ONLINE UPS
10 kVA - 250 kVA
Three phase/Three Phase

UPSC-MAK
SERIES

True On Line - Double Conversion Technology
IGBT PWM Rectifier & Inverter Technology
DSP Control
Low Input Current THD (<3%)
High Input Power Factor (>0.99)
High Efficiency up to 93%
DC-DC Charger/Booster
Wide Input Voltage Range
Advanced Battery Management
Short Circuit and Overload Protection
Unlimited Number of Paralellable Modules
Selectable Number of Batteries
500 Real Time Event Log with Detailed Parameters
Static&Manual Bypass Operation
Overload and Short Circuit Protection
Small Footprint and Easy Maintenance
Advanced Communication Capabilities
Perfect Generator Compatibility
Customizable as Frequency Converter
Cold Start Function
Auto Restart Function
Local and Remote Emergency Power Off

Advanced 3 Phase Power Protection for Small-Medium Server Rooms, Data Centers, Industrial, Telecom and Other Mission-Critical Applications

The Challenger Series An Advanced UPS Technology

UPSC-MAK Series is the new generation true Online Double Conversion fully digital controlled UPS . It is designed to meet high availability and high power quality needs of a wide variety of critical applications. Fully DSP controlled inverter technology provides a highly accurate, drift-proof control compared to traditional analog electronics. These features enable the UPS to provide accurate, reliable power protection under a wide range of conditions.

The Challenger Series UPS handles the challenge to keep running today's critical applications that need more active power

UPSC-MAK Series with its new IGBT rectifier ensures that your systems prevent all interruptions to your series-connected network. The innovative rectifier guarantees a sinusoidal current consumption. The reduction of current at the input to the rectifier brings considerable savings in the dimensioning of your distribution switchboard, fuses and cable. The sizes available include: 10 kVA, 15 kVA, 20 kVA, 30 kVA, 40 kVA, 60 kVA, 80 kVA, 100 kVA, 120 kVA, 160 kVA, 200 kVA and 250 kVA all with a three-phase input and output.
UPSC-MAK made, design in Germany

DSP Power Factor Corrected IGBT Rectifier

IGBT based power factor correction technology provides Input Power Factor close to 1 (=0.99) and keeps Input Current Total Harmonic Distortion (THDi) less than %3, that helps to avoid the Disturbance. Input current the high input power leads to reduced electricity Pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost. Considerably reduced disturbance to connected loads with (THDi) less than %3.

DSP Controlled IGBT inverter

DSP controlled IGBT Inverter provides the highest quality output power, ensures the cleanest output voltage waveform to protect connected loads.

Advanced Battery Management

UPSC-MAK Series guarantees enhanced battery life and maximizes battery performance, life span and reliability through intelligent precision charging. Advanced battery management provides real-time information about battery capacity and back up time, this information can be seen on LCD panel. The Ups tests the batteries at adjustable periods without switching off the system, the test periods can be set by users. Tests can be done either automatically or manually. Equipped with “hot-swap” feature Challenger Series Ups allows battery change without disconnection of the unit.

Functions
Automatic and manual battery test
Accurate back up time prediction
Temperature compensated battery charging
Charging by main control board
Low current and voltage ripple
High accurate runtime prediction
Full and quick battery test
Deep-discharge protection
Records for all battery usage
Records for all battery temperature statistics
Allows battery change without disconnecting the UPS

Digital Control System

Digital Control System of UPSC-MAK Series increases integration and provides lower system cost. Noise immunity, programmability advantage and reduction of hardware are the qualities of this new approach. DSP-controlled UPS system can achieve fast dynamic response for nonlinear loads and high power factor under various loading conditions.

EPO (Emergency Power Off)

EPO function is designed to switch off the UPS in emergency conditions (fire, flood, etc.). The system will turn off the rectifier, inverter and will stop powering the load immediately (including the inverter and bypass) also the battery stops charging or discharging. If the input utility is present, the UPS's control units will remain active; however, the output will be turned off. To remove all power from the UPS the external feeder breaker should be opened.

Static & Manual (Maintenance) Bypass

UPSC-MAK Series includes standard static and manual bypass. Static bypass provides safe failure to mains if the UPS is overloaded or develops a fault condition. Where EMI filters are used to help to neutralize spikes and electrical noise, the load may be routed through bypass to provide further protection. Manual bypass is used to power down the UPS without interrupting the power to the load. With this feature technical personnel can work on the faulty UPS and it is completely safe to change the inner units.

Auto Restart

When the main and bypass sources fail, the UPS draws power from the battery system to supply the load until the batteries are depleted. When UPS will reach its end of discharge, it will shut down. UPS will automatically restart and enable output power: *After utility power is restored After the “Auto Start Delay Time” is expired (the default delay is 5 minutes).*

Perfect Generator Compatibility

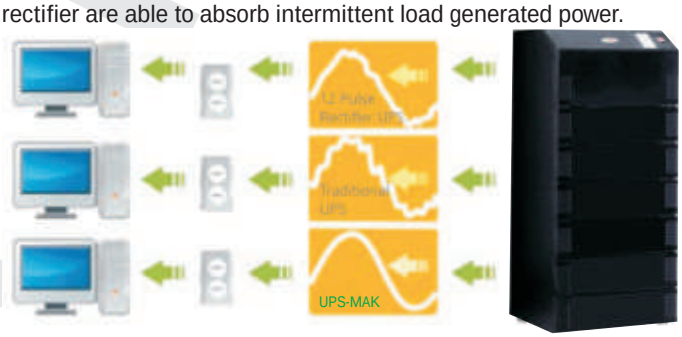
UPSC-MAK are perfectly compatible with diverse sources, especially with generators. When generator power is used, thanks to its robust IGBT rectifier, Challenger Series Ups ensures clean, uninterrupted power to protected equipment. With the IGBT rectifier Low THD is kept less than <3% without compromising efficiency UPS is uniquely compatible with a wide range of generators. With high input power factor performance it is enough to choose generator with power only %20 higher rated than the UPS. Challenger Series has the ability to adjust power walk-in from 5 to 15 seconds, along with reduced input current distortion. Based on the measured current level at the input port, UPS gradually increases the power supplied from the utility source to the load on the output port.

Backfeed Protection

The UPSC-MAK UPS has a back feed protection that prevents any back feed current from the UPS towards the mains power supply, thus ensuring the safety of maintenance personnel. Back-feed protection prevents the risk of electric shock from any electric current feeding back from the UPS outputs in the event of a mains supply failure.

Reverse Energy Tolerance for Regenerative Loads

The UPSC-MAK UPS can be used with regenerative loads, such assynchronous motors. The regenerative loads pump the energy back to mains, traditional Ups systems burn this feedback energy and this causes lower efficiency. Challenger Series Ups with IGBT rectifier are able to absorb intermittent load generated power.



	THD	Power Factor
MAK-UPSC with IGBT Rectifier	<3%	<0.99
Traditional UPS with Input Fiter	<10%	<0.95
UPS without Input Filter	<25%	<0.85

Advanced Communication Capabilities

Challenger Series has a wide range of advanced communication options. Remote control management of the UPS is provided over the Network and enables centralized management

High Efficiency & Low Total Cost of Ownership

UPSC-MAK UPS consumes less energy to supply the loads with its high efficiency up to 93%. Thanks to this high efficiency rate, the percentage of energy that is produced as heat is reduced to a miminum. As a result of decreased heat emission and power loss users can reduce their electricity usage and air conditioning Requirements. With its reduced THDi and 0.99 input power factor, Challenger Ups helps to save money also by reducing generator size requirements.

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