

**Use**

Local Area Network (LAN), Electromedical equipment, Industrial processes, Virtual server, Pellet stove, Fireplace heating systems, Home heating system

**Protection**

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

**Main specification**

- Multifunctional LCD Display
- 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 outputs
- Battery charging system controlled by microprocessor
- Static Bypass
- RS232 and USB communication port
- Intelligent slot for SNMP or Dry Contact card
- UPS management software: UPSILON 2000 (compatible with WINDOWS, UNIX, LINUX, etc.)
- Telephone/modem protection by RJ11/RJ45 plug
- High efficiency and low operating cost
- Easy installation and maintenance

**DSP**

The UPS EVO DSP are controlled by DSP 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.

REFURBISHED  
COMPONENTS**Details**

- 1 - USB port
- 2 - RS232 port
- 3 - EPO connector
- 4 - Interface slot for SNMP or dry contact
- 5 - RJ11/RJ45 plug
- 6 - Connector for extra Battery Box
- 7 - Output thermal protection
- 8 - Output sockets
- 9 - Programmable output sockets
- 10 - IEC output sockets
- 11 - Input thermal protection
- 12 - Input socket



Multifunction LCD display

# UPS EVO DSP MM

## 1.2-2.4-3.6

ON LINE MM

### Specification

UPS Model	EVO DSP MM 1.2		EVO DSP MM 2.4	EVO DSP MM 3.6
Code	FGCEVODS1K2MM		FGCEVODS2K4MM	FGCEVODS3K6MM
Nominal power	1.200 VA		2.400 VA	3.600 VA
Active power	840 W		1.680 W	2.520 W
Power factor	0.7			
Technology	On-Line Double Conversion transformerless (VFI-SS-111)			
Cooling	Fan cooling			
Audible noise	< 45 dBA at 1 m			
Dimension (UPS) WxHxD	15x22x40 cm		19x32x42 cm	
Dimension (with packing) WxHxD	23x33x47 cm		33x46x56 cm	
Weight	13 Kg		26 Kg	28 Kg
Equipped with	1 power cable 4 output cables (IEC type) Serial cable and Upsilon 2000 software		1 power cable - 4 output cables (IEC type) Connector IEC type 320 C20 to be wired for power output Serial cable and Upsilon 2000 software	
<b>Input</b>				
Number of phases	1ph+N			
Nominal voltage	208Vac/220Vac/230Vac/240Vac			
Input voltage range	160Vac-300Vac from 50% to 100% load, 110Vac-300Vac up to 50% load			
Nominal frequency	50/60 Hz (selectable)			
Input frequency range (On-Line mode)	± 7%			
Input power factor	0.99			
<b>Output</b>				
Number of phases	1ph+N			
Nominal voltage	208Vac/220Vac/230Vac/240Vac			
Static voltage Regulation at %100 linear load (On-Line and battery mode)	±2%			
Voltage THD at rated linear load	<3% (linear load), <6% (non-linear load)			
Crest factor	3:1			
Frequency	50/60 Hz (selectable)			
Free running frequency	±0.2 Hz			
Inverter waveform	Sinewave			
Overload capability	100-110% only audible warning, 110-130% for 30 sec, >130% for 100 ms			
Efficiency	>92% (line/battery mode), >98% (ECO mode)			
Transfer time	0 ms (On-Line)			
Outlets	4 (IEC 320 C13 type)	6 (IEC 320 C13 type) + 1 (IEC 320 C19 type)		
<b>Bypass</b>				
Number of phases	1ph+N			
Nominal voltage	208Vac/220Vac/230Vac/240Vac			
Voltage range	Low threshold 170Vac-220Vac (selectable) - High threshold 230Vac-264Vac (selectable)			
<b>Eco Mode</b>				
Voltage range	Low threshold from -7 to -24Vac (selectable) - High threshold from +7 to +24 Vac (selectable)			
Input frequency range (50Hz nominal frequency)	47-53 Hz			
Input frequency range (60Hz nominal frequency)	57-63 Hz			
<b>Battery</b>				
Type	Lead acid, sealed, maintenance free			
Batteries number	3 (internal)	6 (internal)		
Battery charge time (typical)	6-8 hours			
Nominal battery voltage	36Vdc	72Vdc		
Battery specification	12Vdc - 7.2Ah	12Vdc - 9Ah		
Backup time (Typical)	10 min	8 min		
Extended autonomy	External Battery Box (optional)			
<b>Interfacing</b>				
Interface (communication port)	RS232 and USB			
EPO	Yes			
Dry contact interface	Yes (optional)			
Software	UPSILON 2000 (compatible with WINDOWS, UNIX, LINUX, ecc.)			
SNMP interface	SNMP internal module (compatible with WINDOWS, UNIX, LINUX, ecc.) - optional			
Phone/modem line protection	RJ11/RJ45 plug			
<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 UPS MM from 1 KVA to 3.6 KVA	FGCBYPIEC
Dry Contact for Evo Dsp MM	FGCEVODSDRY3
SNMP for Evo Dsp MM	FGCNETAG7

To extend autonomy see page 28



### 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.



**Italian  
DESIGN**

**REFURBISHED  
COMPONENTS**

**ROHS  
COMPLIANT**

**CE**

### 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	UPSilon 2000 downloadable free from <b>www.tecnoware.com</b> (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

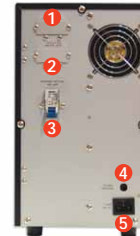
## BATTERY BOX

### 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

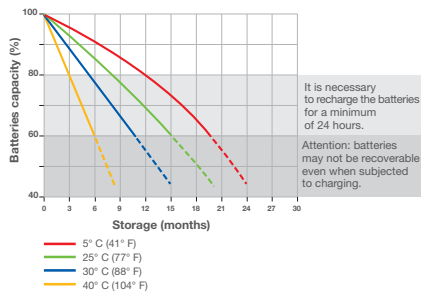
- 1 - Connector for the UPS Battery Box connection
- 2 - Extra Battery Box connector
- 3 - Thermal switch for battery circuit
- 4 - Thermal Fuse protecting the battery charger circuit
- 5 - Power socket for the battery charger circuit

REFURBISHED  
COMPONENTS

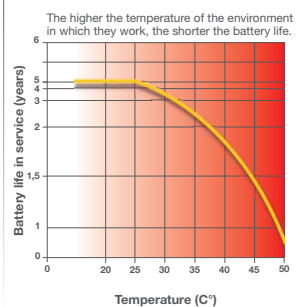
ROHS  
COMPLIANT

CE

### 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

REFURBISHED  
COMPONENTS

ROHS  
COMPLIANT

CE

# 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		
Code	FBBEVODS36/14	FBBEVODS36/28	FBBEVODS72/07	FBBEVODS72/14	FBBEVODS72/21	FBBEVODS72/09	FBBEVODS72/18	FBBEVODS72/27	
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								
Battery									
Type	Lead acid, sealed, maintenance free								
Batteries number	6	12	6	12	18	6	12	18	
Nominal battery voltage	36Vdc			72Vdc					
Battery specification	12Vdc - 7.2Ah					12Vdc - 9Ah			
Internal battery charger									
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	
Protection									
Battery charge input	Thermal fuse								
Battery circuit	Magnetothermic switch								
Environmental specification									
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								
Warranty									
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								
Code	FBBEVODS240/07	FBBEVODS240/14	FBBEVODS240/21	FBBEVODS240/09	FBBEVODS240/18	FBBEVODS240/27	FBBEVODS240/11	FBBEVODS240/22	FBBEVODS240/33
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								
Battery									
Type	Lead acid, sealed, maintenance free								
Batteries number	20	40	60	20	40	60	20	40	60
Nominal battery voltage	240Vdc								
Battery specification	12Vdc - 7,2Ah			12Vdc - 9Ah			12Vdc - 11Ah		
Internal battery charger									
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
Protection									
Battery charge input	Thermal fuse								
Battery circuit	Magnetothermic switch								
Environmental specification									
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								
Warranty									
Standard	24 months electronic parts and 12 months batteries								

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