

Three-Phase
Uninterruptible
Power Systems

DELPHYS MP

from 60 to 200 kVA

protects you up to 1 200 kVA



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There are two versions to meet your requirements:

- ¥ DELPHYS MP with an SCR rectifier
- ¥ DELPHYS MP elite with an IGBT rectifier

High quality power supply

- ¥ Delivered by SVM digital modulation
- ¥ Adapted to supplying new blade server loads with a leading power factor up to 0.9
- ¥ With sinusoidal current for non-linear loads (Crest Factor 3:1).

High availability

- ¥ A fault tolerant architecture with redundancy of basic functions, such as the ventilation system
- ¥ A variety of architectures for parallel operations, to deal with redundancy, management and changes in power output

Easily integrated equipment

- ¥ An IGBT rectifier which virtually eliminates harmonic distortion, thus removing any stress on your power supply network
- ¥ High-level power factor for reduced apparent power consumption: 0.99
- ¥ The ideal solution for grouping with generator sets without using an excessively large generator.

Battery availability at all times

- ¥ An innovative charge algorithm which adapts to the environmental conditions and the condition of the battery to increase its life
- ¥ An advanced monitoring system able to locate and correct a drift in the interaction with the charging device, for higher confidence in your battery.

Cost effective equipment

- ¥ A compact unit for a smaller footprint
- ¥ An IGBT rectifier, which reduces the need to invest in infrastructure (generator and distribution)
- ¥ The ENERGY SAVER function, in parallel mode, to optimise efficiency and operating costs.

User-friendly operation

- ¥ A control panel with display screen for a more ergonomic operation
- ¥ An array of "com-slot" plug-in communication interfaces, for upgrading your operating requirements.

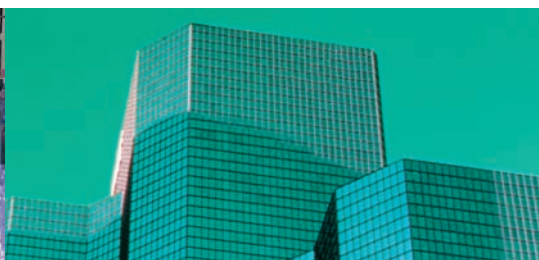
Simplified maintenance

- ¥ An advanced fault finding system
- ¥ A remote access device connected to the remote maintenance centre
- ¥ Easy access to sub-assemblies and components, facilitating tests and reducing maintenance time (MTTR)



Your protection for

- > Data centre
- > Industry
- > Telecom
- > Process

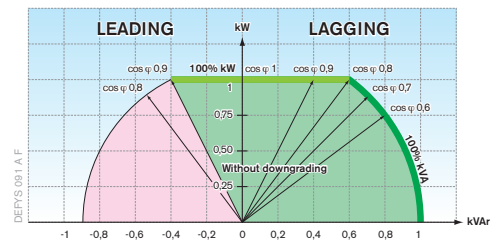


High quality power supply adapted to new computer loads

The SVM digital modulation (Space Vector Modulation) fitted to the transformer integrated downstream the inverter allows supply to your installations with:

- ¥ precise voltage even when the load between phases is completely unbalanced
- ¥ stable output voltage (– 2 % in less than 5 ms) during significant and quick variances in loads
- ¥ sinusoidal THDV output voltage < 2 % with linear loads < 3 % with non-linear loads

- ¥ active power without derating, with loads of a leading power factor up to 0.9
- ¥ a high short-circuit capacity, up to $4 I_n$, which facilitates the selection of protective devices for selectivity in the downstream distribution
- ¥ the safety of galvanic isolation between the DC bus and supplied units



DELPHYS MP elite easy to integrate into your electrical network

A "clean" IGBT rectifier

It eliminates any disturbance on the upstream network (source and distribution)

- ¥ The cutting rectifier guarantees the supply of current with an exceptionally low rate of harmonic distortion: THDI < 2.5 %,

A consistent rectifier

- ¥ The performance of the IGBT rectifier is independent of frequency variations that could come from the generator set
- ¥ The power factor and THDI at the rectifier input are constant whatever the battery charge (continuous voltage level) and the energy load of the uninterruptible power supply.

An economical IGBT rectifier

- ¥ The upstream power factor of the rectifier: 0.99 ind., reducing the kVA's used by 30 %, when compared with conventional technology. The reduction in input current results in a saving in terms of the scale of sources, cables and protective devices

¥ Rectifier capabilities:

- low upstream THDI,
- stepped and timed restarting,
- possibility of suspending battery recharge when operating with a generator set, allows a reduction in the impact caused when the generator set is engaged and the energy used and avoids oversizing



Guaranteed available back-up time

EBS technology (Expert Battery System)

This exclusive feature prolongs battery life

- ¥ It carries out the charge according to an algorithm which adapts to the environmental conditions and the condition of the battery
- ¥ It reduces the corrosion and drying of the separators often caused by permanent floating loads
- ¥ It reduces the residual ripple of the current, one of the causes of premature battery wear

BHC Technology (Battery Health Check)

Guaranteed battery availability

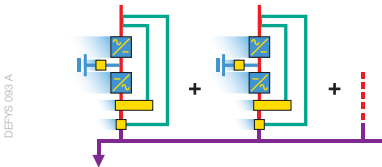
- ¥ the battery and DC circuit are regularly and automatically tested. The operator is notified of their condition
- ¥ the optional BHC function tests and analyses the following parameters: current by branch, voltage by segment or block. In case of drift, the interactive system automatically takes corrective charging measures. If the drift continues, an alarm with the location of the failure (branch, segment or block) allows the necessary preventive repairs to be made.



Parallel systems

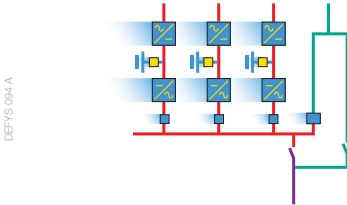
In order to meet the most stringent availability requirements, and the need for flexibility and upgradability of the installation, up to 6 **DELPHYS MP** can work in parallel.

- **DELPHYS MP**, modular, development without constraint.



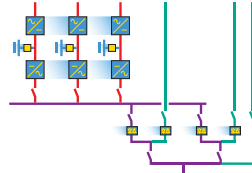
DEFYS 003 A

- **DELPHYS MP** centralised bypass, progressive development.



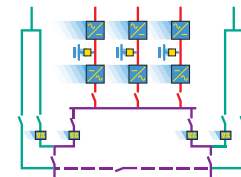
DEFYS 004 A

- **DELPHYS MP** redundant bypass, yet greater availability.



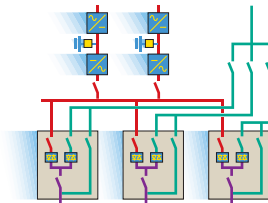
DEFYS 006 A

- **DELPHYS MP** double bypass, to simplify operation.



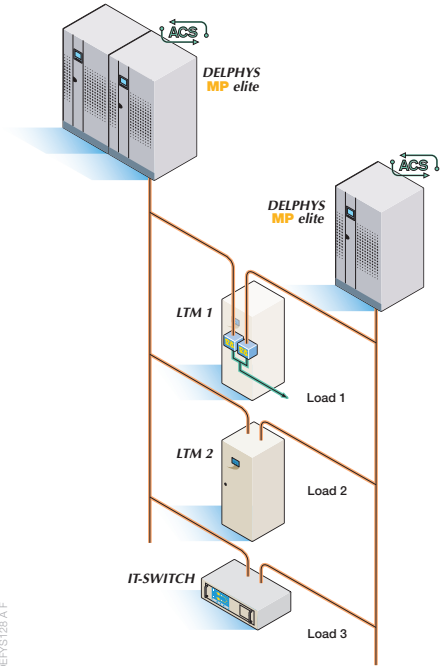
DEFYS 009 B

- **DELPHYS MP** multi bypass, to separate application types.



DEFYS 020 A

- **DELPHYS MP** a twin channel architecture with Static Transfer Systems: **LTM** and **IT SWITCH**.



DEFYS 128 A/F

Graphic display

User-friendly control panel: control panel with LEDs and LCD display.



DEFYS 111 A/F

Standard equipment

- ¥ 7 slots for communication boards.
- ¥ Backfeed protection.
- ¥ Standard interface:
 - 3 inputs (emergency stop, generator set, battery protection),
 - 4 outputs (general alarm, battery use, bypass, need for preventative maintenance).

Optional equipment

- ¥ BHC (Battery Health Check).
- ¥ EBS (Expert Battery System).
- ¥ Colour touch screen.
- ¥ Remote access box.
- ¥ ADC (Advanced Dry Contacts) data entered and output through dry contacts.
- ¥ RS232, RS422 and RS485 interface, JBUS / MODBUS or PROFIBUS protocol.
- ¥ **NET VISION** interface for LAN networks Ethernet.
- ¥ **TOP VISION** software for monitoring with Windows™.
- ¥ ACS (Automatic Cross Synchronisation) with an external source.
- ¥ Reinforced IP protection index.
- ¥ Ventilation filters
- ¥ Ventilation control.

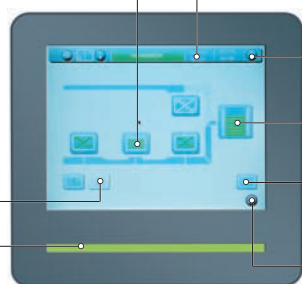
Colour touch screen

The operator has access to the control functions with only a few intuitive touches of the screen.

Direct access zones to sub-unit menus

Quick access to each installation module

Status bar



DEFYS 102 A

Operating mode icons

Help menu for correct operation

UPS load rate (bar graph)

Access to installation block diagram

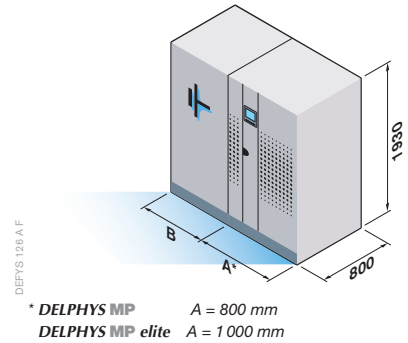
Preventive maintenance request

UPS⁽¹⁾ and batteries

A compact and integrated system.

UPS	DELPHYS MP	DELPHYS MP elite	Battery for back-up time			
			10 minutes		15 minutes	
Power kVA/kW	Weight kg	Weight kg	B mm	Weight kg	B mm	Weight kg
60 / 48	640	680	800	800	800	1000
80 / 64	660	700	800	1000	800	1300
100 / 80	790	820	800	1300	800	1700
120 / 96	810	840	800	1700	1600	1900
160 / 128	920	970	1600	1900	1600	2500
200 / 160	950	1000	1600	2500	2400	3000

(1) Uninterruptible Power Systems.

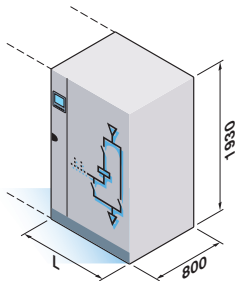
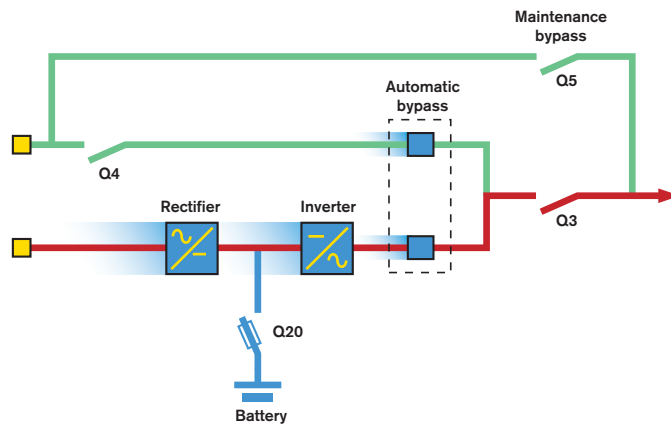


Bypass cabinet

The coupling and centralised bypass functions

Power* kVA	L mm	Weight kg
60	800	280
80	800	280
120	800	280
200	800	300
250	800	300
300	800	320
400	800	320
500	800	330
800	1000	420
1200	1300	600

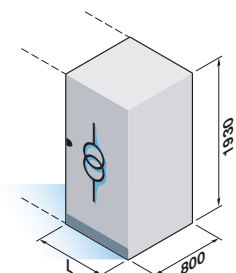
On line double conversion



Bypass transformer

For galvanic isolation.

Power* kVA	L mm	Weight kg
60	600	400
80	600	450
120	600	550
200	800	850
300	1000	1250
400	1200	1500



Technical data

RECTIFIER INPUT

Technology	SCR PFC - IGBT
Voltage	three-phase 380 V - 400 V - 415 V ⁽⁴⁾
Permissible tolerance	340 to 460 V
Frequency	50 - 60 Hz (45 to 65 Hz)
DELPHYS MP elite power factor	0.99
DELPHYS MP elite distortion rate	THDI: 2.5 %

OUTPUT

Voltage (configurable)	three-phase + N 380 V - 400 V - 415 V ⁽⁴⁾
Voltage tolerance	
Static load	< 1 %
Dynamic load conditions from 0 to 100 %	± 2 % in 5 ms
Distortion rate in voltage	THDU < 2 %
Crest factor permissible without downgrading	3:1
PF permissible without downgrading	lag. to 0.9 lead.
Frequency (configurable)	50 - 60 Hz
Autonomous frequency tolerance	± 0.2 %
Overload permissible	1 minute: 150 % 10 minute: 125 %
Efficiency	
Global ⁽¹⁾	up to 93.5 %
In ECO-MODE configuration	98 %

ENVIRONMENT

Sound level (ISO 3746) ⁽¹⁾	68 dBA
Compliance to standards	
Safety	IEC62040-1-2/IEC60950
EMC	IEC62040-2
Technical data	IEC62040-3
Classification according to IEC62040-3	UPS ⁽²⁾ class VFI ⁽³⁾ - SS - 111

* For other power ranges, please consult us.

(1) As per power range. - (2) Uninterruptible Power Systems. - (3) Voltage Frequency Independent. - (4) Other voltages on request.

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