INNOVASIS
INNOVATIVE ENERGY SYSTEMS

3:3
FAZ

DATA CENTER · MEDICAL · INDUSTRY · TRANSPORTATION · EMERGENCY

MULTILINE
HYBRID SOLAR UPS
Three-Phase Output
10 - 120 kVA

- 3 LEVEL UPS
- UPS ONLINE
- TOWER
- HIGH EFFICIENCY
- Li - On READY
- SOLAR CONNECTION

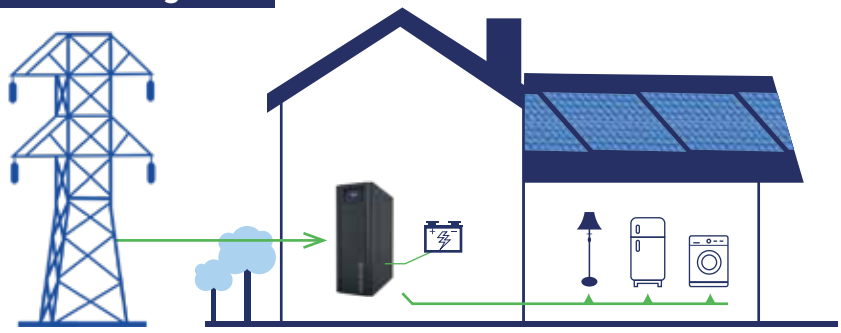
Multiline Hybrid Solar UPS

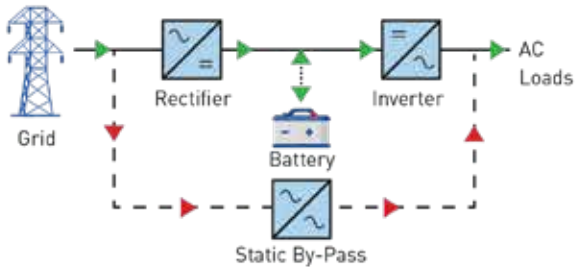
Get your energy from the sun with the new generation HYBRID SOLAR UPS.

UPS + OFF-GRID INVERTER + ON-GRID INVERTER + HYBRID INVERTER + ENERGY STORAGE

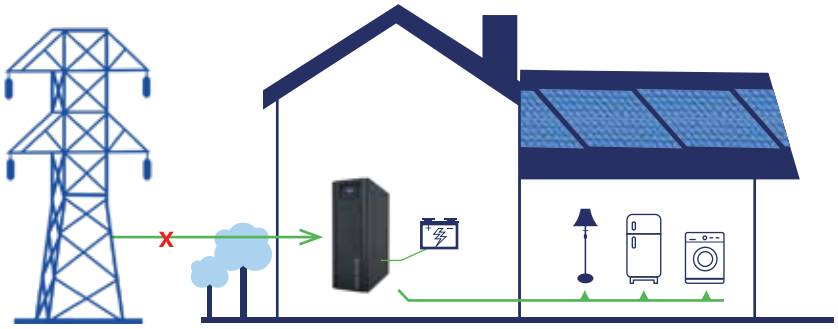
· The new hybrid technology intelligently provides the most economical and ecological power option for loads.
· It is primarily fed by solar energy to amortize your investment.
· Maximum profit is achieved from the energy obtained from solar panels thanks to the MPPT algorithm.· The clean energy produced is stored thanks to the battery bank and the system continues to be supplied with energy in the event of a power outage.
· The smart control system provides real-time information to users. In addition, smart energy management is provided according to different climates and user types.
· It provides full protection against all kinds of electrical problems without the need for any intervention like traditional on-line UPS.
· With the hybrid system, in cases where solar energy and battery are insufficient and the network is cut off, the emergency generator is automatically activated and uninterrupted power is provided to the user.

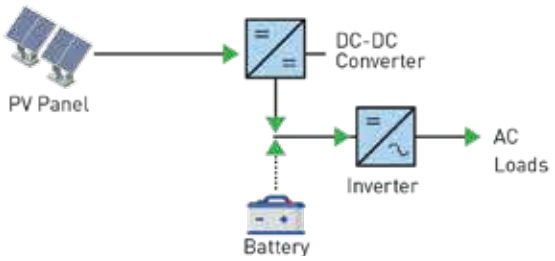
UPS Working Mode



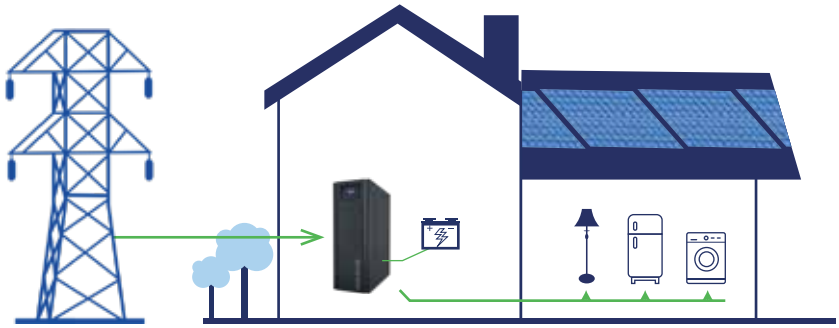


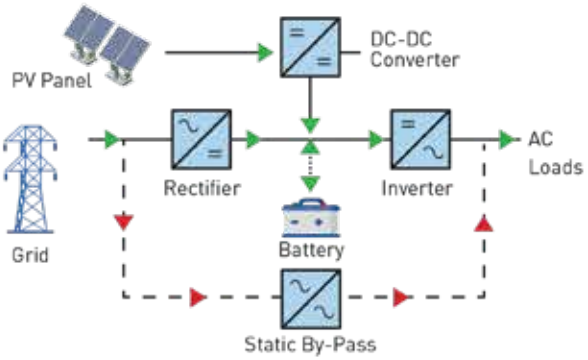
Off-Grid Inverter Working Mode





Hybrid Inverter Working Mode





Monoline & Multiline Hybrid Solar UPS

MODEL		MNL 1106SU1	MNL 1110SU1	MTL 1110SU1	MTL 1115SU1	MTL 1120SU1
		6	10	10	15	20
UPS OPERATION (Mains-Battery)						
MAINS INPUT (AC)	Input Voltage - Number of Phases	380/400/415 VAC / 3Ph+N+PE		380/400/415 VAC / 3Ph+N+PE		
	Input Voltage Range	195V-260V at 100% load, 145V-260V at 50% load				
	Input Frequency Tolerance	45-65 Hz				
LOAD OUTPUT (AC)	Output Voltage - Number of Phases	380/400/415 VAC / 3Ph+N+PE				
	Output Frequency	50 / 60 Hz				
	Overload	1 min at 125% load, 10 sec at 150% load				
STATIC BY-PASS	Static Bypass Voltage Tolerance	380/400/415 VAC (Adjustable from front panel–15% +12%)				
	Statik Bypass Frekans Toleransı	47 Hz - 53 Hz (Ayarlanabilir)				
BATTERY & CHARGE CONTROL	Battery Type	Maintenance Free Dry Type (VRLA), Lithium Iron Phosphate / Gel / Lead Acid				
	Nominal Battery Voltage	192 VDC (16 Pcx 12V)		288 VDC (24 Pcs 12V)		384 VDC (32 Pcs 12V)
	Max. Battery Charge Current	5A				
HYBRID OPERATION (Grid-Battery-PV)						
PV INPUT (DC)	Max. PV Input Power	8000 W				
	Max. PV Voltage/MPPT Voltage Range	350 VDC / 150-600 VDC				
	MPPT Number / Max. MPPT Input Current	1 / 30A				
MAINS OUTPUT (AC)	Network Output Voltage - Phase number	380/400/415 VAC / 3Ph+N+PE				
	Network Output Current (Per Phase)	12,1 A		18,1 A		24,2 A
MAINS INPUT (AC)	Network Input Voltage Range	337 - 450 VAC				
	Network Input Current (Per Phase)	14,8 A		22,3 A		29,7 A
	Automatic Operating Voltage	195-260 VAC				
BATTERY & CHARGE CONTROL	Nominal Battery Voltage	192 VDC (16 Pcs 12V)		288 VDC (24 Pcs 12V)		384 VDC (32 Pcs 12V)
	Max. Battery Charge Current	5A				
OFF-GRID OPERATION (Battery-PV)						
PV INPUT (DC)	Max. PV Input Power	8000 W		8000 W		8000 W
	Auto. Operating Voltage (Cold Start)	100 VDC				
	Max. PV Voltage/MPPT Voltage Range	300 VDC / 150-600 VDC				
	MPPT Number / Max. MPPT Input Current	1 / 30A				
BATTERY & CHARGE CONTROL	Nominal Battery Voltage	192 VDC (16 Adet 12V)		288 VDC (24 Adet 12V)		384 VDC (32 Adet 12V)
	Max. Battery Charge Current	5A				
LOAD OUTPUT (AC)	Output Voltage - Number of Phases	380/400/415 VAC / 3Ph+N+PE				
	Output Frequency	50 / 60 Hz				
ON-GRID OPERATION (Grid-PV)						
PV INPUT (DC)	Max. PV Input Power	8000 W				
	Max. PV Voltage/MPPT Voltage Range	300 VDC / 150-600 VDC				
	MPPT Number / Max. MPPT Input Current	1 / 30A				
MAINS OUTPUT (AC)	Network Output Voltage - Phase number	380/400/415 VAC / 3Ph+N+PE				
	Network Output Current (Per Phase)	12,1 A		18,1 A		24,2 A
GENERAL DATA						
PRODUCTIVE	Euro Efficiency / Output Power Factor	%91,6 / 0,8~1		%91,8 / 0,8~1		%92,1 / 0,8~1
INDICATOR	Screen	4x16 LCD, LED Display				
COMMUNICATION	Interface / Other	RS-232, USB, Emergency Power Off Button (EPO), GENSET, STS SYNC				
	Optional	RS485, DryContact, SNMP,				
ENVIRONMENTAL CONDITIONS	Storage / Operating Temperature Range	-25℃ + 55℃ / 0℃ + 40℃				
	Humidity / Protection Class	0-95% (without condensation) / IP20				
	Working Altitude / Noise	0~1000 m / > 60dB				
	Cooling / Topology	Forced Convection / Transformerless				
PHYSICAL PROPERTIES	Dimensions W x D x H (mm)	295x620x700		295x620x875		
	Weight (Without Battery)	45 kg		50 kg		
	Weight (With 12V 9Ah Battery)	90 kg		113 kg		135 kg
	Mounting Type	Floor, Wheeled (Tower)				

Multiline Hybrid Solar UPS

MODEL	MTL 3330U1 MTL 3330U2 MTL 3330U3	MTL 3340U1 MTL 3340U2 MTL 3340U3	MTL 3360U1 MTL 3360U2 MTL 3360U3	MTL 3380U1 MTL 3380U2 MTL 3380U3	MTL 33100U1 MTL 33100U2 MTL 33100U3	MTL 33120U1 MTL 33120U2 MTL 33120U3
Rated power (kVA)	30	40	60	80	100	120
General						
Technology	3-Level, Double Conversion Online VFI-SS-111					
Waveform	Sinus Output					
Architectural	Single Unit or Parallel Connection up to 8 Units					
Input						
Input Voltage	380, 400, 415 V 3Ph+N+PE					
Input Frequency	45-65 Hz					
Voltage Tolerance (%100 load)	%(-20) %(+20)					
Voltage Tolerance (%40 load)	%(-36) %(+20)					
Input Power Factor	≥0,99					
Input Current Harmonic	%3					
Output						
Output Voltage	380, 400, 415 V 3Ph+N+PE					
Output Voltage Tolerance	±%1					
Overall Efficiency* (AC-AC)	Up to 96% (at half 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	1 (U1 model) / 0.9 (U2 model) / 0.8 (U3 model)					
THD of Output Voltage	<2% (Linear load) & 5 (Non-linear load)					
Bypass						
Bypass	Internal automatic and maintenance bypass					
Voltage Tolerance	±%10					
Transfer Time	0 ms					
Overload Capacity	150% load 1 minute					
Battery						
Battery Type	VRLA-AGM/GEL/NiCd/Li-ion					
Battery Test	Automatic or Manual					
Battery Charge Time	<6h-8h					
Communication						
LCD Screen	Display with indicator, LED status indicator					
Communication Ports (Optional)	RS485, Genset, SNMP, GSM Modem, Relay Contacts, Input Contacts, Modbus and USB					
Battery Temperature Sensor	Available					
Emergency Shutdown (EPO)	Available					
Accessories (Optional)	Galvanic Isolation Transformer, Remote Monitoring Panel Dimensions					
Dimensions						
Dimensions H x W x D (mm)	325 x 895 x 1078	420 x 940 x 1330 (U1- 40 kVA) 325 x 895 x 1078 (U1 & U2)		432 x 930 x 1257 (U1 & U2)		
Net Weight (kg)	71(U1)/65(U2)	90(U1)/71(U2)		125(U1)/115(U2)	135(U1)/125(U2)	140(U1)/130(U2)
Environmental Conditions						
Working Temperature (°C)	0°C - 40°C					
Storage Temperature	-15°C/+ 55°C					
Recommended Battery Operating Temperature	20 - 25°C					
Altittude	< 1500m					
Noise (from 1 meter)	<55 dBA	<58 dBA			<60 dBA	
Protection Class	IP20 (Higher IP ratings are optional					
Compatibility						
Standards	EN 62040-1 (EMC), EN 62040-2 (Safety), EN 62040-3 (Performance)					

*Depends on I/O voltage conditions and power

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