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# Smart Photovoltaic Inverter Series



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 12 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



DSS Super Series



DNS Series

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

02



Smart DT Series



SMT Series

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

03



MT 50/60 kW



MT 70 kW

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

04



ES Series



ET 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
GW1000-NS	1300	120~450	10	12.5	1000 <sup>*1</sup>	1000	5	96.5%	96.0%
GW1500-NS	1950	180-450	10	12.5	1500 <sup>*1</sup>	1500	7.5	97.0%	96.0%
GW2000-NS	2600	230-450	10	12.5	2000 <sup>*1</sup>	2000	10	97.0%	96.0%
GW2500-NS	3250	180-450	18	22.5	2500 <sup>*1</sup>	2500	12.5	97.5%	97.0%
GW3000-NS	3900	215-450	18	22.5	3000 <sup>*1</sup>	3000	13.5	97.5%	97.0%

#### 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

#### 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)	7.5
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, CEI 0-21, RD 1699:2011, UNE 206006 IN: 2011, UNE 206007-1 IN: 2013
Safety Regulation	IEC62109-1&2
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: For CEI 0-21 Nominal Output Power GW1000-NS is 900, GW1500-NS is 1350, GW2000-NS is 1800, GW2500-NS is 2250, GW3000-NS is 2700.

Color Options

# Inverters Designed For Beauty

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, 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)	Weight (kg)
GW3000D-NS	3900	150~550	3000 <sup>*1</sup>	3000	13.6	13
GW3600D-NS	4680	180-550	3680 <sup>*1</sup>	3680	16	13
GW4200D-NS	5460	210-550	4200 <sup>*1</sup>	4200	19	13
GW5000D-NS	6500	250-550	5000 <sup>*1</sup>	5000	22.8	13
GW6000D-NS	7200	280~550	6000 <sup>*1</sup>	6000	27.3	13.5

#### 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

#### 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

#### Certifications & Standards

Safety Regulation	IEC62109-1&2
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

#### Model

Model	Grid Regulation
GW3000D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G83, IEC61727, IEC62116, CEI 0-21, RD 1699:2011, UNE 206006 IN: 2011, UNE 206007-1 IN: 2013
GW3600D-NS	
GW4200D-NS	
GW5000D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G59, IEC61727, MEA, PEA, IEC62116, CEI 0-21, RD 1699:2011, UNE 206006 IN: 2011, UNE 206007-1 IN: 2013
GW6000D-NS	VDE-AR-N 4105, VDE0126-1-1, EN50438(PL), EN50438(SW), AS4777.2, G59, IEC61727, MEA, PEA, IEC62116, CEI 0-21

\*1: For CEI 0-21 Nominal Output Power GW3000D-NS is 2700, GW3680D-NS is 3350, GW4200D-NS is 3800, GW5000D-NS is 4540, GW6000D-NS is 5450.

Color Options

# Redefining Efficiency

The new GoodWe DSS Super Series is the first single-phase on-grid inverter in the market compatible with bifacial double-glass modules. Awarded with the prestigious Red Dot Design Award for its beautiful aesthetics and user friendly design with a touch screen display, the DSS Super Series inverter is now 30% lighter for easier installation both indoors and outdoors. Furthermore, DC oversizing of up to 35% and AC overloading of 10% is allowed. Thanks to its reliable performance, the DSS Super Series can reach a highest efficiency of up to 98.6%.

Compatible with double-glass bifacial modules

Connectors temperature sensor

Highest efficiency up to 98.6%

Rapid shutdown & optimization solution

## DSS Super Series

Dual-MPPT, Single-Phase



### Technical Data

Model	Max. allowed PV Power (W)	MPPT Range for Full Load (V)	Nominal Output Power (W)	Max. Output Apparent Power (VA)	Max. Output Current (A)
GW4200-DSS	5500	210~500	4200	4620	21
GW5000-DSS	6500	240~500	5000	5500	25

#### PV String Input Data

Max. DC Input Voltage (V)	600
MPPT Range (V)	80~550
Start-up Voltage (V)	80
Nominal DC Input Voltage (V)	360
Max. Input Current (A)	12.5/12.5
Max. Short Current (A)	15.6
No. of MPP Trackers	2
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%

#### Efficiency

Max. efficiency	98.6%
Euro Efficiency	>98%

#### Protection

Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
DC SPD Protection	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

#### 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 or WiFi+APP
Communication	RS485 or WiFi or LAN
Weight (kg)	11
Size (Width*Height*Depth mm)	336*400*125
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, CEI 0-21, RD 1699:2011, UNE 206006 IN: 2011, UNE 206007-1 IN: 2013
Safety Regulation	IEC62109-1&2
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

# 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, 15kW and 20kW. 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. 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 LCDRS485 and Wi-Fi  
communicationIP65 dustproof  
and waterproof

## Smart DT Series

Dual-MPPT, Three-Phase



### Technical Data

Model	Max. DC Input Power (W)	MPPT Range (V)	MPPT Range for Full Load (V)	Nominal DC Input Voltage (V)	Max. Input Current (A)	Max. Short Current (A)	No. of Input Strings per Tracker	Nominal Output Power (W)	Max. Output Apparent Power (VA)
GW4000-DT	5200	200~800	195~800	620	11/11	13.8/13.8	1/1	4000* <sup>1</sup>	4000
GW5000-DT	6500	200~800	240~800	620	11/11	13.8/13.8	1/1	5000* <sup>1</sup>	5000
GW6000-DT	7800	200~800	285~800	620	11/11	13.8/13.8	1/1	6000* <sup>1</sup>	6000
GW8000-DT	9600	200~850	380~850	620	11/11	13.8/13.8	1/1	8000* <sup>1</sup>	8000
GW10KN-DT	12000	200~850	480~850	620	11/11	13.8/13.8	1/1	10000* <sup>1</sup>	10000
GW12KN-DT	16800	200~850	380~850	620	22/11	27.6/13.8	2/1	12000	14000
GW15KN-DT	19500	200~850	480~850	620	22/11	27.6/13.8	2/1	15000	16500
GW20KN-DT	26000	200~950	460~860	600	22/22	27.6/27.6	2/2	20000	22000

Model	Nominal Output Voltage (V)	Max. Output Current (A)	Output THDi (@ Nominal Output)	Max. Efficiency	Euro Efficiency	Cooling	Noise (dB)	Weight (kg)	Size (Width*Height*Depth mm)
GW4000-DT	400, 3L/N/PE	8.5	<2%	98.0%	>97.5%	Natural Convection	<30	24	516*415*192
GW5000-DT	400, 3L/N/PE	8.5	<2%	98.0%	>97.5%	Natural Convection	<30	24	516*415*192
GW6000-DT	400, 3L/N/PE	10	<2%	98.0%	>97.5%	Natural Convection	<30	24	516*415*192
GW8000-DT	400, 3L/N/PE	12.1	<2%	98.3%	>98.0%	Natural Convection	<30	24	516*415*192
GW10KN-DT	400, 3L/N/PE	15.2	<2%	98.3%	>98.0%	Natural Convection	<30	24	516*415*192
GW12KN-DT	400, 3L/N/PE	21.5	<2%	98.3%	>98.0%	Natural Convection	<40	26	516*455*192
GW15KN-DT	400, 3L/N/PE	24	<2%	98.3%	>98.0%	Natural Convection	<40	26	516*455*192
GW20KN-DT	400, 3L/N/PE or 3L/PE	31.9	<3%	98.6%	>98.1%	Fan Cooling	<45	26	516*455*220

#### PV String Input Data

Max. DC Input Voltage (V)	1000
Start-up Voltage (V)	180
No. of MPP Trackers	2

#### AC Output Data

Nominal Output Frequency (Hz)	50/60
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)

#### Protection

PV String current Monitoring	Integrated
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
DC SPD Protection	Integrated (Type III)
AC SPD Protection	Integrated (Type III)

#### General Data

Operating Temperature Range (°C)	-25~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
User Interface	LCD & LED
Communication	RS485 or WiFi
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

Model	Grid Regulation
GW4000-DT	VDE0126-1-1, VDE-AR-N 4105, AS4777.2, EN50438(PL), EN50438(SW), EN50438(IR), G83, ERDF-NOI-RES_13E, IEC61727, IEC62116, CEI 0-21
GW5000-DT	VDE0126-1-1, VDE-AR-N 4105, AS4777.2, EN50438(PL), EN50438(SW), EN50438(IR), G83, ERDF-NOI-RES_13E, IEC61727, IEC62116, CEI 0-21
GW6000-DT	VDE0126-1-1, VDE-AR-N 4105, AS4777.2, EN50438(PL), EN50438(SW), EN50438(IR), G83, ERDF-NOI-RES_13E, IEC61727, IEC62116, CEI 0-21
GW8000-DT	VDE0126-1-1, AS4777.2, G83, IEC61727, IEC62116, EN50438(SW), EN50438(IR)
GW10KN-DT	VDE0126-1-1, AS4777.2, G83, IEC61727, IEC62116, EN50438(SW), EN50438(IR), CEI 0-21
GW12KN-DT	VDE0126-1-1, EN50438(PL), VDE-AR-N 4105
GW15KN-DT	VDE0126-1-1, AS4777.2, G83, IEC61727, IEC62116, EN50438(SW), EN50438(IR), CEI 0-21
GW20KN-DT	VDE0126-1-1, AS4777.2, G83, IEC61727, IEC62116, EN50438(SW), EN50438(IR), CEI 0-21

\*: Maximum operating voltage is 950V.

\*<sup>1</sup>: For CEI 0-21 Nominal Output Power GW4000-DT is 3605, GW5000-DT is 4550, GW6000-DT is 5450, GW8000-DT is 7250, GW9000-DT is 8150, GW10KN-DT is 9050, GW10KL-DT is 9050.

# Compact and Powerful for Increased Efficiency

The brand new GoodWe SMT series inverter is ideal for medium and large-scale commercial rooftop installations, providing a maximum efficiency of 98.8 percent and up to three MPPT routes for a particular environment. With its weight of just 40 kg and compact design, the SMT series is easier to handle and install than similar inverters in the market. Featuring a maximum DC input voltage of 1100 V, wider MPPT range, and a start-up voltage of 180 V, the SMT series guarantees an earlier generation of power and a longer working time in order to maximize long-term returns and profitability for the system owner.

Compact and lightweight

30% DC input oversizing

Up to 10% AC output overloading

Wide MPPT range from 200 V to 950 V

IP65 dustproof and waterproof

## SMT Series

Three-MPPT, Three-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 Power (W)	Max. Output Current (A)	Max. Efficiency	Euro Efficiency
GW25K-MT	32500	470-860	25000	27500	27500	40	98.7%	>98.4%
GW30K-MT	39000	470-860	30000	33000* <sup>1</sup>	33000* <sup>1</sup>	48	98.8%	>98.5%
GW36K-MT	42900	510-860	36000	36000	36000	53.3	98.8%	>98.5%

#### PV String Input Data

Max. DC Input Voltage (V)	1100
MPPT Voltage Range (V)	200~950
Start-up Voltage (V)	180
Nominal DC Input Voltage (V)	600
Max. Input Current (A)	25/25/25
Max. Short Current (A)	31.3/31.3/31.3
No. of MPP Trackers	3
No. of Input Strings per Tracker	2/2/2

#### AC Output Data

Nominal Output Voltage (V)	380/400, 3L/N/PE or 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)	-30~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Smart Cooling
Noise (dB)	45
User Interface	LCD & LED or LED + WiFi APP
Communication	RS485 or WiFi or GPRS or PLC
Weight (kg)	40
Size (Width*Height*Depth mm)	480*590*210
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

#### Protection

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

#### Certifications & Standards

Grid Regulation	AS4777.2/VDE0126-1-1/VDE-AR-N 4105
Safety Regulation	IEC62109-1&2
EMC	EN 61000-6-1/EN 61000-6-2/EN 61000-6-3,/EN 61000-6-4

\*1: 30000 under AS4777.2.



# 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 50°C

Integrated Bussman fuse  
for panel protection

## MT Series

Four-MPPT, Three-Phase



### Technical Data

Model	Max. PV Power (W)	Max. DC Input Voltage (V)	MPPT Range (V)	MPPT Range for Full Load (V)	Nominal DC Input Voltage (V)	Max. Input Current (A)	Max. Short Current (A)	No. of Input Strings per Tracker	Nominal Output Power (W)	Weight (kg)
GW50K-MT	65000	1000	200~850	520~850	620	30/30/20/20	38/38/25/25	3/3/2/2	50000	59
GW60K-MT	80000	1000	200~850	520~850	620	30/30/30/30	38/38/38/38	3/3/3/3	60000	64
GW70KHV-MT	87500	1100	200~1000	550~850	750	33/33/33/33	41.5/41.5/41.5/41.5	3/3/3/3	70000	60

Model	Max. Output Power (W)	Max. Output Apparent Power (VA)	Nominal Output Voltage (V)	Max. Output Current (A)	Max. Efficiency	Euro Efficiency	User Interface	Communication
GW50K-MT	55000, 57500@415Vac	55000, 57500@415Vac	400, 3L/N/PE or 3L/PE	80	98.7%	98.3%	LCD or WiFi+APP	RS485 or WiFi
GW60K-MT	66000, 69000@415Vac	66000, 69000@415Vac	400, 3L/N/PE or 3L/PE	96	98.8%	98.5%	LCD or WiFi+APP	RS485 or WiFi
GW70KHV-MT	77000	77000	500, 3L/PE	89	99.0%	98.40%	LED, WiFi+APP, LCD(Optional)	RS485; WiFi; PLC(optional)

#### DC Input Data

Start-up Voltage [V]	200
No. of MPPT Trackers	4

#### Protection

PV String Current Monitoring	Integrated
Anti-islanding Protection	Integrated
Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
DC fuse	Integrated
Anti-PID Function for Module	Optional
DC SPD Protection	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 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)	-30~60
Relative Humidity	0~100%
Operating Altitude (m)	≤4000
Cooling	Fan Cooling
Size (Width*Height*Depth mm)	586*788*264
Protection Degree	IP65
Night Self Consumption (W)	<1
Topology	Transformerless

#### Certifications & Standards

Grid Regulation	VDE-0126-1-1, AS4777.2, G59/3, VDE-AR-N 4105, EN50438
Safety Regulation	EN62109-1&-2
EMC	EN61000-6-1, EN64000-6-2, EN1000-6-3, 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)	MPPT Range for Full Load (V)	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	170~500	3680	3680	7360
GW5048D-ES	100	100	6500	215~500	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
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 Frequency (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 Frequency (Hz)	50/60 (±0.2%)
Output THDv (@Linear Load)	<3%

#### 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.

\*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

#### 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
Communication 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

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) <sup>*6</sup>	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 <sup>*5</sup>	5000	22.8 <sup>*7</sup>	17

#### Battery Input Data

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

#### PV String Input Data

Max. DC Input Voltage (V) <sup>*3</sup>	550
MPPT Range (V)	100~500
Start-up Voltage (V) <sup>*4</sup>	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 Frequency (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) <sup>*8</sup>	3500,10sec
Automatic Switch Time (ms)	10
Nominal Output Voltage (V)	230 (±2%)
Nominal Output Frequency (Hz)	50/60 (±0.2%)
Max. Output Current (A)	10
Output THDv (@Linear Load)	<3%

#### 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

#### 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 <sup>*9</sup>	RS485; CAN
Communication with Meter	RS485
Communication 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

<sup>\*1</sup>: Lead-acid battery use refers to Approved Battery Options Statement.

The actual charge and discharge current also depends on the battery.

<sup>\*2</sup>: Under off-grid mode, then battery capacity should be more than 100Ah.

<sup>\*3</sup>: Maximum operating dc voltage is 530V.

<sup>\*4</sup>: When there is no battery connected, inverter starts feeding in only if string voltage is higher than 200V.

<sup>\*5</sup>: 4600 for VDE0126-1-1&VDE-AR-N4105 & CEI 0-21(GW5048-EM).

<sup>\*6</sup>: For CEI 0-21 GW3048-EM is 3300, GW3648-EM is 4050, GW5048-EM is 5100; for VDE-AR-N4105 GW5048-EM is 4600.

<sup>\*7</sup>: 21.7A for AS4777.2

<sup>\*8</sup>: Can be reached only if PV and battery power is enough.

<sup>\*9</sup>: The standard configuration is CAN.

# Declare Your Grid Independence

The brand new GoodWe ET Series is a three-phase high voltage energy storage inverter that enables enhanced energy independence and maximizes self-consumption through export limit feature and time of use shifts for reduced electric bills. Covering a power range of 5 kW, 8 kW and 10 kW, the ET Series allows up to 100% oversizing to maximize power output and features Uninterruptible Power Supply (UPS) to inductive loads such as air conditioners or refrigerators with an automatic switchover time of less than 10 milliseconds, providing grid-tied savings when the grid is up and off-grid independence and security when it is down or compromised.

Compact Size & Lightweight

Maximum efficiency up to 98.3%

Uninterruptible Power Supply

Wide Battery Voltage Range

Fanless Design, Quiet Operation

## ET Series

Three-phase Energy Storage Inverter



### Technical Data

Model	Max. DC Input Power (W)	MPPT Range for Full Load (V)	Nominal Apparent Power Output to Utility Grid (VA)	Max. Apparent Power Output to Utility Grid (VA)*	Max. Apparent Power from Utility Grid (VA)
GW5K-ET	6500	240~850	5000	5000	10000
GW8K-ET	9600	380~850	8000	8000	15000
GW10K-ET	13000	460~850	10000	11000*	15000

Model	Max. AC Current Output to Utility Grid (A)	Max. AC Current From Utility Grid (A)	Max. Output Apparent Power (VA)**	Peak Output Apparent Power (VA)**	Max. Output Current (A)	Max. Efficiency
GW5K-ET	8.5	15.2	5000	10000, 60sec	8.5	98.0%
GW8K-ET	13.5	22.7	8000	16500, 60sec	13.5	98.3%
GW10K-ET	16.5	22.7	10000	16500, 60sec	16.5	98.3%

#### Battery Input Data

Battery Type	Li-Ion
Battery Voltage Range (V)	180~550
Max. Charging Current (A)	25
Max. Discharging Current (A)	25
Charging Strategy for Li-Ion Battery	Self-adaption to BMS
Charging Strategy for Lead-acid Battery (Reserved)	3-stage adaptive with maintenance

#### PV String Input Data

Max. DC Input Voltage (V)	1000
MPPT Range (V)	200~850
Start-up Voltage (V)	180
Nominal DC Input Voltage (V)	620
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	1/1

#### AC Output Data (On-grid)

Nominal Output Voltage (V)	400/380, 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)	<3%

#### AC Output Data (Back-up)

Nominal Output Voltage (V)	400/380
Nominal Output Frequency (Hz)	50/60
Output THDv (@Linear Load)	<3%

#### Certifications & Standards

Grid Regulation	CEI 0-21; VDE4105-AR-N; VDE0126-1-1; EN50438; G83/2; G100
Safety Regulation	IEC62109-1&2, IEC62040-1
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61000-4-16, EN61000-4-18, EN61000-4-29

\*: According to local grid regulation.

\*\*:: Can be reached only if PV and battery power is enough.

\*\*\*: No Back-up output.

#### Efficiency

Max. Battery to Load Efficiency	97.5%
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
Battery Input Reverse Polarity Protection	Integrated
Output Over Voltage Protection	Integrated

#### General Data

Operating Temperature Range (°C)	-35~60
Relative Humidity	0~95%
Operating Altitude (m)	≤4000
Cooling	Nature Convection
Noise (dB)	<30
User Interface	LED & APP
Communication with BMS	RS485; CAN
Communication with Meter	RS485
Communication with EMS	RS485 (Insulated)
Communication with Portal	Wi-Fi
Weight (kg)	25
Size (Width*Height*Depth mm)	415*516*160
Mounting	Wall Bracket
Protection Degree	IP65
Standby Self Consumption (W)***	<15
Topology	Transformerless

# 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 Frequency (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 Output 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
Communication 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%
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#### Protection

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

#### Certifications & 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 GW3600S-BP is 4050, GW5000S-BP is 5100; for VDE-AR-N4105 GW5000S-BP 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 45°C

## 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		PV String Input Data	
Battery Type	Li-Ion	Max. DC Input Voltage (V)	500
Max. Charging Voltage (V)	≤60 (Configurable)	Operating Voltage Range(V)*2	150~450
Battery Capacity (Ah)	50~1000	Start-up Voltage (V)	120
Charging Strategy	Self-adaption to BMS	No. of PV String Input Connectors	1

DC Output Data		General Data	
Output Voltage during Daytime	Follow the MPP Tracker of Inverter	Operating Temperature Range (°C)	-25~60
No. of DC Output Connectors	1	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
		Communication 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

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

\*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

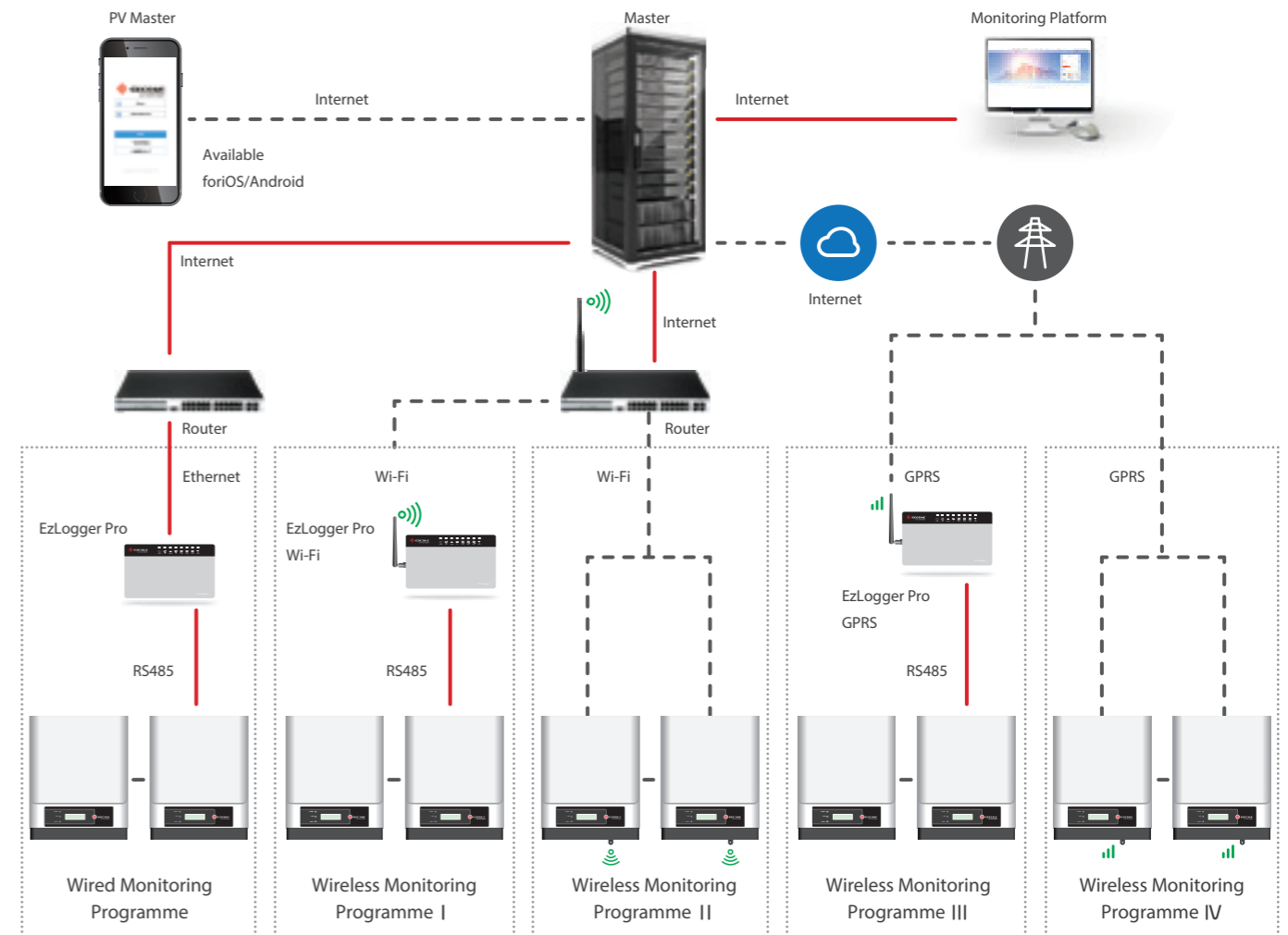
Calculate your home power usage and the exact consumption for each of your appliances, minimizing your bill through optimally distributing solar to fulfill electricity consumption.



# 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.

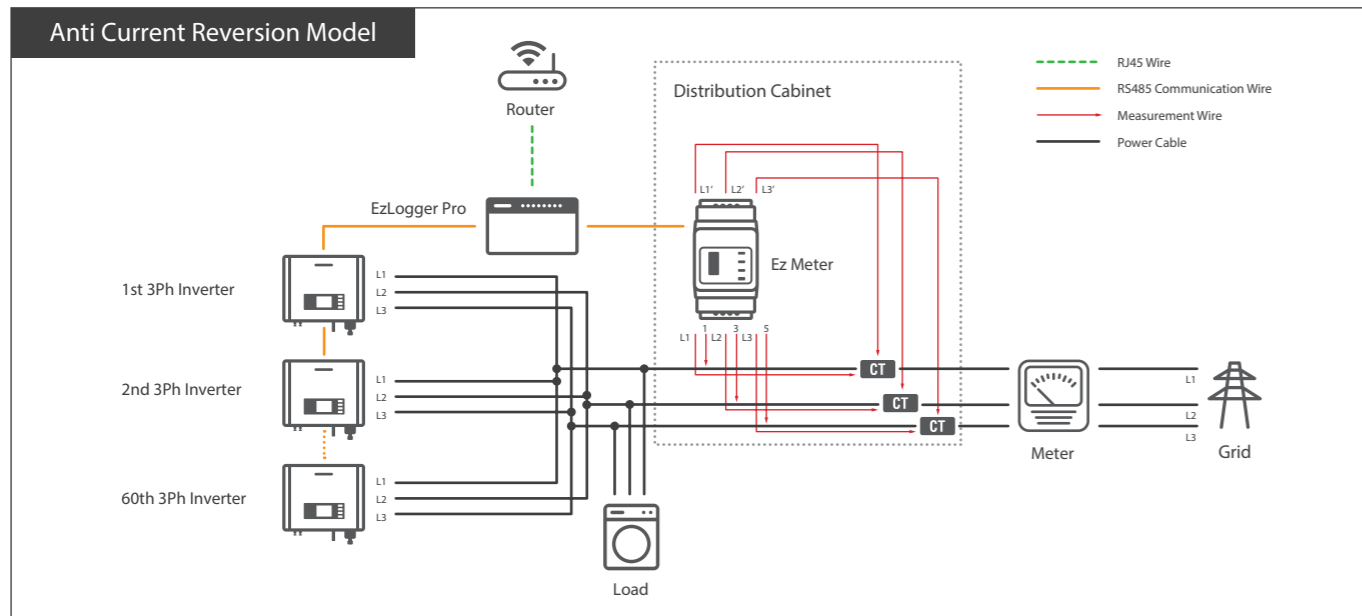
Hosted in the cloud, your solar system performance can be easily checked at any time from your computer via GoodWe monitoring website or from your tablet or smartphone.





### 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.



### 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.



### 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.



### Custom Workshops & Training

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



### 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.



### 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

**25**MW



Shanxi  
China



**18**MW



Konya  
Turkey



**6**MW



Griene Greide Garyp  
Netherlands



**5**MW



Assen Circuit  
Netherlands




**1** MW

  
Buyeo  
Korea



**500** KW


  
Andong  
Korea

**6** MW

  
Mangaluru  
India



**12** MW

  
Rotterdam  
Netherlands



**2** MW



Amsterdam  
Netherlands



**700** KW



Yeosu  
South Korea



**20** KW



Vineyard  
South Africa



**200** KW



Antonio  
Switzerland



**170** KW




Bucarest  
Romania






**12** KW

  
 Denmark  
 Europe




**10** KW

  
 Hout Bay  
 South Africa



**40** KW

  
 Cape Town  
 South Africa



**5** KW



Prague  
Czech Republic



**100** KW



KZN Balito  
South Africa

**10** KW



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)	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	KS C 8565/8564 (Korea)	CEI0-21 (Italy)	RD1699 UNE (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	●	●	●	●			●	●	●		●		●	●		●	●	●	●					●	●			●	
	GW6000-DT	●	●	●	●			●	●	●		●					●	●	●	●					●	●			●	
	GW4000L-DT	●	●	●	●			●	●	●		●					●								●	●			●	
	GW5000L-DT	●	●	●	●			●	●	●		●					●								●	●			●	
	GW6000L-DT	●	●	●	●			●	●	●		●					●								●	●			●	
	GW10KL-DT	●	●	●	●			●				●													●	●			●	
	GW8000-DT	●	●	●	●			●	●	●		●						●	●	●	●				●	●			●	
	GW9000-DT	●	●	●	●			●	●	●		●						●	●	●	●				●	●			●	
	GW10KN-DT	●	●	●	●			●	●	●		●			●	●		●	●	●	●				●	●			●	
	GW12KN-DT	●	●	●	●			●				●													●	●			●	
GW15KN-DT	●	●	●	●			●				●						●	●	●	●				●	●			●		
DT	GW15K-DT	●	●	●	●			●		●		●				●	●	●	●					●	●			●		
	GW17K-DT	●	●	●	●			●		●		●					●	●	●	●				●	●			●		
	GW20K-DT	●	●	●	●			●		●		●			●			●	●	●	●			●	●			●		
	GW25K-DT	●	●	●	●			●		●		●						●	●	●	●			●	●			●		
	GW30K-DT	●																												
LVDT	GW12KLV-DT				●																							●		
	GW15KLV-DT				●																							●		
MT	GW50K-MT	●	●	●	●			●				●			●		●	●	●	●									●	
	GW60K-MT	●	●	●	●			●				●					●	●	●	●									●	
	GW70K-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	●	●	●	●		●	●	●	●		●									●	●							●	