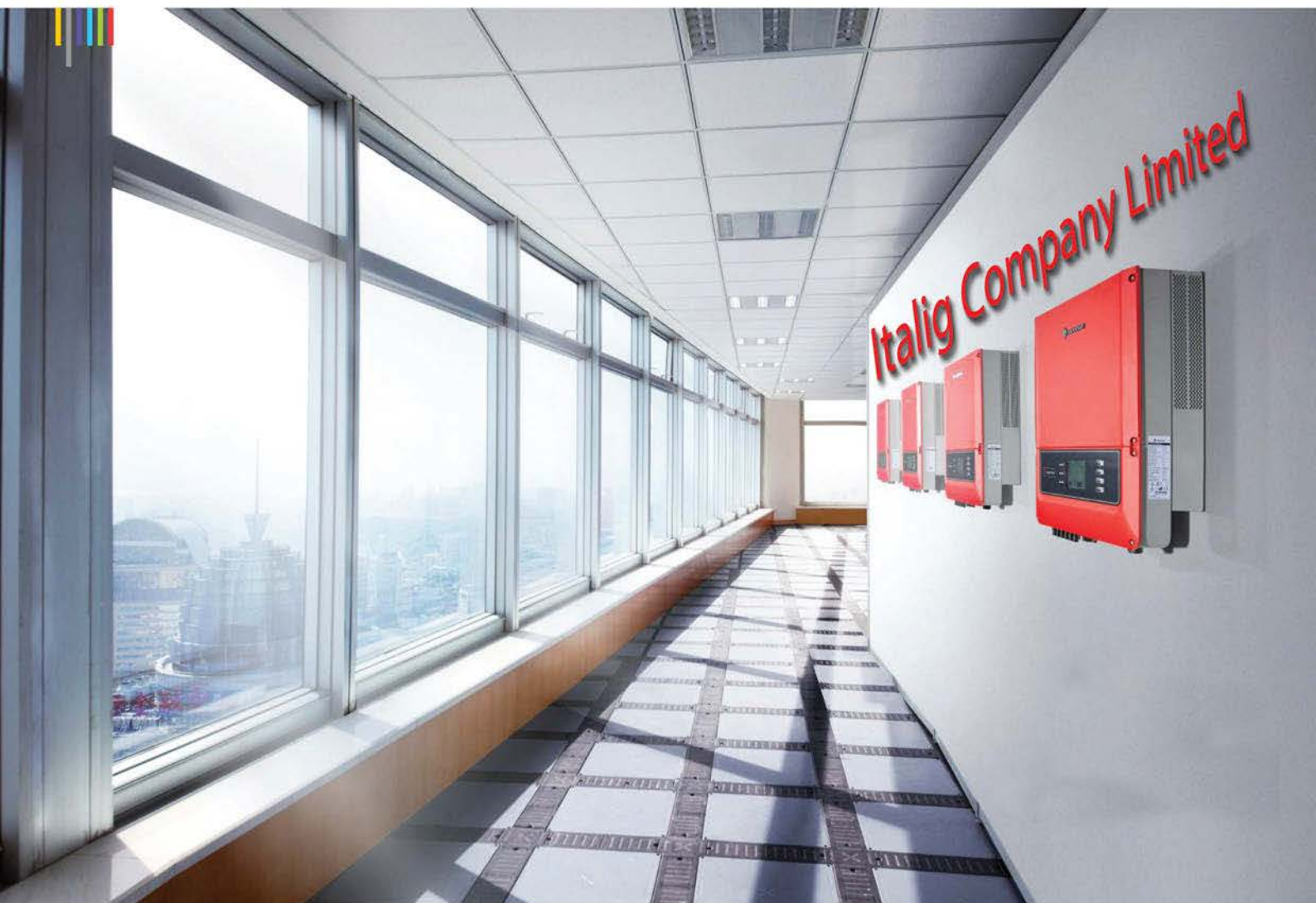


Inverter



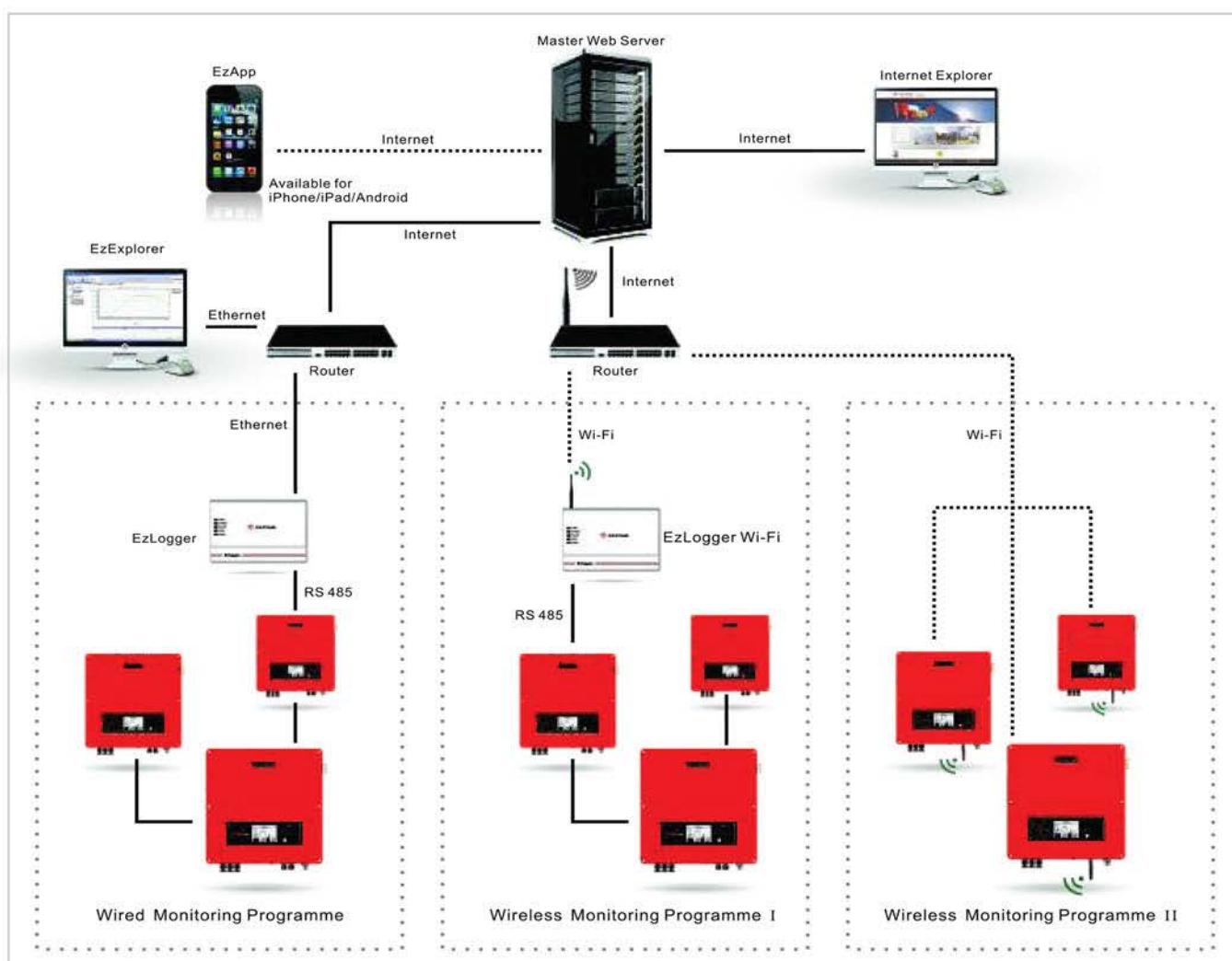
EzDesigner-Power Plant Design Software

EzDesigner is a power plant design software developed by GoodWe. Users can design power plants, match and choose the suitable inverter by using this software. EzDesigner can support all GoodWe inverters and well known solar modules.

- Database contains well known solar modules, radiation information from different cities
- Prompt function after selected solar modules
- Project filed by binary method
- Project filed by PDF version
- Project print function



Monitoring System Diagram





ITALIG CO.,LTD.

ES Series

GoodWe ES series bidirectional energy-storage inverter is applicable for both on-grid and off-grid PV systems and can control the flow of energy hybrid with its working situation able to be switched automatically or manually. During the day time, the PV plant generates electricity which can be provided to the loads, fed into the grids or charged the battery. The power stored can be released when the loads require it during the night. Additionally, power grid can also charge the storage devices via the inverter.

- Future conception for Solar
- Charge controller and inverter integrated
- Intelligent battery management function
- Longer service life than conventional system
- Capable of being grid-interactive or grid-independent
- Compatible with both Lead-acid and Li-Ion battery
- More security & performance for same costs
- IP65 dust-proof and water-proof rating
- 45°C full-load output
- Monitoring inverters locally via EzMonitor
- Monitoring inverters freely via computers or mobile phones
- Fanless low-noise design

Technical Data

GW5048D-ES

GW3648D-ES

Solar

Max.Input	5.4kWp and 15 A per string	4.2kwp and 10A per string
No.of Inputs	4	4
No.of MPP trackers	2	2
DC Disconnection switch	4-pole,850V 25A	4-pole,850V 25A
Solar Voltage	125-580 Vdc	125-580Vdc
MPP Voltage	125-550 Vdc	125-550 Vdc
Solar Connections	MC4	MC4
Max.Efficiency	97.6%(97% EU)	97.6%(97% EU)
Max.MPP Efficiency	99.90%	99.90%

Battery

Battery Type	Lead-acid or Li-Ion	Lead-acid or Li-Ion
Battery voltage range	40-60Vdc	40-60Vdc
Charge current	5-50 A continuous,programmable	5-50 A continuous,programmable
Battery capacity	100~500Ah(depending requirement)	100~500Ah(depending requirement)
Charging curve	3-stage adaptive with maintenance	3-stage adaptive with maintenance
Short circuit protection	Electronic, at max. charge current,switch off<1 sec	Electronic, at max. charge current,switch off<1 sec
Battery temperature compensation	Included	Included
Battery voltage sense	Integrated	Integrated
Current shunt	Integrated	Integrated

AC Output

Continuous output power	4600 VA	3600VA
AC output current	25A	16A
Cos Phi	1(0.9 ind.... 0.9 cap. adjustable)	1(0.9 ind....0.9 cap.adjustable)
Nominal output voltage	230 Vac, 50Hz	230 Vac ,50Hz
AC output range	180-264Vac 50/60Hz(limited by local anti-islanding regulations)	180-264 Vac 50/60 Hz(limited by local anti-islanding regulations)
AC output voltage (Off Grid)	230Vac \pm 2%, 50Hz \pm 0.2%, THD<3%, single phase	230Vac \pm 2%, 50Hz \pm 0.2%, THD<3%, single phase
Peak power (Off Grid)	1.5xPnom, 10 sec	1.5x Pnom, 10 sec
Protection	Electronic, fused	Electronic, fused
Standby losses	\leq 5 W	\leq 5 W
User interface	Display with EzMonitor	Display with EzMonitor
Connectivity	USB2.0; RS485(Wi-Fi optional)	USB2.0; RS485 (Wi-Fi optional)

Environmental

Operating temperature range (full power)	-20°C to +60°C(derating from 45°C)	-20°C to +60°C (derating from 45°C)
Storage temperature	-40°C to +70 °C	-40°C to +70°C
Humidity	Maximum 95%,non-condensing	Maximum 95%,non-condensing
Regulatory approvals and standards	CE,VDE-AR-N 4105,EEG2012, G59,AS4777.2/3, C-Tick	CE,VDE-AR-N 4105, EEG2012,G83,AS4777.2/3, C-Tick
Safety	EN 60950-1,EN 62109-1/2, EN60335-2-29	EN 60950-1,EN 62109-1/2, EN60335-2-29
Emission	EN55014-1,EN 61000-3-2,EN 61000-3-3,EN61000-6-3	EN55014-1,EN 61000-3-2,EN 61000-3-3,EN61000-6-3
Immunity	EN 55014-2,EN61000-6-2	EN 55014-2,EN61000-6-2
Anti islanding protection	VDE 0126-1-1,G83/1(UK),RD1663/2000(ESP), DK5940 E.d .2.2, CEI 0-21 pending (IT),AS4777	VDE 0126-1-1,G83/1(UK),RD1663/2000(ESP), DK5940 E.d .2.2, CEI 0-21 pending (IT),AS4777
Warranty	five years(optional: extension to ten years)	five years(optional: extension to ten years)

General

Device dimensions (WxHxD)	516*415*184(mm*mm*mm)	516*415*184(mm*mm*mm)
Protection category	Indoor and Outdoor use(IP65)	Indoor and Outdoor use(IP65)
Weight	30kg	30kg
Topology	Transformerless	Transformerless
Cooling	Natural convection	Natural convection



DT Series(Dual-MPPT, Three-Phase)

GoodWe DT series inverter adopts cutting-edge technology in photovoltaic fields. Higher conversion efficiency and lower energy losses are guaranteed to maximize customer satisfaction. With its reliable power grid support management and high protective class, the DT series is compatible with different types of branded solar panels and is also ideal for commercial rooftop systems. This safe and reliable series is the first choice for residential, commercial installations and power plants.

Technical Data

GW10K-DT
GW12K-DT
GW15K-DT
GW17K-DT
GW20K-DT

DC Input Data

Max. PV-generator power [W]	10200	12300	15400	17500	20500
Max. DC voltage [V]	1000	1000	1000	1000	1000
MPPT voltage range [V]	260~850	260~850	260~850	260~850	260~850
Turn on DC voltage [V]	250	250	250	250	250
Max. DC work current [A]	22/11	22/11	22/22	22/22	22/22
Number of inputs/MPP trackers	4/2	4/2	6/2 (can parallel)	6/2 (can parallel)	6/2 (can parallel)
DC connector	MC IV Connector (optional)	MC IV Connector	MC IV Connector (optional)	MC IV Connector (optional)	MC IV Connector (optional)
Standby power consumption [W]	10	10	10	10	10

AC Output Data

Nominal AC power [W]	10000	12000	15000	17000	20000
Max. AC power [W]	10000	12000	15000	17000	20000
Max. AC current [A]	17	19	25	25	25
Nominal output voltage range	VDE-AR-N 4105, VDE 0126-1-1/A1, RD1699, G59/2, AS4777.2/3				
AC grid frequency	VDE-AR-N 4105, VDE 0126-1-1/A1, RD1699, G59/2, AS4777.2/3				
THDi	<1.5%	<1.5%	<1.5%	<1.5%	<1.5%
Power factor	0.90 leading...0.90 lagging	0.90 leading...0.90 lagging	0.90 leading...0.90 lagging	0.90 leading...0.90 lagging	0.90 leading...0.90 lagging
AC connector	3W/N/PE, 230/400V	3W/N/PE, 230/400V	3W/N/PE, 230/400V	3W/N/PE, 230/400V	3W/N/PE, 230/400V

Efficiency

Max. efficiency	98.0%	98.0%	98.2%	98.2%	98.2%
European efficiency	>97.5%	>97.5%	>97.5%	>97.5%	>97.5%
MPPT adaptation efficiency	>99.5%	>99.5%	>99.5%	>99.5%	>99.5%

Safety Equipment

Leakage current monitoring unit	Integrated	Integrated	Integrated	Integrated	Integrated
DC switch	Optional	Optional	Optional	Optional	Optional
Islanding protection	AFD	AFD	AFD	AFD	AFD
Grid monitoring	VDE-AR-N 4105, VDE 0126-1-1/A1, RD1699, G59/2, AS4777.2/3				

Normative Reference

EMC compliance	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Safety compliance	IEC 62109-1, AS3100	IEC 62109-1, AS3100

General Data

Dimensions (W*H*D) [mm]	516*650*203	516*650*203
Net weight [kg]	39	39
Housing	For outdoor and indoor	For outdoor and indoor
Mounting information	Wall mounting	Wall mounting
Operating temperature range	-20~60°C (up 45°C derating)	-20~60°C (up 45°C derating)
Relative humidity	0~95%	0~95%
Site altitude [m]	2000	2000
IP protection class	IP65	IP65
Topology	Transformerless	Transformerless
Cooling concept	Fan cooling	Fan cooling
Noise level [dB]	<45	<45
Display	5" LCD	5" LCD
Communication	USB2.0; RS485/Wi-Fi/ZigBee(optional)	USB2.0; RS485/Wi-Fi/ZigBee(optional)
Standard warranty [years]	5/10/15/20/25 (optional)	5/10/15/20/25 (optional)