ON LINE MM

UPS EvO DSP MM

1.2 - 2.4 - 3.6

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.

ECO POWER SYSTEM

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

RoHS COMPLIANT

CE

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

Multifuction LCD display

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www.tecnoware.com

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	
Input			
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		
Output			
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)	
Bypass			
Number of phases	1ph+N		
Nominal voltage	208Vac/220Vac/230Vac/240Vac		
Voltage range	Low threshold 170Vac-220Vac (selectable) - High threshold 230Vac-264Vac (selectable)		
Eco Mode			
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		
Battery			
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)		
Interfacing			
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		
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 (Standards: Low Voltage Directive IEC EN 62040-1; EMC Directive IEC EN 62040-2; classification IEC EN 62040-3)		
Warranty			
Standard	24 months electronic parts and 12 months batteries		
Extensions	Optional		

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

ON LINE MM

UPS EVO DSP MM
6-10

Use

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

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
- 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 DSP Digital Signal Processor (DSP) which optimizes the machine operation in any conditions permitting a complete and easy programming.

ECO POWER SYSTEM

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

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

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Specification

UPS Model	EVO DSP MM 6.0	EVO DSP MM 10.0
Nominal power	6 KVA	10 KVA
Active power	4.8 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	81 Kg	83 Kg
Equipped with	Serial cable and Upsilon 2000 software	
Input		
Number of phases	1ph+N	
Nominal voltage	208Vac/220Vac/230Vac/240Vac	
Input voltage range	176Vac-300Vac from 50% to 100% load, 110Vac-300Vac from to 50% load	
Nominal frequency	50/60 Hz (selectable)	
Input frequency range On-Line mode	±7%	
Input power factor	0.99	
Output		
Number of phases	1ph+N	
Nominal voltage	208Vac/220Vac/230Vac/240Vac	
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)	
Frequency stability	±0.1 Hz	
Inverter waveform	Sinewave	
Overload capability (Line mode)	100 - 110% for 10 minutes, 130% for 1 minute, >130% for 1 second	
Overload capability (Battery mode)	100 - 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	
Bypass		
Number of phases	1ph+N	
Nominal voltage	208Vac/220Vac/230Vac/240Vac	
Voltage range	Low threshold 110Vac-209Vac (selectable) - High threshold 231Vac-276Vac (selectable)	
Eco Mode		
Voltage range	Low threshold 5-10% (selectable) - High threshold 5-10% (selectable)	
Input frequency range (50Hz Nominal frequency)	Low threshold 46-48 Hz (selectable) - High threshold 52-54 Hz (selectable)	
Input frequency range (60Hz Nominal frequency)	Low threshold 56-58 Hz (selectable) - High threshold 62-64 Hz (selectable)	
Battery		
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)	
Interfacing		
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	
External Bypass interface	Yes	
Parallel configuration		
Parallel Interface	Yes (optional)	
Parallel UPS	Up to 4 units	
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 (Standards: Low Voltage Directive IEC EN 62040-1; EMC Directive IEC EN 62040-2; classification IEC EN 62040-3)	
Warranty		
Standard	24 months electronic parts and 12 months batteries	
Extensions	Optional	

Accessories

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

To extend autonomy see page 28

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

Details

Battery Box
for Evo DSP MM 6.0-10.0

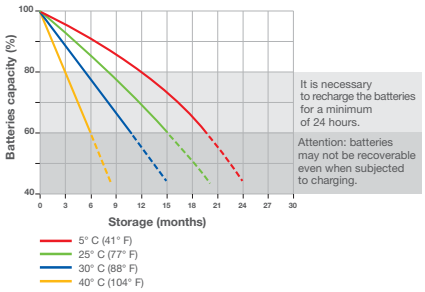
1 - Thermal Fuse protecting the battery charger circuit
2 - Power Socket for the battery charger circuit
3 - Thermal switch for battery circuit
4 - Connector for the UPS Battery Box connection
5 - Extra Battery Box connector

REFURBISHED COMPONENTS

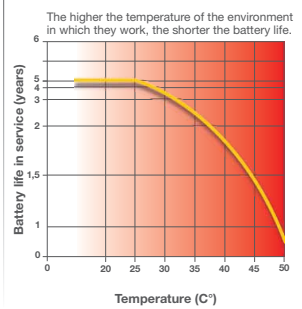
RoHS COMPLIANT

CE

Storage of batteries in UPS and Battery Boxes



Battery life in service



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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								