

Solar Inverter



Mehrsun Novin Pars, established in 2017 as a subsidiary of Austria's Examon Group, specializes in EPC (Engineering, Procurement, and Construction) projects focused on solar PV plants, gas, and diesel generators. The company was founded to meet growing demand in Iran's energy, water, oil, gas, and telecommunications sectors. Mehrsun is active in renewable energy through partnerships with European companies like Energy3000 Solar, and it serves as the exclusive representative of BWT-HOH for desalination plants. It also collaborates with various European partners to supply gas and diesel generators for distributed power plants. With a focus on quality, innovation, and sustainability, Mehrsun offers comprehensive EPC services for solar, gas, and diesel projects. The company's experienced team ensures high standards of efficiency, safety, and performance and positioning Mehrsun Novin Pars for continued growth in the energy sector.

Mehrsun Company's Key Projects:

- Solar EPC projects (previous and ongoing): 145 MW
- Supply of all solar power plant equipment (total): 1000 MW
- Supply of turnkey inverters and solar tracking systems (Mobarakeh Steel Company solar power plant project): 360 MW (to date)
- Supply of turnkey inverters (Mash'al Pouya Company solar power plant project): 280 MW
- Supply of fixed solar structures (Mash'al Pouya Company solar power plant project): 100 MW
- EPC Construction of gas-engine power plants: 120 MW
- Supply of gas engines: 160 MW
- Supply of gas turbines: 150 MW





Setech, a partner company of

Mehrsun in China, has secured a partnership with **KSTAR**.

Kstar is a reputable international company specializing in the production of electrical equipment, renewable energy solutions, and UPS systems. Based in China, Kstar is recognized as one of the global leaders in providing innovative solutions for the power and energy industry. Mehrsun Novin Pars is honored to be the exclusive representative of this prestigious and well-established company in Iran. This strategic partnership allows Mehrsun Novin Pars to bring Kstar's high-quality products and advanced technologies to the Iranian market, contributing to the strengthening of the country's energy infrastructure and the development of sustainable projects.



Solar inverters for a clean future

Solar inverters, as the key hub between AC and DC sections, are the most important pieces of equipment in a solar power plant, which its selection widely affect the overall system design, project's Capex, and also plant's maintenance and operation.

Our solar inverters come in a wide range of applications from string inverters (5, 125, 250, and 350 kW) to central inverters (2500 and 3125 kW) and MV turnkey stations (2500, 3125, 5000, and 6250 kW). When selecting among these inverters, it is crucial to consider grid requirements, plant's size and site location, and energy harvesting plan.

String inverters mostly used in residential and commercial solar projects such as rooftop and ground mount power plants from kW to a few tens of MW. These inverters presents effective granular monitoring, distributed MPPT, increased redundancy, and easy system size up.

For large utility-scale solar power plants (large field arrays), due to simplified AC side array layout, more control options for grid interface, easy and fast installation, more simplicity and flexibility in wiring, and higher power quality, central inverters are a cost-effective solution compare to string inverters.

Optimization on central inverter topology lead to introduction of Medium voltage Power Station (or MV turkey station), which integrates inverter, transformer, MV switchgear, and other auxiliary service components. This topology has higher efficiency, higher reliability, faster installation, affordable energy with low maintenance, and are tailored to the needs of the project.

MV turnkey solution has many competitive features in relation to central inverter as follows:

- Compact and customizable in design,
- Robust to environment condition due to integrated (All-in-One) design on a single Skid,
- High power density with integrated protection and control solution,
- Plug & Play topology with pre-assembled structure for fast on-site commissioning,
- Efficient in performance monitoring and auxiliary services such cooling.

On-Grid String Inverter

Introduction

The string PV inverter is the most modern, smart and elegant inverter solution for residential and commercial PV systems. It is simple and easy to use, high-efficiency power generation, high reliability, much more advanced adaptability. By being compatible with high capacity PV panels, these inverters can provide greater options for system.



Technical Specifications

String Inverter (PV On-Grid String Inverter)

	BluE-5KT-M1	G50KT	G60KT	G70KT	G80KT	
Input (DC)	Max. DC Voltage	1100V				
	Max. Input Current per MPPT	15A	32A	45A		
	Max. Short-Circuit Current per MPPT	20A	48A	60A		
	Start Voltage	250V				
	MPPT Voltage Range	140V – 1000V	200V – 1000V			
	Nominal Voltage	620V	650V			
	Number of MPPT	2	4			
	String per MPPT	1	2	3		
Output (AC)	Nominal AC Output Power	5KW	50KW	60KW	70KW	80KW
	Max. AC Apparent Power	5500VA	55KVA	66KVA	77KVA	88KVA
	Nominal AC Voltage	400V 3L + N	400V 3L+N+PE			
	Max. Output Current	8A	79.7A	95.6A	111.6A	127.5A
	AC Grid Frequency Range	50 / 60 Hz ± 5 Hz				
	Power Factory	0.8 leading – 0.8 lagging				
	THDi	%3				
Max. Efficiency	%98.4	%98.5		%98.6		
General Specifications	Operating Temperature Range	-25°C ~ +60°C				
	Max. Operation Altitude	4000m	5000m (> 4000 m Derating)			
	Max. Operating Humidity	0 – %100				
	IP Class	IP66				
	Topology	Transformerless				
	Communication	RS-485 / Wi-Fi / 4G				
Protection	Protection functions	DC switch, Anti-Islanding protection, Output overcurrent protection, DC reverse polarity protection, Insulation monitoring, String fault detection, AC short-circuit protection, DC/AC surge protection (DC Type II; AC Type III / Type II Optional)				

String Inverter (PV On-Grid Commercial and Industrial Inverter)

	G125KT7	KSG-250UH	G350KTH	
Input (DC)	Max. DC Voltage	1100V	1500V	
	Max. Input Current per MPPT	40A	30A	40A
	Max. Short-Circuit Current per MPPT	60A	50A	60A
	Start Voltage	350V	650V	
	MPPT Voltage Range	200V – 1000V	500V – 1500V	
	Nominal Voltage	650V	1080V	
	Number of MPPT	8	12	
	String per MPPT	2	2	
Output (AC)	Nominal AC Output Power	125 kW	250kW300C/225kW400C/200kW500C	350kW
	Max. AC Apparent Power	125 kVA	250 kVA	352 kVA
	Nominal AC Voltage	230V/400V,3L+PE,3W+N+PE	800V, 3L+PE	
	Max. Output Current	181.2A	180.4 A	254 A
	AC Grid Frequency Range	50 / 60 Hz ± 5 Hz	45 – 55 Hz / 55 – 65 Hz	
	Power Factor	0.8 leading – 0.8 lagging		
	THDi	< 3% (Nominal Power)		
	Max. Efficiency	98.7 %	99 %	
General Specifications	Operating Temperature Range	-30~60°C		
	Max. Operation Altitude	5000 m (> 4000 m Derating)	5000m(> 3000m Derating)	
	Max. Operating Humidity	0 – 100%		
	IP Class	IP66		
	Topology	Transformerless		
	Communication	RS-485 / PLC / Wi-Fi / 4G	RS-485 / PLC	
Protection	Protection functions	DC switch, Anti-Islanding protection, Output overcurrent protection, DC reverse polarity protection, Insulation and residual current monitoring, AC short-circuit protection, DC/AC surge protection (DC Type II; AC Type II)		
	Protection Features (Optional)	String fault detection, AFCI function, Night SVG function, PID recovery		


MV Central Inverter

Introduction

MV central inverter is a robust outdoor central PV inverter. It is designed specifically for large-scale centralized PV power plants. It greatly shortens the construction period and saves construction costs. It supports higher efficiency, higher reliability, and fast installation.



 Support Night SVG Function

 Anti-PID Function

 Maximum DC/AC Ratio Up To 1.8

 Multiple Protection

Technical Specifications

MV Central Inverter

GSM2500D

GSM3125D

	GSM2500D	GSM3125D	
Input (DC)	Min./Start Voltage	860~ 940V (adjustable)	
	Max. DC Voltage	1500Vdc	
	MPPT Voltage Range	875 ~ 1300V	
	No. of MPPT	2	
	No. of DC Input	Max. 18 (12, 14, 16 optional)	
	Max. DC Input Current	4009	
Output (AC)	Rated AC output power (kW)	2500	3125
	Rated AC Voltage	600Vac, 3L+PE	
	Rated Output Current (A)	2406	3007
	Power Factor	0.8 leading – 0.8 lagging	
	THDi	<3 % (at nominal power)	
	Max. Efficiency	%99	
General Specifications	Operating ambient temperature range	-40 ~+ 60°C (> 50 oC derating)	
	Operating relative Humidity range	0 ~ 100%	
	IP Class	IP55	
	Communication	Modbus RS-485	
	Max. altitude without Darting	4000m (> 3000m Derating)	
	Grid Support	Night SVG, L/HVRT, active & reactive power control	
	Cooling System Method	Forced Air Cooling	
Protection	Protection functions	DC input & AC output protection, AC MV Output Protection, Anti-PID and Anti-Islanding protection, Surge protection, AC short-circuit, DC reverse polarity, overheat, leakage current and insulation monitoring,	

MV Power Station

All-in-One Turnkey Solution for large scale PV plants

Introduction

GSM series, as MV turnkey power station, is a one-stop solution for utility-scale solar power plants, which integrates inverter, transformer, MV switchgear, and other devices in one 40-ft standard container and users do not need to add additional equipment.

Keeping rated output when the ambient temperature is 50°C and ultra-high DC/AC ratio (Up to 180%) makes it perfectly adapt to weak sunshine conditions and reduces LCOE.

With anti-PID function, this power station effectively extend the service life of PV modules and increase power generation revenue.

In addition, with night SVG function, it can maintain the stability of the power grid. Also, it has multiple protection functions to ensure the personal and property safety of users and reduce maintenance costs.



Support Night SVG Function



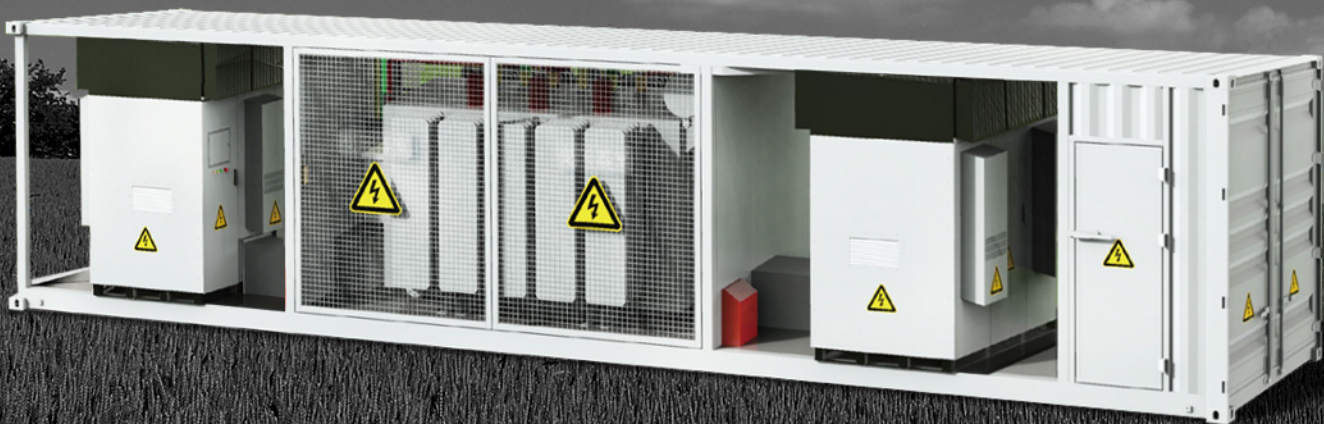
Anti-PID Function



Maximum DC/AC Ratio Up To 1.8



Multiple Protection



Technical Specifications

MV Turnkey Stations

	GSM2500D-MV	GSM3125D-MV	GSM5000D-MV	GSM6250D-MV	
Input (DC)	Rated output power (KVA)	2500	3125	5000	6250
	Min./Start Voltage	860 - 940V (adjustable)			
	Max. DC voltage	1500VDC			
	MPPT Voltage Range	875 ~ 1300V			
	MPPT Voltage Range	2		4	
	No. of DC Input	Max. 18 (12, 14, 16 optional)		Max. 36 (24, 28, 32 optional)	
	Max. DC Input Current	3207	4009	8018	
Output (AC)	Rated AC output power (kW)	2500	3125	5000	6250
	Inverter Max. Output Current (A)	2646	3308	5293	6616
	AC Output Voltage	10 ~ 35 kV			
	THDi	<3% (@Rated Power)			
	Max. Efficiency	%99			
Transformer	Transformer Rated Power (kVA)	2500	3125	5000	6250
	LV/MV Voltages	0.6kV-0.6kV/(10~35)kV			
	Vector Group	Dy11		Dy11y11	
	Cooling Type	ONAN			
General Specifications	Operating ambient temperature range	-40~60°C			
	IP Class	Inverter IP55 / Other IP54			
	Communication interface	RS485/Modbus			
	Max. altitude without Darting	2000m-3000m (Depending on the project Specifications)			
	Grid Support	Night SVG optional, L/HVRT, active & reactive power control			
	Cooling System Method	Forced Air Cooling featuring adjustable speed fan			
Protection	Protection functions	DC input & AC output protection, Anti-PID and Anti-Islanding protection, Surge protection, AC short-circuit, DC reverse polarity, overheat, leakage current and insulation monitoring,			



+982122001705
+982122001596



Unit 124, second floor, A Block, Dariush complex
Shahid Fayazi Street, Fereshteh, Tehran, Iran.



+982122001596



Info@mehrsunpars.com



www.mehrsunpars.com