure 2. Parallel configuration of power extension and redundancy.



## Performance and Service

**60-NET** guarantees reliable and flexible secure power by adapting its performances to meet individual infrastructure requirements, making it ideal for a wide range of applications from IT and manufacturing to finance and retail.

### Flexibility and compatibility for customised solutions

60-NET is flexible enough to meet any power, redundancy, harmonic control and battery backup time requirements as a result of:

- Optimised trade-off between harmonic rejection and efficiency
- Optimised load sharing between parallel connected UPS systems and enhanced performances for unbalanced load conditions
- Output Power Factor diagram symmetrical with respect to zero, up to 0.8 lagging and leading
- Full compatibility with CROSS, Chloride's static transfer switch, which provides additional protection against potential interruptions in the power distribution system by immediately switching to an alternative source in the event of a fault.

### Quality standard and environmental sustainability

60-NET is designed and manufactured in accordance with the following standards:

- IEC/EN62040-1-1 general and safety requirements
- EN62040-2 EMC requirements
- IEC/EN62040-3 performance requirements

60-NET also respects the RoHS environmental directives and carries the TUV quality mark.

60-NET's battery care system is designed to minimise environmental impact by lengthening the battery life and increasing battery efficiency.

With an overall efficiency of up to 98%, 60-NET allows for excellent energy savings and reduced air conditioning in all types of working conditions, even at partial loads, with significant energy savings.

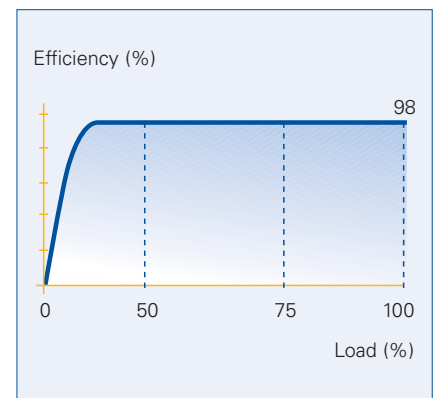


Figure 3. 60-NET efficiency curve.

### Serviceability

The modular architecture of 60-NET optimises service intervention, as its internal modules can be easily accessed by extracting the individual drawers from the front of the UPS.

All sub-assemblies have been designed to allow simplified service and maintenance to be carried out, as well as significantly reducing the Mean Time to Repair (MTTR) of individual modules. 60-NET also comes complete with casters to facilitate ease of movement and relocation.

60-NET complies with the IP 21 standard.



## Connectivity and Monitoring



### Communication

60-NET features a back-lit multilingual LCD display, allowing complete access to all UPS functions and guaranteeing easy interaction with the UPS through the user-friendly navigation menu.

The UPS is suitable for use in any building management system and offers the following communication interfaces:

- Voltage-free interface for overseeing functions offered by the AS400 system

- Serial interface
- Slot for LIFE.net or ManageUPS<sub>NET</sub> cards
- External battery temperature monitoring connector
- EPO input for emergency UPS shutdown
- Backfeed contact which activates an external isolating device if the UPS detects a backfeed current over the bypass in battery mode\*. In compliance with IEC/EN 62040-1-1.

\* The external isolating device must be provided by the customer.



### Hardware Connectivity

ManageUPS<sub>NET</sub> ensures the monitoring and control of the networked UPS through the TCP/IP protocol allowing:

- UPS monitoring from NMS via SNMP

- UPS monitoring from PC via a web browser
- Dispatch of e-mail notifications
- Monitoring of environmental installation conditions

- Possibility of integrating Chloride UPS systems with Building Monitoring and Automation Systems via MODBUS RTU, MODBUS/TCP or JBUS protocols.

### Software Connectivity

- MopUPS Professional
- ManageUPS CIO

The main function of MopUPS software is the safe shutdown of the operating

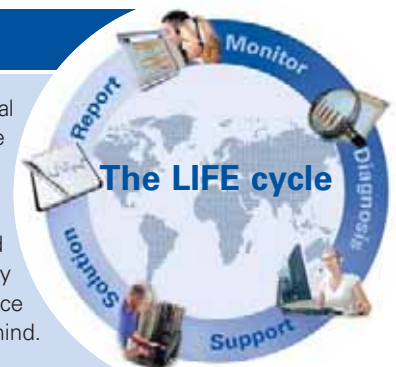
system in the event of a load interruption. MopUPS can also provide event logging and automatic communication of events through e-mail, SMS and other notification tools.

ManageUPS CIO software provides a central management system for critical power infrastructures distributed within a building, campus or wide area network environment.

## LIFE.net 24x7 remote diagnostic system

Installation is only the beginning of your relationship with Chloride as it is essential that your critical power protection system is maintained in an optimum state of readiness at all times. The innovative range of maintenance and support services available from Chloride ensure reliability for life-long protection. Chloride takes responsibility for the health of your UPS units 24 hours per day.

LIFE.net is the maintenance program which includes the remote diagnosis, monitoring and management of the operational status of UPS and power distribution systems. LIFE.net provides early warning of any alarm condition or out of tolerance status, allowing effective proactive maintenance and fast incident response, giving customers complete security and peace of mind.



### Maximise availability



#### Pre-emptive maintenance

LIFE.net provides early warning of the UPS parameters, allowing real-time diagnosis and prompt identification and resolution of operating anomalies.

### Minimise downtime



#### Immediate identification of problems

Should an emergency condition arise, a Chloride engineer in the 24x7 manned service centre carries out an immediate fault analysis and instigates appropriate corrective action.

### Reduce operating costs



#### Superior asset management

Through comprehensive data collection and analysis, LIFE.net's detailed reporting system provides valuable information on power and equipment trends, over any selected period of time.

## Technical Data



60-NET		10	15	20
<b>TECHNICAL CHARACTERISTICS</b>				
Nominal primary mains input voltage	(V)	400		
Input Phases		3 Ph + N		
Input voltage tolerance @ full load	(%)	-25/+15		
Nominal Frequency	(Hz)	40 - 70		
Primary input Power Factor		>0.99		
Input current distortion (THDi)	(%)	<5		
Inrush current	(A)	< I input max		
<b>BATTERY CHARGER</b>				
Battery nominal voltage	(V)	± 180V		
Output voltage	(V)	± 202.5V		
Battery ripple current	(%)	<2		
Output current	(A)	5		
<b>INVERTER</b>				
Nominal output power at 40° C	(kVA)	10	15	20
Nominal active power	(kW)	8	12	16
Power Factor		0.8		
Overload capacity	for 10 minutes	125		
	for 1 minute	150		
Short circuit current	300% @ 50 Hz	5		
	200% @ 50 Hz	4		
Nominal output voltage	(V)	400/380		
Output frequency (nominal)	(Hz)	50/60		
Output voltage stability by load variation 0 - 100% (static-dynamic)	(%)	±1 Complies with IEC/EN 62040-3, Class 1		
Output frequency variation with mains synchronization	(%)	± 2 (1, 3, 4 selectable)		
Output frequency variation with internal reference	(%)	± 0.1		
Compatibility with loads		Any power factor (leading or lagging) up to 0.8 without output derating		
Output voltage distortion	Linear full load (%) Non Linear full load	<2 Complies with IEC/EN 62040-3		
Load peak factor without derating	(Ipk/Irms)	3		
Neutral conductor sized up to		1.6 I out nominal		
<b>STATIC SWITCH</b>				
Voltage rating	(V)	400/380		
Frequency (nominal)	(Hz)	50/60		
Frequency tolerance	(%)	± 2		
Voltage tolerance	(%)	± 10		
Overload capacity	for 10 minutes	125		
	for 1 minute	150		
In-phase switching mode	bypass/inverter inverter/bypass	(ms) Make before break (0ms)		
<b>UPS DATA</b>				
No load dissipated power	(W)	300		
Maximum dissipated power	Float (W) Recharge (W)	800 1000	1200 1400	1500 1800
AC/AC efficiency DIM* mode 100% of load	(%)	98		
AC/AC efficiency double conversion mode 100% of load	(%)	92		
Maximum noise level @ 1 metre	(dBA)	50 ± 2		
EMC class	62040-2	Class C2		
Degree of Protection		IP21		
Classification according to IEC/EN 62040-3		VFI - SS - 111		
Frame colour		RAL 7016		
Cooling		Forced		
Equipment mobility		On casters		
Parallel configuration		up to 8 units		
<b>ENVIRONMENTAL</b>				
Operating temperature	(°C)	0 - 40		
Recommended battery temperature	(°C)	+15 - +25		
Maximum relative humidity @ 20 °C (without condensation)	(%)	95		
Elevation without derating (-1.2 Pn every 100m above 1000m up to 3000m)	(m)	1000		
<b>DIMENSIONS AND WEIGHT</b>				
Height	(mm)	1240		
Width	(mm)	420		
Depth	(mm)	635		
UPS weight without batteries	(kg)	118	122	122

\*Conditions apply

This publication is issued to provide outline information only and is not deemed to form any part of any offer and/or 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. **MIK44LOUK60NET REV2 - 02/2010**

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**Beijing**, China  
**Makati City**, Philippines

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