

DELPHYS MP

from 60 to 200 kVA

your protection up to 1 200 kVA

There are two versions to meet your requirements:

- **DELPHYS MP** with an SCR rectifier,
- **DELPHYS MP elite** with an IGBT rectifier for a sinusoidal current input.

High quality power supply

- Delivered by SVM digital modulation (Space Vector Modulation).
- Adapted to supply new IT loads with a leading power factor up to 0.9 without derating.
- With sinusoidal voltage 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 without filters, thus removing any stress on your power supply network.
- Reduced current consumption due to an input power factor of 0.99 without derating constant in every situation.
- The ideal solution for grouping with generator sets without using an excessively large generator.

Battery availability at all times

- An innovative load algorithm which adapts to the environmental conditions and the condition of the battery to increase its life.
- A highly-developed monitoring system, capable of locating and correcting any problems interacting with the charging device.

Cost effective equipment

- A compact unit for a smaller footprint.
- An IGBT rectifier, which reduces the size of the infrastructure (transformer, generator set and distribution)
- The ENERGY SAVER function, staying in on-line mode and keeping the redundancy required.

User-friendly operation

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

Simplified maintenance

- An advanced diagnostic system.
- A remote access device connected to the remote maintenance centre.
- Easy access to subassemblies and components, facilitating tests and reducing maintenance time (MTTR).

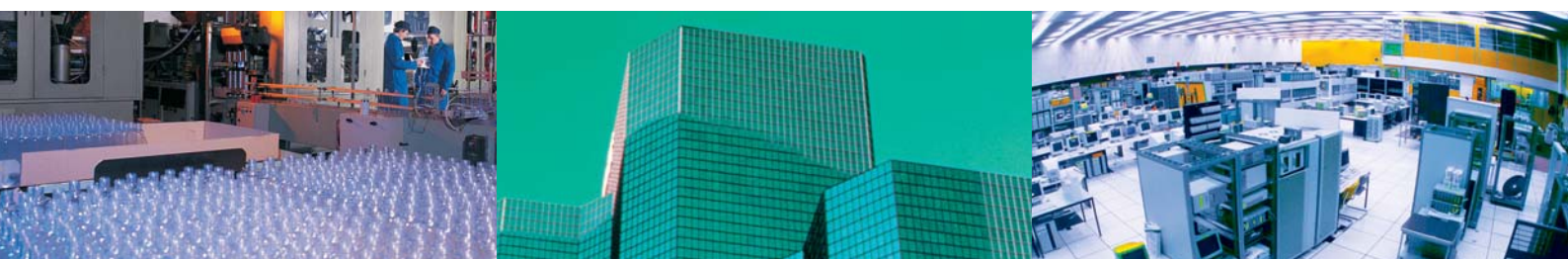
Remote monitoring

- Easy remote monitoring via web browser or via customer's supervision systems (web, intranet, extranet...)
- Very open connectivity (Modbus/Jbus, Jbus tunnelling, LAN...)



Your protection
for

- > Data centre
- > Industry
- > Telecommunications
- > Processes

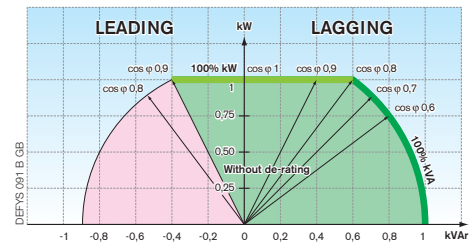


High quality power adapted to new IT loads

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

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

- active power without de-rating, with loads with a lagging power factor and up to 0.9 leading,
- a high short-circuit capacity, up to $4 I_n$, which facilitates the selection of protective devices for selectivity in the downstream distribution,
- secure 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 be produced by the generating set.
- The power factor and THDI at the rectifier input are constant whatever the battery charge status (continuous voltage level) and the load rate of the UPS.

[Info. p. 97]

An economical IGBT rectifier

- The power factor upstream of the rectifier: 0.99, reducing the kVA 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,
 - gradual, timed restarting,
 - possibility of suspending battery recharge when operating with a generator set, allow the impact caused when the generator set is engaged and the energy used to be reduced, along with the footprint.



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 corrosion and drying out 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.

[Info. p. 106]

BHC Technology (Battery Health Check)

Guaranteed battery availability:

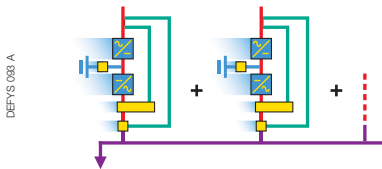
- the battery and DC circuit are regularly automatically tested and the operator is notified of their condition,
- the optional **BHC** function tests and analyses the following parameters: current by branch, voltage by segment or block. In case of drift, the interactive system automatically takes corrective 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. [Info. p. 106]



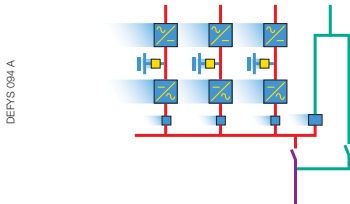
Parallel systems

In order to meet the most demanding availability requirements, and the need for the installation to be flexible and upgradable, up to 6 **DELPHYS MP** can run in parallel.

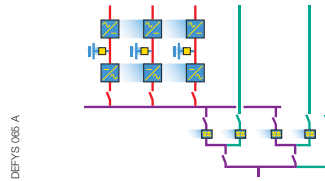
- **DELPHYS MP modular**, development without constraint.



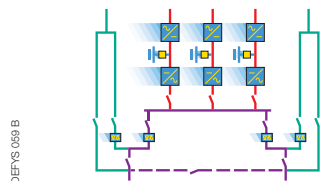
- **DELPHYS MP centralised bypass**, progressive development.



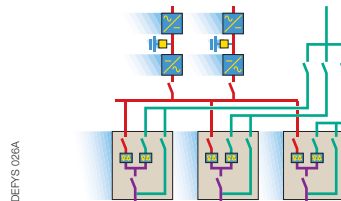
- **DELPHYS MP redundant bypass**, for greater availability.



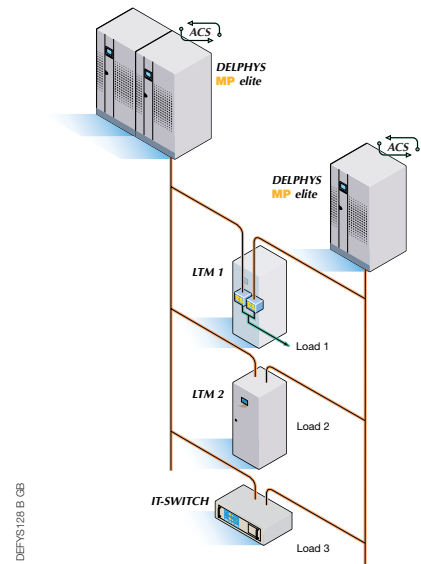
- **DELPHYS MP double bypass**, to simplify operation.



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



- **DELPHYS MP** a twin channel architecture with **Static Transfer Systems: IT SWITCH** and **LTM** [Info. p. 68 and 72].



Standard equipment

- Slots for 7 communication cards.
- Protection backfeed: detection circuit.
- Standard interface:
 - 3 inputs (emergency stop, generating set, battery protection),
 - 4 outputs (general alarm, back-up, bypass, preventive maintenance needs).

Accessories

- **BHC** battery unit monitoring.
- **EBS** (Expert Battery System) [Info. p. 106].
- Graphic touch screen.
- **ACS** function for synchronisation with an external source [Info. p. 70 and 74].
- Reinforced IP protection degree.
- Ventilation filters.
- Ventilation control.

Communication options

- Remote control panel.
- ADC (Advanced Dry Contacts) data input and output by dry contacts [Info. p. 104].
- RS232, RS422, RS485 serial port JBUS/MODBUS, PROFIBUS or DEVICENET protocol [Info. p. 104].
- **MODBUS TCP** interface (JBUS/MODBUS tunneling) [Info. p. 105].
- **NETVISION** interface for the LAN Ethernet network [Info. p. 93].
- **TOP VISION** supervision software on Windows XP® PRO station [Info. p. 95].

Remote maintenance

- **TELESERVICE** for continuous monitoring the SOCOMEC UPS maintenance service. [Info. p. 110]

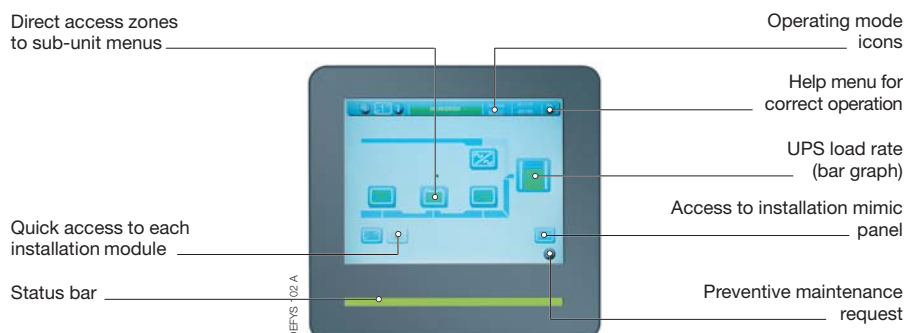
Graphic display

Design adapted to the user: control panel with LEDs and LCD display.



Graphic touch screen (GTS)

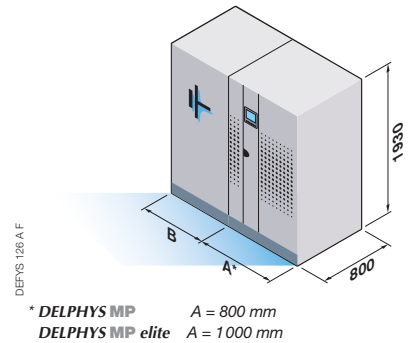
The operator has access to the control functions with only a few intuitive touches of the screen.



UPS and batteries

A compact and integrated system.

UPS	DELPHYS MP	DELPHYS MP elite	Battery for back-up time			
			10 minutes		15 minutes	
			B mm	Weight kg	B mm	Weight kg
UPS power kVA/kW	Weight kg	Weight kg				
60/48	650	700	800	810	800	1200
80/64	650	700	800	1200	800	1270
100/80	820	820	800	1230	800	1310
120/96	820	820	800	1310	1600	2390
160/128	920	980	1600	2390	1600	2530
200/160	920	980	1600	2460	2400	3590

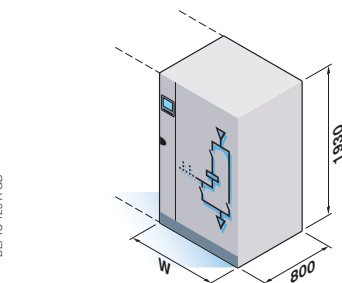
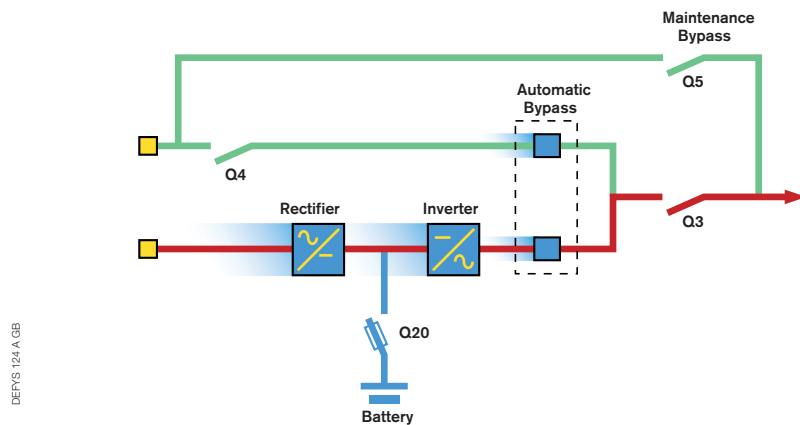


Bypass cabinet

The coupling and centralised bypass functions.

Power ⁽¹⁾ kVA	W mm	Weight kg
60	800	300
80	800	300
120	800	300
200	800	300
250	800	370
300	800	370
400	800	370
500	800	370
800	1000	420
1200	1300	600

On line double conversion [Info. p. 97]



Technical data

RECTIFIER INPUT

Technology	DELPHYS MP DELPHYS MP elite	SCR PFC - IGBT
Voltage	three-phase 380 V - 400 V - 415 V ⁽¹⁾	
Acceptable tolerance	340 to 460 V	
Frequency	50 - 60 Hz (45 to 65 Hz)	
Power factor: DELPHYS MP elite	0.99 constant	
Distortion rate: DELPHYS MP elite	THDI: 2.5% without filter	

OUTPUT

Voltage (configurable)	three-phase + N 380 V - 400 V - 415 V ⁽¹⁾
Voltage tolerance	
Static load	< 1%
Dynamic load conditions from 0 to 100%	± 2% in 5 ms
Voltage distortion rate	THDU < 2%
Acceptable crest factor without de-rating	3:1
PF acceptable without de-rating	lagging to 0.9 lead.
Frequency (configurable)	50 - 60 Hz
Autonomous frequency tolerance	± 0.2%
Overload	1 min: 150% 10 min: 125%
Efficiency	
Global ⁽²⁾	94%
In ECO-MODE configuration	98%

ENVIRONMENT

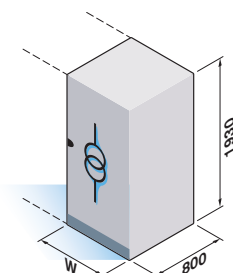
Noise level (ISO 3746) ⁽²⁾	67 dBA
Compliance to standards	
Safety	IEC62040-1-2/IEC60950
EMC	IEC62040-2
Technical data	IEC62040-3
Classification as per IEC62040-3	Voltage Frequency Independent, on-line double conversion VFI - SS-111

(1) Three-phase 220-230-240 V on demand. - (2) As per power range.

Bypass transformer

For galvanic isolation.

Power ⁽¹⁾ kVA	W mm	Weight kg
60	600	400
80	600	450
120	600	550
200	800	850
300	1000	1250
400	1200	1500



(1) For other power ranges, please consult us.