



INDEX

■ HYBRID UPS	01
■ SOLAR UPS	04
■ MAX OFF-GRID INVERTER	05
■ MAX II OFF-GRID INVERTER	06
■ VM SERIES INVERTER	07
■ VM IV SERIES INVERTER	08
■ MPTS-5K SERIES INVERTER	09

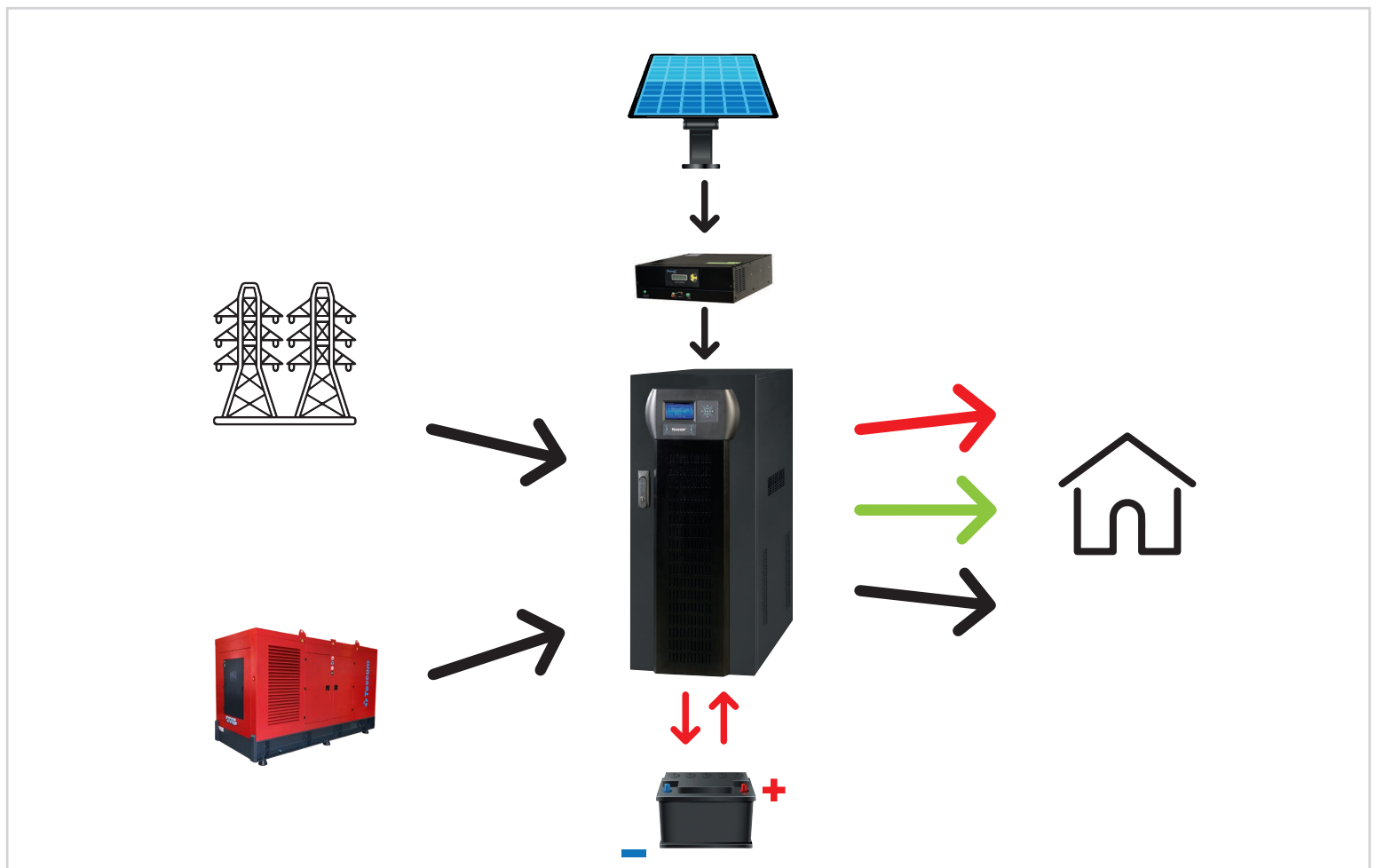
■ MKS OFF-GRID INVERTER	10
■ V SERIES INVERTER	11
■ INV1000NS ON-GRID SOLAR INVERTER	12
■ INV3000NS ON-GRID SOLAR INVERTER	13
■ SOLAR IRRIGATION SYSTEM	16
■ GEL BATTERY	18
■ LI-ION BATTERY	20

HYBRID UPS SYSTEMS

10-600kVA / 3:3

GENERAL SPECIFICATIONS

- The new hybrid technology automatically chooses the most economical and ecological power solution to the customer.
- Primarily works from solar energy to return your investment.
- MPPT algorithm provides maximum energy available in the PV panels to the load connected the output of the solar converter. Solar Converter arranges power redundancy automatically.
- Battery bank stores the unused clean energy and protects you against power failure-blacout.
- The intelligent controller offers real time status information. The different energy flows can be setup according weather data and/or customer profiles.
- As a conventional on-line UPS, it always offers full protection against any kind of power problem without any internal switching.
- The hybrid system combines solar energy, grid, battery or emergency generator.



GRID UNAVAILABLE

In case of power failure the requested energy is coming from the solar panels and/or batteries. The backup time vary with the connected load and the power of panels/batteries. The backup time vary with the connected load and the power of panels/ batteries.

Without solar energy, the load is directly supplied by the batteries.

TECHNICAL SPECIFICATIONS

10-160kVA / 3:3

MODEL	HY310	HY315	HY320	HY330	HY340	HY360	HY380	HY3100	HY3120	HY3160
Power (kVA)	10	15	20	30	40	60	80	100	120	160
INPUT										
Voltage	380/400 VAC 3 Phase + N + E ± 20% (415 VAC +15%, - 25% optional)									
Frequency	50Hz./60Hz. ± 10%									
Power factor	≥ 0.99									
(THDI) (*)	≤ 3%									
By-pass voltage	380/400 VAC 3 Phase + N, ±10%									
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator									
OUTPUT										
Power (kW)	9	13,5	18	27	36	54	72	90	108	144
Power factor	0,9									
Voltage	380/400 VAC 3 Phase + N , ±1% (415 VAC optional)									
Frequency	50Hz./60Hz.									
Frequency tolerance	Line synchronized: ±2% / Free running: ±0,1% (adjustable)									
Efficiency	up to 94%									
Crest factor	3:1									
Overload protection	100% - 125% load: 10 min, 125% - 150% load: 1 min, - >150% load: by pass									
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting									
THD	< 2% (at 100% linear load)									
BATTERIES										
Type	VRLA AGM / GEL / NiCd									
Number of batteries	2x30 (±30): 60 pieces									
Charging voltage	2x405 VDC									
End of discharge voltage	2x300 VDC									
Battery cabinet	Internal							External		
Battery ambient temperature	25°C									
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)									
Automatic testing	Standard every 72 hours (adjustable)									
GENEL										
Standards	EN62040-1, EN62040-2, EN62040-3									
User interface	4 lines LCD panel, Mimic leds, 5 vector buttons, Buzzer, Optional TFT panel									
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time									
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232,operating hour meter									
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays									
Inputs	EPO input, Interactive battery panel input, Genset input									
Genset kit	Standard (programmable)									
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)									
Alarm logging	Standard: with time & date 512 events									
Protections	Power module over-temperature, Over current, Temperature high alarm									
Temperature range	0°C - 40°C									
Protection degree	IP20									
Relative humidity	90% max. (noncondensed)									
Altitude	< 1000m above sea level									
Acoustic noise	< 57 dBA		< 62 dBA			< 64 dBA		< 68 dBA		
Net weight (kg)	87	87	91	100	173	197	209	220	232	265
Dimensions (mm) HxWxD	1040x400x815				1440x515x855					
OPTIONS										
Different input / output voltage	Please ask									
Transformer	Galvanic isolation transformer at the input & output									
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients									
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP),USB Alarm Logger, TCP/IP ,GSM/GPRS Modem, Comport multiplexer									
Parallel operation	up to 8									
(*) Depending on input line conditions and power										

TECHNICAL SPECIFICATIONS

10-160kVA / 3:3

MODEL	HY3200		HY3250		HY3300		HY3400		HY3500		HY3600	
Power (kVA)	200		250		300		400		500		600	
INPUT												
Voltage	380/400 VAC 3 Phase + N + E ± 20% (415 VAC +15%, - 25% optional)											
Frequency	50Hz / 60Hz, ± 10%											
Power factor	≥ 0.99											
(THDI) (*)	≤ 3%											
By-pass voltage	380/400 VAC 3 Phase + N, ±10%											
Protection	Fuses, Voltage & Frequency tolerance, Input power limit, Phase sequency indicator											
OUTPUT												
Power (kW)	180		225		270		400		500		600	
Power factor	0.9						1.0					
Voltage	380/400 VAC 3 Phase + N , ±1% (415 VAC optional)											
Frequency	50Hz / 60Hz											
Frequency tolerance	Line synchronized: ±2% / Free running: ±0,1%											
Efficiency	up to 94.5%											
Crest factor	3:1											
Overload protection	100% - 125% load: 10 min, 125% - 150% load: 1 min, - >150% load: by pass											
Other protections	Advanced short circuit, Voltage tolerance, DC balance, Regenerative load, Current limiting											
THD	< 2% (at 100% linear load)											
BATTERIES												
Type	VRLA AGM / GEL / NiCd											
Number of batteries	2x30 (±30) : 60 pieces											
Charging voltage	2x405 VDC											
End of discharge voltage	2x300 VDC											
Battery cabinet	External											
Battery ambient temperature	25°C											
Protections	3 level alarms, Battery fuses, Charging current limit, Temperature compensation (optional)											
Automatic testing	Standard every 72 hours (adjustable)											
GENERAL												
Standards	EN62040-1, EN62040-2, EN62040-3											
User interface	4 lines LCD panel, Mimic leds, 5 vector buttons, Buzzer, Optional TFT panel											
Indicators	P-N voltage, P-P voltage, Current, Power, Crest Factor, Frequency, PF, Service Time											
Advanced	Self diagnostics, 3 maintenance time indicators, Calibration over RS232,operating hour meter											
Communication	2xRS232 serial ports, 4 standard and 8 optional DRY contact alarm relays											
Inputs	EPO input, Interactive battery panel input, Genset input											
Genset kit	Standard (programmable)											
Software	Standard T-Mon UPS Management Software (3 clients + 1 server management)											
Alarm logging	Standard: with time & date 512 events											
Protections	Power module over-temperature, Over current, Temperature high alarm											
Temperature range	0°C - 40°C											
Protection degree	IP20											
Relative humidity	90% max. (noncondensed)											
Altitude	< 1000m above sea level											
Acoustic noise	< 68 dBA						< 72 dBA					
Net weight (kg)	470		525		635		780		1452			
Dimensions (mm) HxWxD	1900x880x775				1900x1250x775		2040x1250x840		1940x1610x1050			
OPTIONS												
Different input / output voltage	Please ask											
Transformer	Galvanic isolation transformer at the input & output											
Software	T-Mon Admin Multi UPS monitoring 10-50-100-200 clients, T-Mon Server 50-100-200 clients											
Adaptors	SNMP, RS485, Remote monitoring panel, MODBUS (RS485 or TCP/IP),USB Alarm Logger, TCP/IP ,GSM/GPRS Modem, Comport multiplexer											
Parallel operation	up to 8											
(*) Depending on input line conditions and power												

SOLAR UPS

5kW

GENERAL SPECIFICATIONS

- True double-conversion online UPS
- Output power factor 1.0
- Built-in 80A MPPT solar charger and 60A AC charger
- Configurable AC/Solar input priority via LCD setting
- Parallel operation up to 9 units
- Common 48Vdc battery pack for the parallel system
- Configurable charging current via LCD setting
- Compatible with Generator
- Cold Start capability
- Overload and short circuit protection



MODEL	SOLAR UPS 5kW	
Maximum PV input power	4000W	
Capacity	5000VA/5000W	
INPUT		
Voltage	230 VAC	
Voltage range	110-280 VAC	
Frequency range	50Hz/60Hz (auto sensing)	
Power factor	> 0,98 @ Nominal voltage (@ 100% load)	
THDi	< 10%	
OUTPUT		
AC Voltage regulation	230VAC ± 5%	
Frequency range	46~54Hz or 56~64Hz	
Frequency range (battery mode)	50Hz	
Voltage THD	≤ 3% THD (linear load), ; ≤ 5 % THD (non linear load)	
Efficiency (peak)	93%	
Transfer time AC mode to battery mode	Sıfır	
Transfer time Inverter to bypass	4 ms	
Waveform	Pure sinewave	
EFFICIENCY		
Line mode	93%	
Eco mode	99%	
Battery mode	90%	
BATTERY		
Battery voltage	48 VDC	
Floating charge voltage	54 VDC	
Overcharge protection	66 VDC	
SOLAR CHARGER & AC CHARGER		
Solar charge type	MPPT	
Maximum PV array power	4000 W	
MPPT range @ operating voltage	60VDC ~115 VDC	
Maximum PV array open circuit voltage	145 VDC	
Maximum solar charge current	80 A	
Maximum AC charge current	60 A	
PHYSICAL		
Dimensions, HxWxD (mm)	336x190x465	
Net weight (kg)	16,0	10
Communication interface	RS232 & USB	
OPERATING ENVIRONMENT		
Humidity	%5 to %95 (non condensing)	
Operating temperature	0°C to 55°C	
Storage temperature	-15°C to 60°C	

MAX OFF-GRID INVERTER

HYBRID INVERTER

GENERAL SPECIFICATIONS

- Customizable status LED bar with RGB lights
- Built-in wifi for mobile monitoring (Android/iOS Apps are available)
- Supports USB On-the-Go function
- Reserved communication port for BMS (RS485, CAN-BUS or RS232)
- Replaceable fan design for ease of maintenance
- Battery independent design
- Configurable AC/PV output usage timer and prioritization
- Selectable high power charging current
- Selectable high power charging current
- Selectable input voltage range for home appliances and personal computers
- Compatible to Utility Mains or generator input
- Built-in anti-dust kit
- Optional DC output for DC fan, LED bulb, router and so on
- Parallel operation up to 6 units only available for 7.2kVA



MODEL	MAX 7.2KW
Power	7200 VA / 7200W
Parallel capability	6 units
INPUT	
Voltage	230 VAC
Selectable voltage range	170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)
Frequency range	50Hz/60Hz (Auto sensing)
OUTPUT	
AC voltage regulation (batt. mode)	230VAC ± 5%
Overload	15000VA
Efficiency (peak)	90-93%
Transfer time	15ms (for personal computers) ; 20 ms (for home appliances)
Waveform	Pure sine wave
BATTERY	
Battery voltage	48 VDC
Charge voltage	54 VDC
Overcharge protection	66 VDC
SOLAR CHARGER & AC CHARGER	
Solar charger type	MPPT
Max. PV array power	8000 W (4000 W x 2)
MPPT range @ operating voltage	90 VDC ~450 VDC
Max. PV array open circuit voltage	500 VDC
Max. solar charge current	80 A
Max. AC charge current	80 A
Max. charge current	80 A°C
PHYSICAL	
Dimensions HxWxD (mm)	553,6x432,5x147,4
Net weight (kg)	18,4
Communication interface	USB/RS232/RS485/Wifi/Dry-contact
OPERATING ENVIRONMENT	
Humidity	5% - 95% (non-condensing)
Operating temperature	-10°C to 55°C
Storage temperature	-15°C to 60°C

MAX II OFF-GRID INVERTER

HYBRID INVERTER

GENERAL SPECIFICATIONS

- Customizable status LED bar with RGB lights
- Touchable button with large 5" colored LCD
- Built-in Wi-Fi for mobile monitoring (Android/iOS App is available)
- Supports USB On-the-Go function
- Data log events stored in the inverter
- Reserved communication port for BMS (RS485, CAN-BUS or RS232)
- Replaceable fan design for ease of maintenance
- Battery independent design
- Configurable AC/PV output usage timer and prioritization
- Selectable high power charging current
- Compatible to Utility Mains or generator input
- Built-in anti-dust kit
- Built-in DC output for DC fan, LED bulb, router and so on
- Parallel operation with 6 units



MODEL	MAX II 8 KW
Rated power	8000 VA / 8000W
Parallel capability	6 units
INPUT	
Voltage	230 VAC
Selectable voltage range	170-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range	50Hz/60Hz (Auto sensing)
OUTPUT	
AC voltage regulation (batt. mode)	230VAC $\pm$ 5%
Overload	16000VA
Efficiency (peak)	93%
Transfer time	15ms (For personal computers); 20 ms (For home appliances)
Waveform	Pure sine wave
No load power consumption	< 70W
DC voltage	12 VDC $\pm$ 5%, 100W
BATTERY	
Battery voltage	48 VDC
Charge voltage	54 VDC
Overcharge protection	66 VDC
SOLAR CHARGER & AC CHARGER	
Solar charge type	MPPT
Max. PV power	8000 W (4000 W x 2)
MPPT range @ operating voltage	90 VDC ~ 450 VDC
Maximum PV array open circuit voltage	500 VDC
Maximum solar charge current	150 A
Maximum AC charge current	120 A
Max. charge current	150 A
PHYSICAL	
Dimension HxWxD (mm)	530.8x502.5x158.4
Net weight (kg)	20
Communication interface	USB/RS232/RS485/Wifi/Dry contact
OPERATING ENVIRONMENT	
Humidity	5% - 95% (non-condensing)
Operating temperature	-10°C - 50°C
Storage temperature	-15°C - 60°C

VM SERIES INVERTER

HYBRID INVERTER (HIGH VOLTAGE) / 3-5kVA

GENERAL SPECIFICATIONS

- Detachable LCD control module with various communications
- Integrated Bluetooth interface with Android App
- Reserved communication port (RS-485, CAN-BUS or RS-232) for BMS
- Battery equalization extends lifecycle
- Battery independency
- User-friendly LCD operation
- Replaceable fan design



MODEL	VM 3K 450VDC		VM 5K 450VDC	
Rated power	3000VA/3000W		5000VA/5000W	
INPUT				
Voltage	230 VAC			
Selectable voltage range	170-280 VAC (for personal computers) 90-280 VAC (for home appliances)			
Frequency range	50Hz/60Hz (auto sensing)			
OUTPUT				
AC voltage regulation (batt. mode)	230VAC ± 5%			
Overload	6000VA		10000VA	
Efficiency (peak)	90-93%			
Transfer time	15 ms (for personal computers); 20 ms (for home appliances)			
Wave form	Pure sine wave			
BATTERY				
Battery voltage	24 VDC		48 VDC	
Floating charge voltage	27 VDC		54 VDC	
Overcharge protection	33 VDC		63 VDC	
SOLAR CHARGER & AC CHARGER				
Solar charge type	MPPT			
Maximum PV array open circuit voltage	500 VDC			
Maximum PV array power	4000 W		5000 W	
MPP range @ operating voltage	120 VDC ~450 VDC			
Maximum solar charge current	100 A			
Maximum AC charge current	100 A			
Maximum charge current	100 A			
PHYSICAL				
Dimensions HxWxD (mm)	400x300x115			
Net weight (kg)	9.0		10.0	
Communication interface	USB/RS232/RS485/Bluetooth/Dry contact			
ENVIRONMENT				
Humidity	5% - 95% (non condensing)			
Operating temperature	0°C – 55°C			
Storage temperature	-15°C – 60°C			

VM IV SERIES INVERTER

HYBRID INVERTER (HIGH VOLTAGE) / 3-5kVA

GENERAL SPECIFICATIONS

- Customizable status LED ring with RGB lights
- Touchable button with 4.3" colored LCD
- Built-in Wifi for mobile monitoring (App is available)
- Supports USB On-the-Go function
- Data log events stored in the inverter
- Battery independent design
- Reserved communication port (RS485, CAN-BUS or RS232) for BMS
- Battery equalization extends lifecycle
- User-friendly LCD operation
- Enhanced charging power
- Built-in anti-dust kit



MODEL	VM IV 3600K 450VDC	VM IV 5600K 450VDC
Rated power	3600VA/3600W	5600VA/5600W
INPUT		
Voltage	230 VAC	
Selectable voltage range	170-280 VAC (for personal computers) 90-280 VAC (for home appliances)	
Frequency range	50Hz/60Hz (auto sensing)	
OUTPUT		
AC voltage regulation (batt. mode)	230VAC ± 5%	
Overload	7200VA	11200VA
Efficiency (peak)	90-93%	
Transfer time	15 ms (for personal computers); 20 ms (for home appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery voltage	24 VDC	48 VDC
Floating charge voltage	27 VDC	54 VDC
Overcharge protection	33 VDC	63 VDC
SOLAR CHARGER & AC CHARGER		
Solar charge type	MPPT	
Maximum PV power	4000 W	6000 W
MPPT range @ operating voltage	120 VDC ~450 VDC	
Maximum PV array open circuit voltage	500 VDC	
Maximum solar charge current	120 A	
Maximum AC charge current	100 A	
Maximum charge current	120 A	
PHYSICAL		
Dimensions HxWxD (mm)	422.8x313.6x119	
Net weight (kg)	10.0	12.0
Communication interface	USB/RS232/RS485/Bluetooth/Dry-contact	
ENVIRONMENT		
Humidity	5% - 95% (non condensing)	
Operating temperature	0°C – 55°C	
Storage temperature	-15°C – 60°C	

MPTS-5K SERIES INVERTER

HYBRID INVERTER / 5kVA

GENERAL SPECIFICATIONS

- Zero transfer time to protect mission-critical loads such as servers and ATM.
- Detachable LCD control module with multiple communications
- Built-in Bluetooth for mobile monitoring (Android App is available)
- Supports USB On-the-Go function
- Reserved communication port for BMS (RS485, CAN-BUS or RS232)



MODEL	MPTS-5K
Power	5000VA/5000W
Parallel capability	Up to 9 units
INPUT	
Voltage	230 VAC
Voltage range	110-280 VAC
Frequency range	50Hz/60Hz (auto sensing)
OUTPUT	
AC voltage regulation	230VAC $\pm$ 5%
Voltage THD	$\leq$ 3% for linear load, $\leq$ 8% for non-linear load
Overload	10000VA for 5 sec
Efficiency (peak)	93% at line mode, 90% at battery mode
Transfer time	0 ms
Waveform	Pure sine wave
BATTERY	
Battery voltage	48 VDC
Charge voltage	54 VDC
Overcharge protection	66 VDC
SOLAR CHARGER & AC CHARGER	
Solar charge type	MPPT
Max. PV array open circuit voltage	145 VDC
Max. PV power	4000 W
MPP range @ operating voltage	60 VDC ~115 VDC
Max. solar charge current	80 A
Max. AC charge current	60 A
Max. charge current	140A
PHYSICAL	
Dimension, HxWxD (mm)	525x303x140
Net weight (kg)	13,5
Communication	USB/RS232/RS485/Bluetooth/Dry-contact
ENVIRONMENT	
Humidity	5% - 95% (non-condensing)
Operating temperature	0°C - 55°C
Storage temperature	-15°C to 60°C

MKS OFF-GRID INVERTER

HYBRID INVERTER / 5kVA

GENERAL SPECIFICATIONS

- Pure sine wave MPPT solar inverter
- Customizable status LED ring with RGB lights
- Touchable button with 4.3" colored LCD
- Wide DC input range
- Supports USB On-the-Go function
- Data log events stored in the inverter
- Built-in Wi-Fi for mobile monitoring (App is available)
- Reserved communication port for BMS
- Battery independent function
- Parallel operation with up to 9 units



MODEL	MKS 3600K	MKS 5600K
Rated power	3600VA/3600W	5600VA/5600W
INPUT		
Voltage	230 VAC	
Selectable voltage range	170-280 VAC (For personal computers) 90-280 VAC (For home appliances)	
Frequency range	55Hz / 60Hz (Auto sensing)	
OUTPUT		
AC voltage regulation (batt. mode)	230VAC ± 5%	
Overload capacity	5s@≥150% load; 10s@110%~150% load; 100ms @ ≥200% load	
Efficiency (peak)	93%	
Transfer time	10 ms (For personal computers) ; 20 ms (For home appliances)	
Wave form	"Pure sine wave	
BATTERY		
Battery voltage	48 VDC	48 VDC
Floating charge voltage	54 VDC	54 VDC
Overcharge protection	66 VDC	66 VDC
SOLAR CHARGER & AC CHARGER		
Solar charge type	MPPT	
Maximum PV array power	5000 W	6000 W
MPPT range @ operating voltage	120 VDC ~ 430 VDC	
Maximum PV array open circuit voltage	450 VDC	
Maximum solar charge current	100 A	120 A
Maximum AC charge current	100 A	120 A
PHYSICAL		
Dimension, HxWxD (mm)	468x295x140	
Net weight (kg)	11.0	12.0
Communication interface	USB/RS232/RS485/Wifi/Dry-contact	
ENVIRONMENT		
Humidity	5% to 95% relative humidity (non-condensing)	
Çalışma sıcaklığı	-10°C - 50°C	
Depolama sıcaklığı	-15°C - 60°C	

V SERIES INVERTER

HYBRID INVERTER / 1-3-5kVA

GENERAL SPECIFICATIONS

- Pure sine wave solar inverter
- Selectable high power charging current
- Wide DC input range
- Selectable input voltage range for home appliances
- Configurable AC/Solar input priority via LCD setting personal computer
- Compatible to mains voltage or generator power
- Auto restart while AC is recovering
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function



MODEL	VTS1000	VM1000	VTS3000	VMPTS3000	VTS5000
Rated power	1000VA/1000W		3000VA/3000W		5000VA/5000W
INPUT					
Voltage	230 VAC				
Selectable voltage range	170-280 VAC (for personal computers), 90-280 VAC (for home appliances)				
Frequency range	50 Hz/60 Hz (auto sensing)				
OUTPUT					
AC voltage regulation (battery mode)	230VAC ± 5%				
Surge power	2000VA	6000VA			10000VA
Efficiency (peak)	90% ~ 93%				
Transfer time	10 ms (for personal computers), 20 ms (for home appliances)				
Waveform	Pure sinewave				
BATTERY					
Battery voltage	12 VDC	24 VDC			48 VDC
Floating charge voltage	13.5 VDC	27 VDC			54 VDC
Overcharge protection	16 VDC	32 VDC			63 VDC
SOLAR CHARGER & AC CHARGER					
Solar charger type	PWM	MPPT	PWM	MPPT	PWM
Maximum PV array open circuit voltage	55 VDC	102 VDC	80 VDC	102 VDC	105 VDC
Maximum PV array power	600 W	500 W	1200 W	1000 W	2400 W
MPP range @ operating voltage	N/A	17~80 VDC	N/A	30~80 VDC	N/A
Maximum solar charge current	50 A	40 A	50 A	40 A	50 A
Maximum AC charge current	20 A	20A	25A	25A	60 A
Maximum charge current	50 A	60A	70 A	60 A	110 A
PHYSICAL					
Dimensions HxWxD (mm)	320x225x88		285x334x100		440x300x100
Net weight (kg)	4.4		6.3	6.5	8.5
Communication interface	USB				
ENVIRONMENT					
Humidity	5% to 95% (non condensing)				
Operating temperature	-10°C to 50°C				
Storage temperature	-15°C to 60°C				

INV1000NS ON-GRID SOLAR INVERTER

1F-1F / 3-7kW

GENERAL SPECIFICATIONS

- Compact and light weight
- Contemporary design
- Unmatched power density
- High efficiency 98.4% (High efficiency model)
- Wide MPPT range 90 ~ 550V
- Industrial-grade high quality components
- IP65 waterproof and dustproof
- Intelligent monitoring via smart phone



MODEL	INV1003NS	INV1003.68NS	INV1004NS	INV1004.6NS	INV1005NS	INV1006NS	INV1007NS
INPUT (DC)							
Max. input power	3900 W	4800 W	5200 W	6000 W	6500 W	7800 W	7800 W
Max. input voltage	600 V						
Start-up voltage	120 V						
MPPT voltage range	90 - 550 V						
Rated input voltage	360 V						
MPPT voltage range at full load	120 - 480 V	140 - 480 V	150 - 480 V	180 - 480 V	190 - 480 V	230 - 480 V	270 - 480 V
Max. input current	15 A x 2						
Max. short circuit current	20 A x 2						
Number of MPPTs	2						
OUTPUT (AC)							
Max. output power	3000 W	3680 W	4000 W	4600 W	5000 W (EUR)	6000 W	7000 W
Max. output current	13 A	16 A	17.4 A	20 A	21.8A (EUR)	26.1 A	30.5 A
Rated grid voltage	Single phase 230 VAC						
Grid voltage range	180 - 280 Vac						
Rated grid frequency	50/60Hz						
Grid frequency range	45-55Hz / 55-65Hz						
THD	< 3% (rated output power)						
DC component	< 0.5% x rated output current						
Power factor	> 0.99 (rated output power)						
Power factor adjustable	0.8 leading ~ 0.8 lagging						
EFFICIENCY							
Max. efficiency	Max. efficiency 97.8%, European efficiency 97.3%						
OTHERS							
Protections	Islanding protection, output short-circuit protection, leakage current protection, DC reverse polarity protection, DC input impedance detection, DC switch						
Communications	RS485, Wi-Fi/Ethernet (optional), GPRS (optional)						
Display	LED indicators						
Self-consumption at night	< 0.5W						
IP rating	IP 65						
Cooling	Natural cooling						
Installation method	Wall-mounted						
DC wiring terminal	MC4						
AC wiring terminal	Plug and play						
Standards	IEC/EN 62109-1, IEC/EN 62109-2, VDE 0126-1-1, VDE AR-N-4105, AS/NZS 4777.2, CEI 0-21, EN 50438, IEC 61683, IEC 61727, IEC 62116, ABNT NBR 16149, ABNT NBR 16150						
Operating temperature	-25°C- +60°C (> 45°C downgrading)						
Relative humidity	0% - 100% (non-condensing)						
Altitude	4000 m (> 2000 m downgrading)						
Noise	< 40 dB						
Dimensions (WxDxH) (mm)	370x126.5x420						
Packaged dimensions (WxDxH) (mm)	440x205x490						
Net weight (kg)	10.9						
Gross weight (kg)	12.5						

INV3000NS ON-GRID SOLAR INVERTER

3F-3F / 5-16kW

GENERAL SPECIFICATIONS

- Compact and contemporary design
- Unmatched power density
- Highest efficiency in the industry (max. 98.65%)
- Fuseless and fanless design

- Industrial-grade high quality components
- All-round lightning protection
- IP65 waterproof and dustproof
- Smart connected



MODEL	INV3005NS	INV3006NS	INV3008NS	INV30010NS	INV30013NS	INV30016NS
INPUT (DC)						
Max. input power	6.5 kW	7.8 kW	10.4 kW	13 kW	16.9 kW	20.8 kW
Max. input voltage	1000 V					
Start-up voltage	180 V				250 V	
MPPT voltage range	120 - 950 V			200 - 950 V		
MPPT voltage range at full load	185 - 850 V	220 - 850 V	290 - 850 V	370 - 850 V	410 - 850 V	500 - 850 V
Max. input current	14A / 14 A				11 A • 2 / 11 A	
Max. short circuit current	20 A / 20 A				12 A • 2 / 12 A	
Number of MPPTs	2					
Number of DC inputs	A:1 / B:1				A:2 / B:1	
OUTPUT (AC)						
Rated output power	5 kW	6 kW	8 kW	10 kW	13 kW	16 kW
Max. active power	5 kW	6 kW	8 kW	10 kW	13 kW	16 kW
Max. apparent power	5 kVA	6 kVA	8 kVA	10 kVA	13 kVA	16 kVA
Max. output current	7.3 A	8.7 A	11.6 A	14.5 A	18.9 A	23.2 A
Rated grid voltage	230 / 400 V, 3 W + N + PE					
Grid voltage range	176 - 276 V / 304 - 480 V					
Rated grid frequency	50 / 60 Hz					
Grid frequency range	45 - 55 Hz / 55 - 65 Hz					
THD	< 3% (rated power)					
Output current DC component	< 0.5% In					
Power factor	> 0.99 (rated power)					
Power factor adjustable	0.8 leading - 0.8 lagging					
EFFICIENCY						
Max. efficiency	98.65%					
European efficiency	98.2%					
OTHERS						
Protections	Anti-islanding protection, output overcurrent/overvoltage protection, leakage current protection, DC reverse polarity protection, DC/AC surge protection, ground insulation resistance detection, DC switch (standard), PID prevention and restoration (optional)					
Communications	RS485, Wi-Fi/Ethernet (optional), GPRS (optional)					
Display	LED, Bluetooth (optional)					
Self-consumption at night	< 1 W					
IP rating	IP 65					
Cooling	Natural cooling					
Isolation	Transformerless					
Standards	IEC/EN 62109-1, IEC/EN 62109-2, VDE AR-N-4105, AS/NZS 4777.2, CEI 0-21, EN 50438, IEC 61683, IEC 61727, IEC 62116, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4					
Operating temperature	-25°C - +60°C (> 45°C downgrading)					
Relative humidity	0 - 100% (non-condensing)					
Altitude	2000 m					
Dimensions (WxDxH) (mm)	515x166.5x435					
Weight (kg)	25					

INV3000NS ON-GRID SOLAR INVERTER

3F-3F / 20-30kW

GENERAL SPECIFICATIONS

- Compact and contemporary design
- Unmatched power density
- Highest efficiency in the industry (max. 98.9%)
- Fuseless and fanless design
- Industrial-grade high quality components
- All-round lightning protection
- IP65 waterproof and dustproof
- Smart connected



MODEL	INV3020NS	INV3025NS	INV3030NS
INPUT (DC)			
Max. input power	26 kW	32.5 kW	39 kW
Max. input voltage	1100 V		
Start-up voltage	250 V		
Rated voltage	600V		
MPPT voltage range	200 - 950 V		
MPPT voltage range at full load	470-850V		
Max. input current	22 A / 22 A	33 A / 22 A	33 A / 33A
Max. short circuit current	24 A / 24 A	36 A / 24 A	36 A / 36 A
Number of MPPTs	2		
Max. input strings	A:2 / B:2	A:3 / B:2	A:3 / B:3
OUTPUT (AC)			
Rated output power	20 kW	25 kW	30 kW
Max. active power	20 kW	25 kW	30 kW
Max. apparent power	20 kW	25 kW	30 kW
Max. output current	29.0 A	36.3 A	43.5 A
Rated grid voltage	230 / 400 V, 3 W + N +PE		
Grid voltage range	176 - 276 V / 304 - 480 V		
Rated grid frequency	50/60Hz		
Grid frequency range	45-55Hz / 55-65Hz		
THD	< 3% (rated power)		
Output current DC component	< 0.5% In		
Power factor	> 0.99 (rated power)		
Power factor adjustable	0.8 leading ~ 0.8 lagging		
EFFICIENCY			
Max. efficiency	> 98.9%		
European efficiency	> 98.5%		
OTHERS			
Protections	Anti-islanding protection, output overcurrent/overvoltage protection, leakage current protection, DC reverse polarity protection, DC/AC surge protection, ground insulation resistance detection, DC switch (standard), PID prevention and restoration (optional)		
Communications	RS485, Wi-Fi/Ethernet (optional), GPRS (optional)		
Display	LED, Bluetooth (optional)		
Self-consumption at night	< 1W		
IP rating	IP 65		
Cooling	Natural cooling		
Isolation	Transformerless		
Standards	IEC/EN 62109-1, IEC/EN 62109-2, CEI 0-21, EN 50549-1, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4		
Operating temperature	-25°C ~ +60°C (> 45°C downgrading)		
Relative humidity	0 ~ 100% (non-condensing)		
Altitude	2000 m		
Dimensions (WxDxH) (mm)	635x225x480		
Weight (kg)	43		

INV3000NS ON-GRID SOLAR INVERTER

3F-3F / 50-110kW

GENERAL SPECIFICATIONS

- 9-12 MPP Trackers, high single circuit tracking accuracy, fast dynamic response and higher power generation
- 150% DC Input Oversizing
- 98,7% efficiency
- Wide MPPT voltage range: 180V-1000V
- Compatible with high power modules
- Smart I-V Curve Diagnosis Function: locate PV string faults accurately and automatically detect faults
- IP66 Protection degree: support outdoor installation
- Intelligent Fault Detection: ac-side voltage and current waveforms real-time recorded, fast fault location
- Support RS485 (WiFi/DRM/Bluetooth optional): remote monitoring and operation via PC or mobile phones
- DC & AC Type II SPD: prevent lightning damage
- AFCI Function (Optional): when an arc-fault is detected the inverter immediately stops operation



MODEL	INV3050NS	INV3060NS	INV3100NS	INV3110NS
INPUT (DC)				
Max. input power	80kW	96kW	150kW	
Max. input voltage	1100V			
Start voltage	250V			
Rated input voltage	600V		620V	
Full-load MPP voltage range	520V~850V		530V~850V	
MPPT voltage range	200V~1000V		180V~1000V	
Number of MPP trackers	4		9	10
Number of string per MPPT	3/2/3/2	3/3/3/3	2	
Max. current per MPPT	39A/26A/39A/26A	39A	26A	
Max. short circuit current per MPPT	48A/32A/48A/32A	48A	40A	
OUTPUT (AC)				
Max. output current	79.7A	95.6A	26A	
Rated output power	50kW	60kW	100kW	110kW
Max. output power	55kVA	66kVA	110kVA	120kVA
Rated grid frequency	50Hz/60Hz			
Rated grid voltage	230VAC/400VAC		230VAC/400VAC,3L/N/PE,3L/PE	
Power factor	> 0.99 (0.8 leading~0.8 lagging)			
THDI	< 3% (Rated Power)			
EFFICIENCY				
Max. efficiency	98.70%	98.80%	98.70%	
European efficiency	98.40%		98.50%	
MPPT efficiency	99.90%			
PROTECTION				
Standard protection	DC reverse polarity protection, Anti-islanding protection, AC short circuit protection, Residual current monitoring unit, Insulation resistance monitoring, Ground fault monitoring, Grid monitoring, PV string monitoring			
Surge protection	Type II			
Optional protection	AFCI protection, PID recovery function, SVG function			
COMMUNICATION				
Display	LED / LCD / WiFi+App			
Communication	Standard: RS485, Optional: WIFI/GPRS/Ethernet			
STANDARD COMPLIANCE				
Grid connection standards	IEC 61727, IEC 62116, IEC 60068, IEC 61683, VDE-AR-N 4110:2018, VDE-AR-N 4105:2018,VDE-AR-N 4120:2018, EN 50549, AS/NZS 4777.2:2020, CEI 0-21, VDE 0126-1-1/A1 VFR 2014,UTE C15-712-1:2013, DEWA DRRG, NRS 097-2-1, MEA/PEA, C10/11, G98/G99			
Safety / EMC	IEC 62109-1:2010, IEC 62109-2:2011, EN 61000-6-2:2005, EN 61000-6-3:2007/A1:2011			
GENERAL DATA				
Dimensions (HxWxD)	450x650x260		660x1050x330	
Weight (kg)	50kg		95kg	98kg
Operating temperature range	-30° C ~ +60° C			
Cooling method	Smart Cooling			
Protection degree	IP66			
Max. operating altitude	4000m			
Relative humidity	0 ~ 100%			
Topology	Transformerless			
Night power consumption	<1W			

SOLAR IRRIGATION SYSTEM

GENERAL SPECIFICATIONS

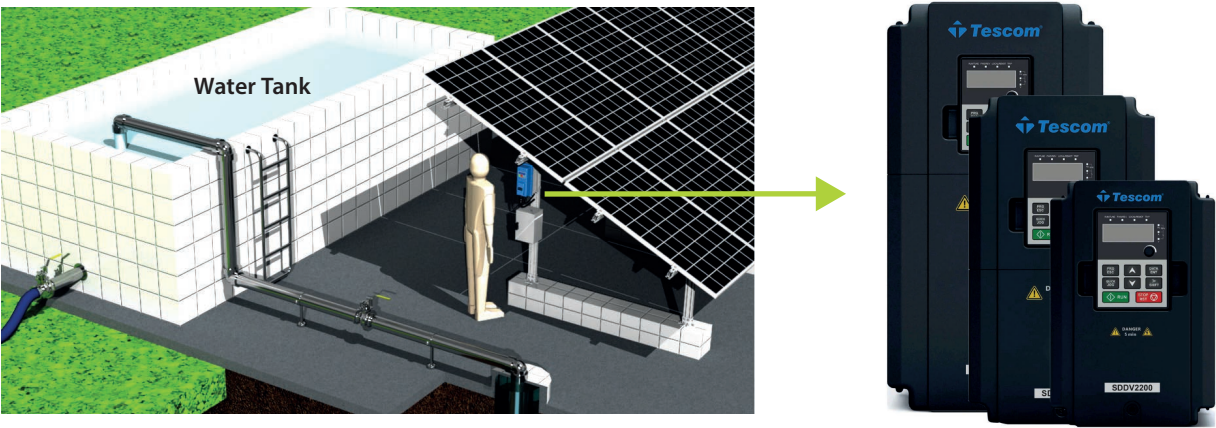
Three phase submersible or surface water pumps can run on energy generated from solar panels directly, where there is no electricity grid or generator.

Solar irrigation system consists of a Solar Direct Drive unit with MPPT feature, solar panels and a water tank where necessary.

Solar panels are connected directly to the SDD unit and the highest instantaneous power generated by panels is transmitted to the pump (MPPT function). Motor drive unit changes the pump shaft speed and torque so that system offers the use of water at high flow rates at noon and low flow rates in the evening depending on the instantaneous power delivered by the solar panels. Water can be used instantaneously or it can be stored in the tank and be used for irrigation at night time.

Equipment to be used in thsystem and coast are associated with the following data and the technical planning of the system;

- Wide range of power and voltage / Wide power range of 220 V (1 PH), 220 V (3 PH) and 380 V (3 PH) 0.75 kW – 55 kW
- Multiple protection measures / PV Overvoltage protection, over-temperature alarm, PV reverse connection alarm, etc.
- Maximum efficiency with advanced MPPT feature
- Network capability
- Pump protection with the use of a liquid level sensor



SOLAR DRIVE						PV	AC PUMP	
MODEL	Inverter Power (kW)	Input Voltage DC (V)	MPPT Voltage (V)	Output Current (AC) A	Operating Frequency (Hz)	325W Number of Panels	Pump Power (kW)	Operating Voltage (VAC)
SDDPV2200M	2.2	200-440	150-400	14	0-50/60	10	2,2	1 Phase 220
SDDPV2200U	2.2	200-440	150-400	10	0-50/60	10	2,2	3 Phase 220
SDDPV2200	2.2	300-800	250-750	5,5	0-50/60	17	2,2	3 Phase 380
SDDPV4000	4	300-800	250-750	9,5	0-50/60	17	3	3 Phase 380
SDDPV4000	4	300-800	250-750	9,5	0-50/60	19	4	3 Phase 380
SDDPV5500	5.5	300-800	250-750	14	0-50/60	34	5,5	3 Phase 380
SDDPV7500	7.5	300-800	250-750	18,5	0-50/60	36	7,5	3 Phase 380
SDDPV11K	11	300-800	250-750	25	0-50/60	54	11	3 Phase 380
SDDV15K	15	300-800	250-750	32	0-50/60	72	15	3 Phase 380
SDDPV22K	22	300-800	250-750	45	0-50/60	108	22	3 Phase 380
SDDPV37K	37	300-800	250-750	75	0-50/60	171	37	3 Phase 380
SDDPV55K	55	300-800	250-750	115	0-50/60	266	55	3 Phase 380
SDDPV75K	75	300-800	250-750	150	0-50/60	360	75	3 Phase 380

TECHNICAL SPECIFICATIONS

MODEL	SDDPV700M	SDDPV2200M	SDDPV2200U	SDDPV700	SDDPV2200	SDDPV4000	SDDPV5500
Power (kW)	0,75	2,2	2,2	0,75	2,2	4	5,5
INPUT							
AC input voltage (V)	230 (±15%) (1 PH)		230 (±15%) (3 PH)	400 (±15%) (3 PH)			
Maximum PV open circuit voltage (V)	440			800			
Initial PV voltage (V)	200			300			
MPPT voltage range (V)	200-400			300-750			
Recommended MPPT voltage (V)	330			550			
Max. DC input current (A)	9,3	12	12	3,4	12	16,5	23,9
OUTPUT							
AC output power (kW)	0,75	2,2	2,2	0,75	2,2	4	5,5
Nominal AC voltage (V)	220 (1 PF)		220 (3 PF)	380 (3 PH)			
Nominal AC output current (A)	7,2	14	10	2,5	5,5	9,5	14
Output frequency range (Hz.)	0-400						
PHYSICAL							
Dimension HxWxD (mm)	160x80x123.5	185x80x140.5				256x146x167	
Operating temperature	-10°C / +50°C						
Storage temperature	-40°C / +70°C						

MODEL	SDDPV7500	SDDPV11K	SDDPV15K	SDDPV22K	SDDPV37K	SDDPV55K	SDDPV75K
Power (kW)	7,5	11	15	22	37	55	75
INPUT							
AC input voltage (V)	400 (±15%) (3 PH)						
Maximum PV open circuit voltage (V)	800						
Initial PV voltage (V)	300						
MPPT voltage range (V)	300-750						
Recommended MPPT voltage (V)	550						
Max. DC input current (A)	30,6	39,2	49	60	90	150	200
OUTPUT							
AC output power (kW)	7,5	11	15	22	37	55	75
Nominal AC voltage (V)	380 (3 PH)						
Nominal AC output current (A)	18,5	25	32	45	75	115	150
Output frequency range (Hz.)	0-400						
PHYSICAL							
Dimension HxWxD (mm)	320x170x196.3			340.6x200x184.3	400x250x202	560x282x238	
Operating temperature	-10°C / +50°C						
Storage temperature	-40°C / +70°C						

GEL BATTERY

DG12-100 (12V100Ah) / DG12-150 (12V150Ah) / DS12-200 (12V200Ah)

TECHNICAL SPECIFICATIONS

	DG12-100	DG12-150	DG12-200
Cell per unit	6		
Voltage per unit	12		
Capacity	100Ah-150Ah-200Ah@20hr-rate to 1.75V per cell @25°C		
Dimensions (mm)			
Length	328±2mm	483±2mm	522±1mm
Width	172±2mm	170±2mm	240±1mm
Height	215±2mm	241±2mm	219±1mm
Total height	220±2mm	241±2mm	224±1mm
Weight (Tolerance±3%)	Approx. 29.0 kg	Approx. 45.0 kg	Approx. 60.0 kg
Internal resistance	Approx. 7.5mΩ	Approx. 6.0mΩ	Approx. 5.2mΩ
Terminal	F12 (M8) / F5(M8)	F12(M8) / F5(M8)	F16(M8)/F10(M8)
Max. discharge current	400A (5S)	1500A (5 sec)	2000A (5 sec)
Design life	15 years		
Max. charge current	20.0A	30.0A	40.0A
Reference capacity			
C3	68.4Ah	102.3Ah	136.5Ah
C5	77.0Ah	115.5Ah	151.5Ah
C10	88.0Ah	132.0Ah	174.0Ah
C20	100.0Ah	150.0Ah	200.0Ah
Float charging voltage	13.6 V~13.8 V @ 25°C / Temperature Compensation: -3mV/°C/Cell		
Cycle use voltage (cycling)	14.2 V~14.4 V@ 25°C / Temperature Compensation: -4mV/°C/Cell		
Operating temp. range	Discharge: -40~60°C / Charge: -20~50°C / Storage: -40~60°C		
Normal operating temp. range	25°C ± 5°C		
Self discharge	Ritar Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 2% at 25°C.Please charged batteries before using.		
Container material	A.B.S. UL94-HB, UL94-V0 Optional		



GENERAL SPECIFICATIONS

DG (Deep Cycle GEL) series is pure GEL battery with 15 years floating design life, it is ideal for standby or frequent cyclic discharge applications under extreme environments.

By using strong grids, high purity lead and patented Gel electrolyte, the DG series offers excellent recovery capability after deep discharge under frequent cyclic discharge use, and can deliver 1500 cycles at 50% discharge depth, 750 cycles at 80% discharge depth.

Suitable for solar & wind system, CATV, marine, RV and deep discharge UPS, and telecommunication, etc.

DG12-100 CONSTANT POWER DISCHARGE (Watts/cell) at 25°C

F.V/Time	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.85V	203.9	181.0	136.6	92.8	58.5	45.2	36.7	31.2	22.4	18.6	10.6
1.80V	245.1	215.1	157.0	102.8	63.5	48.7	39.4	33.3	23.8	19.8	11.1
1.75V	266.1	229.7	162.6	106.3	65.5	50.0	40.4	34.1	24.1	20.0	11.2
1.70V	285.6	243.3	168.4	109.6	67.6	51.3	41.3	34.9	24.4	20.2	11.4
1.65V	300.9	253.5	174.1	112.8	69.5	52.7	42.3	35.7	24.7	20.5	11.5
1.60V	316.2	263.8	179.8	116.0	71.5	54.0	43.3	36.5	25.0	20.7	11.6

DG12-150 CONSTANT POWER DISCHARGE (Watts/cell) at 25°C

F.V/Time	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.85V	305.8	271.5	204.8	139.2	87.8	67.8	55.1	46.8	33.6	27.9	15.9
1.80V	367.6	322.6	235.5	154.2	95.3	73.0	59.1	50.0	35.7	29.6	16.7
1.75V	399.2	344.5	243.9	159.4	98.3	75.0	60.6	51.1	36.2	30.0	16.8
1.70V	428.4	364.9	252.6	164.5	101.4	77.0	61.9	52.3	36.6	30.3	17.0
1.65V	451.4	380.3	261.2	169.2	104.3	79.0	63.4	53.5	37.1	30.7	17.2
1.60V	474.4	395.7	269.7	173.9	107.2	81.0	65.0	54.7	37.5	31.1	17.5

DG12-200 CONSTANT POWER DISCHARGE (Watts/cell) at 25°C

F.V/Time	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.85V	401	313	198	123	84.7	69.1	56.9	39.3	33.7	17.0
1.80V	440	330	207	127	88.5	72.6	59.5	41.0	34.7	18.1
1.75V	471	341	211	129	91.0	74.3	60.6	41.7	35.1	18.4
1.70V	488	345	213	130	91.3	75.0	61.3	42.0	35.4	18.8
1.65V	494	344	215	131	91.7	75.2	61.5	42.3	35.8	19.1
1.60V	502	348	215	131	91.8	75.3	61.7	42.5	36.0	19.5

GEL BATTERY

CBL12-100 (12V100Ah) / CBL12-150 (12V150Ah) / CBL12-200 (12V200Ah)

TECHNICAL SPECIFICATIONS

		CBL12-100		CBL12-150		CBL12-200	
Nominal Voltage		12V		12V		12V	
Capacity (25°C)		10 hours rate (10A)	100Ah	10 hours rate (15A)	150Ah	10 hours rate (20A)	200Ah
Discharge Current Testing (25°C)		1 hours rate (55A)	61Ah	1 hours rate (82.5A)	83Ah	1 hours rate (110A)	123Ah
		3 hours rate (25A)	79Ah	3 hours rate (37.5A)	113Ah	3 hours rate (50A)	165Ah
Internal Resistance		Full Charged Battery 25°C	5mΩ	Full Charged Battery 25°C	4.5mΩ	Full Charged Battery 25°C	3.4mΩ
Capacity Affected By Temperature		40°C	104%	40°C	104%	40°C	104%
		25°C	100%	25°C	100%	25°C	100%
		0°C	83%	0°C	83%	0°C	83%
		-15°C	65%	-15°C	65%	-15°C	65%
Residual Capacity (25°C)		Capacity After 3 Months Storage	91%	Capacity After 3 Months Storage	91%	Capacity After 3 Months Storage	91%
		Capacity After 6 Months Storage	82%	Capacity After 6 Months Storage	82%	Capacity After 6 Months Storage	82%
		Capacity After 12 Months Storage	65%	Capacity After 12 Months Storage	65%	Capacity After 12 Months Storage	65%
Charge (Constant voltage)	Cycle (25°C)	Initial Charging Current Less Than 30A Voltage 14.5~14.9V		Initial Charging Current Less Than 45A Voltage 14.5~14.9V		Initial Charging Current Less Than 60A Voltage 14.5~14.9V	
	Float (25°C)	Charge Voltage 13.6~13.8V					
Weight (Approx)		30.5kg		42.5kg		60.2kg	



CBL 12 - 100 CONSTANT POWER DISCHARGE (Watts/cell) at 25°C										
F.V/Time	10dk	15dk	30dk	60dk	2sa	3sa	5sa	8sa	10sa	20sa
9.60V	2352.2	1902.8	1199.9	733.6	418.8	306.9	216.8	144.5	121.8	64.3
10.2V	2234.4	1826.6	1155.3	703.9	412.8	302.9	212.9	143.9	120.8	63.6
10.5V	2204.2	1794.2	1149.9	657.8	408.9	300.0	209.9	143.6	119.8	63.4
10.8V	1984.3	1745.0	1115.1	643.0	404.9	297.0	207.9	142.6	118.2	63.0

CBL 12 - 150 CONSTANT POWER DISCHARGE (Watts/cell) at 25°C										
F.V/Time	15dk	30dk	60dk	2sa	3sa	4sa	5sa	8sa	10sa	20sa
9.60V	2778.8	1685.6	960.3	578.5	438.5	337.6	270.3	196.0	175.2	89.5
10.2V	2725.8	1632.9	933.8	574.2	435.0	326.0	259.8	186.8	175.2	89.3
10.5V	2602.6	1609.7	907.9	568.6	413.0	315.5	250.6	177.5	174.0	89.3
10.8V	2447.6	1550.2	867.3	546.3	396.7	299.3	240.1	168.2	173.6	88.2

CBL 12 - 200 CONSTANT POWER DISCHARGE (Watts/cell) at 25°C										
F.V/Time	15dk	30dk	60dk	2sa	3sa	4sa	5sa	8sa	10sa	20sa
9.60V	3256.2	2332.4	1357.4	837.5	632.6	487.1	439.6	293.0	239.6	122.8
10.2V	3184.5	2239.4	1336.2	824.7	622.7	481.1	432.6	288.7	238.5	121.8
10.5V	3069.2	2187.9	1301.8	817.7	617.8	477.2	428.7	287.8	237.6	120.8
10.8V	2972.5	2127.5	1259.7	807.8	610.8	463.3	424.7	284.4	236.8	120.8

LI-ION BATTERY

12.8V100Ah / 12.8V150Ah / 12.8V200Ah / 12.8V300Ah

TECHNICAL SPECIFICATIONS

Part Number	8010128010001	8010128015001	8010128020001	8010128030001
Model	R-LFP12V100AH	R-LFP12.8V150AH	R-LFP12.8V200AH	R-LFP12.8V300AH
Nominal Voltage [V]	12.8	12.8	12.8	12.8
Nominal Capacity [Ah]	100	150	200	300
Total Energy [Wh]	1280	1920	2560	3840
Max. Charging Current [A]	100	100	100	100
Recommended Charging Current [A]	50	75.5	100	100
Charging Voltage [V]	14.6	14.6	14.6	14.6
Max. Discharging Current [A]	100	150	100	100
End of Discharge Voltage [V]	11.2	11.2	11.2	11.2
Pulse Discharge Current	125A @ 5S	125A @ 5S	400A @ 10S	400A @ 10S
Dimension (HxWxD, mm)	330x173x214	483x170x241	522x240x219	522x269x220
Weight [Kg]	15	20	25.2	33
Operation Humidity	0~95% RH (No condensing)			
Operating Temp. Range Charge	Charge: 0 ~ +50°C, Discharge: -20 ~ +55°C			
Protection	Over charge, Over discharge, Over current, Over temperature, Low temperature, Short circuit			Over charge, Over discharge, Over temperature, Short circuit
Parallel Support	2 pcs	Yes, Max. 2 pcs		Yok
Series Support	Yes, Max. 4 pcs			
Cycle Life	> 3000 cycles			
Designed Calendar Life	> 10 Years			

SAFETY

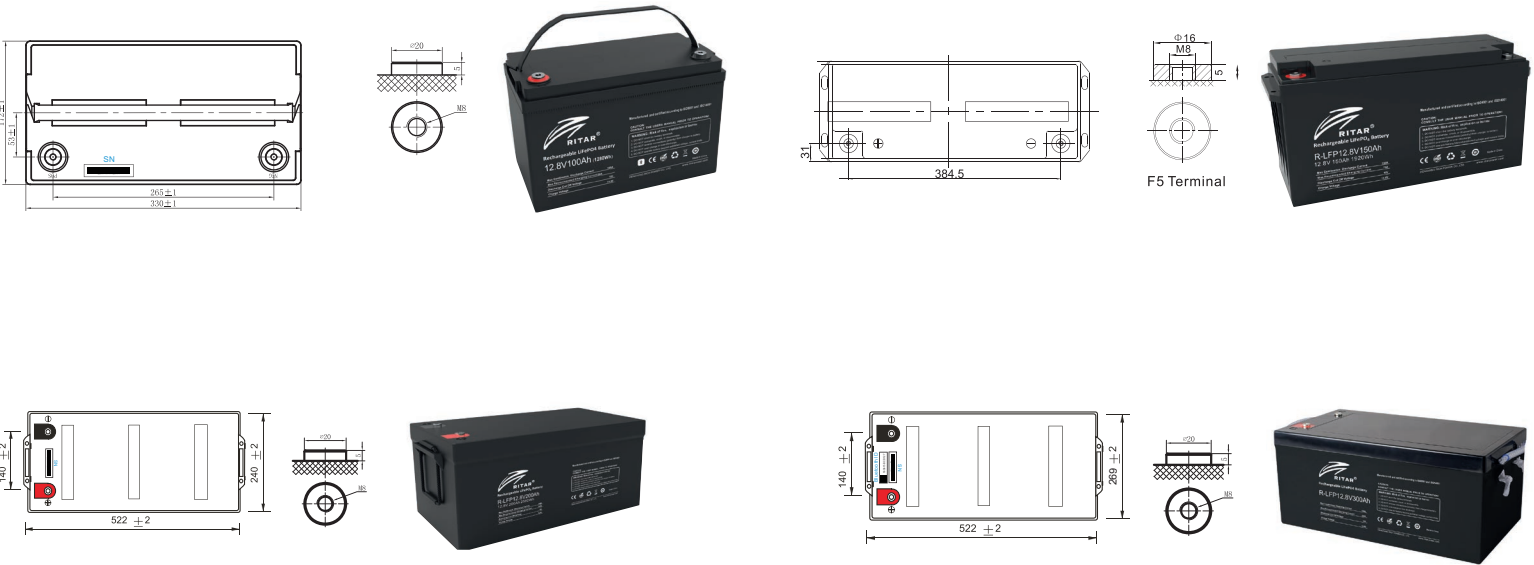
- Prismatic LFePO4 cells, Longer cycle life and much more safety
- UN38.3, CE certification for system
- The cycle life over 3000 times @80%DOD

DESIGN

- ABS container, replace VRLA battery perfectly
- Fast charge performance,
- -20~+55°C widely temperature range
- Maintenance free

BATTERY MANAGEMENT SYSTEM (BMS)

- Integrated BMS inside
- Independent protection for charge and discharge
- OVP, LVP, OTP, LTP, OCP, Short circuit protection





 **FACTORY**
+90 (232) 833 36 00

 **HEADQUARTERS**
+90 (216) 977 77 70

 **GREECE OFFICE**
+30 21095 90 910