



1:1
PHASE

MONOLINE SERIES

**Single Phase Input
Single Phase Output
UPS**

from 6 - 20 kVA



3 LEVEL
UPS



UPS ONLINE



TOWER



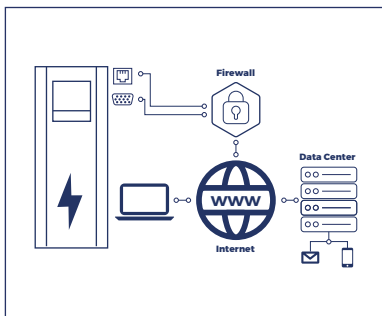
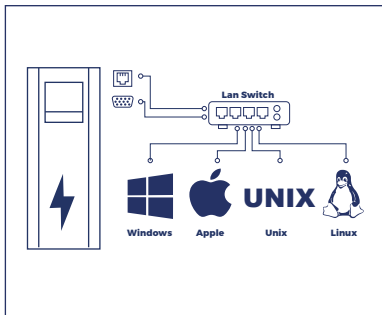
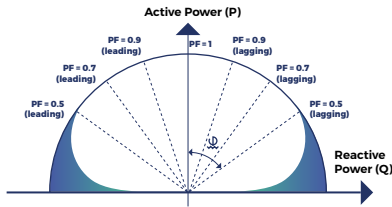
HIGH
EFFICIENCY



Li-On
READY

SINGLE PHASE OUTPUT UPS FOR INDUSTRIAL APPLICATIONS

Three level Technology, Compact and Robust, Monoline is the perfect UPS to protect and supply loads in the industrial fields and critical applications.



- ◆ Three Level Technology
- ◆ On Line-Double Conversion Technology (Class VFI-SS-111)
- ◆ IGBT PWM Rectifier & Inverter Technology
- ◆ High Efficiency up to 96%
- ◆ Higher efficiency with eco mode up to 98%
- ◆ High Input Power Factor (≥ 0.99)
- ◆ Low Input THD ($\leq 5\%$)
- ◆ Increase battery life time up to 35% with smart charger
- ◆ Temperature compensation battery charging
- ◆ Higher fan life time with Intelligent fan speed control
- ◆ Operate as frequency converter (50 Hz / 60 Hz)
- ◆ Short Circuit, Overload, Lightning and Surge Protection
- ◆ Perfect Generator Compatibility
- ◆ Easy Service with Manual bypass
- ◆ Variable input low voltage depending on loading percentage (up to -40%)
- ◆ Parallelable with Common or Separate Battery Cabinet
- ◆ Realtime warnings at LCD screen

SOFTWARE & CONNECTIVITY SOLUTIONS

- ◆ Local communication with RS232 and RS485
- ◆ 2 pcs configurable input contact
- ◆ Relay board with alarms
- ◆ Genset contact
- ◆ EPO contact
- ◆ USB
- ◆ Remote Monitoring Panel
- ◆ Battery Temperature Sensor for Charging
- ◆ JBUS, PROFIBUS Local Connection
- ◆ SNMP IT Manager Monitoring
- ◆ Environment Sensors for Data Centers (Humidity, Temperature, Smoke, etc.)
- ◆ GSM, Telnet, GPRS Communication
- ◆ PC & Server Shutdown
- ◆ Web Page Remote Monitoring
- ◆ Building Management System
- ◆ E-mail Alarm Reporting
- ◆ Remote Monitoring 24/7 Technical Service

MONOLINE SERIES

MODEL	MNL 1106SU1 MNL 1106SU2	MNL 1106U1 MNL 1106U2	MNL 1110U1 MNL 1110U2	MNL 1115U1 MNL 1115U2	MNL 1120U1 MNL 1120U2
Nominal power (kVA)	6	6	10	15	20
General Specs					
Technology	Three Level On-Line Double Conversation VFI-111				
Waveform	Sinusoidal				
Architecture	Stand Alone or Optional Parallel				
Input characteristics					
Input voltage	220, 230, 240 Vac 1PH+N+PE				
Input frequency	45-65 Hz				
Voltage Tolerance (100% load)	(-20)% (+20)%				
Voltage Tolerance (50% load)	(-40)% (+20)%				
Input Power Factor	≥0.99				
Input Current Harmonic	≤5%				
Output Characteristics					
Output Voltage	220,230,240 Vac 1 Ph+ N+PE (Adjustable from front panel)				
Output Voltage Tolerance	±1%				
Overall Efficiency (AC-AC)	Up to 95% (%50 load) // Up to %94 (%100 load)				
Ecomode Efficiency	Up to 98% (Optional)				
Nominal Output Frequency	50/60Hz +0.01 free run (Adjustable from LCD Panel)				
Crest Factor	3:1				
Output Power Factor	0.9 (U2 model) / 1 (U1 model)				
THD of Output Voltage	≤2% (Linear load) & ≤5% (Non-linear load)				
Overload Capability	%120 for 10 min // %150 for30 sec				
Bypass					
Overload Capability	150% for 1 minutes				
Bypass	Built in Automatic and Maintenance Bypass				
Voltage Tolerance	±10%				
Batteries					
Battery Type	VRLA-AGM / (GEL - NiCd - Li-On Optional)				
Battery Test	Automatic or Manual				
Battery Recharge Time	<6h-8h				
Charger Capacity					
U1/U2/U3 Model (max)	1A			4A	
With Charger Option	4A / 13A				
Battery Quantity					
With Internal Battery (12V 7/9Ah)	14*/16 pcs	16//20** pcs	16//28 (U1) pcs	28 pcs (U2)	
External Cabinet with 4A Charger Option	A1: 20-30 pcs (Default 30 pcs) A2: 30-40 pcs (Default 30 pcs) A3: 40-46 pcs (Default 40 pcs)		A2: 30-40 pcs (Default 30 pcs) A3: 40-46 pcs (Default 40 pcs)		
External Cabinet with 13A Charger Option	30-46 pcs (Default 30 pcs - Adjustable from LCD Panel)				
Communication and Accessories					
LCD Display	Graphical LCD Screen, Led Bar Status				
Communication ports (Optionals)	RS485, Genset, SNMP, GSM Modem, Relay Contacts, Input Contacts, Modbus, USB and Schuko Socket				
Accessories (Optional)	Galvanic Isolation Transformer, Remote Monitoring Panel, Parallelization				
Physical Characteristics					
Dimensions H x W x D (mm)	661X257X580			761X257X676	
Net Weight (kg)	25	30	38	40//38(U2)	42
Ambient Conditions					
Operating temperature (°C)	0°C - 40°C				
StorageTempature	-15°C+ 55°C				
Relative Humidity (%)	< 95% Not Condensing				
Altitude	< 1500m				
Noise (at 1 meter)	<55 dBA				
Protection Class	IP 20 (Higher Ip Ratings are Optional)				
Compliance					
Reference Product Standards	EN 62040-1-1 (Safety), EN 62040-2 (EMC), EN 62040-3 (Performance)				

*At load power factor 0.8
**6kVA works with 20 pcs battery at U1 model



INNOVATIVE ENERGY SYSTEMS

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The company reserves the right to change specifications and designs without notice.