# DSP Multipower Convertible

## 1 Phase In - 1 Phase Out / 5kVA – 10kVA
## 3 Phase In - 1 Phase Out / 10kVA – 20kVA

- On-line 'double conversion' technology
- Real Digital Signal Processor (DSP) Controller
- Parallel redundant operation up to 4 units
- Input Power Factor Correction PFC
- High output power factor (PF: 0.9)
- Low total harmonic distortion (THD) level
- Convertible display helps to use both for tower and rack applications
- Transformerless Design
- Availability to configure as 50/60Hz Frequency Converter from LCD Panel
- High Performance with the PWM Sinewave Topology
- Cold Start Function
- Intelligent Battery Management System extends the life time of batteries
- Overload, Overheat & Short Circuit Protections
- User Friendly Multi-Functional LED/LCD Display Panel
- Energy Saving Mode (ECOMODE)
- Smart Fan Speed Regulation with temperature controlled
- RS232 Communication Port & Management Software
- Internal SNMP, DRY contact, RS485 card options

VFI TYPE UPS ONLINE | CONVERTIBLE (RACK/TOWER) | LCD LCD DISPLAY (5-20kVA) | SERVICE SERVICE

## TECHNICAL SPECIFICATIONS

| MODEL | DSPMP-1105 | DSPMP-1106 | DSPMP-1110 | DSPMP-3110 | DSPMP-3115 | DSPMP-3120 |
|---|---|---|---|---|---|---|
| Power (kVA) | 5 | 6 | 10 | 10 | 15 | 20 |
| Power (kW) | 4.5 | 5.4 | 9 | 9 | 13.5 | 18 |
| **INPUT** | | | | | | |
| Phase Configuration | 1Ph + N + PE (Hardwire) | | | 3Ph + N + PE (Hardwire) | | |
| Nominal Voltage | 220VAC/230VAC/240VAC | | | 380VAC/400VAC/415VAC | | |
| Minimum Voltage (at Half load) | 160VAC | | | 277VAC | | |
| Minimum Voltage (at Full load) | 180VAC | | | 312VAC | | |
| Maximum Voltage | 280VAC | | | 485VAC | | |
| Frequency | 45-65 Hz | | | | | |
| Power Factor | 0.99 | | | | 0.95 | |
| **OUTPUT** | | | | | | |
| Power Factor | 0.9 | | | | | |
| Phase Configuration | 1Ph + N + PE (Hardwire) | | | | | |
| Nominal Voltage | 220VAC / 230VAC / 240VAC | | | | | |
| Wave Form | Pure Sine Wave | | | | | |
| Total Harmonic Distortion at 100% linear load | <3% | | | | | |
| at 100% non-linear load | <5% | | | | | |
| Frequency | 50Hz or 60Hz (adjustable) | | | | | |
| Frequency Tolerance(free running) | ±0.1 % | | | | | |
| Frequency Synchronized Range | ±1Hz; ±3Hz (selectable) | | | | | |
| Static Voltage Regulation (0%-100% load) | <1% | | | | | |
| Crest Factor | 3 | | | | | |
| Transfer Time | 0sec | | | | | |
| Overload | Up to 10min. @100%~120% | | | | | |
| | Up to 1min. @120%~150% | | | | | |
| | Transfer to bypass @ >150% | | | | | |
| Total Efficiency | up to 90% | | up to 91% | | up to 93% | |
| Greenmode efficiency | ≥97% | | | | | |
| Outlets | External Socket Box (2 pcs SCHUKO, 4 pcs IEC C13 Outlets) Optional | | | | | |
| **BATTERY** | | | | | | |
| Type | Maintenance-free lead acid batteries | | | | | |
| Recharge Time | 4-6h up to 90% | | | | | |
| Voltage | 240VDC | | | | 192VDC for 16 pcs<br>240VDC for 20 pcs | |
| Quantity per string | 20 pcs 12V Batteries | | | | (20 pcs 12V Batteries) or<br>(16 pcs 12V Batteries)** | |
| Internal batteries | 20 pcs 12V 4.5Ah (internal battery version only) | | N/A | | | |
| Built in max. Charge Current | 1.6A | | | | 4A | |
| Cold Start | Present | | | | | |
| **DISPLAY** | | | | | | |
| LED + LCD Display | Line Mode, Backup Mode, ECO Mode, Bypass Supply, Battery Low, Battery Bad/Disconnect, Overload and Transferring with Interruption & UPS Fault | | | | | |
| LCD display | Input Voltage, Input Frequency, Output Voltage, Output Current, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature. | | | | | |
| Self Diagnostics | Upon Power-on, Front Panel Setting & Software Control, 24-hour routine checking | | | | | |
| Audible and Visual Alarms | Line Failure, Battery Low, Transfer to Bypass, System Fault Conditions | | | | | |
| **PROTECTION** | | | | | | |
| Overload Protection | Bypass transfer time is calculated by simulating a temperature related model of a fuse | | | | | |
| Short Circuit Protection | Acts as the ideal current source during the short circuit time | | | | | |
| Other Protection | Against excessive (heat,voltage,current) intense battery discharge | | | | | |
| **COMMUNICATION** | | | | | | |
| Interface (Communication ports) | Standard RS232 port and optional RS485, Internal SNMP, Dry Contact Cards | | | | | |
| **ENVIRONMENT** | | | | | | |
| Operating Temperature | 0 °C.... + 40 °C | | | | | |
| Proposed Temp. to extend battery life | 20 - 25 °C | | | | | |
| Humidity | 0 - 95% (non-condensing) | | | | | |
| Audible Noise at 1 m | <50 dB | | | | <60 dB | |
| Protection Class | IP 20 | | | | | |
| **PHYSICAL SPECIFICATIONS (tower position)** | | | | | | |
| Net Weight (power module) | 25kg | | 26kg | 28kg | 36 kg | |
| Net Weight (with internal batteries) | 55kg | | 85kg with 9Ah battery | - | - | |
| Dimensions (mm) (WxDxH)-power module (Rack) | 440x680x88 (2U) | | 440x680x132 (3U) | | 440x720x220 (5U) | |
| Dimensions(mm) (WxDxH)- w/battery vers. (Rack) | 440x680x176 (4U) | | - | | - | |
| **STANDARDS** | | | | | | |
| Standards | EN62040-1-1 (safety); EN62040-2 (EMC);EN62040-3(performance); EN60950-1 | | | | | |
| **ACCESSORIES** | | | | | | |
| | Internal&External SNMP, Dry Contact Board, External Manual Bypass, Rail Kit, External Battery Connection Cable, External Socket Box, External Additional Charging Board Software | | | | | |

** Availability to use 16pcs 12V batteries per string if load is less than 85%