Chloride 80-NET from 60 to 500 kW

Secure Power for Mission Critical Applications

EMERSON
Network Power

Emerson Network Power, a division of Emerson, is a global company that combines technology with design to supply innovative solutions for the benefit of its customers.
Emerson Network Power protects and optimizes critical infrastructure for data centers, communications networks, healthcare and industrial facilities.
Emerson Network Power's broad technology base and global expertise support a full spectrum of enterprise-wide solutions for today's vital business needs.

Regardless of your size, you can't afford for your critical business systems to go down and you can't waste time recovering your IT infrastructure after a disruption.

Leave that to us, the experts grid to chip solutions, from the biggest to the smallest data centers, we are ready to serve your needs with the solutions we have developed.

More standardization, so you don't need further budget allocations to install it.
More simplification so you don't need to be a specialist to get the best for your business.
More support, so while you are enjoying doing business, we are protecting you.

Chloride 80-NET From 60 To 500 kW

Maximized active power, high efficiency and complete compatibility for modern, mission critical IT loads.

Features and Performance

- Transformer-free design
- Full IGBT double conversion technology
- Full input Power Factor Correction (PFC) and excellent input performances:
  - PF > 0.99
  - THDi < 3%
- Automatic output power upgrade up to +10%
- High conversion efficiency (certified up to 98%)
- Hi-tech user interface for monitoring system status and performance
- Full galvanic isolation as standard built-in option.

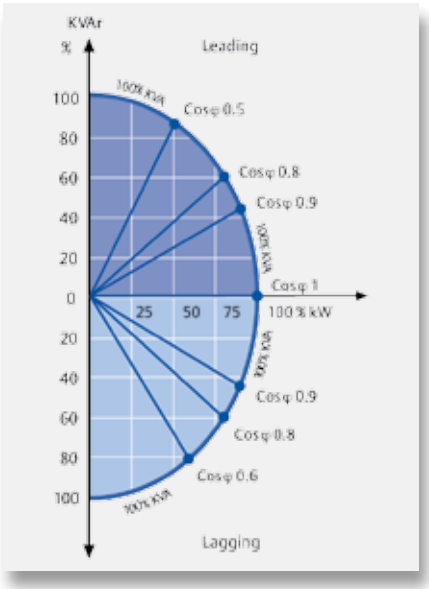
Chloride 80-NET 60 - 500 kW Performances

Chloride 80-NET features a transformer-free design with full IGBT double conversion technology allowing it to provide extraordinary savings on installation and running costs, while at the same time providing first class load protection.
Chloride 80-NET also features a full IGBT rectifier allowing for reductions in the size of gen sets, circuit protection, cabling and transformers.

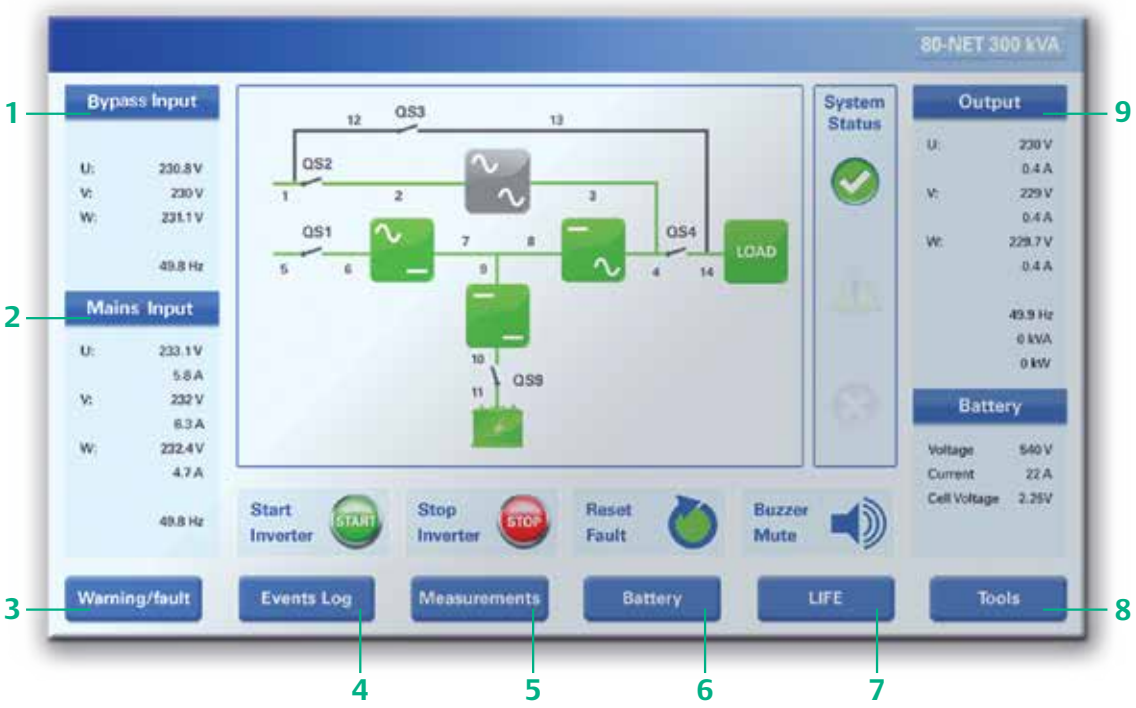
Flexibility And Compatibility

Chloride 80-NET can be fully adapted to meet diverse requirements in terms of battery backup time, power, redundancy and harmonic control.
Maximum flexibility is also ensured from:

- Output Power Factor 1
- Output Power Factor diagram symmetrical respect to zero
- Permanent 100% kVA - no derating with any load (lagging or leading)
- Optimum space/power ratio
- Full compatibility with static transfer switches
- Wide range of standard options including: Isolation transformer (integrated in UPS cabinet), System Bypass Switch and Synchronization Module (MBSM).



User Interface



1. Bypass Input
Voltage, and frequency measurements.

2. Mains Input
Current, voltage and frequency values of the three input phases.

3. Warning/fault
Alerts of anomalies on bypass, rectifier, inverter, booster/ charger, battery and load.

4. Events log
Date and time of important UPS events, alarms and other warnings.

5. Measurements
Voltage, current and frequency values of each internal functional block.

6. Battery
Status/values including temperature, cell voltage, capacity run time and testing.

7. LIFE
Status of the LIFE®.net connections and calls.

8. Tools
LCD settings and language selection.

9. Output
Voltage, current, frequency, and battery measurements.

Sustainability And Environment

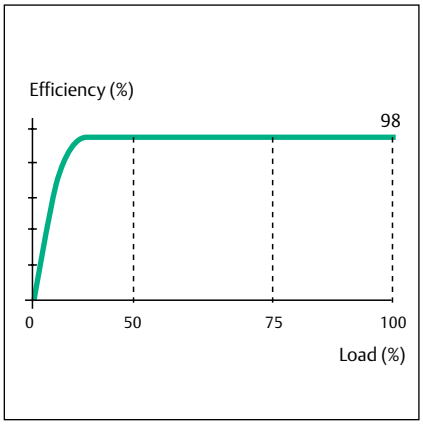
Advanced digital technology and maximum energy savings for increased performance and optimized TCO.

Chloride 80-NET's control platform incorporates double DSP and a micro-controller, allowing it to provide the most powerful control in the UPS industry. Together with the patented Vector Control technology it enables an increased performance of power converters and real time control of output power quality.
This combination of technology provides the following benefits:

- Zero impact on upstream equipment
- Perfect compatibility with generators
- Enhanced performance for specific unbalanced load conditions
- Perfect load sharing for parallel configurations
- Enhanced fault clearing capacity (up to 300% of the inverter nominal current)
- Intelligent double conversion for maximum reliability and highest energy savings.

Maximum Energy Savings

As a result of the transformer-free architecture and intelligent double conversion technology, Chloride 80-NET can achieve optimum efficiency values in all operating conditions, making it capable of reducing running costs also at partial load.
This architecture also allows for reduced energy dissipation (kW) thus significantly minimizing the consumption of the cooling system.

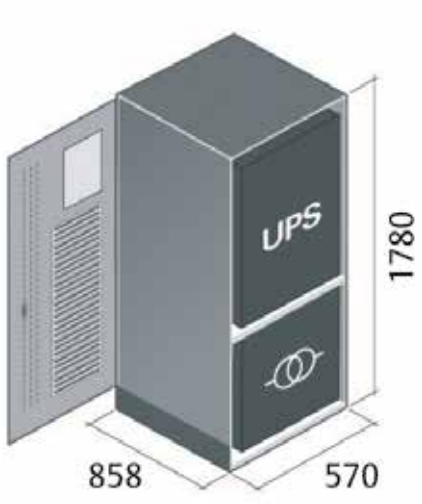


Chloride 80-NET efficiency curve

Full Galvanic Isolation

Chloride 80-NET is the only UPS in its power range that offers integrated full galvanic isolation, meaning that the isolation transformer is housed inside the UPS cabinet. This greatly reduces the footprint thus providing space saving advantages. In addition, the transformer can be connected to the input or to the output of the UPS, providing:

- **Full galvanic isolation for medical and other critical applications**
- **Installation with two independent input sources (with different neutrals)**
- **Installation in distribution without neutral.**



UPS with isolation transformer

Respecting The Environment

Chloride 80-NET respects the highest level of environmental standards as a result of the following features:

- Premium energy savings
- Most silent UPS in its power range
- Maximized battery life with Advanced Battery Care (ABC).

ABC allows the Chloride 80-NET series to maximize the running time of the battery by up to 50% and includes the following main battery care features:

- Ambient temperature compensated battery charger
- Automatic battery test (can be set by user at selectable intervals)
- Time compensated end of discharge voltage
- Exact determination of remaining battery life thanks to sophisticated algorithms able to analyze real operating conditions such as temperature, discharge/charging cycles and discharge depth.

the green grid℠
member

Servicing Critical Infrastructure

Proactive equipment maintenance reduces downtime and extends equipment life which in turn maximizes return on investment and increases system availability. Emerson Network Power supports entire critical infrastructures with an extensive service offering, guaranteeing network availability and total peace of mind 24/7.

Our approach to servicing critical infrastructure covers all aspects of availability and performance, from single units to entire mission critical systems, providing customers with tailored services to meet their individual business needs and further guaranteeing critical continuity.

Emerson Network Power's service program is designed to ensure that your critical power protection system is maintained in an optimum state of readiness at all times. The LIFE™ remote monitoring and diagnostic service provides early warning of UPS conditions and out of tolerances. This allows effective proactive maintenance, fast incident response and remote trouble shooting, giving customers complete security and peace of mind.

Maximize Availability

Pre-Emptive Maintenance

Regular preventive maintenance increases uptime. Emerson Network Power's LIFE provides early warning of operating anomalies allowing real-time diagnosis and swift identification and resolution.

Minimize Downtime

Immediate Identification of Problems

Should an emergency condition arise, an engineer in the 24/7 manned LIFE service center carries out an immediate fault analysis and instigates appropriate corrective action.

Reduce Operating Costs

Superior Asset Management

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

Connectivity And Tracking

Interactive control, connectivity and LIFE remote monitoring and diagnostics allow for real time tracking and fast intervention.

Communication

Chloride 80-NET features a hi-tech, 15 language user interface, for closely controlling and monitoring the system status and performance.
The UPS offers the following standard communication features:

- Voltage-free contact ports
- Digital inputs and outputs
- Two serial ports and LAN connection
- Two internal slots for LIFE and connectivity options.

Hardware Connectivity

ManageUPS NET ensures the monitoring and control of the networked UPS, through the TCP/IP protocol.
Two different options permit:

- The integration of Chloride UPS with Building Monitoring

and Automation Systems via MODBUS RTU, MODBUS/TCP or JBUS protocols
- The monitoring of environmental conditions where the UPS systems are installed.

Software Connectivity

MopUPS Professional provides the safe shutdown of the operating system in the event of an interruption to the load. This includes event logging and gives notifications via e-mail. **ManageUPS CIO** software provides a central management system for critical power infrastructures distributed within a building, campus or wide area network environment.

Hardware Connectivity

Servicing And Security

The Chloride 80-NET's modular drawer-design allows modules to be removed easily by extracting the drawers from the front of the UPS.
This architecture considerably minimizes the time needed for repairs and optimizes installation and serviceability.

Each UPS will be equipped with an ID card, including all UPS working parameters. This card, univocally related to the UPS, shortens UPS "off time" in the case that the control board needs to be replaced.

ID card

Trellis™ Platform
Emerson Network Power's Trellis™ platform is a real-time infrastructure optimization platform that enables the unified management of data centre IT and facilities infrastructure.

The Trellis™ platform software can manage capacity, track inventory, plan changes, visualize configurations, analyze and calculate energy usage, and optimize cooling and power equipment as well as enable for virtualization.

The Trellis™ platform monitors the data center, providing a thorough understanding of system dependencies to help IT and facilities organizations keep the data center running at peak performance. This unified and complete solution, delivers the power to see the real situation in your data center, make the right decision and take action with confidence.

trellis™

Flexibility And Security

Parallel Configurations

Chloride 80-NET can be connected with up to eight units in parallel for an increased level of capacity as well as redundancy, thus enhancing its fault management capability by preventing a single point of failure. The parallel architecture of Chloride 80-NET allows single units to be serviced while the remaining units continue to power the load. A single Chloride 80-NET unit can be upgraded to parallel simply, via dedicated and easy to modify software settings.

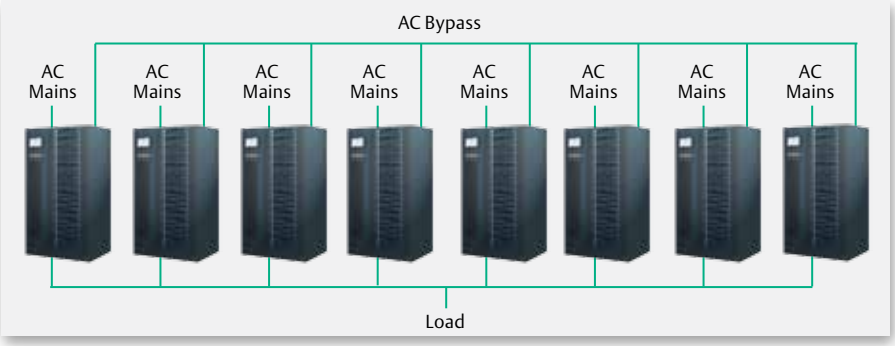
Chloride 80-NET's self configuring, hot plug parallel feature allows the system to automatically detect when new units have been added without the need for stopping the system. This simplified parallel process provides maximum flexibility in terms of scalability for capacity and redundancy.

The Loop CAN BUS connection, used to connect the paralleled UPS also allows for unprecedented reliability, perfect load sharing and fast detection of any variation in status of the UPS system.

Chloride 80-NET can support both distributed and centralized parallel configurations:

Distributed Parallel Configuration

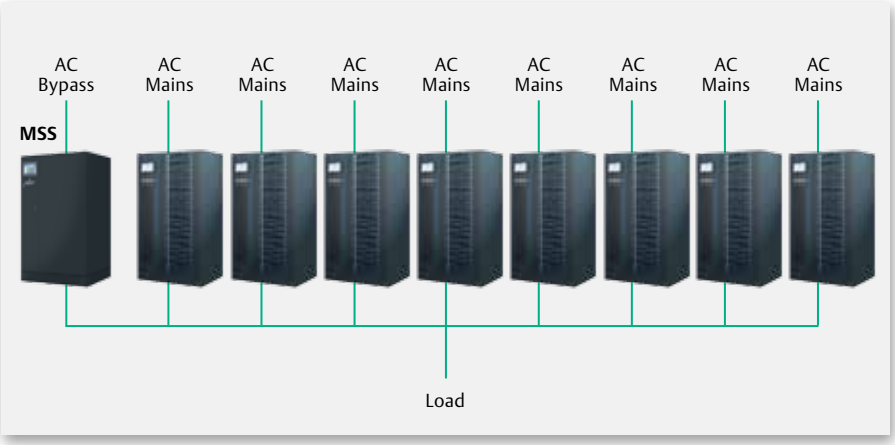
Paralleling single Chloride 80-NET units offers advanced scalability. In a distributed parallel configuration each unit has a dedicated static bypass switch, providing parallel operation without the need for a system control cabinet, thus reducing initial installation costs.



Chloride 80-NET distributed parallel configuration, with 8 UPS units in parallel.

Centralized Parallel Configuration

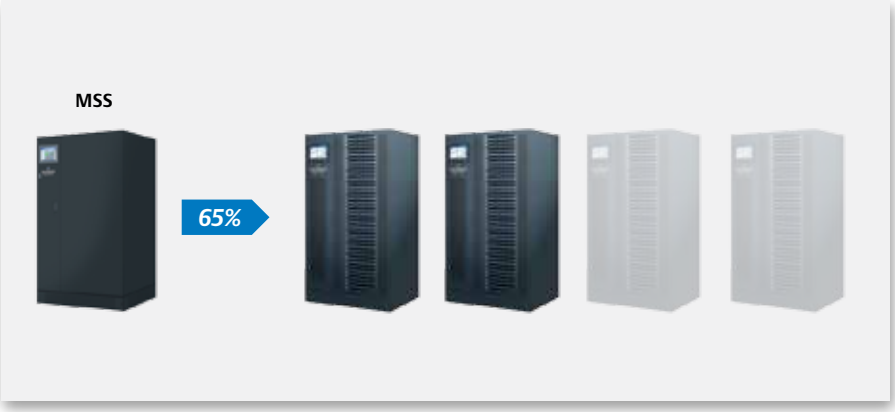
With the Chloride 80-NET's centralized parallel configuration, the internal static bypass switch of each unit is disabled and an external Main Static Switch (MSS) rated for the desired maximum capacity, is installed. Therefore, the reserve supply to the loads operates via one central piece of equipment (MSS). The MSS can be easily integrated into any switchgear, thus simplifying cabling and installation. System level commands are given to the MSS via its integrated touch screen display.



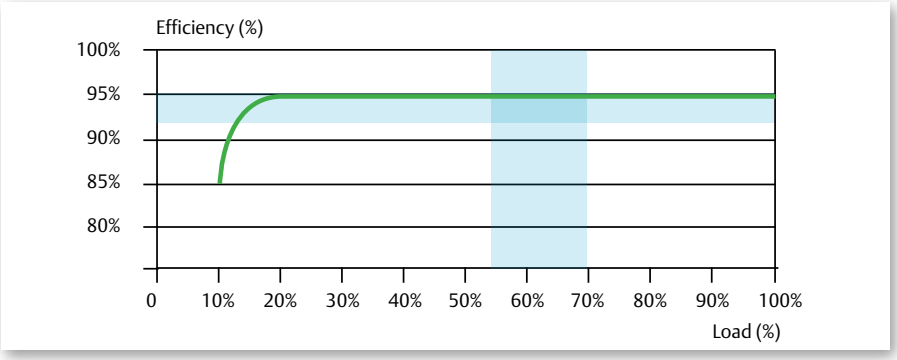
Chloride 80-NET centralized parallel configuration, with MSS plus 8 UPS units in parallel.

Intelligent Paralleling Feature for Centralized Parallel Configuration

Activating the the Main Static Switch (MSS) intelligent paralleling feature optimizes efficiency at partial load, thus achieving superior running cost savings. Enabling this feature allows the system to automatically adapt capacity to meet immediate load requirements by switching excess units to standby mode, while ensuring continued system availability. Furthermore, the Main Static Switch allows each Chloride 80-NET unit to operate in standby mode for the same amount of time, ensuring an equal life-span of module components.
This Main Static Switch intelligent paralleling feature further maximizes Chloride 80-NET'sdouble conversion efficiency at partial load and allows for an overall energy dissipation reduction.



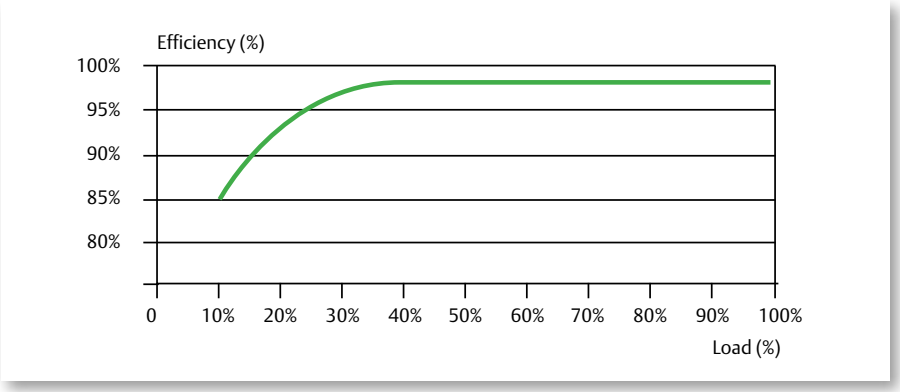
Chloride 80-NET Intelligent Paralleling mode in centralized parallel configuration with MSS Two units @65% load each = 95 % efficiency.



Chloride 80-NET AC/AC efficiency with MSS Intelligent Paralleling feature.

Intelligent ECO Mode for Centralized Parallel Configuration

In a centralized parallel configuration it is possible to activate the intelligent ECO mode feature, thus powering the critical loads through the central Main Static Switch, allowing it to operate at an efficiency up to 98.5%, further maximizing energy savings for an optimized total cost of ownership (TCO).



MSS Intelligent ECO mode efficiency for centralized parallel configuration.

Chloride 80-NET Specifications

Technical Characteristics				
Rating (from 60 - 120 kVA)	**60**	**80**	**100**	**120**
Output active power at 40° C (kW)	60	80	100	120
Apparent nominal output power at 40° C (kVA)	60	80	100	120
Apparent nominal output power at 25° C (kVA)	66	88	110	132
Input				
Nominal primary mains input voltage/voltage range (V)*	400 (250 to 460), three phase + neutral			
Nominal bypass input voltage/voltage tolerance (V)	400 ± 10% (380 V, 415 V selectable) three phase + neutral			
Nominal input frequency/frequency tolerance (Hz)	50 ± 10% (60 Hz selectable)			
Input current distortion (THDi) (%)	<3			
Primary input Power Factor	>0.99			
Output				
Nominal output voltage (V)	400 (380 V, 415 V selectable) three phase + neutral			
Output voltage stability by load variation 0 - 100% (%) **- static** **- dynamic**	 ± 1 Complies with IEC/EN 62040-3, Class 1			
Nominal output frequency (Hz)	50 (60 Hz selectable)			
Output frequency variation (%) **- with mains synchronization** **- with internal reference**	 ± 1 (2, 3, 4 selectable) ± 0.1			
Inverter overload capacity	125% for 10 min., 150% for 1 min.			
Compatibility with loads	Any power factor (leading or lagging) up to 1 without output derating; crest factor up to 3:1			
Automatic adjustment of nominal output power with temperature	110% at 25°C, 100% at 40°C			
General				
Classification according to IEC/EN 62040-3	VFI - SS - 111			
Operating temperature (°C)	0 - 40			
Relative humidity (without condensation at 20°C)	<95%			
Protection level	IP 20			
Frame Color	RAL 7016			
Noise at 1 m (dBA)*	62	62	65	65
AC/AC efficiency (%)*	up to 98%			
Parallel configuration	up to 8 units			
Dimensions And Weight				
Height (mm)	1780			
Width (mm)	570	570	845	845
Depth (mm)	858			
UPS weight (kg)	290	290	400	400

* Conditions apply

Technical Characteristics					
Rating (from 160 - 500 kVA)	**160**	**200**	**300**	**400**	**500**
Output active power at 40° C (kW)	160	200	300	400	500
Apparent nominal output power at 40° C (kVA)	160	200	300	400	500
Apparent nominal output power at 25° C (kVA)	176	220	330	440	550
Input					
Nominal primary mains input voltage/voltage range (V)*	400 (250 to 460), three phase + neutral				
Nominal bypass input voltage/voltage tolerance (V)	400 ± 10% (380 V, 415 V selectable) three phase + neutral				
Nominal input frequency/frequency tolerance (Hz)	50 ± 10% (60 Hz selectable)				
Input current distortion (THDi) (%)	<3				
Primary input Power Factor	>0.99				
Output					
Nominal output voltage (V)	400 (380 V, 415 V selectable) three phase + neutral				
Output voltage stability by load variation 0 - 100% (%) **- static** **- dynamic**	 ± 1 Complies with IEC/EN 62040-3, Class 1				
Nominal output frequency (Hz)	50 (60 Hz selectable)				
Output frequency variation (%) **- with mains synchronization** **- with own reference**	 ± 1 (2, 3, 4 selectable) ± 0.1				
Inverter overload capacity	125% for 10 min., 150% for 1 min.				
Compatibility with loads	Any power factor (leading or lagging) up to 1 without output derating; crest factor up to 3:1				
Automatic adjustment of nominal power with temperature	110% at 25°C, 100% at 40°C				
General					
Classification according to IEC/EN 62040-3	VFI - SS - 111				
Operating temperature (°C)	0 - 40				
Relative humidity (without condensation at 20°C)	<95%				
Protection level	IP 20				
Frame Color	RAL 7016				
Noise at 1 m (dBA)*	67	67	69	70	71
AC/AC efficiency (%)*	up to 98%				
Parallel configuration	up to 8 units				
Dimensions And Weight					
Height (mm)	1780				
Width (mm)	975	975	1675	1675	1900
Depth (mm)	858				
UPS weight (kg)	550	632	1035	1190	1430

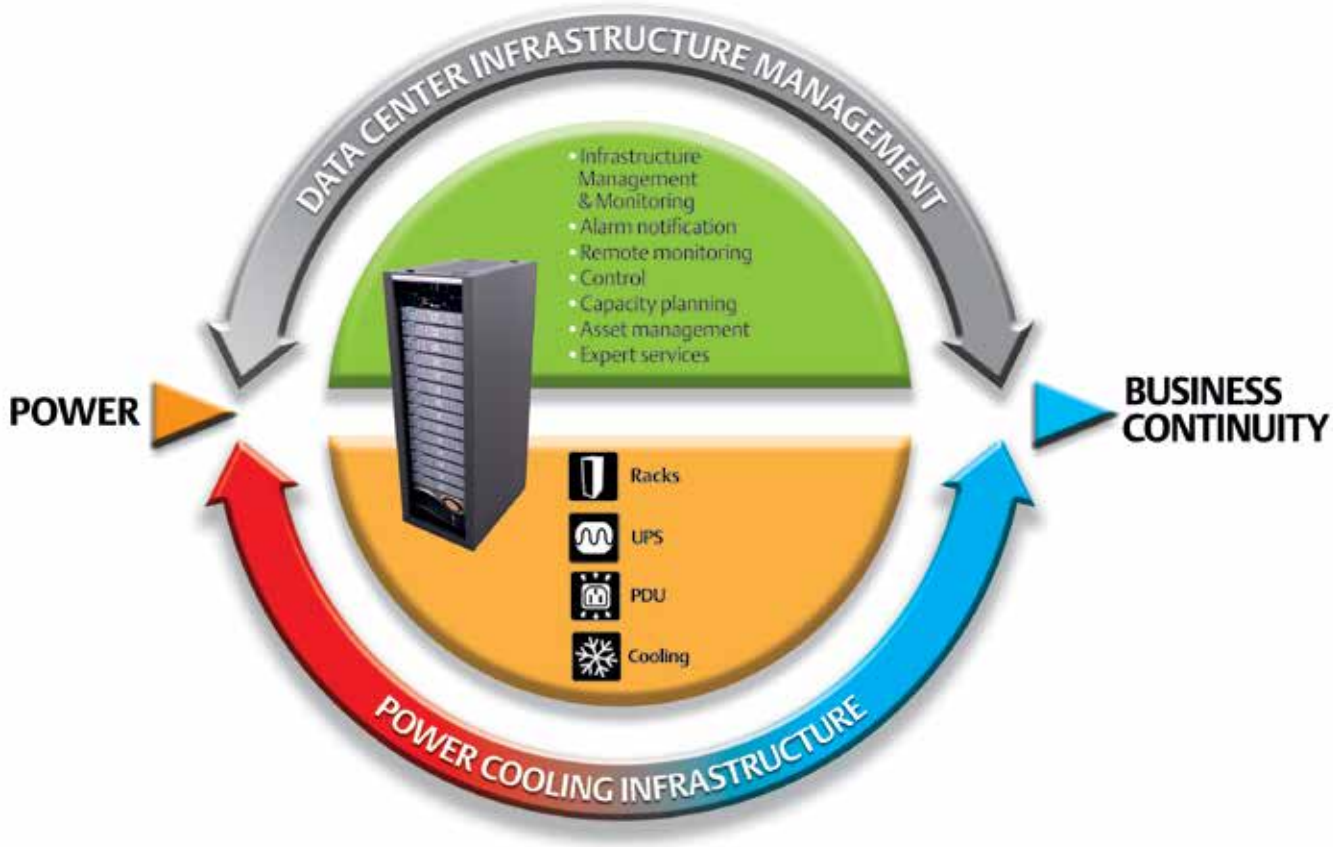
* Conditions apply

Chloride 80-NET Main Static Switch (MSS) Specifications

MSS Technical Specification					
Electrical Data	**1000A**	**2000A**	**3000A**	**4000A**	**5000A**
Nominal current (A)	1000	2000	3000	4000	5000
Power @380V (kVA)	658	1316	1975	2633	3291
Power @400V (kVA)	693	1386	2078	2771	3464
Power @415V (kVA)	719	1437	2156	2875	3594
Nominal voltage (selectable) (V)	400 (380/415)				
Nominal frequency (selectable) (Hz)	50 (60)				
Voltage range (selectable) (%)	± 10 (± 15)				
Freqeuncy range (selectable)(%)	±1 (2, 3, 4 selectable)				
Maximum operating voltage range (V)	350 - 460				
Maximum overload capacity **for 10min (%)** **for 1min (%)** **for 600ms (%)** **for 100ms (%)**	 125 150 500 700	 125 150 500 700	 125 150 500 700	 125 150 500 700	 125 150 500 700
SCR **I^2t @ Tvj= 125°C; 8,3-10ms (A^2s)** **I_{tsm} @ Tvj=125°C; 10ms (kA)**	 $4,5*10^6$ 30	 $16,2*10^6$ 57	 $16,2*10^6$ 57	 $36*10^6$ 85	 $36*10^6$ 85
Withstand rating (kA)	50	50	50	85	85
ECO mode Efficiency (%)	>98				
Transfer time when in synchro **Inverter to reserve (ms)** **Reserve to inverter (ms)**	 <0.5 (no break) <0.5 (no break)				
Transfer time without synchro (ms)	<20 (selectable 0 to 20 ms)				
Retransfer delay (s)	5				
System Data					
Noise @ 1 metre as per ISO 3746 (dBA ± 2dBA)	64		70		
Protection degree with open door	IP 20				
Mechanical dimensions: **- Height (mm)** **- Width (mm)** **- Depth (mm)**	 1780 1025 848(2)		 1780 2422 (1200(1)) 848(2)		
Weight (kg)	345	835 (571(1))		1117 (827(1))	
Switches	Not included				
Floor area (m^2)	0.87		2,05 (1,03(1))		
Floor loading (kg/m^2)	397	407		545	
Cable entry	Top / Bottom		Top / Bottom (3)		
Access	Front and Top				
Ventilation	Forced Ventilation (air flow front/bottom to top)				
Air flow (when SCR are ON only) (m^3/h)	1130		5000		
Frame color (RAL scale)	7016				
Environmental Data					
Operating Temperature (°C)	0 - 40				
Maximum relative humidity @ 20°C (non condensing) (%)	Up to 95%				
Max altitude above sea level without derating (m)	1000 m (for higher altitudes complies with IEC/EN 62040-3)				

Note:
(1) Central MSS cabinet only.
(2) Including handle
(3) Top and bottom cable entry through TCE cabinets

More than 35,000 organizations in 70 countries depend on our expertise.



Today's successful businesses depend on adaptable technologies to help them respond quickly to market demands. Your data center must be built on a support infrastructure designed to match the power and cooling needs of rapidly changing IT initiatives such as virtualization and consolidation. Each IT change, move or addition will affect the entire support infrastructure so you need products and support that ensure your IT systems will operate reliably in these environments.

Ensuring The High Availability Of Mission-Critical Data And Applications.

About Emerson Network Power

Emerson Network Power, a business of Emerson (NYSE:EMR), delivers software, hardware and services that maximize availability, capacity and efficiency for data centers, healthcare and industrial facilities. A trusted industry leader in smart infrastructure technologies, Emerson Network Power provides innovative data center infrastructure management solutions that bridge the gap between IT and facility management and deliver efficiency and uncompromised availability regardless of capacity demands. Our solutions are supported globally by local Emerson Network Power service technicians. Learn more about Emerson Network Power products and services at **www.EmersonNetworkPower.eu**

While every precaution has been taken to ensure accuracy and completeness herein, Emerson assumes no responsibility, and disclaims all liability, for damages resulting from use of this information or for any errors or omissions. Specifications subject to change without notice.

MKA4L0UK80XL Rev.3-09/2013

EmersonNetworkPower.eu

Locations

Emerson Network Power
Global Headquarters
1050 Dearborn Drive
P.O. Box 29186
Columbus, OH 43229, USA
Tel: +1 614 8880246

Emerson Network Power
AC Power EMEA
Via Fornace, 30
40023 Castel Guelfo (BO) Italy
Tel: +39 0542 632 111
Fax: +39 0542 632 120
ACpower.Networkpower.Emea@Emerson.com

Emerson Network Power
United Kingdom
George Curl Way
Southampton
SO18 2RY, UK
Tel: +44 (0)23 8061 0311
Fax: +44 (0)23 8061 0852

Globe Park
Fourth Avenue
Marlow Bucks
SL7 1YG
Tel: +44 1628 403200
Fax: +44 1628 403203
UK.Enquiries@Emerson.com

Emerson. Consider it Solved, LIFE, Trellis, Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co. or one of its affiliated companies ©2013 Emerson Electric Co. All rights reserved.

EMERSON. CONSIDER IT SOLVED.™