

**MASTER  
GUARD**

**Series D**

from 60 to 200 kVA



**UNINTERRUPTIBLE POWER SUPPLY**

# Series D Top from 60 to 200 kVA

## The Range

MASTERGUARD's Series D family is available from 60 to 200kVA and is compatible with a wide range of battery autonomies. Aspects of Series D's premium class performance are:

- Transformer-less
- Full IGBT double conversion technology
- Full input Power Factor Correction (PFC) and extremely low current harmonic rejection (<3%)
- Total compatibility with any installation
- High conversion efficiency (certified up to 98%), allowing reduction in operating costs
- Capability of powering state-of-the-art IT loads irrespective of the PF (leading or lagging)

## Flexibility for Customised Solutions

Series D can be fully adapted to meet diverse requirements in terms of battery backup time, power, redundancy and harmonic control. Series D is fully compatible with CROSS, MASTERGUARD's static transfer switch. CROSS provides additional protection against potential problems in the power distribution system by immediately switching to the alternative source in the event of a fault. Other options include:

- Flexible paralleling configurations
- Wide remote connectivity capabilities (Basic dry contacts, TCP/IP, SNMP, J-Bus, Profibus, RS232 etc.)

## Leading Technology

MASTERGUARD employ patented Vector Control technology (patents: 95 P3875, 95 P3879 and 96 P3198) to increase the performance of the power converters and enable active conditioning of the load, bringing the following benefits:

- Optimal trade-off between harmonic rejection and efficiency
- Improved performance for specific unbalanced load conditions
- Perfect load sharing between parallel connected UPS systems (less than 5% tolerance of any system output load fraction from 0 to 100%)
- Improved fault clearing capacity (with a peak of 200% of the inverter nominal current up to 5s) for downstream short circuits
- Reduced ownership costs through quick installation times and reduced servicing

## Reliability

Series D uses intelligent double conversion technology.

This architecture combines the secure power provided by double conversion with the efficiency provided by digital interactive technology.

Up to eight Series D units may be connected in parallel, allowing MASTERGUARD to customise and adapt our solution to your changing load requirements.

## Communication

The system is fitted with a twin serial port, a slot bay for expansion cards, a computer relay interface (AS400 compatible) and up to 6 programmable I/O contacts. A graphical liquid crystal display provides clear multilingual information on operating parameters. Series D is fully compatible with MASTERGUARD's suite of connectivity solutions which allows users to preserve critical data and perform a controlled shutdown of equipment in the event of a power disturbance.

## Monitoring

The Series D family is fully compatible with LIFE.net, MASTERGUARD's real-time UPS remote monitoring tool. LIFE.net is the nearest you can get to having a MASTERGUARD engineer permanently onsite. This service provides:

- Continuous real time monitoring of your UPS
- Automatic transmission of a daily status report
- Real time diagnosis of all UPS operational parameters
- A remote fix capability
- Monthly UPS operational status report
- Technical advice regarding the operation of your UPS
- The data collected by LIFE.net provides MASTERGUARD engineers with a detailed history of operation over the full service LIFE of the UPS system
- Unique ETS function for trouble shooting of the most common operating anomalies
- Power Quality Monitoring to effectively monitor power disturbance trends

## Applications

Series D provides secure power infrastructure for a wide range of applications including:

- IT rooms
- Commercial processing systems
- Industrial automation
- Broadcasting and telecommunications systems
- Internet data centres

## Secure Power Always

The correct installation of your UPS is only the start of your relationship with MASTERGUARD. We are pleased to offer a range of maintenance plans which will:

- Help deliver reliability to your load
- Extend the life of your power protection equipment
- Optimise your capital expenditure
- Provide risk management at a fixed cost
- Provide a proactive approach to disaster recovery

Contact your local MASTERGUARD sales office for more information.

**Delegate your power management to the experts.**

<b>Series D Top</b>	<b>60</b>	<b>80</b>	<b>100</b>	<b>120</b>	<b>160</b>	<b>200</b>
<b>TECHNICAL CHARACTERISTICS</b>						
Apparent nominal output power at 25° C (kVA)	66	88	110	132	176	220
Apparent nominal output power at 40° C (kVA)	60	80	100	120	160	200
<b>INPUT</b>						
Nominal primary mains input voltage/voltage range (V)	400 (340 to 460), three-phase + neutral					
Minimum primary input voltage w/o battery discharging	-20% on nominal					
Nominal bypass input voltage/voltage tolerance (V)	400 ± 10% (380 V, 415 V selectable) three-phase + neutral					
Nominal input frequency/frequency tolerance (Hz)	50 ± 6% (60Hz selectable)					
Input current distortion (THDi)* (%)	<3					
Primary input Power Factor	>0.99					
<b>OUTPUT</b>						
Nominal output voltage (V)	400 (380 V, 415 V selectable) three-phase + neutral					
Output voltage stability by load variation 0 - 100% (%)						
static	± 1					
dynamic	Complies with IEC/EN 62040-3, Class 1					
Output frequency (nominal) (Hz)	50 (60 Hz selectable)					
Output frequency variation (%)						
with mains synchronisation	± 1 (2, 3, 4 selectable)					
with internal reference	± 0.1					
Inverter overload capacity	125% for 10 min., 150% for 1 min.					
Nominal output active power at 40° C (kW)	48	64	80	96	128	160
Maximum output active power at 40° C* (kW)	60	80	100	120	160	200
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					
<b>GENERAL</b>						
Classification according to IEC/EN 62040-3	VFI - SS - 111					
Operating temperature (°C)	0-40					
Recommended battery temperature (°C)	+15/+25					
Relative humidity (without condensation at 20° (°C)	<90%					
Protection level	IP 20					
Frame colour	RAL 7035					
Noise at 1 m (dBA)	65	65	68	68	70	70
AC/AC efficiency* (%)	up to 98%					
Parallel configuration	up to 8 units					
<b>DIMENSIONS AND WEIGHT</b>						
Height (mm)	1780					
Width (mm)	570	570	845	845	1120	1245
Depth** (mm)	830					
UPS weight (kg)	290	290	390	390	500	600

\* Conditions apply

\*\* Without front handle (+28 mm with front handle)

MASTERGUARD GmbH  
P.O. Box 2620  
D-91014 Erlangen  
Tel. +49-180-532 37 51  
Fax +49-9131-6 300 300  
info@masterguard.de



**MASTER**  
**GUARD**

[www.masterguard.de](http://www.masterguard.de)



MIKA4LOUKD