

# **DELPHYS MX**

# Flexible transformer-based solution for resilient architectures from 250 to 900 kVA



### Optimum load protection

- Permanent operation in VFI mode (online double conversion).
- The inverter isolation transformer provides galvanic separation both between the DC current and the load and between the two sources.
- Output voltage precision under all load conditions.
- High overload capacity to withstand abnormal load conditions.
- Easy maintainability reduces MTTR thanks to pull-out sub-assemblies and front access to all components.
- Fault-tolerant architecture with built-in redundant components.

### Flexible and easily upgradable

- Robust and reliable paralleling mode.
- Distributed or centralised bypass ensures perfect compatibility with any electrical infrastructure.
- Hot-plug capability simplifies extension or redundancy while keeping high quality power.
- The transformer based topology is adapted to all kinds of electrical installations.

# Minimised Total Cost of Ownership

- High efficiency in VFI mode, including the transformer.
- High power density: its small footprint saves space on your premises.
- The high and constant input power factor helps limit the dimensions of your upstream network infrastructure.
- Mains connection of the rectifier requires only 3 cables (no neutral).
- High short-circuit capacity simplifies downstream protective devices.

### The solution for

- > Industry
- > Processes
- > Infrastructure
- > IT applications
- > Healthcare

#### Attestations and certifications



### **Advantages**



# Our dedicated Expert Services for UPS

We offer services to ensure your UPS highest availability:

- > Commissionina
- > On-site intervention
- > Preventive maintenance visits
- > 24-hour call out and rapid on-site repairs
- > Maintenance packages
- > Training



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### Parallel systems

- Distributed or centralized bypass for parallel architecture up to 6 units.
- Redundant systems ("1+1" and "n+1").
- "2n" architecture with Static Transfer Systems.

### Standard electrical features

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

### Electrical options

- EBS (Expert Battery System)(2).
- ACS synchronisation system for 2n architecture.
- Redundant electronic power supplies.
- Hot plug option (increase the power keeping the load supplied in double conversion).

### Mechanical options

- Reinforced IP protection up to IP52.
- Dust filters.
- Fan redundancy with failure detection.
- Top entry connection.

### Communication options

- GTS (Graphic Touch Screen).
- ADC interface (configurable voltage-free contacts).
- MODBUS RTU.
- MODBUS TCP.
- PROFIBUS / PROFINET.
- BACnet/IP interface.
- NET VISION: professional WEB/SNMP interface for UPS monitoring and shutdown management of several operating systems.
- 3 extra slots for communication cards.

## Remote monitoring service

 LINK-UPS, remote monitoring service that connects your UPS to your Critical Power specialist 24/7.

### Technical data

Rated voltage   Signor   Si		DELPHYS MX						
Rount coliptor   Paralle configuration   Paralle co	Sn [kVA]	250	300	400	500	800	900	
Parallel configuration	Pn [kW] <sup>(1)</sup>	225	270	360	450	720	810	
NPUT   Rated   voltage**   380 V + 400 V + 415 V   360 to 460 V   360 V   3	Input/output	3/3						
Relation by   Septiminate	Parallel configuration	up to 6 units						
Vallage blearance   340 to 460 V   360 to 460 V     Rated frequency   50(60 Hz   51 Hz   50	INPUT							
Retail frequency   S0/80   H	Rated voltage <sup>(2)</sup>	380 V - 400 V - 415 V						
Fequency tolerance   1971	Voltage tolerance	340 to 460 V 360 to 460 V						
Power factor / THDI         0.93 / < 4.5%         0.94 / < 5%           OLTPUT           Rated voltage         380 V - 400 V - 415 V           Voltage bloerance         380 V - 400 V - 415 V           Frequency blearance         5.060 Hz           Frequency blearance         5.060 Hz           Total output voltage distortion - linear load         Total output voltage distortion - non-linear load         Total output voltage voltage distortion - non-linear load         Total voltage v	Rated frequency	50/60 Hz						
Sabet voltage   Sabet voltage   Sabet voltage   Sabet voltage toltage   Sabet voltage toltage   Sabet voltage toltage   Sabet voltage toltage voltage distortion - Innear load   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage distortion - Innear load   Thitul ∨ 2.5%   Sabet voltage   Sabet voltage voltage   Sabet voltage   Sabet voltage voltage voltage   Sabet voltage voltage voltage   Sabet voltage voltage voltage   Sabet voltage voltage voltage voltage   Sabet voltage vo	Frequency tolerance	± 5 Hz						
Rated voltage   S80 V + 400 V + 415 V   Voltage blerance   C1 % (static load), ± 2% in 5 ms (ynamic load conditions from 0 to 100 %)   Frequency tolerance   C2 %     Frequency tolerance   C2 %     Frequency tolerance   C30 %     Frequency tolerance	Power factor / THDI	0.93 / < 4.5%				0.94 / < 5%		
Voltage to larance         < 1% (static lack), ± 2% in 5 ms (dynamic load conditions from 0 to 100%)           Rated frequency         50/60 Hz           Total output voltage distortion - Innear load         ThdU < 3.2 %	OUTPUT							
Reted frequency   100	Rated voltage	380 V - 400 V - 415 V						
Frequency tolerance	Voltage tolerance	$<$ 1 % (static load), $\pm$ 2 % in 5 ms (dynamic load conditions from 0 to 100 %)						
Total output voltage distortion - linear load Total output voltage distortion - non-linear load (EC 62043-3) Short-circuit current  Overload	Rated frequency	50/60 Hz						
Total output voltage distortion - non-linear load (IEC 62043-3)         ThidU < 3.2 %         ThidU < 2.5 %           Overload         150% for 1 minute, 125% for 1 0 minutes           Overload         3:1	Frequency tolerance	± 0.2%						
INUU	Total output voltage distortion - linear load	ThdU <2%						
Overload         150% for 1 minute, 125% for 10 minutes           Crest factor         3:1           Admissible power factor without derating         Brace factor           BYPASS           Rated voltage         380 V - 400 V - 415 V           Voltage tolerance           # 10%           Rated frequency         50/60 Hz           Frequency tolerance         ± 2% (configurable for GenSet compatibility)           Frequency tolerance         ± 2% (configurable for GenSet compatibility)           Frequency tolerance         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Online mode         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Online mode         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Online mode         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Online mode         ± 2% (configurable for GenSet compatibility)           EFFICIENCY		ThdU < 3.2 % ThdU < 2.5%						
Crest factor         3: Inductive up to 0.9 leading           BYPASS           Rated voltage         380 V - 400 V - 415 V           Voltage tolerance         ± 10%           Rated frequency         50/60 Hz           Frequency tolerance         ± 2% (configurable for SenSet compatibility)           Frequency tolerance         ± 2% (configurable for SenSet compatibility)           FIFICIENCY           Online mode         up to 93.5%           Eco Mode         up to 93.5%           Eco Mode         p88           ENVIRONMENT           Operating ambient temperature         from 0 °C up to +35 °C (from 15 °C to 25 °C for maximum battery life)           Relative humidity         0% - 95% without condensation           Maximum altitude         100 maximum altitude         270 dBA         ≤ 70 dBA         ≤ 75 dBA           UPS CABINET           Dimensions W x D x H         1600 x 95 x 1930 mm         3300 x 995 x 2210 mm           Weight         2500 kg         2800 kg	Short-circuit current	Up to 4,4 In						
Crest factor         3: Inductive up to 0.9 leading           BYPASS           Rated voltage         380 V - 400 V - 415 V           Voltage tolerance         ± 10%           Rated frequency         50/60 Hz           Frequency tolerance         ± 2% (configurable for Set compatibility)           Frequency tolerance         ± 2% (configurable for Set compatibility)           FFFICIENCY           Online mode         ± 2% (configurable for Set compatibility)           ED Mode         ± 2% (configurable for Set compatibility)         ± 2% (configurable for Set compatibility)           Color Mode         ± 2% (configurable for Set compatibility)         ± 28 (configurable for Set compatibility	Overload							
BYPASS         Rated voltage         380 V - 400 V - 415 V           Voltage tolerance         ± 10%           Rated frequency         £ 50/60 Hz           Frequency tolerance         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Online mode         ± 2% (configurable for GenSet compatibility)           EEO Mode         98%           EEO Mode         98%           ENVIRONMENT           Operating ambient temperature         from 0 °C up to +35 °C (from 15 °C to 25 °C for maximum battery life)           Relative humidity         0 % -95% without condensation           Maximum altitude         1000 m without derating (max. 3000 m)         Acoustic level at 1 m (\$0 3746) <sup>®</sup> )         ≤ 75 dBA           UPS CABINET           UPS CABINET         1000 m without derating (max. 3000 m)         Acoustic level at 1 m (\$0 3746) <sup>®</sup> )         ≤ 75 dBA         ≤ 75 dBA         UPS CABINET         ED MED CABINET	Crest factor							
BYPASS         Rated voltage         380 V - 400 V - 415 V           Voltage tolerance         ± 10%           Rated frequency         £ 50/60 Hz           Frequency tolerance         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Online mode         ± 2% (configurable for GenSet compatibility)           EEO Mode         98%           EEO Mode         98%           ENVIRONMENT           Operating ambient temperature         from 0 °C up to +35 °C (from 15 °C to 25 °C for maximum battery life)           Relative humidity         0 % -95% without condensation           Maximum altitude         1000 m without derating (max. 3000 m)         Acoustic level at 1 m (\$0 3746) <sup>®</sup> )         ≤ 75 dBA           UPS CABINET           UPS CABINET         1000 m without derating (max. 3000 m)         Acoustic level at 1 m (\$0 3746) <sup>®</sup> )         ≤ 75 dBA         ≤ 75 dBA         UPS CABINET         ED MED CABINET	Admissible power factor without derating							
Voltage to lerance         ± 10%           Rated frequency         50/60 Hz           Frequency tolerance         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Online mode         ± 10 to 93.5%           ± 500 Med         ± 98%           ENVIRONMENT           Operating ambient temperature         from 0 °C up to +35 °C (from 15 °C to 25 °C for maximum battery life)           Relative humidity         0% -95% without condensation           Maximum altitude         1000 m without derating (max. 3000 m)         4 57 dBA           UPS CABINET           UPS CABINET         Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm         Weight         2500 kg         3300 kg         5900 kg         Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm         Weight         2500 kg         3300 kg         5900 kg         5900 kg         EVED         Colours         FAL 9006         STANDARDS         STEX/EDAG (2040.1.1, AS 62040.1.1,	BYPASS				· ·			
Voltage to lerance         ± 10%           Rated frequency         50/60 H≥           Frequency to lerance         ± 2% (configurable for GenSet compatibility)           EFFICIENCY           Up to 93.5%           ECO Mode         ± 100 to 10	Rated voltage	380 V - 400 V - 415 V						
### EPFICIENCY    Performance	-							
### FICIENCY  Online mode	Rated frequency	50/60 Hz						
### FICIENCY  Online mode	Frequency tolerance	± 2% (configurable for GenSet compatibility)						
Eco Mode         98₩           ENVIRONMENT           Operating ambient temperature         from 0 °C up to +35 °C (from 15 °C to 25 °C for maximum battery life)           Relative humidity         0 % -95 % without condensation           Maximum altitude         1000 m without derating (max. 3000 m)           Acoustic level at 1 m (ISO 3746)®         ≤ 70 dBA         ≤ 72 dBA         ≤ 75 dBA           UPS CABINET           Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm           Weight         2500 kg         1P20           Colours         RAL 9006           STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2         EEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	EFFICIENCY							
ENVIRONMENT  Operating ambient temperature  Relative humidity  Maximum altitude  Acoustic level at 1 m (ISO 3746)® 3 ≤ 70 dBA 572 dBA 575 dBA  UPS CABINET  Dimensions W x D x H 1600 x 995 x 1930 mm  Weight 2500 kg 2800 kg 3300 kg 5900 kg  Degree of protection  Colours  STANDARDS  Safety  EMC  Performance  FINAL BACE  FINAL BACE	Online mode	up to 93.5%						
Operating ambient temperature         from 0 ° C up to + 35 ° C (from 15 ° C to 25 ° C for maximum battery life)           Relative humidity         0 % - 95 % without condensation           Maximum altitude         1000 m without derating (max. 3000 m)           Acoustic level at 1 m (ISO 3746)®         ≤ 70 dBA         ≤ 72 dBA         ≤ 75 dBA           UPS CABINET           Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm           Weight         2500 kg         2800 kg         3300 kg         5900 kg           Degree of protection         IP20           Colours         RAL 9006         STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2         EMC           Performance         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	Eco Mode	· I · · · · · · · · · · · · · · · · · ·						
Relative humidity         0 % - 95 % without condensation           Maximum altitude         1000 m without derating (max. 3000 m)           Acoustic level at 1 m (ISO 3746) <sup>(S)</sup> ≤ 70 dBA         ≤ 72 dBA         ≤ 75 dBA           UPS CABINET           Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm           Weight         2500 kg         3300 kg         5900 kg           Degree of protection         IP20           Colours         RAL 9006           STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.2         EEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3								
Relative humidity         0 % - 95 % without condensation           Maximum altitude         1000 m without derating (max. 3000 m)           Acoustic level at 1 m (ISO 3746) <sup>(S)</sup> ≤ 70 dBA         ≤ 72 dBA         ≤ 75 dBA           UPS CABINET           Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm           Weight         2500 kg         3300 kg         5900 kg           Degree of protection         IP20           Colours         RAL 9006           STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2           EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	Operating ambient temperature	from 0 °C up to +35 °C (from 15 °C to 25 °C for maximum battery life)						
Maximum altitude         1000 m without derating (max. 3000 m)           Acoustic level at 1 m (ISO 3746) <sup>(S)</sup> ≤ 70 dBA         ≤ 72 dBA         ≤ 75 dBA           UPS CABINET           Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm           Weight         2500 kg         2800 kg         3300 kg         5900 kg           Degree of protection         IP20           Colours         RAL 9006         STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2         EMC           Performance         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3								
Acoustic level at 1 m (ISO 3746) <sup>(S)</sup> ≤ 70 dBA         ≤ 72 dBA         ≤ 75 dBA           UPS CABINET         Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm           Weight         2500 kg         2800 kg         3300 kg         5900 kg           Degree of protection         IP20         Colours         RAL 9006         STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2         EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	-	1000 m without derating (max. 3000 m)						
UPS CABINET           Dimensions W x D x H         1600 x 995 x 1930 mm         3200 x 995 x 2210 mm           Weight         2500 kg         2800 kg         3300 kg         5900 kg           Degree of protection         IP20           Colours         RAL 9006           STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2         EMC           EMC         IEC/EN 62040-2, AS 62040.2         IEC/EN 62040-3, AS 62040.3	Acoustic level at 1 m (ISO 3746)(3)		≤ 70 dBA		1	≤ 7	5 dBA	
Weight         2500 kg         2800 kg         3300 kg         5900 kg           Degree of protection         IP20           Colours         RAL 9006           STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2           EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	UPS CABINET					_		
Weight         2500 kg         2800 kg         3300 kg         5900 kg           Degree of protection         IP20           Colours         RAL 9006           STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2           EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	Dimensions W x D x H		1600 x 99	5 x 1930 mm		3200 x 995	5 x 2210 mm	
Degree of protection         IP20           Colours         RAL 9006           STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.2           EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3		250			3300 kg			
Colours         RAL 9006           STANDARDS         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2           EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	•						•	
STANDARDS           Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2           EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	ů .							
Safety         IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2           EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3	STANDARDS							
EMC         IEC/EN 62040-2, AS 62040.2           Performance         IEC/EN 62040-3, AS 62040.3		IEC/EN 62041-1, AS 62040.1.1, AS 62040.1.2						
Performance IEC/EN 62040-3, AS 62040.3	-							
	Product declaration	CE. RCM (E2376)						

(1) Conditions apply. (2) **DELPHYS MX** 250-500: others on demand. (3) As per power range.

