

# Smart Energy Storage System



Powered by Solar

# XD3-6KTL

## Single-Phase Hybrid Inverter

- Dual MPP Trackers, 150% DC input oversizing
- Smart I-V curve diagnosis function
- AFCI function (optional)
- Multiple working modes
- IP66 protection
- DC & AC type II SPD
- Max. 6 units inverters parallel
- Plug & play, EPS switching under 10ms



	XD3KTL	XD3K6TL	XD4KTL	XD4K6TL	XD5KTL	XD6KTL
<b>Input (PV)</b>						
Max. PV Input Power	4.5kW	5.4kW	6kW	6.9kW	7.5kW	9kW
Max. PV Input Voltage	600V					
Start-up Voltage	100V					
Rated Voltage	360V					
MPPT Voltage Range	100V ~ 550V					
Number of MPP Trackers	2					
Number of String per MPPT	1 / 1					
Max. Current per MPPT	16A					
Max. Short Circuit Current per MPPT	24A					
<b>Output (AC)</b>						
Rated Output Power	3kVA	3.68kVA	4kVA	4.6kVA	5kVA	6kVA
Max. Output Power	3.3kVA	3.68kVA	4.4kVA	4.6kVA	5.5kVA	6kVA
Max. Output Current	15A	16A	20A	20.9A	22.7A	27.3A
Rated Voltage	230V					
Rated Frequency	50Hz / 60Hz					
THDi (@Rated Power)	< 3%					
Power Factor	0.8 leading ~ 0.8 lagging					
<b>Output (EPS)</b>						
Max. Output Power	3kVA	3.68kVA	4kVA	4.6kVA	5kVA	6kVA
Max. Output Current	15A	16A	20A	20.9A	22.7A	27.3A
Peak Output Power, Time	4.5kW, 10s	5.5kW, 10s	6kW, 10s	6.9kW, 10s	7.5kW, 10s	7.5kW, 10s
Rated Voltage, Frequency	230V, 50Hz					
THDv (@Rated Power)	< 3%					
Switch Time	< 10ms					
<b>Battery</b>						
Battery Type	Lithium, Lead-acid					
Battery Voltage Range	40V ~ 60V					
Max. Charge / Discharge Current	100A					
Communication	CAN					
<b>Efficiency</b>						
Max. Efficiency	97.50%					
EU Efficiency	97.20%					
Battery Charge / Discharge Efficiency	95.00%					
<b>Protection</b>						
Protection	DC Switch, DC Reverse Polarity Protection, Anti-islanding Protection, AC Short Circuit Protection, Residual Current Monitoring, Insulation Resistance Monitoring, Ground Fault Monitoring, Over Current / Voltage Protection, Battery Soft Start Protection					
Surge Protection	Type II					
AFCI Protection	Optional					
<b>Communication</b>						
Display	LCD					
Communication	RS485 / CAN / WIFI / 4G / LAN / Bluetooth					
<b>Standard Compliance</b>						
Certification	IEC/EN 62109-1/2, IEC/EN 61000-6-1/3, IEC61727/IEC62116, EN50549, CEI0-21, C10/C11, VDE4105, VDE0126, G98/99, RD244, UNE217001, UNE217002, AS4777, NRS097-2-1					
<b>General Data</b>						
Dimension (W x H x D)	490 x 395 x 200 mm					
Weight	20kg					
Operating Temperature Range	-30°C ~ +60°C					
Cooling Method	Natural					
Protection Degree	IP66					
Max. Operating Altitude	4000m					
Noise	≤ 25dB					
Relative Humidity	0~100%					
Self-consumption	< 10W					
Topology	High Frequency Insolation (For battery)					

# XD5-12KTR

## Three-Phase Hybrid Inverter



- 160% DC input oversizing, Max. PV input current 20A
- Max. charge/discharge current 50A
- 110% output power oversizing, 200% peak output power
- AFCI function (optional)
- IP66 protection
- DC & AC type II SPD
- Plug & play, EPS switching under 10ms
- Multiple working modes

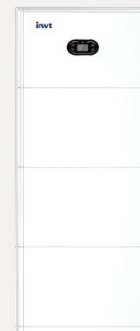
	XD5KTR	XD6KTR	XD8KTR	XD10KTR	XD12KTR
<b>Input (PV)</b>					
Max. Input Power	8kW	9.6kW	12.8kW	16kW	19.2kW
Max. Input Voltage	1100V				
Start-up Voltage	160V				
Rated Voltage	600V				
MPPT Voltage Range	150V ~ 1000V				
Number of MPP Trackers	2				
Number of String per MPPT	1/1				
Max. Current per MPPT	20A				
Max. Short Circuit Current per MPPT	40A				
<b>Output (AC)</b>					
Rated Output Power	5kVA	6kVA	8kVA	10kVA	12kVA
Max. Output Power	5.5kVA	6.6kVA	8.8kVA	11kVA	13.2kVA
Max. Output Current	7.2A	8.7A	11.6A	14.5A	17.4A
Rated Grid Voltage	230Vac / 400Vac				
Rated Grid Frequency	50Hz / 60Hz				
THDi(@Rated Power)	<2%				
Power Factor	0.8 leading ~ 0.8 lagging				
<b>Output (EPS)</b>					
Max. Output Power	5.5kVA	6.6kVA	8.8kVA	11kVA	13.2kVA
Peak Output Power, Time	10kW, 60s	12kW, 60s	16kW, 60s	20kW, 60s	20kW, 60s
Rated Voltage, Frequency	230V / 400V, 50Hz				
THDv(@Rated Power)	< 3%				
Switch Time	< 10ms				
<b>Battery</b>					
Battery Type	Lithium / Lead-acid				
Battery Voltage Range	120V ~600V				
Max. Charge / Discharge Current	50A				
Communication	CAN / RS485				
<b>Efficiency</b>					
Max. Efficiency	98.20%		98.40%		98.40%
European Efficiency	97.60%		97.80%		97.80%
Battery Charge / Discharge Efficiency	97.60%		97.80%		97.80%
<b>Protection</b>					
DC Switch	DC Switch, DC Reverse Polarity Protection, Anti-islanding Protection, AC Short Circuit Protection, Residual Current Monitoring, Insulation Resistance Monitoring, Ground Fault Monitoring, Over Current / Voltage Protection, I-V Curve Scan, Battery Soft Start Protection				
Surge Protection	Type II				
AFCI Protection	Optional				
<b>Communication</b>					
Display	LCD				
Communication	RS485 / CAN / WIFI / 4G / LAN / Bluetooth				
<b>General Data</b>					
Dimension (W x H x D)	534 x 440 x 220 mm				
Weight	<30kg				
Operating Temperature Range	-30°C ~ +60°C				
Cooling Method	Natural				
Protection Degree	IP66				
Max. Operating Altitude	4000m				
Noise	<35dB				
Relative Humidity	0~100%				
Self-consumption	< 10W				
Topology	Transformerless				

# XD3-6KTL-AIO

## Energy Storage System

### Technical Data

System Schematic



### Input (Battery)

Battery Type	LFP		
Battery Energy	5.12kWh	10.24kWh	15.36kWh
Number of Batteries	1	2	3
Dimension (W x H x D)	640 x 875 x 210 mm	640 x 1250 x 210 mm	640 x 1625 x 210 mm
Battery Voltage	51.2V		
Voltage Range	43.2V ~ 56.16V		
Max. Charging / Discharging Current	100A		

Inverter Module	XD3KTL-AIO	XD3K6TL-AIO	XD4KTL-AIO	XD4K6TL-AIO	XD5KTL-AIO	XD6KTL-AIO
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### Input (PV)

Max. PV Input Power	4.5kW	5.4kW	6kW	6.9kW	7.5kW	9kW
Max. PV Input Voltage	600V					
Start-up Voltage	100V					
MPPT Voltage Range	100V ~ 550V					
Number of MPP Trackers / String per MPPT	2 / 1					
Max. PV Input Current	16A					
Max. Short Circuit Current per MPPT	24A					

### Output (AC)

Rated Output Power	3kW	3.68kW	4kW	4.6kW	5kW	6kW
Max. Output Power	3.3kVA	3.68kVA	4.4kVA	4.6kVA	5.5kVA	6kVA
Max. Output Current	15A	16A	20A	20.9A	22.7A	26.1A
Rated Voltage	230V					
Rated Frequency	50Hz / 60Hz					
THDi(@Rated Power)	< 3%					
Power Factor	0.8 leading ~ 0.8 lagging					

### Output (EPS)

Max. Output Power	3kVA	3.68kVA	4kVA	4.6kVA	5kVA	6kVA
Max. Output Current	15A	16A	20A	20.9A	22.7A	30A
Peak Output Power, Time	4.5kW, 10s	5.5kW, 10s	6kW, 10s	6.9kW, 10s	7.5kW, 10s	7.5kW, 10s
Rated Voltage, Frequency	230V, 50Hz					
THDv(@Rated Power)	< 3%					
Switch Time	< 10ms					

### Efficiency

Max. Efficiency	97.50%
EU Efficiency	97.20%
Max. Battery Charge/Discharge Efficiency	95.00%

### Protection

Protection	DC Reverse Polarity Protection, Insulation Resistance Monitoring, Ground Fault Monitoring, Over Current / Over Voltage Protection, Battery Soft Start Protection
AFCI Protection	Optional
Surge Protection	Type II

### General Data

Operating Temperature Range	-10°C ~ +45°C
Self-consumption	< 10W
Protection Degree	IP65
Relative Humidity	0 ~ 100%
Display	LCD
Communication	RS485 / CAN / WIFI / 4G / LAN / Bluetooth
Max. Operating Altitude	4000m
Cooling Method	Natural

# GRP5.12-WLV

## Low Voltage Battery

- Easy installation, plug and play design
- Flexible capacity, Max.15pcs in parallel to extend capacity
- Safe & reliable, Lithium Iron Phosphate (LFP) Cell
- LED Display, SOC, Battery state



### GRP5.12-WLV

#### Battery Parameter

Battery Cell	LiFePO <sub>4</sub>
Battery Energy	5120Wh
Nominal Capacity	100Ah
Depth of Discharge	80%
Nominal Voltage	51.2V
Voltage Range	43.2Vdc ~ 56.16Vdc
Nominal Charge / Discharge Current	50A
Max. Charge/Discharge Current	100A
Dimension (W x H x D)	520 x 470 x 141.5 mm
Weight	47.2kg
Installation	Wall-mounted / Floor-standing
Temperature of Charge	0 ~ 55°C
Temperature of Discharge	-20°C ~ +60°C
Protection Degree	IP65
Parallel Units	Up to 15
Communication Port	RS485, CAN
Display	LED
Operation Humidity	5% ~ 95%
Max. Operating Altitude	2000m
Cycle Life	6000@80% DOD, 25°C , 0.5C
Certification	CE, IEC, UN38.3, MSDS

# GRP6.14-WLV

## Low Voltage Battery

- BYD automotive grade, A- class LiFePO4 blade battery with superior security features.
- Built-in smart BMS powered-by BYD, keeps your battery health.
- Expandable battery design. Up to 6 parallel connections.
- Excellent temperature performance, Temperature of charge @ -20°C ~ +55°C, temperature of discharge @ -30°C ~ +60°C.



### GRP6.14-WLV

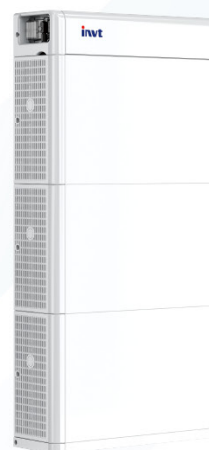
#### Battery Parameter

Battery Cell	BYD Blade Lithium-iron Phosphate ( LiFePO <sub>4</sub> )
Battery Energy	6144Wh
Nominal Capacity	120Ah
Depth of Discharge	80%
Nominal Voltage	51.2V
Voltage Range	43.2Vdc ~ 56.6Vdc
Nominal Charge / Discharge Current	60A
Max. Charge / Discharge Current	120A
Dimension (W x H x D)	1112 x 443 x 118 mm
Weight	46kg
Installation	Wall-mounted
Temperature of Charge	-20°C ~ +55°C
Temperature of Discharge	-30°C ~ +60°C
Protection Degree	IP21
Parallel Units	Up to 6
Communication Port	RS485, CAN
Display	LED
Operation Humidity	5% ~ 95%
Max. Operating Altitude	2000m
Design Life	>10 years (25°C)
Certification	CE, IEC, UN38.3, MSDS

# GRP5.12-SLV

## Low Voltage Battery

- Modular design, simplifies transport and installation.
- Excellent temperature performance, temperature of discharge @-20°C ~ +60°C.
- Cobalt Free Lithium Iron Phosphate (LFP) Battery: maximum safety and life cycle.
- Capable of high-powered emergency-backup and Off-Grid function.



	GRP5.12-S2LV	GRP5.12-S3LV	GRP5.12-S4LV
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### Battery Parameter

Battery Cell	LiFePO <sub>4</sub>		
Battery System Capacity	10.24kWh	15.36kWh	20.48kWh
Module Number	2	3	4
Nominal Capacity	200Ah	300Ah	400Ah
Depth of Discharge	80%		
Nominal Voltage	51.2V		
Voltage Range	43.2Vdc ~ 56.16Vdc		
Nominal Charge / Discharge Current	100A		
Dimension (W x H x D)	640 x 890 x 200 mm	640 x 1255 x 200 mm	640 x 1620 x 200 mm
Weight	119kg	167kg	215kg
Installation	Stacked		
Temperature of Charge	0 ~ 55°C		
Temperature of Discharge	-20°C ~ +60°C		
Protection Degree	IP65		
Communication Port	RS485, CAN		
Display	LED		
Operation Humidity	5% ~ 95%		
Max. Operating Altitude	2000m		
Cycle Life	6000@80% DOD, 25°C, 0.5C		
Certification	CE, IEC, UN38.3, MSDS		

# GRP2.56-SHV

## High Voltage Battery

- High-voltage LiFePO4 battery solution, Single module is 51.2V 50Ah 2.56kWh, 3 to 10 layers recommended.
- Modular Design, simplifies transport and installation.
- LFP Battery: Maximum Safety, Life Cycle and Power.
- Excellent temperature performance, temperature of discharge @-20°C ~ +60°C.



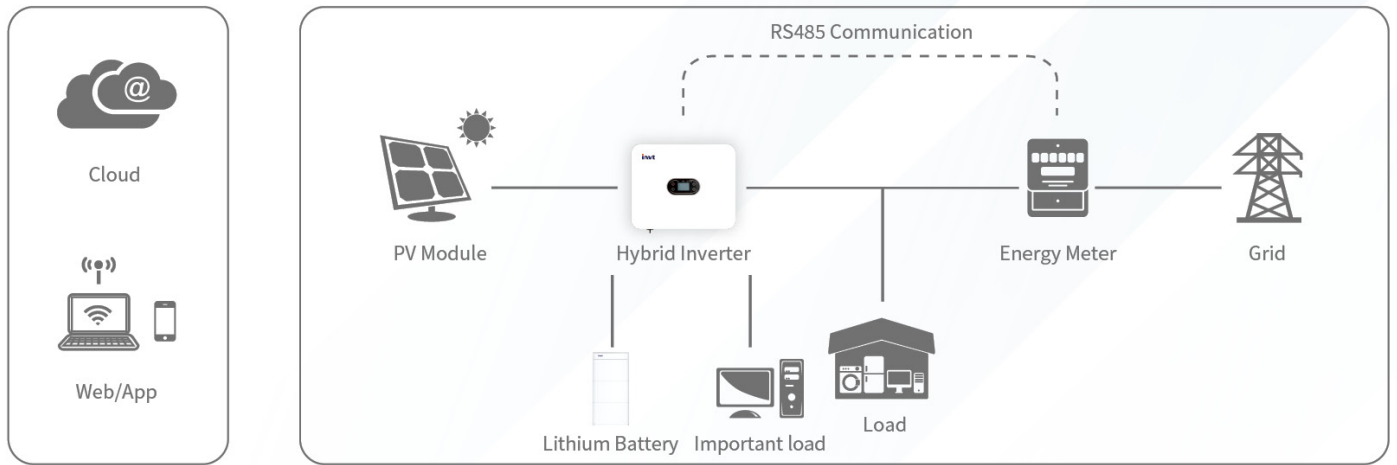
	GRP2.56-S3HV	GRP2.56-S4HV	GRP2.56-S5HV	GRP2.56-S6HV	GRP2.56-S7HV	GRP2.56-S8HV	GRP2.56-S9HV	GRP2.56-S10HV
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### Battery Parameter

Battery Cell	LiFePO <sub>4</sub>							
Battery System Capacity	7.68kWh	10.24kWh	12.8kWh	15.36kWh	17.92kWh	20.48kWh	23.04kWh	25.6kWh
Module number	3	4	5	6	7	8	9	10
Nominal Capacity	50Ah							
Depth of Discharge	90%							
Nominal Voltage	153.6V	204.8V	256V	307.2V	358.4V	409.6V	460.8V	512V
Voltage Range	129.6 ~ 168.48Vdc	172.8~224.64Vdc	216~280.8Vdc	259.2~336.96Vdc	302.4~393.12Vdc	345.6~449.28Vdc	388.8~505.44Vdc	432~561.6Vdc
Nominal Charge/Discharge Current	50A							
Dimension (W x H x D)	600 x 820 x 210 mm	600 x 980 x 210 mm	600 x 1140 x 210 mm	600 x 1300 x 210 mm	600 x 1460 x 210 mm	600 x 1620 x 210 mm	600 x 1780 x 210 mm	600 x 1940 x 210 mm
Weight	102.5kg	129kg	155.5kg	182kg	208.5kg	235kg	261.5kg	288kg
Installation	Stacked							
Temperature of Charge	0~55°C							
Temperature of Discharge	-20°C ~+60°C							
Protection Degree	IP65							
Communication Port	RS485, CAN							
Display	LED							
Operation Humidity	5~95%							
Max. Operating Altitude	2000m							
Cycle Life	6000@80% DOD,25°C ,0.5C							
Certification	CE, CB, UN38.3, MSDS							



# Residential Storage System





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