

### Use

Local Area Network (LAN),  
Electromedical equipment,  
Data Centers, Industrial equipment

### Protection

- Blackout
- Dynamic Undervoltage
- Dynamic Overvoltage
- Undervoltage
- Overvoltage
- Lightning (UPS + surge discharger upstream)
- Voltage Surge
- Frequency Variation
- Voltage Distortion
- Voltage Harmonic

### Main specifications

- Multifunctional LCD Display
- Internal batteries
- On-Line double conversion technology without transformer (VFI-SS-111)
- Rectifier realized by IGBT technology
- Active PFC Circuit (0.99)
- Wide input voltage tolerance
- Compatible with generators
- EPO (Emergency Power Off)
- ECO MODE operation
- Frequency converter operation
- Output voltage and frequency can be regulated from the front panel
- Programmable output power
- Battery charging system controlled by microprocessor
- Static and Manual Bypass
- RS232 and USB communication port
- Intelligent slot for SNMP or Dry Contact card
- Expandable up to 4 units in parallel
- UPS Management Software UPSilon 2000 (compatible with WINDOWS, UNIX, LINUX, etc.)
- High efficiency and low operating cost

## DSP

The UPS EVO DSP are controlled by Digital Signal Processor (DSP) which optimizes the machine operation in any conditions permitting a complete and easy programming.



The UPS range EVO DSP is designed in accordance with the highest environment protection standards. The high efficiency and low harmonic inputs guarantee the uppermost respect for the environment.



### Details



- 1 - RS232 port
- 2 - USB port
- 3 - EPO connector
- 4 - Parallel interface (optional)
- 5 - Slot for SNMP interface or Dry Contact
- 6 - Manual bypass switch for maintenance
- 7 - Input voltage switch
- 8 - Connector for extra Battery Box
- 9 - Input/output terminal box
- 10 - IEC outputs (Max 10A)
- 11 - Thermal fuse on the IEC output for low power



Multifunction LCD display

### Specifications

UPS Model	EVO DSP MM 5.0	EVO DSP MM 6.0	EVO DSP MM 8.0	EVO DSP MM 10.0
Nominal power	5 KVA	6 KVA	8 KVA	10 KVA
Active power	4 KW	4.8 KW	6.4 KW	8 KW
Power factor	0.8			
Technology	On-Line Double Conversion transformerless (VFI-SS-111)			
Cooling	Fan cooling			
Audible noise	< 48 dBA a 1 m			
Dimension (UPS) WxHxD	25x57,6x55,5 cm			
Dimension (with packing) WxHxD	38x81x70 cm			
Weight	78 Kg	81 Kg	82 Kg	83 Kg
Equipped with	Serial cable and TecnoManager software			
<b>Ingresso</b>				
Numero di fasi	1F+N			
Tensione nominale	208Vac/220Vac/230Vac/240Vac			
Tolleranza tensione d'ingresso	176Vac-300Vac dal 50% al 100% di carico, 110Vac-300Vac fino al 50% di carico			
Frequenza nominale	50/60 Hz (selezionabile)			
Tolleranza frequenza d'ingresso in modalità On-Line	±7%			
Fattore potenza d'ingresso	0.99			
<b>Output</b>				
Number of phases	1ph+N			
Nominal voltage	208Vac/220Vac/230Vac/240Vac			
Voltage Regulation at %100 linear load (On-Line and Battery mode)	±1%			
Voltage THD at rated linear load	<3% (linear load), <6% (non-linear load)			
Crest factor	3:1			
Frequency	50/60 Hz (selectable)			
Frequency stability	±0.1 Hz			
Inverter waveform	Sinewave			
Overload capability (Line mode)	110% for 10 minutes, 130% for 1 minute, >130% for 1 second			
Overload capability (Battery mode)	110% for 30 seconds, 130% for 10 seconds, >130% for 1 second			
Efficiency	>92% (Line/Battery mode), >98% (ECO mode)			
Transfer time	0 ms (On-Line)			
Output connections	Terminal block + 2 IEC 320 - C13 type			
<b>Bypass</b>				
Number of phases	1ph+N			
Nominal voltage	208Vac/220Vac/230Vac/240Vac			
Voltage range	Low threshold 110Vac-209Vac (selectable) - High threshold 231Vac-276Vac (selectable)			
<b>Eco Mode</b>				
Voltage range	Low threshold 5-10% (selectable) - High threshold 5-10% (selectable)			
Input frequency range (50Hz Nominal frequency)	Low threshold 46-48 (selectable) - High threshold 52-54 (selectable)			
Input frequency range (60Hz Nominal frequency)	Low threshold 56-58 (selectable) - High threshold 62-64 (selectable)			
<b>Battery</b>				
Type	Lead acid, sealed, maintenance free			
Batteries number	20 (internal)			
Battery charge time (typical)	6-8 hours			
Nominal battery voltage	240Vdc			
Extended autonomy	External Battery Box (optional)			
<b>Interfacing</b>				
Interface (communication port)	RS232 and USB			
EPO	Yes			
Dry contact interface	Yes (optional)			
Software	UPSion 2000 downloadable free from <a href="http://www.tecnoware.com">www.tecnoware.com</a> (compatible with WINDOWS, UNIX, LINUX, ecc.)			
SNMP interface	SNMP internal module (compatible with WINDOWS, UNIX, LINUX, ecc.) - optional			
External Bypass interface	Yes			
<b>Parallel configuration</b>				
Parallel Interface	Yes (optional)			
Parallel UPS	Up to 4 units			
<b>Environmental specification</b>				
Storage temperature	From -15 to 40 °C (for Battery Box with battery inside, see "Storage of batteries in UPS and Battery Box" graphic)			
Working temperature	From 0 to 40 °C (recommended from 20 to 25 °C, for a correct battery use see "Battery life in service" graphic)			
Humidity	< 95% without condensation			
Maximum altitude	3000 m			
IP protection	IP20			
Certifications	CE (Standards: Low Voltage Directive IEC EN 62040-1; EMC Directive IEC EN 62040-2; classification IEC EN 62040-3)			
<b>Warranty</b>				
Standard	24 months electronic parts and 12 months batteries			
Extensions	Optional			

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### Accessories

Model	Code
Bypass Box for Evo Dsp MM MM 5.0, 6.0, 8.0 and 10.0	FGCBYP10MM2
Dry Contact for Evo Dsp MM	FGCEVODSDRY3
SNMP for Evo Dsp MM	FGCNETAG7
Parallel kit for Evo Dsp MM 5.0 and 6.0	FGCKITPAREVODSP2
Parallel kit for Evo Dsp MM 8.0 and 10.0	FGCKITPAREVODSP3

To extend autonomy see page 38

# UPS EVO DSP MM BATTERY BOX

### Main specification

- Internal battery charger on every unit
- Units can be expanded infinitely
- Batteries with thermal circuit protection
- Easy connection to UPS
- Reduced dimensions
- Easy installation and maintenance



### Details

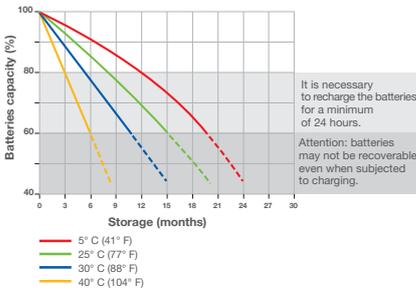


Battery Box  
for Evo DSP MM 1.2-2.4-3.6

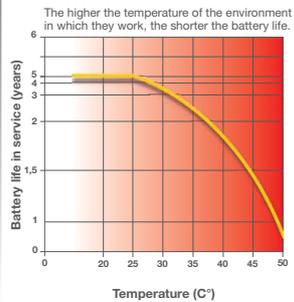
- 1 - Connector for the UPS Battery Box connection
- 2 - Extra Battery Box connector
- 3 - Thermal switch for battery circuit
- 4 - Thermal Fuse protecting the battery charger circuit
- 5 - Power socket for the battery charger circuit



### Storage of batteries in UPS and Battery Boxes



### Battery life in service



### Details



Battery Box  
for Evo DSP MM 6.0-10.0

- 1 - Thermal Fuse protecting the battery charger circuit
- 2 - Power Socket for the battery charger circuit
- 3 - Thermal switch for battery circuit
- 4 - Connector for the UPS Battery Box connection
- 5 - Extra Battery Box connector



# UPS EVO DSP MM

## BATTERY BOX

ON LINE MM

### Specification - Battery Box for EVO DSP MM 1.2-2.4-3.6

Model	BATTERY BOX FOR EVO DSP MM 1.2		BATTERY BOX FOR EVO DSP MM 2.4			BATTERY BOX FOR EVO DSP MM 3.6		
	FBBEVODS36/14	FBBEVODS36/28	FBBEVODS72/07	FBBEVODS72/14	FBBEVODS72/21	FBBEVODS72/09	FBBEVODS72/18	FBBEVODS72/27
Code								
Box dimension WxHxD	19 x 33,5 x 52,7 cm							
Pack dimension WxHxD	33,5 x 58,5 x 69 cm							
Weight	26 Kg	38 Kg	26 Kg	38 Kg	50 Kg	29 Kg	44 Kg	59 Kg
Equipped with	Battery charger power cable, battery cable to connect UPS to Battery Box							
<b>Battery</b>								
Type	Lead acid, sealed, maintenance free							
Batteries number	6	12	6	12	18	6	12	18
Nominal battery voltage	36Vdc		72Vdc			12Vdc - 9Ah		
Battery specification	12Vdc - 7.2Ah							
<b>Internal battery charger</b>								
Nominal input voltage	230Vac							
Nominal input frequency	50/60Hz							
Nominal charging voltage	41.1Vdc		82.2Vdc					
Max charging current	1.4A	2.8A	0,7A	0,9A	1,4A	1,8A	2,1A	2,7A
<b>Protection</b>								
Battery charge input	Thermal fuse							
Battery circuit	Magnetothermic switch							
<b>Environmental specification</b>								
Storage temperature	From -15 to 40 °C (for Battery Box with battery inside, see "Storage of batteries in UPS and Battery Box" graphic)							
Working temperature	From 0 to 40 °C (recommended from 20 to 25 °C, for a correct battery use see "Battery life in service" graphic)							
Humidity	< 95% without condensation							
Maximum altitude	3000 m							
IP protection	IP20							
Certifications	CE							
<b>Warranty</b>								
Standard	24 months electronic parts and 12 months batteries							

### Specification - Battery Box for EVO DSP MM 6.0-10.0

Model	BATTERY BOX FOR EVO DSP MM 6.0-10.0								
	FBBEVODS240/07	FBBEVODS240/14	FBBEVODS240/21	FBBEVODS240/09	FBBEVODS240/18	FBBEVODS240/27	FBBEVODS240/11	FBBEVODS240/22	FBBEVODS240/33
Code									
Box dimension WxHxD	25 x 57 x 79,5 cm								
Pack dimension WxHxD	38 x 79,5 x 96 cm								
Weight	85 Kg	125 Kg	165 Kg	80 kg	135 kg	185 kg	95 Kg	145 Kg	195 Kg
Equipped with	Battery charger power cable, battery cable to connect UPS to Battery Box								
<b>Battery</b>									
Type	Lead acid, sealed, maintenance free								
Batteries number	20	40	60	20	40	60	20	40	60
Nominal battery voltage	12Vdc - 7,2Ah			12Vdc - 9Ah			12Vdc - 11Ah		
Battery specification	240Vdc								
<b>Internal battery charger</b>									
Nominal input voltage	230Vac								
Nominal input frequency	50/60Hz								
Nominal charging voltage	274Vdc								
Max charging current	0,7A	1,4A	2,1A	0,9A	1,8A	2,7A	1,1A	2,2A	3,3
<b>Protection</b>									
Battery charge input	Thermal fuse								
Battery circuit	Magnetothermic switch								
<b>Environmental specification</b>									
Storage temperature	From -15 to 40 °C (for Battery Box with battery inside, see "Storage of batteries in UPS and Battery Box" graphic)								
Working temperature	From 0 to 40 °C (recommended from 20 to 25 °C, for a correct battery use see "Battery life in service" graphic)								
Humidity	< 95% without condensation								
Maximum altitude	3000 m								
IP protection	IP20								
Certifications	CE								
<b>Warranty</b>									
Standard	24 months electronic parts and 12 months batteries								

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