

Single-phase
and three-phase
UPS

DELPHYS DS

from 20 to 60 kVA

your protection in specific environments

The highest quality power supply

The speed and precision of the **DELPHYS DS** digital control is an essential factor guaranteeing high quality output voltage for the UPS.

DELPHYS DS provides:

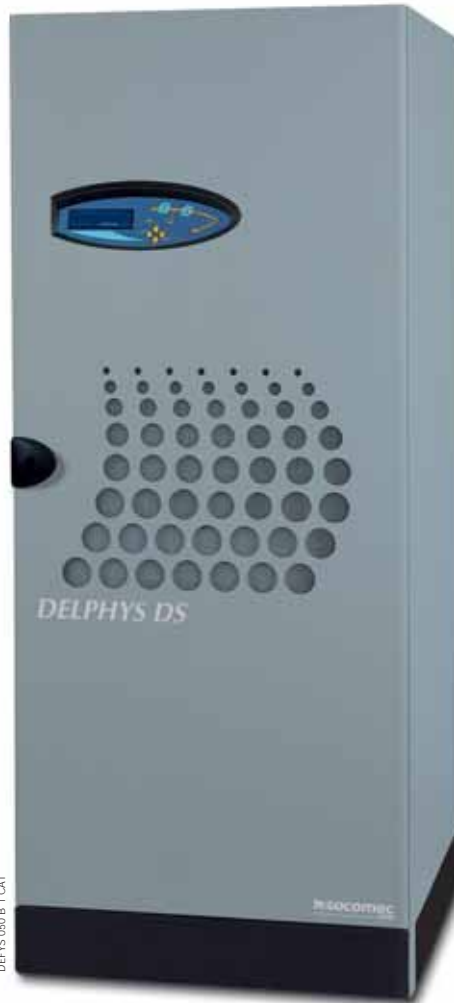
- high quality supply for non-linear loads (IT equipment or industrial processes),
- voltage stability even in the presence of high load steps,
- low output voltage distortion.

These features limit the effect on overall voltage distortion downstream in the distribution network generated by non-linear loads.

For the harshest environments

DELPHYS DS is designed to adapt to the constraints of the harshest environments:

- robust construction,
- antidust filter,
- enhanced degree of protection (IP) to resist external elements,
- special paint,
- redundancy,
- component ventilation control,
- smaller downstream panel due to a high short-circuit feature.

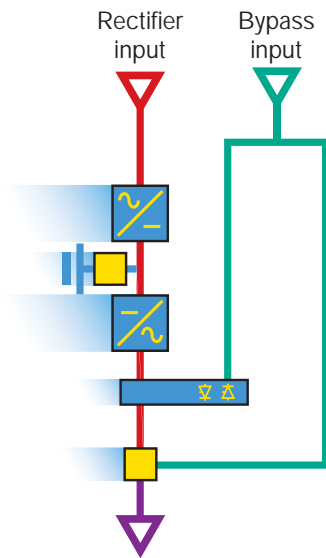


Your protection for

- > Petrochemicals industry
- > Industry
- > Service industries



A reliable and secure power supply for IT and industrial applications



DELPHYS 003 B GB

Galvanic separation

To ensure that high quality power is always available, the technology used by **DELPHYS DS** integrates an isolation transformer in the inverter bridge as standard. It provides galvanic separation between the continuous circuit (rectifier-battery) and the loads. When required by the neutral system constraints, **DELPHYS DS** monitors the isolation level of the continuous circuit.

Availability guaranteed by a double mains input

Power may be supplied to the rectifier and bypass, with no special adaptation required, from a single power source or from two totally independent sources.

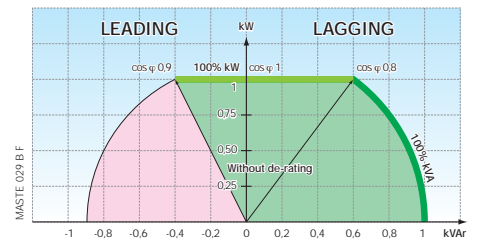
Supplying motors

DELPHYS DS has considerable overload capacities allowing it to supply applications such as drive motors, smoke extractors, etc.

Selectivity in downstream distribution

The **DELPHYS DS** short circuit current facilitates the choice of protective devices to provide selectivity in downstream distribution. To make installation easier, these protective devices may be incorporated into the equipment.

Supplying leading loads



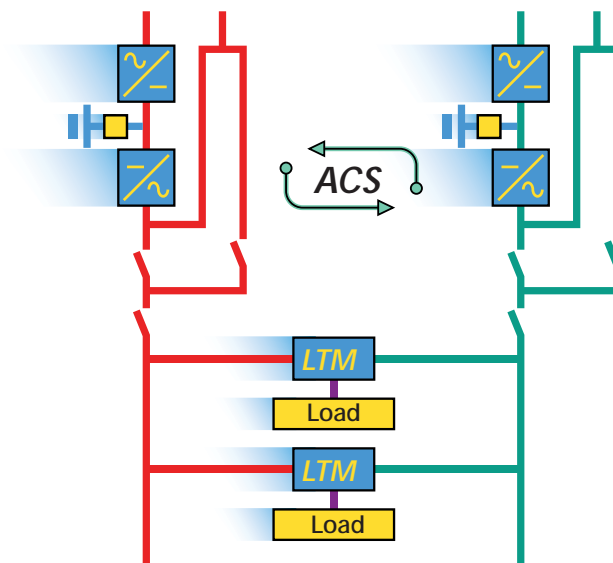
DELPHYS DS supplies the loads with a lagging power factor and leading up to 0.9 without de-rating the active power.

Reliability in downstream distribution

Synchronous operation of totally independent units

The **ACS** (Automatic Cross Synchronisation) function keeps the **DELPHYS DS** output synchronised with an external source during periods when the reference source is not available (bypass network).

The **ACS** function guarantees optimum operation. It enables synchronous automatic transfer via the **IT SWITCH** or **LTM** (Static Transfer Systems), even during mains absence or when running on batteries.



DELPHYS 027 B GB

Batteries: availability at all times

Considering the importance of the battery in the operation of a UPS system, **DELPHYS DS** offers a choice of different technologies: sealed or open lead-acid or nickel-cadmium batteries.

DELPHYS DS is suitable for back-up requirements up to several hours.

To increase its battery life, exclusive **SENSI-CHARGER** technology provides:

- intelligent management of recharging,
- adjustment of the load voltage according to temperature,
- automatic test for availability,
- protection against deep discharges,



DELPHYS 026 A

Integration into your electrical network



DELPHYS DS performances, such as overload and short circuit current capacity and galvanic isolation ensure that it integrates perfectly into your electrical environment.

UPS power kVA	Rectifier		Load and bypass	
	In A	Cable section* mm ²	In A	Cable section* mm ²
Single-phase				
20	36	35	87	50
30	54	35	130	50
40	75	50	174	70
60	115	50	261	120
Three-phase				
20	36	35	30	35
30	54	35	44	35
40	75	50	58	35

* As an example, cable cross section given for a length < 50 m for a couple conductor type U1000 RO 2V
Admissible drop < 3 %
Specifications given for input supply and output voltage 3 x 400 V + N and 15 min backup time battery.

Communication options

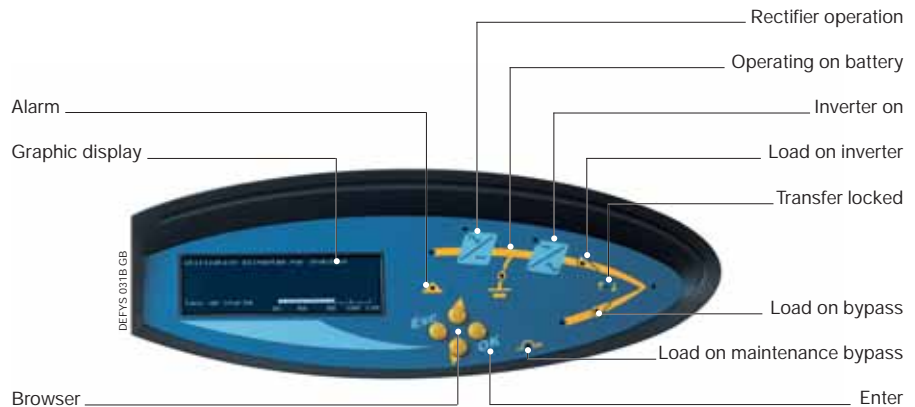
A wide range of interfaces and communications software is available to meet your need for dialogue between **DELPHYS DS** and your remote industrial and IT monitoring systems.

- Remote monitoring and control kit.
- Remote access panel.
- RS232, RS422 and RS485 serial connection JBUS/MODBUS or PROFIBUS protocol [Info. p. 118].
- **NET VISION** interface for the LAN Ethernet network [Info. p. 107].
- **UNI VISION PRO** software for automatic shutdown of servers [Info. p. 107].
- **TOP VISION** software for supervision with Windows™ [Info. p. 109].

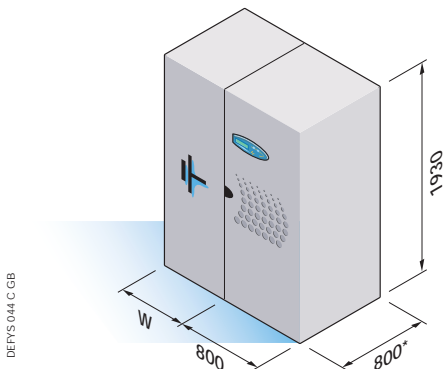
A complete, user-friendly control panel

The **DELPHYS DS** graphic display, controlled by microcontroller, is combined with an intuitive navigation system. It gives access to all the management parameters:

- status and alarms,
- control commands,
- input, output and battery measurements: current, voltage, frequency, temperature,
- adjustable parameters: battery test, time clock, language, buzzer, operation in **ECO-MODE**.

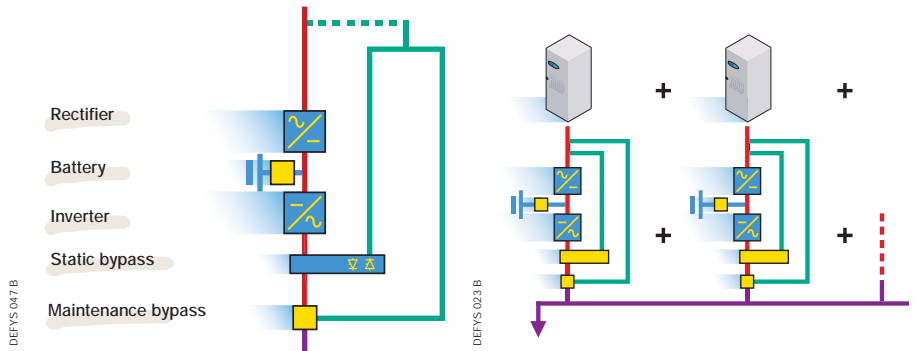


A compact and integrated system



* 845 mm overall.

Upgradeable in power and in redundancy



Extensible unit
One or two input networks

Modular parallel configuration

UPS		Back-up battery ⁽¹⁾ 10 min.	
UPS power kVA	Weight kg	W mm	Weight kg
Single-phase			
20	490	800	400
30	490	800	480
40	560	800	570
60	560	800	810
Three-phase			
20	500	800	400
30	500	800	430
40	540	800	570

(1) These specifications may vary according to the battery manufacturer.
Please consult us for on-site assembly, advice on open lead-acid or nickel-cadmium batteries or extended back-up time.

In order to increase the power and/or the reliability of the installations (redundancy), the **DELPHYS DS** UPS can operate in parallel.

The modular configuration allows simple extension for:

- immediate or later attachment of unit type modules,
- the overall redundancy of the subassemblies, including the bypass.

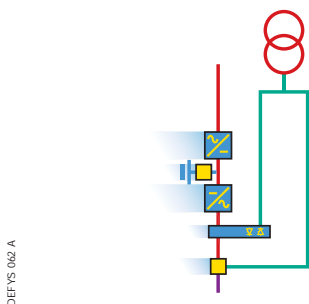
[Info. p. 115].

No single point of failure:

- the synchronisation bus uses a fault tolerant token ring topology that accepts an accidental opening of the synchronisation loop, without UPS malfunctioning or load losses. An alarm is given to the operator at the first fault.

Galvanic isolation: for any neutral system

To save space, this transformer is integrated in the equipment.



UPS power kVA	Single-phase weight kg	Three-phase weight ⁽¹⁾ kg
20	140	100
30	140	220
40	220	220
60	220	400

(1) Weight to be added to UPS weight, except 60 kVA three-phase: the transformer is contained in an additional unit with W = 600 mm.
Please consult us for other power ranges

Technical data

RECTIFIER INPUT

Three-phase voltage	380 V	400 V	415 V ⁽¹⁾
Acceptable tolerance	± 15 %	± 15 %	± 10 %
Frequency	50 - 60 Hz (± 5 Hz)		
Inrush input current	< I _n		

OUTPUT

Single-phase voltage (configurable)	220 V - 230 V - 240 V
Three-phase voltage with neutral (configurable)	380 V - 400 V - 415 V ⁽¹⁾
Tolerance	
In static load conditions	< 1 %
In dynamic load conditions from 0 to 100 %	-4 % +2 %
Active power KW	PF = 0.8
Acceptable crest factor without de-rating	3
PF acceptable without de-rating	lag. 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 %
Short circuit current	
Acceptable on bypass	up to 45 I _n
On inverter (mains absent)	up to 9 I _n

ENVIRONMENT

Power kVA	20	30	40	60
Heat dissipation kcal/h	850	1380	1920	3150
Noise level at 1 m ⁽²⁾	60 dBA			
IP rating	IP 20 (specific IP on request)			
Compliance to standards	IEC 62040-1-2 (safety) IEC 6204062 (EMC) IEC 62040-3 (performance)			
Classification according to IEC 62040-3	Voltage Frequency Independent, on-line double conversion VFI - SS-111			

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