

# Commercial, Industrial & Utility Solar System Solutions

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**GOODWE**  
YOUR SOLAR ENGINE



**BOOST YOUR  
POWER & PROFIT**

**17-80kW**



**30% DC Input  
Oversizing Ratio**



**15% AC Output  
Overloading Ratio**



**Max Efficiency  
99%**



**Arc-Fault  
Circuit-Interrupter**



**Power Line  
Communication**



**Fuse Free**



**DT Series**  
Dual-MPPT, Three-Phase

**SMT Series**  
Three-MPPT, Three-Phase

**MT Series**  
Four-MPPT, Three-Phase

# MT Series Datasheet



Technical Data	GW50K-MT	GW60K-MT	GW70KHV-MT	GW80KHV-MT	GW80KBF-MT
<b>PV String Input Data</b>					
Max. PV Power (W)	65000	80000	87500	120000	104000
Max. DC Input Voltage (V)	1000	1000	1100	1100	1100
MPPT Range (V)	200~850	200~850	200~1000	200~1000	200~1000
Start-up Voltage (V)	200	200	200	200	200
MPPT Range for Full Load (V)	520~850	520~850	550~850	500~850	540~850
Nominal DC Input Voltage (V)	620	620	750	800	800
Max. Input Current (A)	30/30/20/20	30/30/30/30	33/33/33/33	44/44/44/44	39/39/39/39
Max. Short Current (A)	38/38/25/25	38/38/38/38	41.5/41.5/41.5/41.5	55/55/55/55	54.8/54.8/54.8/54.8
No. of MPP Trackers	4	4	4	4	4
No. of Input Strings per Tracker	3/3/2/2	3/3/3/3	3/3/3/3	4/4/4/4	3/3/3/3
<b>AC Output Data</b>					
Nominal Output Power (W)	50000	60000	70000	80000	80000
Max. Output Power (W)	55000, 57500@415Vac	66000, 69000@415Vac	77000	88000	88000
Max. Output Apparent Power (VA)	55000, 57500@415Vac	66000, 69000@415Vac	77000	88000	88000
Nominal Output Voltage (V)	400, 3L/N/PE or 3L/PE	400, 3L/N/PE or 3L/PE	500, 3L/PE	540, 3L/PE	540, 3L/PE
Nominal Output Frequency (Hz)	50/60	50/60	50/60	50/60	50/60
Max. Output Current (A)	80	96	89	94.1	94.1
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)				
Output THDi (@Nominal Output)	<3%	<3%	<3%	<3%	<3%
<b>Efficiency</b>					
Max. Efficiency	98.7%	98.8%	99.0%	99.0%	99.0%
Euro Efficiency	98.3%	98.5%	98.4%	98.4%	98.4%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%
<b>Protection</b>					
PV String Current Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated	Integrated	Integrated
Input Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated	Integrated
Insulation Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated
DC fuse	Integrated	Integrated	Integrated	Integrated	Integrated
Anti-PID Function for Module	Optional	Optional	Optional	Optional	Optional
Arc-Fault Circuit-Interrupter	Optional	Optional	Optional	Optional	Optional
DC SPD Protection	Integrated(Type II)	Integrated(Type II)	Integrated (Type II)	Integrated (Type II)	Integrated (Type II)
AC SPD Protection	Integrated(Type II)	Integrated(Type II)	Integrated (Type II)	Integrated (Type II)	Integrated (Type II)
Residual Current Monitoring Unit	Integrated	Integrated	Integrated	Integrated	Integrated
AC Over Current Protection	Integrated	Integrated	Integrated	Integrated	Integrated
AC Short Protection	Integrated	Integrated	Integrated	Integrated	Integrated
AC Over Voltage Protection	Integrated	Integrated	Integrated	Integrated	Integrated

## Technical Data

**GW50K-MT**

**GW60K-MT**

**GW70KHV-MT**

**GW80KHV-MT**

**GW80KBF-MT**

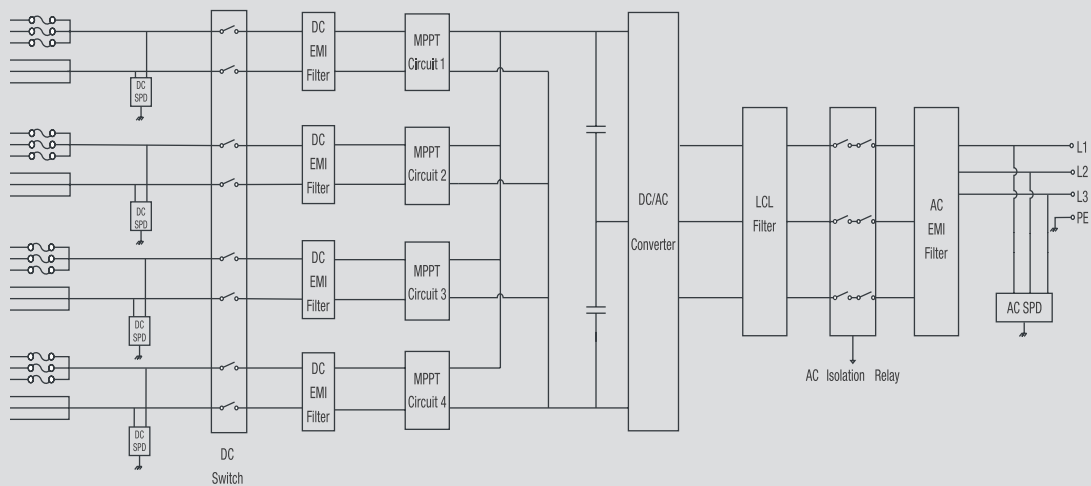
### General Data

Operating Temperature Range (°C)	-30~60	-30~60	-30~60	-30~60	-30~60
Relative Humidity	0~100%	0~100%	0~100%	0~100%	0~100%
Operating Altitude (m)	≤4000	≤4000	≤4000	≤4000	≤4000
Cooling	Fan Cooling	Fan Cooling	Fan Cooling	Fan Cooling	Fan Cooling
Display	LCD or WiFi+APP	LCD or WiFi+APP	LED, WiFi+APP, LCD(Optional)	WiFi+APP	WiFi+APP
Communication	RS485/ WiFi/ PLC(Optional)	RS485/ WiFi/ PLC(Optional)	RS485 / WiFi/ PLC(optional)	RS485/ WiFi/ PLC(Optional)	RS485 / WiFi/ PLC(Optional)
Weight (kg)	59	64	62	72	72
Size (Width*Height*Depth mm)	586*788*264	586*788*264	586*788*264	586*788*267	586*788*267
Protection Degree	IP65	IP65	IP65	IP65	IP65
Night Self Consumption (W)	<1	<1	<1	<1	<1
Topology	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless

### Certifications & Standards

Grid Regulation	VDE V 0126-1-1, VDE-AR-N 4105 AS/NZS 4777.2, EN50438,G59, IEC61727, IEC62116	IEC61727, IEC62116
Safety Regulation	IEC62109-1&2	IEC62109-1, IEC62109-2
EMC	EN 6100-6-4: 2007+A1: 2011, EN 61000-6-2: 2005, EN 61000-3-11: 2000, EN 61000-3-12: 2011+AC: 2013	EN 61000

## GW70KHV-MT Circuit Diagram



# 2MWp Solar System Design

## PV Panel Configuration

PV information:

$P_{max} = 280Wp$ ;

$V_{mp} = 31.6V$ ,  $I_{mp} = 8.86A$ ;

$V_{oc} = 39.05V$ ,  $I_{sc} = 9.38A$ , Efficiency = 17.12%

Dimension: 1650\*991\*35mm

Total installation capacity:

1) Consider the best inclination of the local brackets (according to the local latitude).

2) Consider shading in the front (reasonable array spacing).

Total Quantity: **8280 pcs**

Total Capacity: **2.3MWp**

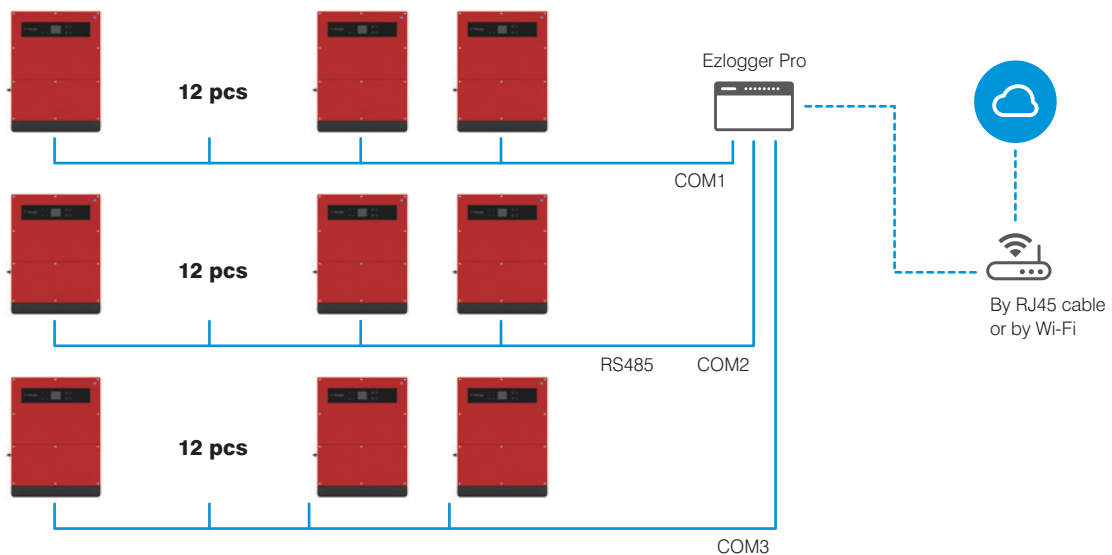
## Inverter Selection

Inverter	GW50K-MT
DC Input	64.4kW
Norminal AC Voltage	380V
Norminal AC Power	50kW
Max. AC Power	55kW
Total No. of Inverter	36 pcs
Total No. of DC Input	360
Total No. of MPPT	144

1) Maximum output power up to 110%  $P_n$  at PF = 1  
Inverter actual output: 1.98MW

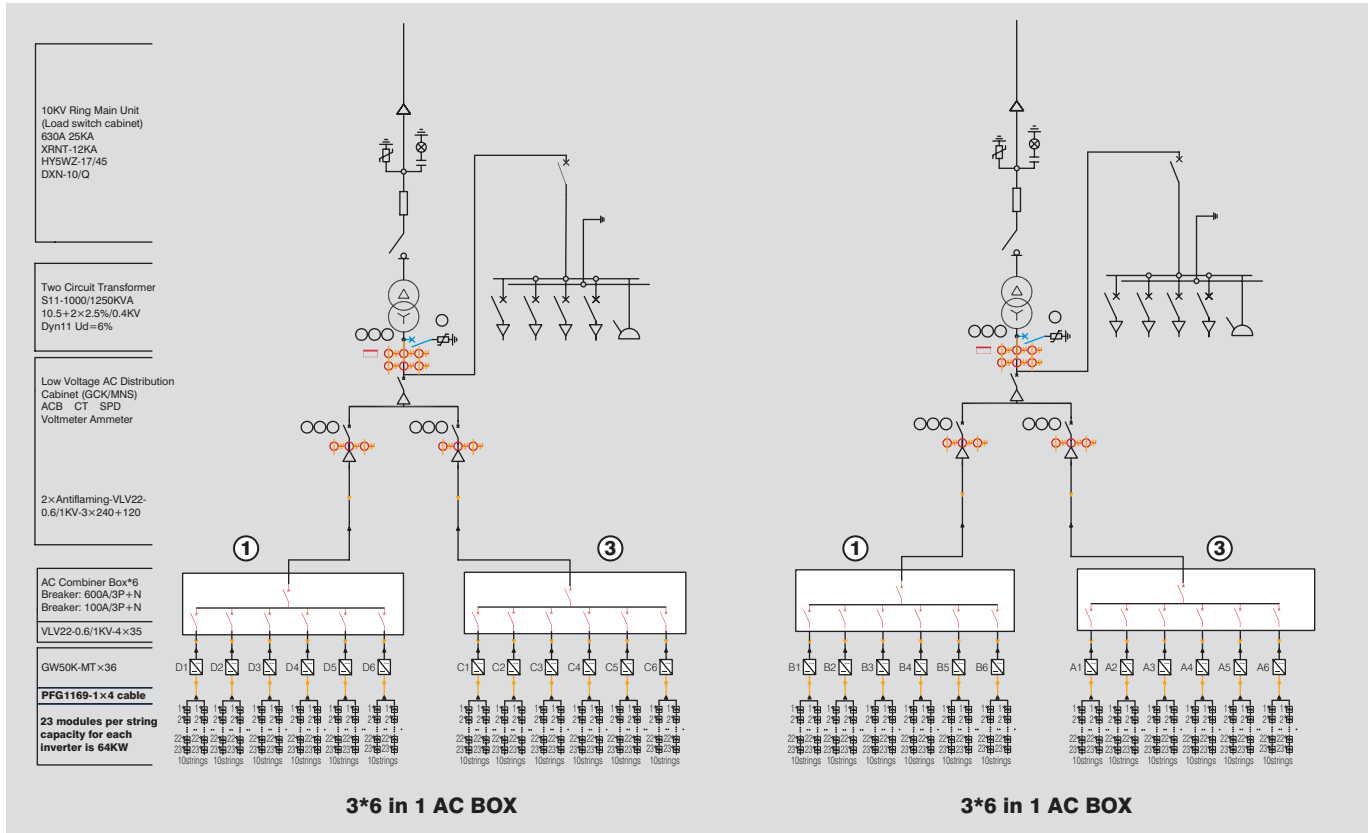
2) DC/AC ratio up to 1.3  
PV panel capacity: 2.3MW Inverter capacity: 1.8MW

## Monitor Selection



- Different inverter series can use the same Ezlogger Pro by RS485.
- The effective transmission distance of the RS485 cable is 1000m.
- One Ezlogger Pro can monitor up to 60 inverters, with a capacity ranging from 3MW to 4.68MW.
- Goodwe inverters are able to perform string level monitoring.

# System Design Drawing

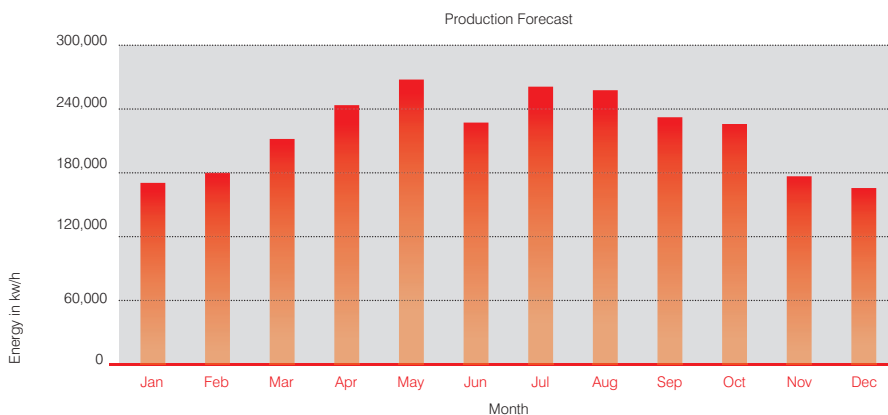


- 1: Goodwe inverter has integrated a Level II SPD on both DC and AC sides, therefore rendering unnecessary installation of a second SPD.
- 2: GoodWe inverter has no-neutral line type, delta type transformer is applicable.

## Project Components

No.	Equipment	Specification	Quantity
1	Mono Panel	280Wp	8280 pcs
2	PV Support Bracket	Aluminum Alloy	depends
3	Inverters	GW50K-MT	36 pcs
4	AC Combiner Box	6 in 1	6 pcs
5	Transformer	S11-1250KVA-10.5±2×2.5%/0.4kV Dyn11 Ud= 6%	2 pcs
6	DC Cable	PFG1169-1×4mm <sup>2</sup>	depends
7	AC Cable	VLV22-0.6/1KV-3×35+16mm <sup>2</sup>	depends
8	Communication Cable	RS485	depends
9	Monitor	Ezlogger Pro	1 pcs

## Yield Calculation



■ PV Generation (AC grid)

It depends on the irradiation time & intensity.  
E.g.: Shanghai, China

The PV system generates approximately  
**2,622,107 kwh/year**

# 8MWp Solar System Design

## PV Panel Configuration

PV information:

$P_{max} = 280Wp$ ;

$V_{mp} = 31.6V$ ,  $I_{mp} = 8.86A$ ;

$V_{oc} = 39.05V$ ,  $I_{sc} = 9.38A$ , Efficiency = 17.12%

Dimension: 1650\*991\*35mm

Total installation capacity:

1) Consider the best inclination of the local brackets (according to the local latitude).

2) Consider shading in the front (reasonable array spacing).

Total Quantity: **33120 pcs**

Total Capacity: **9.27MWp**

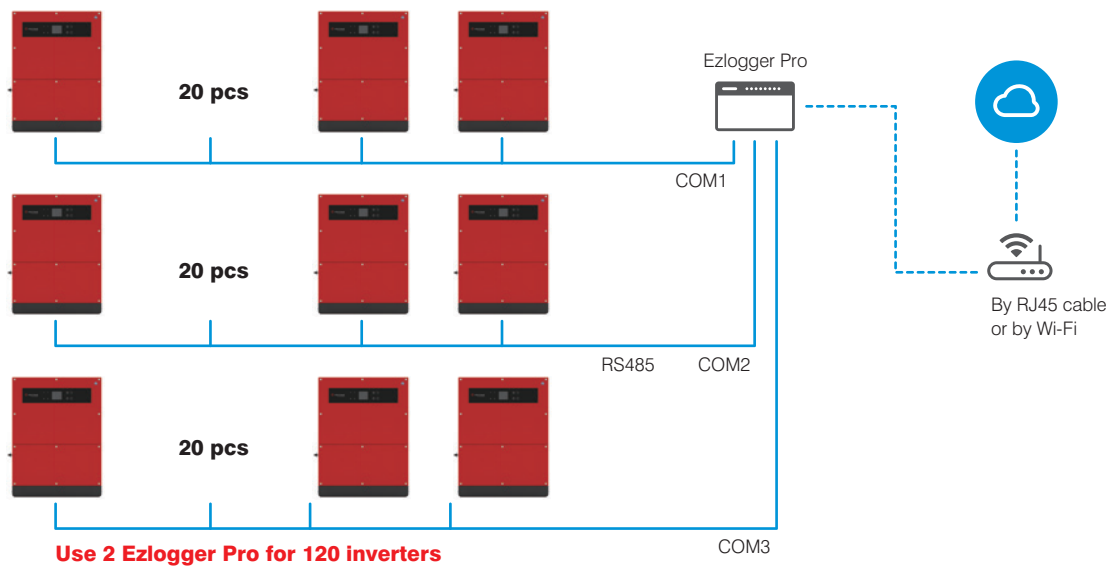
## Inverter Selection

Inverter	GW60K-MT
DC Input	77.28kW
Norminal AC Voltage	380V
Norminal AC Power	60kW
Max. AC Power	66kW
Total No. of Inverter	120 pcs
Total No. of DC Input	1440
Total No. of MPPT	480

1) Max output power up to 110%  $P_n$  at PF = 1  
Inverter actual output: 7.92MW

2) DC/AC ratio up to 1.3  
PV panel capacity: 9.27MW Inverter capacity: 7.2MW

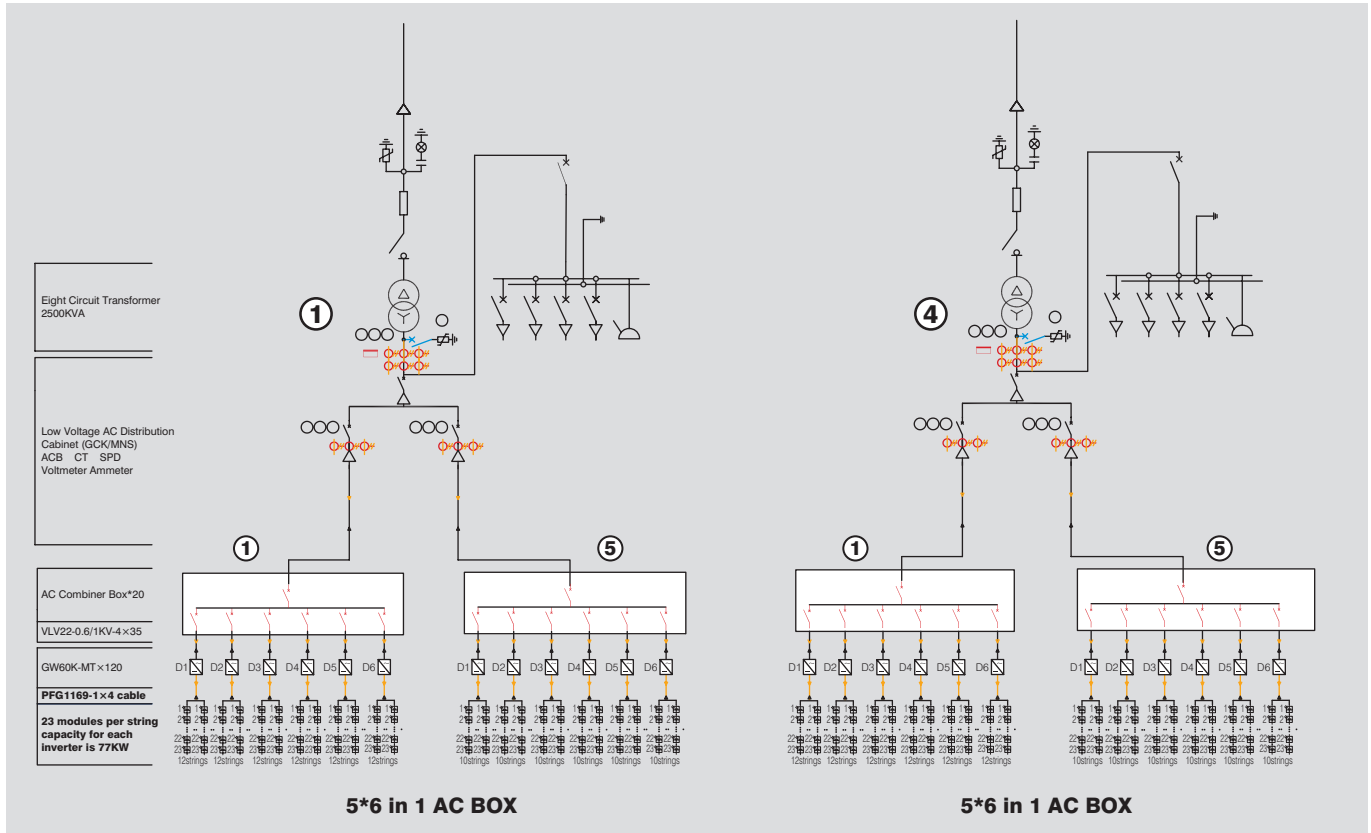
## Monitor Selection



- Different inverter series can use the same Ezlogger Pro by RS485.
- The effective transmission distance of the RS485 cable is 1000m.
- One Ezlogger Pro can monitor up to 60 inverters, with a capacity ranging from 3MW to 4.68MW.
- Goodwe inverters are able to perform string level monitoring.



# System Design Drawing

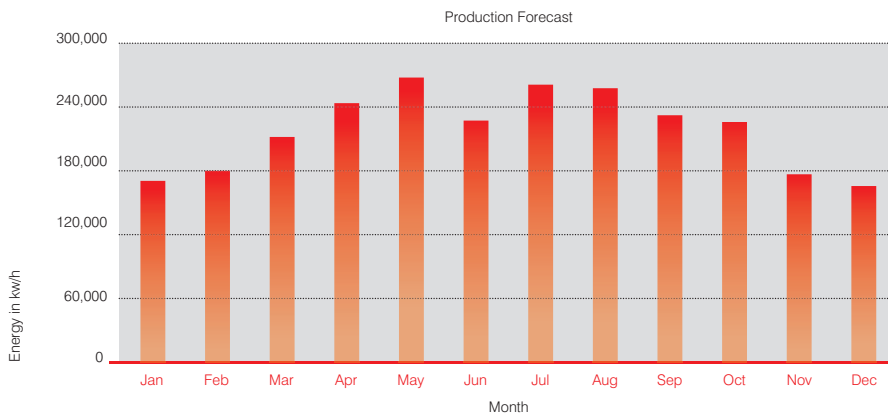


- 1: Goodwe inverter has integrated a Level II SPD on both DC and AC sides, therefore rendering unnecessary installation of a second SPD.
- 2: GoodWe inverter has no-neutral line type, delta type transformer is applicable.

## Project Components

No.	Equipment	Specification	Quantity
1	Mono Panel	280Wp	33120 pcs
2	PV Support Bracket	Aluminum Alloy	depends
3	Inverters	GW60K-MT	120 pcs
4	AC Combiner Box	6 in 1	20 pcs
5	Transformer	2500KVA-16/0.4KV	4 pcs
6	DC Cable	PFG1169-1 × 4mm <sup>2</sup>	depends
7	AC Cable	VLV22-0.6/1KV-3 × 35 + 16mm <sup>2</sup>	depends
8	Communication Cable	RS485	depends
9	Monitor	Ezlogger Pro	2 pcs

## Yield Calculation



PV Generation (AC grid)

It depends on the irradiation time & intensity.  
E.g.: Shanghai, China

The PV system generates approximately  
**10,488,431 kwh/year**

# 20MWp Solar System Design

## PV Panel Configuration

PV information:

$P_{max} = 320Wp$ ;

$V_{mp} = 33.80V$ ,  $I_{mp} = 9.47A$ ;

$V_{oc} = 40.56V$ ,  $I_{sc} = 9.94A$ , Efficiency = 19%

Dimensions: 1685\*1000\*32mm

Total installed capacity:

1) Consider the best inclination of the local brackets (according to the local latitude).

2) Consider shading in the front (reasonable array spacing).

Total Quantity: **71760 pcs**

Total Capacity: **23MWp**

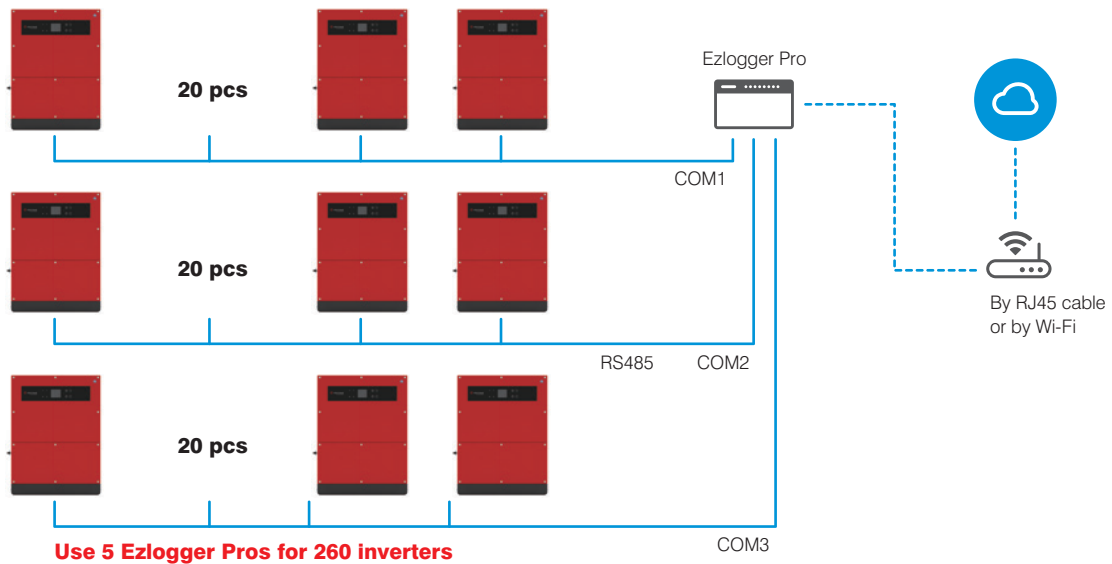
## Inverter Selection

Inverter	GW70K-MT
DC Input	88.3kW
Norminal AC Voltage	480V
Norminal AC Power	70kW
Max. AC Power	77kW
Total No. of Inverter	260 pcs
Total No. of DC Input	3120
Total No. of MPPT	1040

1) Max output power up to 110%  $P_n$  at PF = 1  
Inverter actual output: 20MW

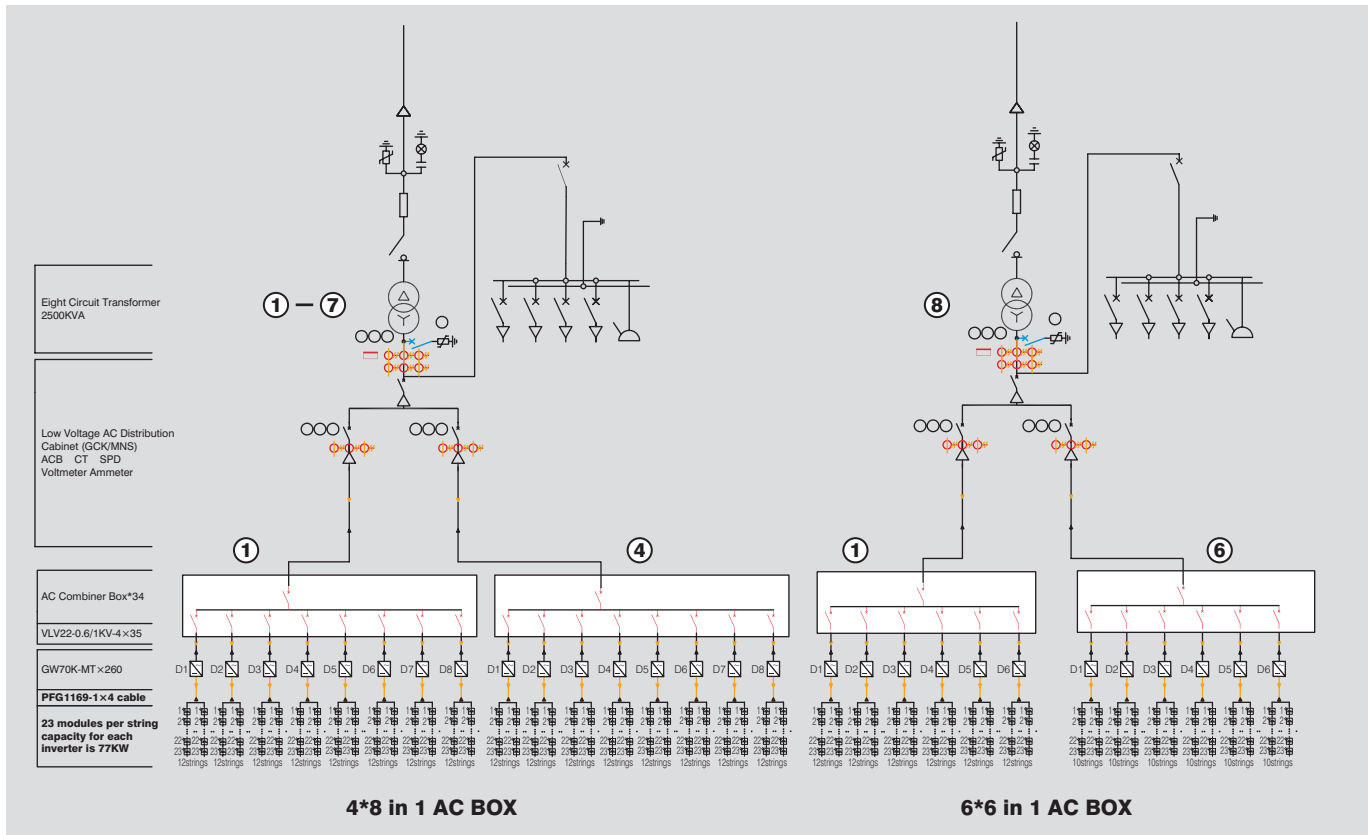
2) DC/AC ratio up to 1.3  
PV panel capacity: 23MW Inverter capacity: 18.2MW

## Monitor Selection



- Different inverter series can use the same Ezlogger Pro by RS485.
- The effective transmission distance of the RS485 cable is 1000m.
- One Ezlogger Pro can monitor up to 60 Inverters, with a capacity ranging from 3MW to 4.68MW.
- Goodwe inverters are able to perform string level monitoring.

# System Design Drawing

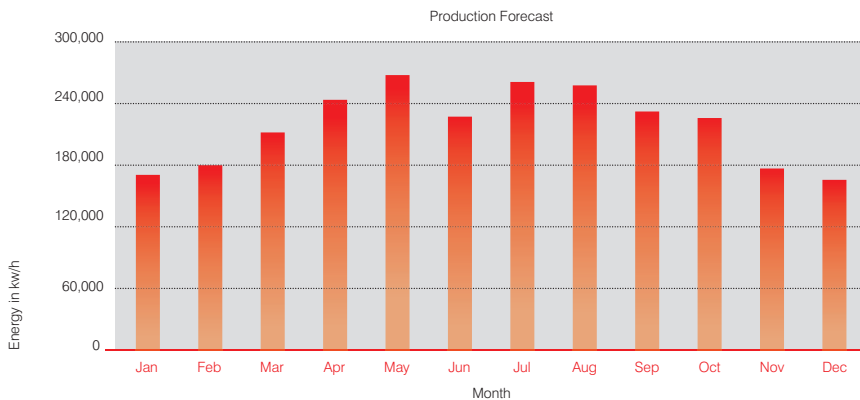


- 1: Goodwe inverter has integrated a Level II SPD on both DC and AC sides, therefore rendering unnecessary installation of a second SPD.
- 2: GoodWe inverter has no-neutral line type, delta type transformer is applicable.

## Project Components

No.	Equipment	Specification	Quantity
1	Mono Panel	320Wp	71760 pcs
2	PV Support Bracket	Aluminum Alloy	depends
3	Inverters	GW60K-MT	260 pcs
4	AC Combiner Box	6 in 1 & 8 in 1	6 pcs & 28 pcs
5	Transformer	2500KVA-16/0.48KV	8 pcs
6	DC Cable	PFG1169-1 × 4mm <sup>2</sup>	depends
7	AC Cable	VLV22-0.6/1kV-3 × 35 + 16mm <sup>2</sup>	depends
8	Communication Cable	RS485	depends
9	Monitor	Ezlogger Pro	5 pcs

## Yield Calculation



PV Generation (AC grid)

It depends on the irradiation time & intensity.  
E.g.: Shanghai, China

The PV system generates approximately  
**26,333,204 kwh/year**

# DT Series Datasheet



Technical Data	GW17K-DT	GW20K-DT	GW25K-DT
<b>PV String Input Data</b>			
Max. DC Input Power (W)	22100	26000	32500
Max. DC Input Voltage (V)*	1000	1000	1000
MPPT Range (V)	260~850	260~850	260~850
Start-up Voltage (V)	250	250	250
MPPT Range for Full Load (V)	400~850	470~850	480~850
Nominal DC Input Voltage (V)	620	620	620
Max. Input Current (A)	22/22	22/22	27/27
Max. Short Current (A)	27.5/27.5	27.5/27.5	33.8/33.8
No. of MPP Trackers	2	2	2
No. of Input Strings per Tracker	2	2	3
<b>AC Output Data</b>			
Nominal Output Power (W)	17000	20000	25000
Max. Output Apparent Power (VA)	17000	20000	25000
Nominal Output Voltage (V)	400, 3L/N/PE	400, 3L/N/PE	400, 3L/N/PE
Nominal Output Frequency (Hz)	50/60	50/60	50/60
Max. Output Current (A)	25	30	37
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)		
Output THDi (@Nominal Output)	<1.5%	<1.5%	<1.5%
<b>Efficiency</b>			
Max. Efficiency	98.2%	98.4%	98.4%
Euro Efficiency	97.7%	98.1%	98.1%
<b>Protection</b>			
Anti-islanding Protection	Integrated	Integrated	Integrated
Input Reverse Polarity Protection	Integrated	Integrated	Integrated
Insulation Resistor Detection	Integrated	Integrated	Integrated
DC SPD Protection	Integrated	Integrated	Integrated
Residual Current Monitoring Unit	Integrated	Integrated	Integrated
Output Over Current Protection	Integrated	Integrated	Integrated
Output Short Protection	Integrated	Integrated	Integrated
Output Over Voltage Protection	Integrated	Integrated	Integrated
<b>General Data</b>			
Operating Temperature Range (°C)	-25~60	-25~60	-25~60
Relative Humidity	0~100%	0~100%	0~100%
Operating Altitude (m)	≤4000	≤4000	≤4000
Cooling	Fan Cooling	Fan Cooling	Fan Cooling
Noise (dB)	<45	<45	<45
User Interface	LCD & LED	LCD & LED	LCD & LED
Communication	RS485 or WiFi	RS485 or WiFi	RS485 or WiFi
Weight (kg)	39	39	40
Size (Width*Height*Depth mm)	516*650*203	516*650*203	516*650*203
Protection Degree	IP65	IP65	IP65
Night Self Consumption (W)	<1	<1	<1
Topology	Transformerless	Transformerless	Transformerless
<b>Certifications &amp; Standards</b>			
Grid Regulation	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	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	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
Safety Regulation	IEC62109-1&2	IEC62109-1&2	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.

# SMT Series Datasheet



Technical Data	GW30K-MT	GW36K-MT
<b>DC Input Data</b>		
Max. DC Input Power (W)	39000	42900
Max. DC Input Voltage (V)	1100	1100
MPPT Voltage Range (V)	200~950	200~950
Start-up Voltage (V)	180	180
MPPT Range for Full Load (V)	470-860	510-860
Nominal DC Input Voltage (V)	600	600
Max. Input Current (A)	25/25/25	25/25/25
Max. Short Current (A)	31.3/31.3/31.3	31.3/31.3/31.3
No. of MPP Trackers	3	3
No. of Input Strings per Tracker	2/2/2	2/2/2
<b>AC Output Data</b>		
Nominal Output Power (W)	30000	33000
Max. Output Apparent Power (VA)	33000* <sup>1</sup>	36000
Max. Output Power (W)	33000* <sup>1</sup>	36000
Nominal Output Voltage (V)	400, 3L/N/PE or 3L/PE	400, 3L/N/PE or 3L/PE
Nominal Output Frequency (Hz)	50/60	50/60
Max. Output Current (A)	48	53.3
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)	
Output THDi (@Nominal Output)	<3%	<3%
<b>Efficiency</b>		
Max. Efficiency	98.8%	98.8%
Euro Efficiency	98.5%	98.5%
MPPT Efficiency	99.9%	99.9%
<b>Protection</b>		
Anti-islanding Protection	Integrated	Integrated
Input Reverse Polarity Protection	Integrated	Integrated
PV String Current Monitoring	Integrated	Integrated
Anti-PID Function for Module	Optional	Optional
Insulation monitoring	Integrated	Integrated
DC SPD Protection	Optional (Type II)	Optional (Type II)
AC SPD Protection	Optional (Type II)	Optional (Type II)
Residual Current Monitoring Unit	Integrated	Integrated
AC Over Current Protection	Integrated	Integrated
AC Short Protection	Integrated	Integrated
AC Over Voltage Protection	Integrated	Integrated
<b>General Data</b>		
Ambient Temperature Range (°C)	-30~60	-30~60
Relative Humidity	0~100%	0~100%
Operating Altitude (m)	≤4000	≤4000
Cooling	Fan Cooling	Fan Cooling
Noise (DB)	45	45
Weight (kg)	40	40
Dimension (Width*Height*Depth mm)	480*590*200	480*590*200
Protection Degree	IP65	IP65
Night Self Consumption (W)	<1	<1
Topology	Transformerless	Transformerless
Display	LCD & LED or LED + WiFi APP	LCD & LED or LED + WiFi APP
Communication	RS485 or WiFi or GPRS or PLC (with screen); WiFi+RS485 or WiFi+GPRS (without screen)	
<b>Certifications &amp; Standards</b>		
Grid Regulation	AS4777.2/VDE0126-1-1/VDE-AR-N 4105	
Safety Regulation	IEC62109-1&2	
EMC Regulation	EN 61000-6-1/EN 61000-6-2/EN 61000-6-3/EN 61000-6-4	

\*1: 30000 under AS4777.2.



**18MW** Konya | Turkey





**11MW** De Munt Emmeloord | Holland





**2MW**

Izmir | Turkey





**2MW** Amsterdam | Netherlands



**200KW** Coventry | UK



**12MW** Rotterdam | Holland

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