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Smart Photovoltaic Inverter Series

GOODWE
YOUR SOLAR ENGINE

WWW.GOODWE.COM

GOODWE POWER SUPPLY TECHNOLOGY CO.,LTD.

GOODWE
COMPANY PROFILE

GoodWe is a leading, strategically-thinking enterprise which focuses on research and manufacturing of PV inverters and energy storage solutions. With an average monthly sales volume of 30,000 pieces in 2017 and 15 GW installed in more than 100 countries, GoodWe solar inverters have been largely used in residential, commercial rooftops, industrial and utility scale systems, ranging from 1.0 to 80kW. GoodWe inverters offer reliable operation and excellent performance and are well recognized by customers worldwide. GoodWe's philosophy is to always create win-win partnerships with customers by identifying and integrating the most advanced components and techniques available while offering an unparalleled after-sales service.

Technological innovation is GoodWe's main core competence. With an in-house R&D team of 200 employees in two R&D centers, GoodWe can offer a comprehensive portfolio of products and solutions for residential, commercial and utility scale PV systems, ensuring that performance and quality go hand-in-hand across the entire range.

GoodWe has set up an integrated service system for pre-sale, in-sale and after-sale and has established service centers worldwide, aiming to offer global support to all customers including project consulting, technical training, on-site support and after-sales service.

GOODWE INVERTER PORTFOLIO

01

NS Series

DNS Series

For residential application in countries where subsidies are provided or the cost of electricity is high

02

Smart DT Series

DT Series

For small and medium-sized commercial rooftop application in countries where subsidies are provided or the cost of electricity is high

03

MT Series G2

MT Series

Suitable for large commercial, ground-mounted and utility scale projects

04

ES Series

SBP Series

For residential energy storage application in countries where subsidies are not provided and the cost of electricity is high or power outages are common

Enjoy The Silence

GoodWe NS series is ideally suited for new-build housing projects or small domestic applications, providing you with a range from 1 to 3 kW models for installations as small as 3 PV modules. The NS series compares favorably to other inverters in the 1-3kW power class due to its small footprint and light weight.

In addition, GoodWe NS series boasts both the lowest startup voltage of 80V and the widest voltage range from 80 to 450V. A robust, elegantly designed IP65 rated enclosure ensures the inverter is weatherproof, allowing outdoor installation, while contributing to low maintenance needs and enhanced lifespan.

- Lowest startup voltage at 80V
- Wide range of MPPT voltage
- Small, lightweight and easy to install
- Built-in anti-reverse function
- Fanless and quiet

NS Series

Single-MPPT, Single-Phase

Technical Data

Model	Max. DC Input Power (W)	MPPT Range for Full Load (V)	Max. Input Current (A)	Max. Short Current (A)	Nominal Output Power (W)	Max. Output Apparent Power (VA)	Max. Output Current (A)	Max. Efficiency	Euro Efficiency	Weight (kg)
GW1000-NS	1300	120~450	10	12.5	1000	1000	5	96.5%	96.0%	7.5
GW1500-NS	1950	180-450	10	12.5	1500	1500	7.5	97.0%	96.0%	7.5
GW2000-NS	2600	230-450	10	12.5	2000	2000	10	97.0%	96.0%	7.5
GW2500-NS	3250	180-450	18	22.5	2500	2500	12.5	97.5%	97.0%	8.5
GW3000-NS	3900	215-450	18	22.5	3000	3000	13.5	97.5%	97.0%	8.5

PV String Input Data	
Max. DC Input Voltage (V)	500
MPPT Range (V)	80~450
Start-up Voltage (V)	80
Nominal DC Input Voltage (V)	360
No. of MPP Trackers	1
No. of Input Strings per Tracker	1

AC Output Data	
Nominal Output Voltage (V)	220/230
Nominal Output Frequency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%

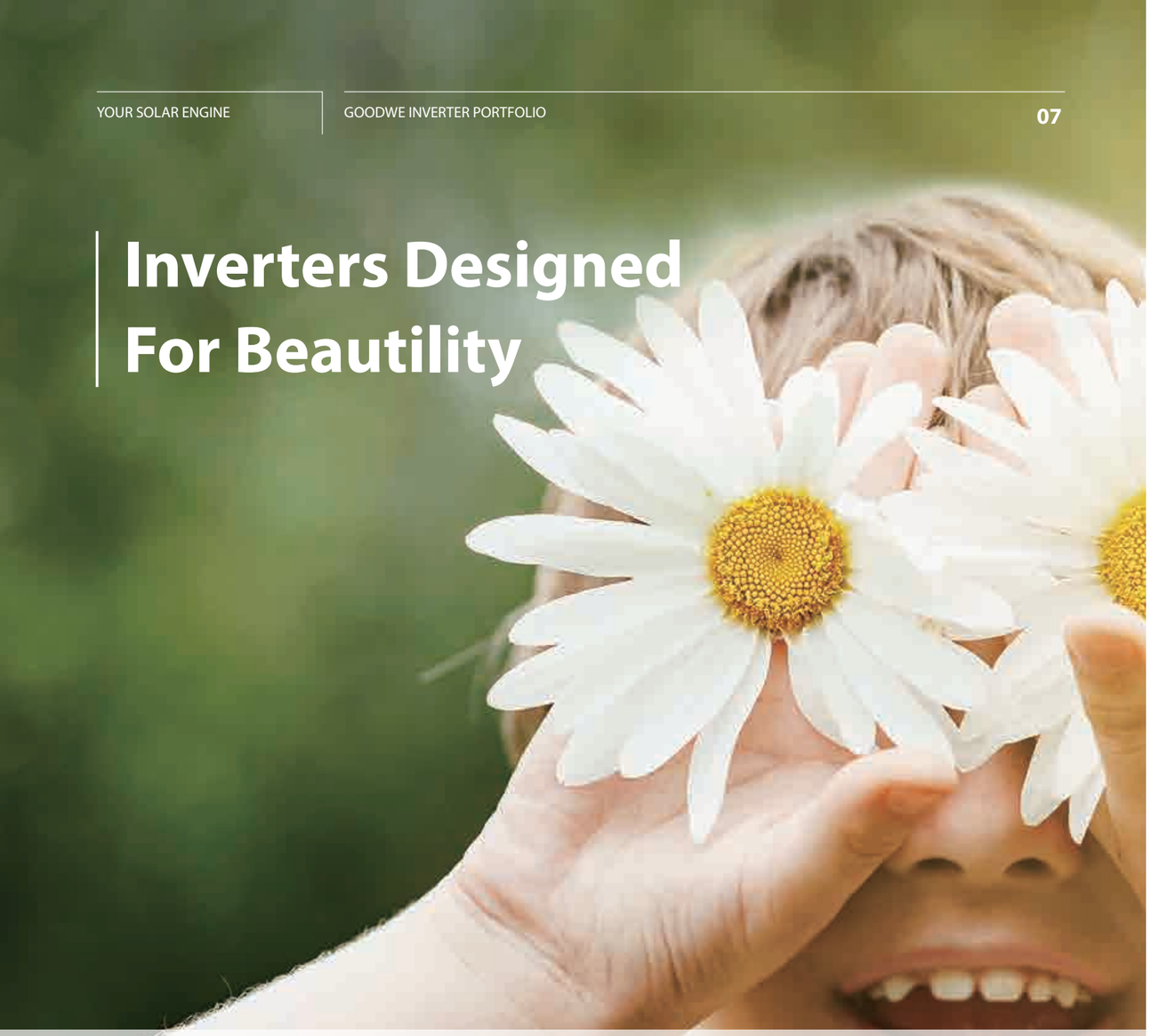
Protection	
Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Natural Convection
Noise (dB)	<25
User Interface	LCD & LED
Communication	RS485 or WiFi
Size (Width*Height*Depth mm)	344*274.5*128
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

Certifications & Standards	
Grid Regulation	VDE0126-1-1, AS4777.2, EN50438(PL), G83, ERDF-NOI-RES_13E, IEC61727, IEC62116
Safety Regulation	IEC62109-1&2
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Color Options

Inverters Designed For Beautility



GoodWe DNS series is a perfect match for residential installations thanks to its compact size and light weight. Manufactured for durability and longevity under modern industrial standards, GoodWe DNS series is IP65 rated so it can be mounted either inside or outside your home.

With a low start-up voltage of only 120V and the widest voltage range of 80-550V, these inverters can provide greater options for your household system. The GoodWe DNS series is also extremely light - just 14kg, about 30% lighter than other inverters.

- Lowest startup voltage at 120V
- Wide range of MPPT voltage
- Small, lightweight and easy to install
- Built-in anti reverse function
- IP65 dustproof and waterproof
- Fanless and noiseless

DNS Series

Dual-MPPT, Single-Phase

Technical Data

Model	Max. DC Input Power (W)	MPPT Range for Full Load (V)	Nominal Output Power (W)	Max. Output Apparent Power (VA)	Max. Output Current (A)
GW3000D-NS	3900	150~550	3000	3000	13.6
GW3600D-NS	4680	180-550	3680	3680	16
GW4200D-NS	5460	210-550	4200	4200	19
GW5000D-NS	6500	250-550	5000	5000	22.8
GW6000D-NS	7200	280~550	6000	6000	27.3

PV String Input Data	
Max. DC Input Voltage (V)	600
MPPT Range (V)	80~550
Start-up Voltage (V)	120
Nominal DC Input Voltage (V)	360
Max. Input Current (A)	11/11
Max. Short Current (A)	13.8/13.8
No. of MPP Trackers	2
No. of Input Strings per Tracker	1

Efficiency	
Max. Efficiency	97.8%
Euro Efficiency	97.5%

Protection	
Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

AC Output Data	
Nominal Output Voltage (V)	220/230
Nominal Output Frequency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Natural Convection
Noise (dB)	<25
User Interface	LCD & LED
Communication	RS485 or WiFi
Weight (kg)	14
Size (Width*Height*Depth mm)	354*433*147
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

Certifications & Standards	
Safety Regulation	IEC62109-1&2
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Model	Grid Regulation
GW3000D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G83, IEC61727, IEC62116
GW3600D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G83, IEC61727, IEC62116
GW4200D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G83, IEC61727, IEC62116
GW5000D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G59, IEC61727, MEA, PEA, IEC62116
GW6000D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G59, IEC61727, MEA, PEA, IEC62116

Color Options

Maximize Your Power & Savings

The GoodWe Smart DT series inverter is specially designed for three-phase solar systems, covering a wide power range of 4kW, 5kW, 6kW, 8kW, 10kW, 12kW and 15kW. The integrated two MPPTs allow two-array inputs from different roof orientations.

The SDT series inverter is small, light and easy to install. Suitable for both outdoor and indoor installations, this inverter offers a quiet operation thanks to its fanless, natural convection cooling. In addition, the combination of both RS485 and Wi-Fi communication allows the system to be easily monitored and controlled.

- Easy wall mounting
- Super large 5-inch LCD
- RS485 and Wi-Fi communication
- IP65 dustproof and waterproof
- Fanless and quiet

Smart DT Series

Dual-MPPT, Three-Phase

Technical Data

Model	Max. DC Input Power (W)	MPPT Range (V)	MPPT Range for Full Load (V)	Max. Input Current (A)	Max. Short Current (A)	No. of Input Strings per Tracker	Nominal Output Power (W)	Max. Output Apparent Power (VA)	Max. Output Current (A)	Max. Efficiency	Euro Efficiency
GW4000-DT	5200	200~800	195~800	11/11	13.8	1/1	4000	4000	8.5	98.0%	97.5%
GW5000-DT	6500	200~800	240~800	11/11	13.8	1/1	5000	5000	8.5	98.0%	97.5%
GW6000-DT	7800	200~800	285~800	11/11	13.8	1/1	6000	6000	10	98.0%	97.5%
GW8000-DT	9600	200~850	380~850	11/11	13.8	1/1	8000	8000	12.1	98.3%	98.0%
GW10KN-DT	12000	200~850	480~850	11/11	13.8	1/1	10000	10000	15.2	98.3%	98.0%
GW12KN-DT	16800	200~850	380~850	22/11	27.6/13.8	2/1	12000	14000	21.5	98.3%	98.0%
GW15KN-DT	19500	200~850	480~850	22/11	27.6/13.8	2/1	15000	16500	24	98.3%	98.0%

PV String Input Data	
Max. DC Input Voltage (V)	1000
Start-up Voltage (V)	180
Nominal DC Input Voltage (V)	620
No. of MPP Trackers	2

Protection	
Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

AC Output Data	
Nominal Output Voltage (V)	400, 3L/N/PE
Nominal Output Frequency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<2%

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Natural Convection
Noise (dB)	<30
User Interface	LCD & LED
Communication	RS485 or WiFi
Weight (kg)	24
Size (Width*Height*Depth mm)	516*455*192
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

Standards	
Safety Regulation	IEC62109-1&2
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Where Low Voltage Meets High Efficiency

The GoodWe LVDT series three-phase inverter with low voltage power input is specifically designed for small commercial PV applications. Developed as an efficient response to the South American market needs for low-voltage inverters above 10kW, the GoodWe LVDT series is applicable to the different grid voltage ranges in the region, which mainly cover 208V, 220V and 240V. With the GoodWe LVDT series inverter, the system configuration can be simplified by avoiding the installation of an expensive transformer which adversely affects the system's conversion efficiency.

- Easy wall mounting
- Super large 5-inch LCD
- 30% lighter than similar inverters
- Wide range of output voltage
- IP65 dustproof and waterproof
- IP68 rated cooling fan

LVDT Series

Dual-MPPT, Three-Phase

South America

Technical Data

Model	Max. DC Input Power (W)	MPPT Range for Full Load (V)	Max. Input Current (A)	Max. Short Current (A)	No. of Input Strings Per MPP Tracker
GW12KLV-DT	15600	410~650	20/10	25/12.5	2
GW15KLV-DT	19500	385~650	20/20	25/25	3

Model	Nominal Output Power (W) 208Vac System	Nominal Output Power (W) 220Vac System	Nominal Output Power (W) 240Vac System	Max. Output Apparent Power (VA)	Max. Output Current (A)	Weight (kg)
GW12KLV-DT	11300	12000	13000	13000	31.5	39
GW15KLV-DT	14200	15000	16000	16000	39.5	40

PV String Input Data	
Max. DC Input Voltage (V)	800
MPPT Range (V)	260~650
Start-up Voltage (V)	250
No. of MPP Trackers	2

AC Output Data	
Nominal Output Voltage (V)	150~300
Nominal Output Frequency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%

Efficiency	
Max. Efficiency	98.4%
Euro Efficiency	98.1%

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Fan Cooling
Noise (dB)	<45
User Interface	LCD & LED
Communication	RS485 or WiFi
Size (Width*Height*Depth mm)	516*650*203
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

Protection	
Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
DC SPD Protectioin	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

Certifications & Standards	
Grid Regulation	IEEE1547
Safety Regulation	IEC62109-1&2
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Turn On Your Profits

The GoodWe DT series inverter is suitable for commercial and industrial roofs as well as small and medium-sized photovoltaic power systems. It has lower loss, more compact and lighter weight, extremely low THDi compared to similar products so that the power grid is purer. Because of the reliable grid support capabilities, high waterproof and dustproof grade and extra-wide voltage range of module, it can not only be used in commercial roof and commercial power station PV systems, but also is qualified for the design requirements of large-megawatt power stations.

- Perfect for commercial rooftops
- Super large 5-inch LCD
- IP65 dustproof and waterproof
- IP68 rated cooling fan
- 30% DC input oversizing

DT Series

Dual-MPPT, Three-Phase

Technical Data

Model	Max. DC Input Power (W)	MPPT Range for Full Load (V)	Max. Input Current (A)	Max. Short Current (A)	No. of Input Strings per Tracker	Nominal Output Power (W)	Max. Output Apparent Power (VA)	Max. Output Current (A)	Max. Efficiency	Euro Efficiency	Weight (kg)
GW17K-DT	22100	400~850	22/22	27.5/27.5	2	17000	17000	25	98.2%	97.7%	39
GW20K-DT	26000	470~850	22/22	27.5/27.5	2	20000	20000	30	98.4%	98.1%	39
GW25K-DT	32500	480~850	27/27	33.8/33.8	3	25000	25000	37	98.4%	98.1%	40

PV String Input Data	
Max. DC Input Voltage (V)*	1000
MPPT Range (V)	260~850
Start-up Voltage (V)	250
Nominal DC Input Voltage (V)	620
No. of MPP Trackers	2

AC Output Data	
Nominal Output Voltage (V)	400, 3L/N/PE
Nominal Output Frequency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<1.5%

Protection	
Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
DC SPD Protectioin	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Fan Cooling
Noise (dB)	<45
User Interface	LCD & LED
Communication	RS485 or WiFi
Size (Width*Height*Depth mm)	516*650*203
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

Certifications & Standards	
Safety Regulation	IEC62109-1&2
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Model	Grid Regulation
GW17K-DT	VDE0126-1-1, VDE-AR-N 4105, AS4777.2, G83/2, EN50438(PL), EN50438(SW), EN50438(IR), NRS 097-2-1, ERDF-NOI-RES_13E, IEC61727, IEC62116
GW20K-DT	VDE0126-1-1, VDE-AR-N 4105, AS4777.2, G83/2, EN50438(PL), EN50438(SW), EN50438(IR), NRS 097-2-1,ERDF-NOI-RES_13E, IEC61727, IEC62116, MEA, PEA
GW25K-DT	VDE0126-1-1, VDE-AR-N 4105, AS4777.2, G83/2, EN50438(PL), EN50438(SW), EN50438(IR), NRS 097-2-1, ERDF-NOI-RES_13E, IEC61727, IEC62116

*: Maximum operating voltage is 950V

Reap Your Greatest Harvest

The GoodWe MT series inverter is suitable for large scale commercial rooftop PV systems and large-megawatt utility scale projects where maximum versatility and profitability are important. Equipped with four MPP trackers, the GoodWe MT series grid-tied inverters can ensure that the outputs of connected modules are able to generate the highest yields even in different PV installation conditions, thus offering a faster return on investment. By using the three phase MT series string inverters, customers can benefit from faster installation and minimal system downtime due to short replacement lead time and ease of servicing.

- Maximum efficiency up to 98.8%
- 4 MPP trackers for higher yield
- Smart monitoring for 13 strings
- Integrated combiner box
- Full-load running at 50ºC

MT Series

Four-MPPT, Three-Phase

High Voltage

Technical Data

Model	Max. DC Input Power (W)	Max. DC Input Voltage (V)*	Max. Input Current (A)	Max. Short Current (A)	Nominal Output Power (W)	Max. Output Power (W)	Max. Output Apparent Power (VA)	Max. Output Current (A)
GW75KHV-MT	80000	1000	28/28/28/36	35/35/35/45	75000	75000	75000	90

PV String Input Data	
MPPT Range (V)	260~850
Start-up Voltage (V)	250
MPPT Range for Full Load (V)	650~850
Nominal DC Input Voltage (V)	740
No. of MPP Trackers	4
No. of Input Strings per Tracker	3/3/3/4

Efficiency	
Max. Efficiency	98.8%
Euro Efficiency	98.5%

Protection	
PV String Current Monitoring	Integrated
Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
DC SPD Protectioin	Integrated (Type II)
AC SPD Protection	Integrated (Type II)
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

AC Output Data	
Nominal Output Voltage (V)	480, 3L/PE
Nominal Output Frequency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Fan Cooling
User Interface	LCD & LED
Communication	RS485 or WiFi
Weight (kg)	67
Size (Width*Height*Depth mm)	586*915*263
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

Certifications & Standards	
Grid Regulation	EN50438(PL), IEC61727, IEC62116
Safety Regulation	IEC62109-1&2
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

*: Maximum operating voltage is 950V

Boost Your Power & Profit

The second generation of GoodWe MT series inverter is suitable for medium and large scale commercial rooftops and ground-mounted solar PV systems where maximum versatility and profitability are important. With its compact design and power boost function, the GoodWe MT G2 series can provide a 15% continuous maximum AC output power overload, thus offering a faster return on investment. The start-up voltage is 200V, much lower than 600V of other products, which makes the inverter start up earlier to generate more power with longer working time.

- 30% DC input oversizing ratio
- 15% AC output overloading ratio
- Smart monitoring for 13 strings
- Full-load running at 50ºC
- Integrated Bussman fuse for panel protection

MT Series G2

Four-MPPT, Three-Phase

Technical Data

Model	Max. PV Power [W]	Nominal DC Power [W]	Max. DC Current [A]	Max. Short Current [A]	No. of DC Connectors	Norminal AC Power [W]	Max. AC Current [A]
GW50K-MT	65000	51500	30/30/20/20	38/38/25/25	10(3/3/2/2)	50000	80
GW60K-MT	80000	62000	30/30/30/30	38/38/38/38	12(3/3/3/3)	60000	96

Model	Max. AC Power [W]	Max. AC Apparent Power [W]	Max. Efficiency	Euro Efficiency	Dimensions (WxHxD)	Weight (kg)
GW50K-MT	55000@400Vac,57500@415Vac	55000@400Vac,57500@415Vac	98.7%	98.3%	586*788*264mm	59
GW60K-MT	66000@400Vac,69000@415Vac	66000@400Vac,69000@415Vac	98.8%	98.5%	586*788*264mm	64

DC Input Data	
Max. DC Voltage [V]	1000
MPPT Voltage Range [V]	200~850
MPPT Voltage Range of Full Load [V]	520~850
Nominal DC Voltage	620
Start-up Voltage [V]	200
No. of MPPT	4
DC Connector	MC4/Phoenix/Amphenol

AC Output Data	
Norminal AC Output	50/60Hz; 400Vac
AC Output Range	45~55Hz/55~65Hz;310~480Vac
THDi	<3%
Power Factor	~1(Adjustable from 0.8 leading to 0.8 lagging)
Grid Connection	3L/N/PE

Protection	
Residual Current Monitoring Unit	Integrated
Anti-islanding Protection	Integrated
Pv Array String Fault Monitoring	Integrated
DC Fuse	Integrated
DC Switch	Integrated(optional)
DC SPD	Type II
AC SPD	Type II
SPD Fault Monitoring	Integrated
AC Over Curent Protection	Integrated
Insulation Monitoring	Integrated

General Data	
Mounting	Wall bracket
Ambient Temperature Range	-30~60℃
Relative Humidity	0~100%
Operating Altitude(m)	≤4000
Protection Degree	IP65
Topology	Transformerless
Cooling	Fan cooling
Display	LCD
Communication	RS485; WiFi
Standard Warranty(years)	5/10/15/20/25(optional)

Certifications & Standards	
Grid Regulation	VDE0126-1-1, AS4777.2, G59/3, VDE-AR-N 4105, EN50438, EC61727, IEC62116, PV502
Safety	EN62109-1&-2
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4

Off The Grid
Not Powerless

The GoodWe ES series bi-directional energy storage inverter can be used for both on-grid and off-grid PV systems, with the ability to control the flow of energy intelligently. During the day, the PV array generates electricity which can be provided either to the loads, fed into the grid or charge the battery, depending on the economics and set-up. The electricity stored can be released when the loads require it during the night, including inductive loads such as air conditioners or refrigerators. Additionally, the power grid can also charge the storage devices via the inverter. An all-round intelligent system for maximum energy flexibility.

- Charge controller and inverter integrated
- Export control (Zero export)
- UPS function with 10 ms automatic switchover
- Maximum charge and discharge up to 100A
- IP65 dustproof and waterproof
- Fanless design, long lifespan

ES Series

Hybrid Inverter

Technical Data

Model	Max. Charging Current (A)*1	Max. Discharging Current (A)*1	Max. DC Input Power (W)	Nominal Apparent Power Output to Utility Grid (VA)	Max. Apparent Power Output to Utility Grid (VA)*4	Max. Apparent Power from Utility Grid(VA)
GW3648D-ES	75	75	4600	3680	3680	7360
GW5048D-ES	100	100	6500	4600	5100	9200

Model	Max. AC Current Output to Utility Grid (A) [On-grid]	Max. AC Current From Utility Grid (A)[On-grid]	Max. Output Apparent Power (VA)[Back-up]	Peak Output Apparent Power (VA)*6[Back-up]	Max. Output Current (A)[Back-up]	Weight (kg)
GW3648D-ES	16	32	3680	5520,10sec	16	28
GW5048D-ES	24.5*5	40	4600	6900,10sec	20	30

Battery Input Data	
Battery Type	Li-Ion or Lead-acid*1
Nominal Battery Voltage (V)	48
Max. Charging Voltage (V)	≤60 (Configurable)
Battery Capacity (Ah)*2	50~2000
Charging Strategy for Li-Ion Battery	Self-adaption to BMS

PV String Input Data	
Max. DC Input Voltage (V)	580
MPPT Range (V)	125~550
Start-up Voltage (V)*3	150
MPPT Range for Full Load (V)	170~500
Nominal DC Input Voltage (V)	360
Max. Input Current (A)	11/11
Max. Short Current (A)	13.8/13.8
No. of MPP Trackers	2
No. of Strings per MPP Tracker	1

AC Output Data (On-grid)	
Nominal Output Voltage (V)	230
Nominal Output Freqency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%

AC Output Data (Back-up)	
Nominal Output Voltage (V)	230 (±2%)
Nominal Output Freqency (Hz)	50/60 (±0.2%)
Output THDv (@Linear Load)	<3%

Efficiency	
Max. Efficiency	97.6%
Max. Battery to Load Efficiency	94.0%
Euro Efficiency	97.0%

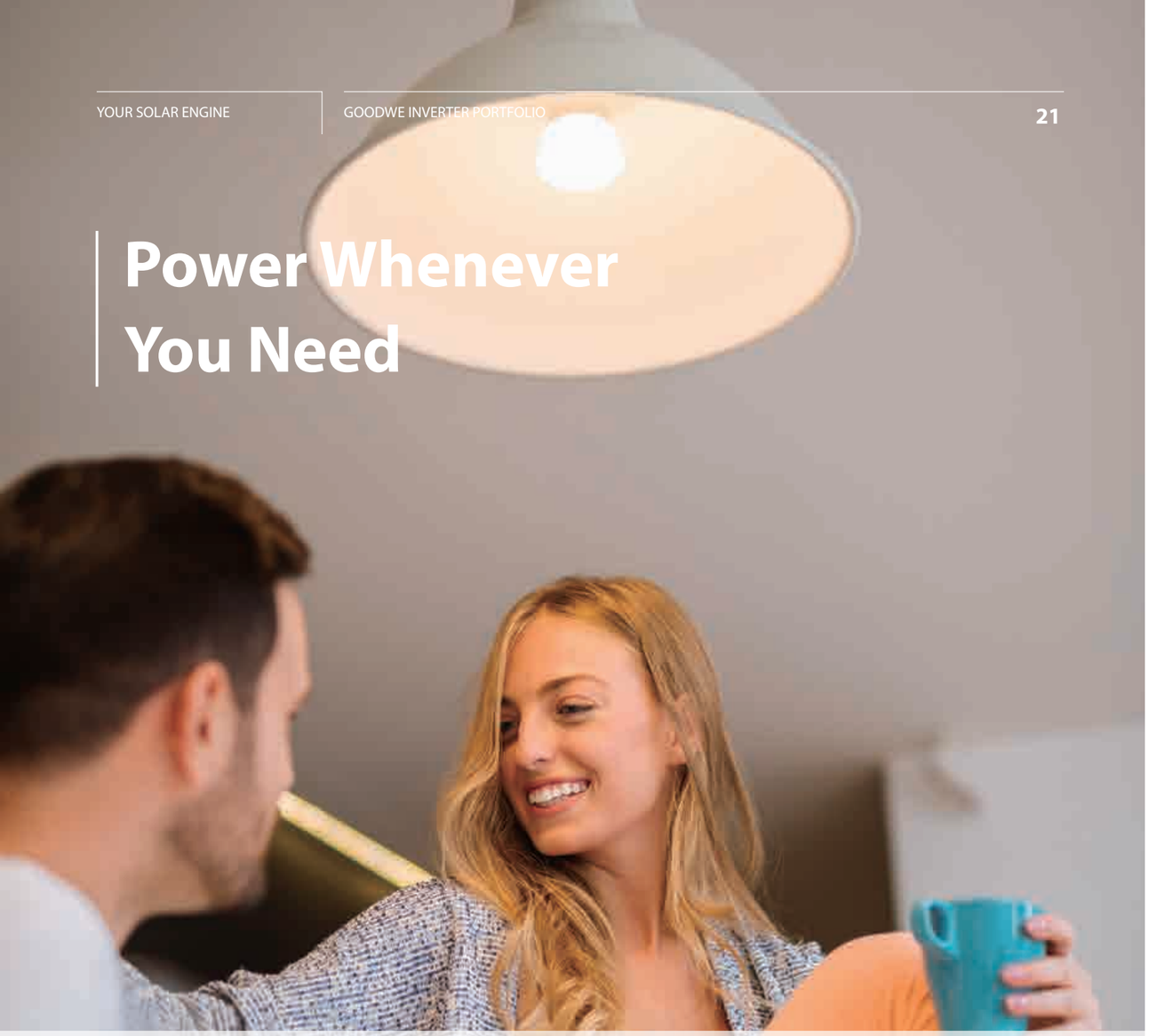
Protection	
Anti-islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~95%
Operating Altitude (m)	≤4000
Cooling	Natural Convection
Noise (dB)	<25
User Interface	LED & APP
Communication with BMS*7	RS485; CAN
Communication with Meter	RS485
Communicaiton with Portal	Wi-Fi
Size (Width*Height*Depth mm)	516*440*184
Mounting	Wall Bracket
Protection Degree	IP65
Standby Self Consumption (W)	<13
Topology	High Frequency Isolation

Certifications & Standards	
Grid Regulation	VDE-AR-N 4105, VDE0126-1-1, AS4777.2, G83/2, CEI 0-21, NRS 097-2-1, EN50438
Safety Regulation	IEC/EN62109-1&2, IEC62040-1
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29

*1: Lead-acid battery use refers to Approved Battery Options Statement. The actual charge and discharge current also depends on the battery.
*2: Under off-grid mode, then battery capacity should be more than 100Ah.
*3: When there is no battery connected, inverter starts feeding in only if string voltage is higher than 200V.
*4: 4600 for VDE 0126-1-1 &VDE-AR-N4105, 4950 for AS4777.2(GW5048D-ES); 4050 for CEI 0-21(GW3648D-ES).
*5: 21.7A for AS4777.2
*6: Can be reached only if PV and battery power is enough.
*7: The standard configuration is CAN.

Power Whenever You Need



The GoodWe EM series bi-directional energy storage inverter can be used for both on-grid and off-grid PV systems, with the ability to control the flow of energy intelligently. During the day, the PV array generates electricity which can be provided either to the loads, fed into the grid or charge the battery, depending on the economics and set-up. The electricity stored can be released when the loads require it during the night. Additionally, the power grid can also charge the storage devices via the inverter. An all-round intelligent system for maximum energy flexibility.

- Smart battery management function
- Export control (Zero export)
- UPS function with 10 ms automatic switchover
- 50A charge & discharge capacity
- IP65 dustproof and waterproof
- Fanless design, long lifespan

EM Series

Hybrid Inverter

Technical Data

Model	Max. DC Input Power (W)	MPPT Range for Full Load (V)	Max. Input Current (A)	Max. Short Current (A)	No. of MPP Trackers	Nominal Power Output to Utility Grid (W)	Max. Apparent Power Output to Utility Grid (VA)*6	Max. AC Current Output to Utility Grid (A)	Weight (kg)
GW3048-EM	3900	280~500	11	13.8	1	3000	3000	13.6	16
GW3648-EM	4600	170~500	11/11	13.8/13.8	2	3680	3680	16	17
GW5048-EM	6500	230~500	11/11	13.8/13.8	2	5000*5	5000	22.8*7	17

Battery Input Data	
Battery Type	Li-Ion or Lead-acid*1
Nominal Battery Voltage (V)	48
Max. Charging Voltage (V)	≤60 (Configurable)
Max. Charging Current (A)*1	50
Max. Discharging Current (A)*1	50
Battery Capacity (Ah)*2	50~2000
Charging Strategy for Li-Ion Battery	Self-adaption to BMS

PV String Input Data	
Max. DC Input Voltage (V)*3	550
MPPT Range (V)	100~500
Start-up Voltage (V)*4	150
Nominal DC Input Voltage (V)	360
No. of Strings per MPP Tracker	1

AC Output Data (On-grid)	
Max. Apparent Power from Utility Grid(VA)	5300
Nominal Output Voltage (V)	230
Nominal Output Freqency (Hz)	50/60
Max. AC Current From Utility Grid (A)	23.6
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%

AC Output Data (Back-up)	
Max. Output Apparent Power (VA)	2300
Peak Output Apparent Power (VA)*8	3500,10sec
Automatic Switch Time (ms)	10
Nominal Output Voltage (V)	230 (±2%)
Nominal Ouput Frequency (Hz)	50/60 (±0.2%)
Max. Output Current (A)	10
Output THDv (@Linear Load)	<3%

Efficiency	
Max. Efficiency	97.6%
Max. Battery to Load Efficiency	94.5%
Euro Efficiency	97.0%

Protection	
Anti-islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~95%
Operating Altitude (m)	≤4000
Cooling	Natural Convection
Noise (dB)	<25
User Interface	LED & APP
Communication with BMS*9	RS485; CAN
Communication with Meter	RS485
Communicaiton with Portal	Wi-Fi
Size (Width*Height*Depth mm)	347*432*175
Mounting	Wall Bracket
Protection Degree	IP65
Standby Self Consumption (W)	<13
Topology	High Frequency Isolation

Certifications & Standards	
Grid Regulation	AS/NZS 4777.2:2015, G83/2, G100, CEI 0-21, VDE4105-AR-N, VDE0126-1-1, NRS 097-2-1, RD1699, UNE206006, EN50438
Safety Regulation	IEC/EN62109-1&2, IEC62040-1
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29

*1: Lead-acid battery use refers to Approved Battery Options Statement . The actual charge and discharge current also depends on the battery.
*2: Under off-grid mode, then battery capacity should be more than 100Ah.
*3: Maximum operating dc voltage is 530V.
*4: When there is no battery connected, inverter starts feeding in only if string voltage is higher than 200V.
*5: 4600 for VDE0126-1-1&VDE-AR-N4105 & CEI 0-21(GW5048-EM).
*6: For CEI 0-21 GW3048-EM is 3300, GW3648-EM is 4050, GW5048-EM is 5100; for VDE-AR-N4105 GW5048-EM is 4600.
*7: 21.7A for AS4777.2
*8: Can be reached only if PV and battery power is enough.
*9: The standard configuration is CAN.

Back Up & Upgrade Your Savings

The GoodWe SBP series is the world's first AC-coupled battery storage retrofit solution with UPS function for both single-phase and three-phase systems. It can effectively upgrade any existing string inverter system by adding battery backup. Capable of being either grid-interactive or independent, it allows users to store surplus power and sell it back to the grid when demand peaks and the price of electricity is at its highest. With its UPS function with an automatic switchover time of less than 10 ms, GoodWe SBP provides uninterruptible power supply to inductive loads such as air conditioners or refrigerators.

- Capable of being grid-interactive or grid-independent
- Suitable for both single-phase & three-phase systems
- Smart BMS – Max. discharge power up to 4.6kW
- Export control (zero export)
- UPS function with 10 ms automatic switchover

SBP Series

AC-Coupled Retrofit Solution

Technical Data

Model	Max. Charging Current (A)*1	Max. Discharging Current (A)*1	Nominal Power Output (W)	Max. Apparent Power Output (VA)*4	Max. Apparent Power From Utility Grid (VA)
GW3600S-BP	75	75	3680	3680	7360
GW5000S-BP	100	100	5000*3	5000	9200

Model	Max. AC Current Output (A)	Max. AC Current From Utility Grid (A)	Max. Output Apparent Power (VA)*6	Peak Output Apparent Power (VA)*6[Back-up]	Max. Output Current (A) [Back-up]
GW3600S-BP	16	32	3680	4416, 10sec	16
GW5000S-BP	22.8*5	40	5000	5500, 10sec	22.8

Battery Input Data	
Battery Type	Li-Ion or Lead-acid*1
Nominal Battery Voltage (V)	48
Max. Charging Voltage (V)	≤60 (Configurable)
Battery Capacity (Ah)*2	50~2000
Charging Strategy for Li-Ion Battery	Self-adaption to BMS

AC Output Data (On-grid)	
Nominal Output Voltage (V)	230
Nominal Output Freqency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%

AC Output Data (Back-up)	
Automatic Switch Time (ms)	<10
Nominal Output Voltage (V)	230 (±2%)
Nominal Ouput Frequency (Hz)	50/60 (±0.2%)
Output THDv (@Linear Load)	<3%

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~95%
Operating Altitude (m)	≤4000
Cooling	Natural Convection
Noise (dB)	<25
User Interface	LED & APP
Communication with BMS*7	RS485; CAN
Communication with Meter	RS485
Communicaiton with Portal	Wi-Fi
Weight (kg)	18.5
Size (Width*Height*Depth mm)	347*432*190
Mounting	Wall Bracket
Protection Degree	IP65
Standby Self Consumption (W)	<15
Topology	High Frequency Isolation

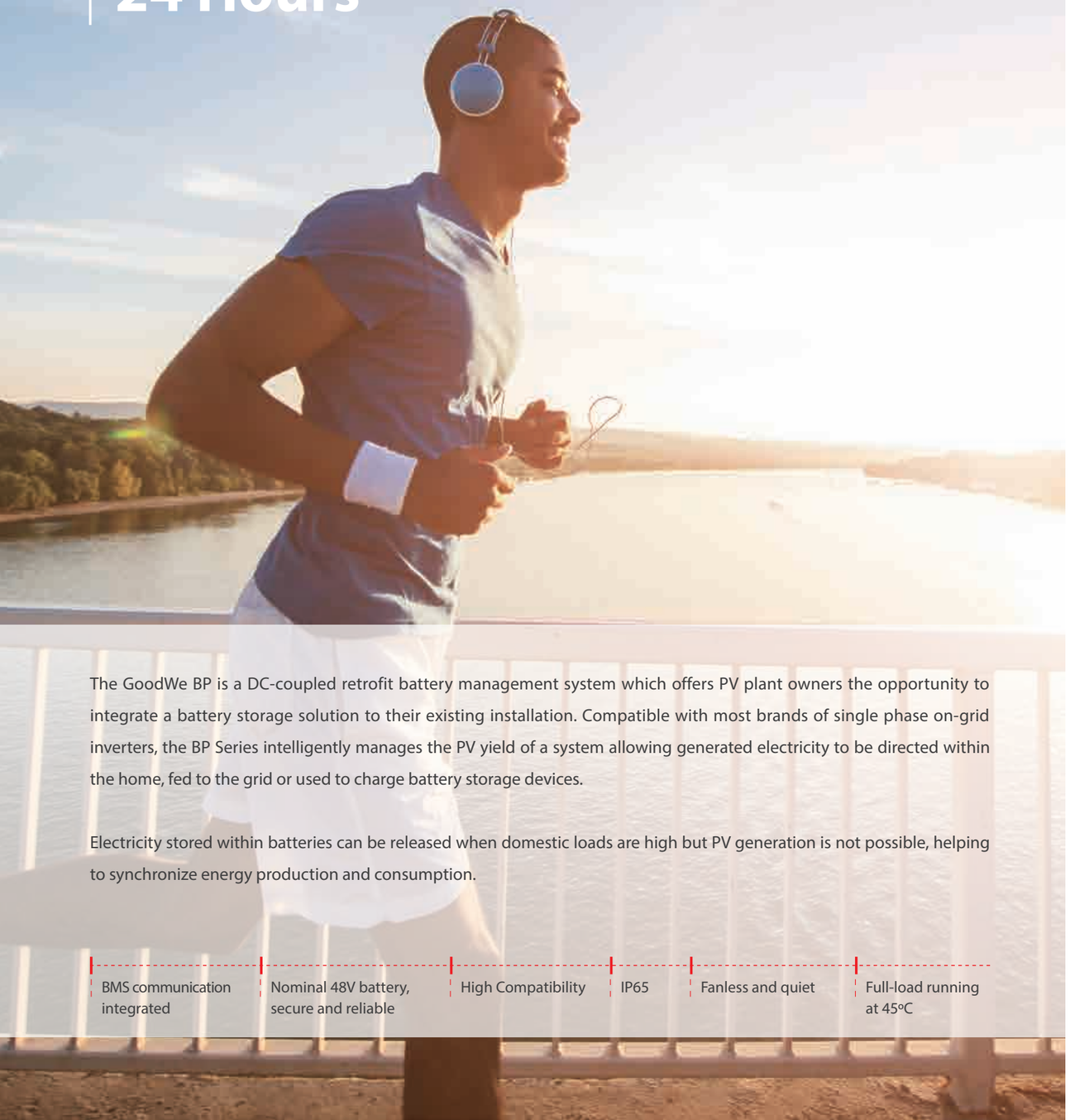
Efficiency	
Max. Efficiency	95.5%

Protection	
Anti-islanding Protection	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated

Certications & Standards	
Grid Regulation	AS/NZS 4777.2:2015, G83/2, G100, CEI 0-21, RD1699, UNE206006, VDE4105-AR-N, VDE0126-1-1, EN50438
Safety	IEC62477-1, IEC62040-1
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29

*1: Lead-acid battery use refers to Approved Battery Options Statement . The actual charge and discharge current also depends on the battery.
*2: Battery capacity could be not less than 100Ah where the back-up function is to be applied.
*3: 4600 for VDE0126-1-1&VDE-AR-N 4105 and CEI 0-21.
*4: For CEI 0-21 GW3648-EM is 4050, GW5048-EM is 5100; for VDE-AR-N4105 GW5048-EM is 4600.
*5: 21.7A for AS4777.2
*6: Can be reached only if battery capacity is enough, otherwise will shut down.
*7: The standard configuration is CAN.

Non-Stop Energy 24 Hours



The GoodWe BP is a DC-coupled retrofit battery management system which offers PV plant owners the opportunity to integrate a battery storage solution to their existing installation. Compatible with most brands of single phase on-grid inverters, the BP Series intelligently manages the PV yield of a system allowing generated electricity to be directed within the home, fed to the grid or used to charge battery storage devices.

Electricity stored within batteries can be released when domestic loads are high but PV generation is not possible, helping to synchronize energy production and consumption.

- BMS communication integrated
- Nominal 48V battery, secure and reliable
- High Compatibility
- IP65
- Fanless and quiet
- Full-load running at 45ºC

BP Series

DC-Coupled Retrofit Solution

Technical Data

Model	Max. Charging Current (A)*1	Max. Discharging Current (A)*1	Max. Input Current (A)	Rated Output Voltage at Night (V)
GW2500-BP	50	50	25	360

Model	Nominal Battery Voltage (V)	Max. DC Input Power (W)	Output Voltage Range (V)	Max Output Current (A)
GW2500-BP	48	6000	250~360	10

Battery Input Data	
Battery Type	Li-Ion
Max. Charging Voltage (V)	≤60 (Configurable)
Battery Capacity (Ah)	50~1000
Charging Strategy	Self-adaption to BMS

DC Output Data	
Output Voltage during Daytime	Follow the MPP Tracker of Inverter
No. of DC Output Connectors	1

Efficiency	
Max. Efficiency	96.5%

Protection	
PV String Input Reverse Polarity Protection	Integrated
Battery Over&Low Voltage Protection	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated

Certifications&Standards	
Safety Regulation	CE
EMC	CE

PV String Input Data	
Max. DC Input Voltage (V)	500
Operating Voltage Range(V)*2	150~450
Start-up Voltage (V)	120
No. of PV String Input Connectors	1

General Data	
Operating Temperature Range (°C)	-25~60
Relative Humidity	0~95%
Operating Altitude (m)	≤4000
Cooling	Natural Convection
Noise (dB)	<25
User Interface	LCD & APP
Communication with BMS*3	RS485; CAN
Communication with Meter	RS485
Communicaiton with Portal	Wi-Fi
Weight (kg)	8
Size (Width*Height*Depth mm)	344*274.5*128
Mounting	Wall Bracket
Protection Degree	IP65
Standby Self Consumption (W)	<8
Topology	High Frequency Isolation

*1: Charge & discharge current follows the command of BMS which doesn't exceed 50A. Note: Pylon US2000A default charge rate is 0.5C. C means the battery capacity, such as the capacity is 50Ah, default charge current 0.5C is 0.5 * 50 = 25A.
2: PV voltage should be lower than 9 V_Battery - 20V (V_Battery means real-time voltage of battery) to allow battery charge or discharge.
*3: The standard configuration is CAN.

SMART ENERGY MANAGEMENT SYSTEM

SEMS can manage the production, usage and scheduling of the energy in your household to provide you with a reliable power source and total control over connected appliances in your smart home.

- Smart
- Safe
- Flexible
- Compatible

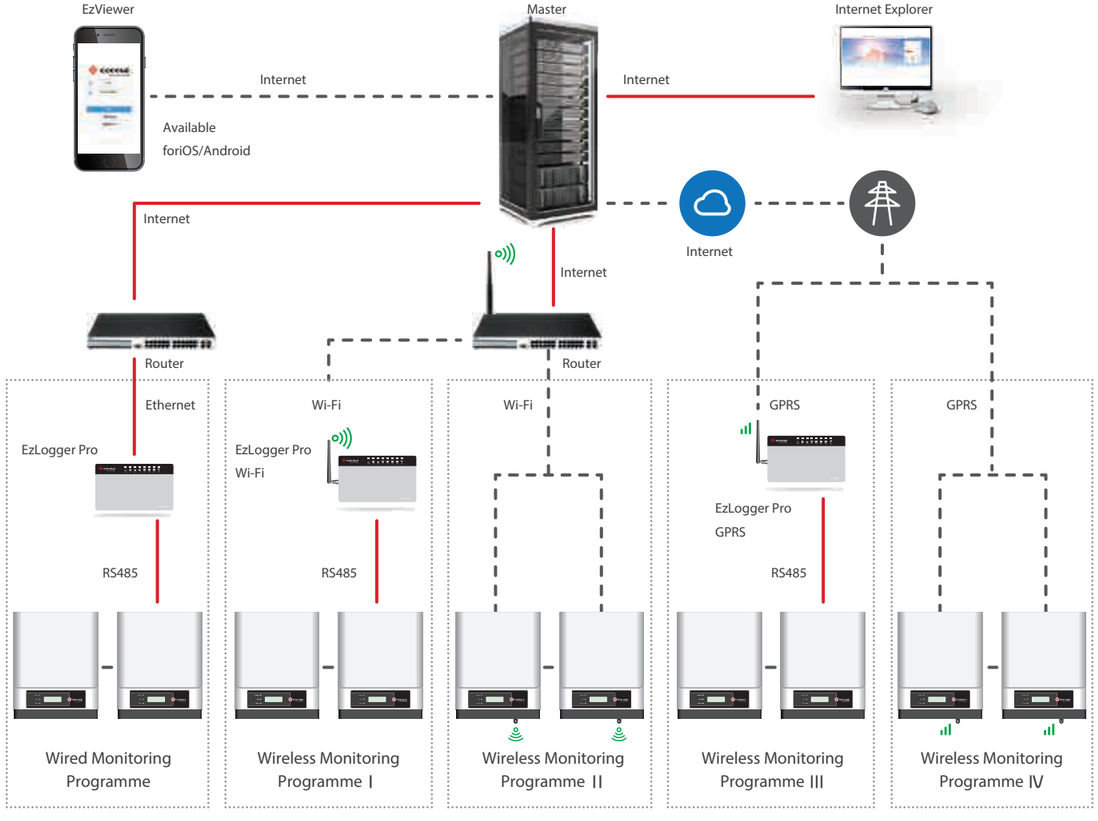
HOME ENERGY MANAGEMENT

Calculate your home power usage and the exact consumption for each of your appliances, minimizing your bill through optimally distributing solar to fulfill electricity consumption.

GOODWE MONITORING SYSTEM

GoodWe's flexible and powerful monitoring system provides comprehensive real-time data and analytics for installers and system owners to maximize performance and accelerate ROI from PV systems – utility, commercial and residential.

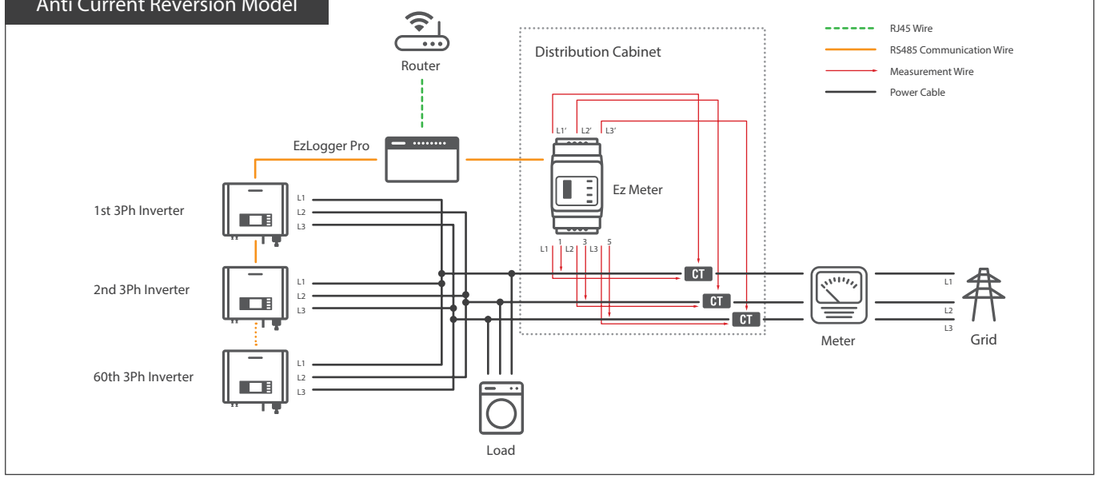
Hosted in the cloud, your solar system performance can be easily checked at any time from your computer via GoodWe monitoring website or from your tablet or smartphone.



EzLogger Pro **Indoor**

EzLogger is GoodWe's self-developed monitoring device. In combination with a GoodWe solar inverter, it can easily read and record all key plant data and constantly transmit the data to the global monitoring web server via internet.

Anti Current Reversion Model



ARCB **Outdoor**

ARCB is realized through the combination of the inverter with Ez-logger Pro and Ez-Meter. As the central controller, Ez Logger Pro can detect the direction and power capacity of the meter in real time via RS485, offering an internal analysis for a precise and rapid control of the inverter's output power while providing the maximum efficiency in circumstances where there is no current reversion.

PV Master

PV Master is a web-based and mobile PV monitoring solution which can link to GoodWe Monitoring Website via internet in order to track the behavior and yields of your PV plant at any time.

GOODWE SERVICE STRUCTURE

GoodWe's qualified service network team is available at all times to provide local technical support whenever and wherever you need it.

4

Call Center: First Level Support & Troubleshooting

Our professional team provide technical support to customers in the troubleshooting and diagnosis of operational issues. Usually a problem can be corrected via remote access so that on-site service is unnecessary.

On-site Support

GoodWe authorized service engineers can perform on-site inspection, testing, debugging and provide repair or replacement if necessary, using the latest techniques to maximize your inverter performance while minimizing production or process downtime.

Follow-up & Customer Satisfaction Survey

We value our customers' feedback and believe that a good customer service and support is mandatory. For this reason, we actively listen to our customers' experience with our brand and service and carry out regular surveys in order to better meet your needs and expectations.

Global Presence, Local Service

UK, Australia, Netherlands, Germany, Turkey, India

GOODWE SOLAR ACADEMY

GoodWe Solar Academy (GSA) provides expertise and professional, custom training sessions on inverter products and PV solutions. No matter whether you are an installer, system designer or technical sales, with GSA you will learn everything you need to know about the PV industry, GoodWe solutions and application examples.

Knowledge & Education

GSA trainings are designed to address the technical challenges that our customers face on a regular basis. Our GSA trainers are experienced professionals who understand the solar market challenges and demands.

Optimization

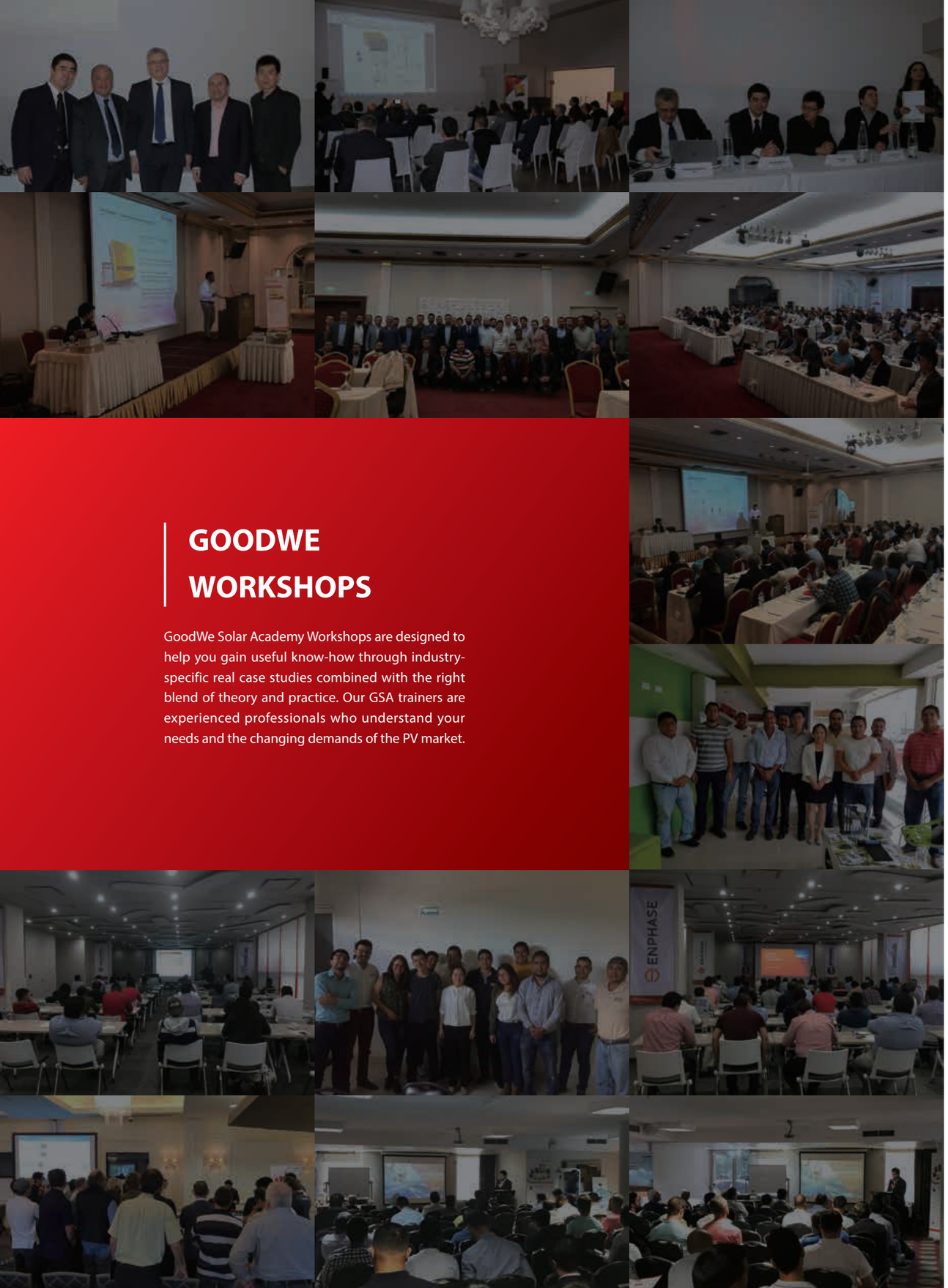
With a sound experience in the solar industry, the GSA team can provide you with tips to ensure your plant is optimized and will run more efficiently. Our GSA engineers can make suggestions to control operational losses, maximize generation, and improve profitability

Custom Workshops & Training

Tailor-made workshops and advanced technical training sessions on GoodWe products are available upon request.

Local Solar Academy

Thanks to GoodWe's global network, GSA can offer in-country training and workshop sessions all over the world delivered at a time and in a location that best works for our customers.



GOODWE WORKSHOPS

GoodWe Solar Academy Workshops are designed to help you gain useful know-how through industry-specific real case studies combined with the right blend of theory and practice. Our GSA trainers are experienced professionals who understand your needs and the changing demands of the PV market.

GOODWE PROJECTS REFERENCE

GROUND/UTILITY PROJECTS

COMMERCIAL ROOFTOP

RESIDENTIAL ROOFTOP

ENERGY STORAGE SYSTEM

11 MW

De Munt Emmeloord
Netherlands

25MW

Shanxi
China

6MW

Griene Greide Garyp
Netherlands

18MW

Ankara
Turkey

5MW

Assen Circuit
Netherlands

2MW

Amsterdam
Netherlands

700KW

Seoul
South Korea

20KW

Vineyard
South Africa

200KW

Antonio
Switzerland

170KW

Bucarest
Romania

12KW

Denmark

Europe

170KW

Hout Bay

South Africa

40KW

Cape Town

South Africa

5KW

Prague
Czech Republic

2KW

KZN Balito
South Africa

10KW

Melbourne
Australia

Series	Model	CE	VDE0126-1-1 (Europe)	VDE-AR-N 4105 (Germany)	EN/IEC 62109-1&-2 (Europe)	IEC 62477-1 (Europe)	AS 62040.1.1 (Australia)	AS4777.2 (Australia)	G83/2 (UK)	G59/3 (UK)	G100 (UK)	NB-T 32004 (China)	GB/T19964 (China)	EN50438+ VDE0126-1-1/A1 (Poland)	NRS 097-2-1 (S. Africa)	MEA (Thailand)	PEA (Thailand)	ERDF-NOI-RES_13E (France)	IEC61727 IEC62116	IEC60068 IEC61683	EN50530	PV502 (Korean)	CEI0-21 (Italy)	RD1699 (Spain)	Barbados	Chile	EN50438 (Sweden)	IEEE1547 (America)	EN50438 (Irish)	DEWA (UAE)
NS	GW1000-NS																													
	GW1500-NS																													
	GW2000-NS																													
	GW2500-NS																													
	GW3000-NS																													
DNS	GW3000D-NS																													
	GW3600D-NS																													
	GW4200D-NS																													
	GW5000D-NS																													
	GW6000D-NS																													
SDT	GW4000-DT																													
	GW5000-DT																													
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DT	GW15K-DT																													
	GW17K-DT																													
	GW20K-DT																													
	GW25K-DT																													
	GW30K-DT																													
LVDT	GW12KLV-DT																													
	GW15KLV-DT																													
MT	GW50K-MT																													
	GW60K-MT																													
	GW75K-MT																													
MTG2	GW50K-MT																													
	GW60K-MT																													
ES	GW3648D-ES																													
	GW5048D-ES																													
BP	GW2500-BP																													
SBP	GW3600S-BP																													
	GW5000S-BP																													
EM	GW3048-EM																													
	GW3648-EM																													
	GW5048-EM																													
HF	GW3000-HF																													
	GW3000D-HF																													
	GW4000D-HF																													
	GW5000D-HF																													
	GW5KHV-HF																													

RD1699 ISO 9001:2008 CEI 0-21 westernpower Clean Energy Council ACCREDITED