



EASY HOT SWAP DESIGN

The innovative Design Hot Swap and the complete independence of each module allow a simple and quick maintenance and possible expansions of power and autonomy.

FLEXIBLE MODULAR DESIGN

Scalable architecture allow to easily increase power (from 20KVA to 300KVA), redundancy level (N+1 or N+X) and Back-Up time by simply additional UPS and Battery modules. All this allows to optimize the investment.

NO-DOWNTIME SYSTEM

The Redundance configuration and Hot Swap Design ensure always full power also in case of failure and replacement of module or scheduled maintenance. All this features guarantee low MTTR (Mean Time To Repair).

N+1 OR N+X REDUNDANCE PARALLELABLE SYSTEM

The **redundant modular design** of the EVO DSP PLUS MODULAR HE UPS allows getting high levels of reliability without the need to buy other 2 or more products for the redundancy, as it is the case with a standard UPS. This also results in significant savings.

The EVO DSP PLUS MODULAR HE UPS also makes it possible to configure the level of redundancy desired via a front interface, a 10" touch LCD display, so that the protection degree necessary for the device the UPS protects is always attained. This **redundant modular design** helps decide whether one (N+1) or several (N+X) Power Modules need to be set up as a reserve for the main modules.

EASE OF INSTALLATION AND MAINTENANCE

- 1 Built-in maintenance bypass assures continuous power to critical loads during UPS maintenance.
- 2 Easy installation and maintenance, panel control and connectors with frontal accessibility.



FULL ADVANCED COMMUNICATION SYSTEM

All the cabinets for the EVO DSP PLUS MODULAR HE UPS come equipped with a full communication interface system: USB, RS232, EPO (emergency power off) and a smart slot to integrate optional interface boards such as RS485, SNMP or Dry Contact.

An Extra Communication Slot may be added with programmable input/output contacts, connections for temperature detecting sensors for any external Battery Cabinets, and another smart slot to install any additional RS485, SNMP or Dry Contact interface boards.

FLEXIBLE BACK-UP TIME CONFIGURATION

Battery box with scalable architecture and Hot Siwap design to increase Back-Up time and for easy battery maintenance.



Battery module





- ① 10" touch LCD display
- ② Input/Output Switches and Maintenance Bypass
- ③ STS Module and Communication Ports
- ④ Power Module
- ⑤ Battery Module



Display touch LCD 10"



Main Specifications

- For Data Centers, Local Area Network (LAN), Industrial equipment, Electromedical equipment
- 10" touch LCD display
- Compatible with Generators
- Power Factor 1
- Frequency converter
- Shared Battery Modules
- Battery module up to 120 KVa contained in the same cabinet
- High MTBF and low MTTR
- UPS Management Software compatible with Windows, Mac OS X, Unix, Linux, etc.



Power Module



UPS 20KVA Module



UPS 30KVA Module

MODULE for UPS EVO DSP PLUS MODULAR HE

| | FGCEVDPM20TT | FGCEVDPM30TT |
|--------------------------|-------------------------------------|--------------|
| Code | FGCEVDPM20TT | FGCEVDPM30TT |
| Nominal power | 20KVA | 30KVA |
| Active power | 20KW | 30KW |
| Dimension WxHxD | 44x13,2x65 cm (3U) | |
| Input | | |
| Nominal voltage | 360Vac/380Vac/400Vac/415Vac (3Ph+N) | |
| Output | | |
| Nominal voltage | 360Vac/380Vac/400Vac/415Vac (3Ph+N) | |
| Battery | | |
| Nominal voltage | +/- 240Vdc (12Vdc x 40 pz) | |
| Maximum Charging Current | 6A | 8A |

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Module 20/30 KW Cabinet



| | UPS EVO DSP PLUS MODULAR HE CABINET (20/30 KVA Module) | | | | | |
|---|---|-----------------|-----------------|-----------------|--|-----------------|
| | FGCEVDPM30B90K | FGCEVDPM30B120K | FGCEVDPM30B180K | FGCEVDPM42B120K | FGCEVDPM42B210K | FGCEVDPM42B300K |
| Code | | | | | | |
| Height | 30U | 30U | 30U | 42U | 42U | 42U |
| STS Power | 90KW | 120KW | 180KW | 120KW | 210KW | 300KW |
| Type of installable UPS Module | 30KW or 20KW | | | | | |
| Max. number of installable UPS Module | 3 | 4 | 6 | 4 | 8 | 10 |
| Battery Modules layers (4 Battery Modules each layer) | 3 (12 Modules) | - | - | 5 (20 Modules) | - | - |
| Max. capacity of installing 20KVA Module | 20-60KW | 20-80KW | 20-120KW | 20-80KW | 20-160KW | 20-200KW |
| Max. capacity of installing 30KVA Module | 30-90KW | 30-120KW | 30-180KW | 30-120KW | (if 8 pcs are installed, 1 is redundant) | 30-300KW |
| Power factor | 1 | | | | | |
| Technology | On-Line Double Conversion transformerless (VFI-SS-111) | | | | | |
| Dimension (UPS) WxHxD | 60x147,5x110 | | | | | |
| Weight | 260Kg | 200Kg | 230Kg | 274Kg | 273Kg | 275Kg |
| Input | | | | | | |
| Number of phases | 3Ph+N | | | | | |
| Nominal power | 380 / 400 / 415 Vac (220 / 230 / 240 Vac Ph-N) (selectable) | | | | | |
| Input voltage range | 305V - 478V (176V - 276V Ph-N) at 100% load - 208V - 478V (120V - 276V Ph-N) at 70% load | | | | | |
| Nominal frequency | 50/60 Hz (automatic selection) | | | | | |
| Input frequency range | 40Hz - 70Hz | | | | | |
| Frequency Sync range | ± 1Hz, ± 2Hz, ± 4Hz (selectable) | | | | | |
| Input current harmonic distortion (THDi) | < 3% at 100% load | | | | | |
| Input power factor | ≥ 0.99 at 100% load | | | | | |
| Output | | | | | | |
| Number of phases | 3Ph+N | | | | | |
| Nominal voltage | 380 / 400 / 415 Vac (220 / 230 / 240 Vac F-N) (selectable) | | | | | |
| Voltage Regulation (On-Line and Battery mode) | ≤ 1% Typical (linear load); ≤ 2% Typical (distorting load) | | | | | |
| Inverter waveform | Sinewave | | | | | |
| Nominal frequency | 50/60 Hz (selectable) | | | | | |
| Frequency stability | 50 Hz ± 0.1% - 60 Hz ± 0.1% | | | | | |
| Voltage Harmonic Distortion (THD) | ≤ 2% (100% linear load); ≤ 4% (distorting load) | | | | | |
| Crest factor | 3:1 max | | | | | |
| Overload capability (On-line mode) | 105 ~110% for 1 hour, 111~125% for 10 minutes, 126~150% for 1 minute, >150% for 200ms | | | | | |
| Overload capability (Battery mode) | 105 ~110% for 1 hour, 111~125% for 10 minutes, 126~150% for 1 minute, >150% for 200ms | | | | | |
| Transfer time | 0 ms (Line <-> Battery) 0 ms (Battery <-> Bypass) | | | | | |
| Efficiency | 96,5% calculated in double conversion mode at 100% load according to standard 62040-3 | | | | | |
| Bypass input | | | | | | |
| Number of phases | 3Ph+N | | | | | |
| Nominal power | 380 / 400 / 415 Vac (220 / 230 / 240 Vac Ph-N) (selectable) | | | | | |
| Maximum voltage threshold | +10% / +15% / +20% | | | | | |
| Manimum voltage threshold | -10% / -20% / -30% | | | | | |
| Nominal frequency | 50/60 Hz (automatic selection) | | | | | |
| Frequency Sync range | ± 1Hz, ± 2Hz, ± 4Hz (selectable) | | | | | |
| Overload capability | 105 ~110% for 1 hour, 111~125% for 10 minutes, 126~150% for 1 minute, >150% for 200ms | | | | | |
| Transfer time | ≤ 20ms (Bypass <-> Inverter) | | | | | |
| Batteries | | | | | | |
| Type | Lead acid, sealed, maintenance free | | | | | |
| Elements number | 40 elements | | | | | |
| Nominal battery voltage | ± 240 Vdc | | | | | |
| Charging time | 6-8 hours (typical) | | | | | |
| Maximum charging current | 8A each 30KVA module; 6A each 20KVA module | | | | | |
| Environmental specification | | | | | | |
| Working temperature | From 0 to 55°C (recommended from 20 to 25 °C, for longer battery life) | | | | | |
| Humidity | < 95% without condensation | | | | | |
| Maximum altitude | 3000 m | | | | | |
| IP protection | IP20 | | | | | |
| Noise | < 73 dBA (to 1 meter) | | | | | |
| Certifications | CE (Standards: Low Voltage Directive IEC EN 62040-1; EMC Directive IEC EN 62040-2; classification IEC EN 62040-3) | | | | | |
| Interfaces | | | | | | |
| Communication ports | 1 RS232 port and 1 USB port | | | | | |
| Software | Technomanager UPS Management Software, compatible con Windows, Linux, Unix, etc. | | | | | |
| SNMP Interface | Optional | | | | | |
| EPO (Emergency Power OFF) | Included | | | | | |
| Dry Contact Interface | Optional | | | | | |
| Parallel mode | Optional (2 UPS) | | | | | |

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Module 20 KW Cabinet



| | CABINET UPS EVO DSP PLUS MODULAR HE (Modulo 20 KVA) | | |
|---|---|-----------------|-----------------|
| | FGCEVDPM30A80K | FGCEVDPM30A120K | FGCEVDPM42A200K |
| Code | FGCEVDPM30A80K | FGCEVDPM30A120K | FGCEVDPM42A200K |
| Height | 30U | 30U | 42U |
| STS Power | 80KW | 120KW | 200KW |
| Type of installable UPS Module | | | |
| Max. number of installable UPS Module | 4 | 6 | 10 |
| Battery Modules layers (4 Battery Modules each layer) | | | |
| Max. capacity of installing 20KVA Module | 20-80KW | 20-120KW | 20-200KW |
| Power factor | | 1 | |
| Technology | On-Line Double Conversion transformerless (VFI-SS-111) | | |
| Dimension (UPS) WxHxD | | 60x147,5x110 | |
| Weight | 197Kg | 230,5Kg | 270Kg |
| Input | | | |
| Number of phases | 3Ph+N | | |
| Nominal power | 380 / 400 / 415 Vac (220 / 230 / 240 Vac Ph-N) (selectable) | | |
| Input voltage range | 305V - 478V (176V - 276V Ph-N) at 100% load - 208V - 478V (120V - 276V Ph-N) at 70% load | | |
| Nominal frequency | 50/60 Hz (automatic selection) | | |
| Input frequency range | 40Hz - 70Hz | | |
| Frequency Sync range | ± 1Hz, ± 2Hz, ± 4Hz (selectable) | | |
| Input current harmonic distortion (THDi) | < 3% at 100% load | | |
| Input power factor | ≥ 0.99 at 100% load | | |
| Output | | | |
| Number of phases | 3Ph+N | | |
| Nominal voltage | 380 / 400 / 415 Vac (220 / 230 / 240 Vac Ph-N) (selectable) | | |
| Voltage Regulation (On-Line and Battery mode) | ≤ 1% Typical (linear load); ≤ 2% Tipico (distorting load) | | |
| Inverter waveform | Sinewave | | |
| Nominal frequency | 50/60 Hz (selectable) | | |
| Frequency stability | 50 Hz ± 0.1% - 60 Hz ± 0.1% | | |
| Voltage Harmonic Distortion (THD) | ≤ 2% (100% linear load); ≤ 4% (100% distorting load) | | |
| Crest factor | 3:1 max | | |
| Overload capability (On-line mode) | 105 ~110% for 1 hour 111~125% for 10 minutes, 126~150% for 1 minute, >150% for 200ms | | |
| Overload capability (Battery mode) | 105 ~110% for 1 hour, 111~125% for 10 minutes, 126~150% for 1 minute, >150% for 200ms | | |
| Transfer time | 0 ms (Line <-> Battery) 0 ms (Battery <-> Bypass) | | |
| Efficiency | 96,5% calculated in double conversion mode at 100% load according to standard 62040-3 | | |
| Bypass input | | | |
| Number of phases | 3Ph+N | | |
| Nominal power | 380 / 400 / 415 Vac (220 / 230 / 240 Vac Ph-N) (selectable) | | |
| Maximum voltage threshold | +10% / +15% / +20% | | |
| Minimum voltage threshold | -10% / -20% / -30% | | |
| Nominal frequency | 50/60 Hz (automatic selection) | | |
| Frequency Sync range | ± 1Hz, ± 2Hz, ± 4Hz (selectable) | | |
| Overload capability | 105 ~110% for 1 hour, 111~125% for 10 minutes, 126~150% for 1 minute, >150% for 200ms | | |
| Transfer time | ≤ 20ms (Bypass <-> Inverter) | | |
| Batteries | | | |
| Type | Lead acid, sealed, maintenance free | | |
| Elements number | 40 elements | | |
| Nominal battery voltage | ± 240 Vdc | | |
| Charging time | 6-8 hours (typical) | | |
| Maximum charging current | 6A each 20KVA module | | |
| Environmental specification | | | |
| Working temperature | From 0 to 55°C (recommended from 20 to 25 °C, for longer battery life) | | |
| Humidity | < 95% without condensation | | |
| Maximum altitude | 3000 m | | |
| IP protection | IP20 | | |
| Noise | < 73 dBA (to 1 meter) | | |
| Certifications | CE (Standards: Low Voltage Directive IEC EN 62040-1; EMC Directive IEC EN 62040-2; classification IEC EN 62040-3) | | |
| Interfaces | | | |
| Communication ports | 1 RS232 port and 1 USB port | | |
| Software | Tecnomanager UPS Management Software, compatible con Windows, Linux, Unix, etc. | | |
| SNMP Interface | Optional | | |
| EPO (Emergency Power OFF) | Included | | |
| Dry Contact Interface | Optional | | |
| Parallel mode | Optional (2 UPS) | | |

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