

OFF GRID INVERTER GRENADE Series EU Single Phase

1K8L1-M/3K6L1-M

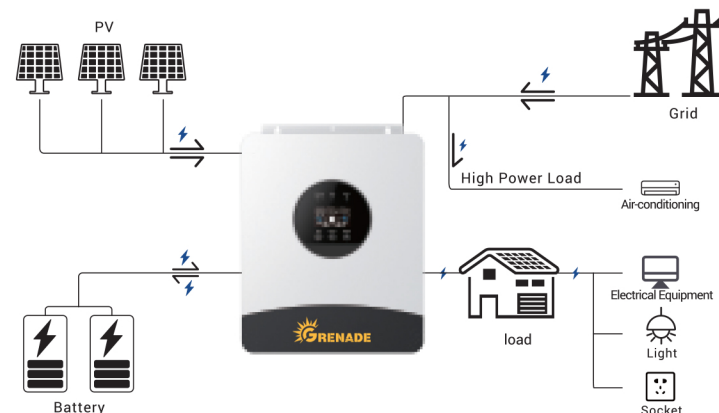
- 
1.8-3.6KVA
- 
100/145V
- 
230V
- 
12/24V
- 
IP21



IP21 Design
Pure Sine Wave
Support LFP & SLA Battery
2 Years Warranty

CE EN 62109-1 EN 62109-2 IEC 61000

HOUSE ENERGY SYSTEM (OFF GRID)



CONNECTOR



- T1: PV
- T2: BAT+/BAT-
- T3: AC GRID
- T4: AC LOAD

		GRENADE-1K8L1-M	GRENADE-3K6L1-M
PV (DC Input)	Recommended max. PV input power	650W	1500W
	Max. input voltage(Voc)	130V	145V
	MPPT operating voltage range	15V-120V (@+6V start up)	30V-120V (@30V start up)
	Number of MPPT	1	1
	Max. number of input strings per MPPT	1	1
	Max. input current per MPPT	20A	25A
	Max. short-circuit current per MPPT	25A	27A
Grid (AC Input)	Max input power	2300W	4000W
	Max input current	10A	17.4A
	Rated grid voltage	220/230/240Vac(L,N,PE)	220/230/240Vac(L,N,PE)
	Rated grid frequency	50/60Hz	50/60Hz
	Acceptable range	170-280Vac (For UPS) ; 90-280Vac (For Home Appliances)	170-280Vac (For UPS) ; 90-280Vac (For Home Appliances)
Battery parameters (Bidirection)	Battery type	Lead-acid	LiFePO ₄ /Lead-acid
	Battery voltage range	10V~14.5V	20-30V
	Rate Battery Voltage	12Vdc	24Vdc
	Max. charge/discharge current	100A/150A	120A/180A
Back-up Output (AC Output)	Rated output power	1500W/1800VA	3000W/3600VA
	Rated output current	7.8A	15.6A
	Rated output voltage	220/230/240Vac(L,N,PE)	220/230/240Vac(L,N,PE)
	Frequency	50/60Hz	50/60Hz
	Surge power	3600VA 2s	7200VA 2s
	THDv (@ linear load)	<3%	<3%
	Switching time	10ms typical (For UPS) 20ms typical (For Home Appliances)	
Efficiency	Peak efficiency	95%	95%
	Max. MPPT efficiency	93%	92%
Protection	Inner protection	√ Output short-circuit protection √ Output overvoltage protection	
	Surge protection	PV: Type III, AC: Type III	
	IP rating	IP21	
General Parameters	Operating temperature range	-10°C ~ 50°C	
	Relative humidity range	5%~95%	10%~95%
	Max. operating altitude	>2000m derating	>2000m derating
	Standby self-consumption	<10W	<10W
	Installation type	Wall-mounted	
	Cooling mode	Fan cooling	
	Communication	RS232	RS232/RS485
	Display	LCD	
Mechanical Specifications	Inverter dimensions (L*W*H) (mm)	350*290*105	350*290*105
	Net weight (kg)	5.55	6
	Carton dimensions (L*W*H) (mm)	495*385*165	495*385*165
	Gross weight (kg)	6.5	7
	Warranty Period	2 Years	

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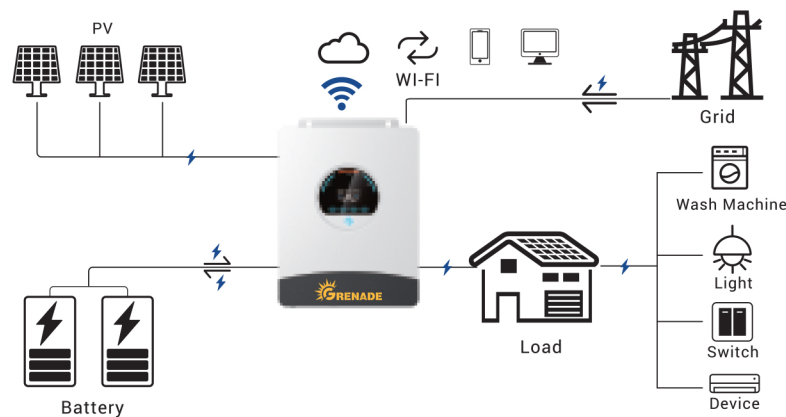
4KL1/6KL1/12KL1



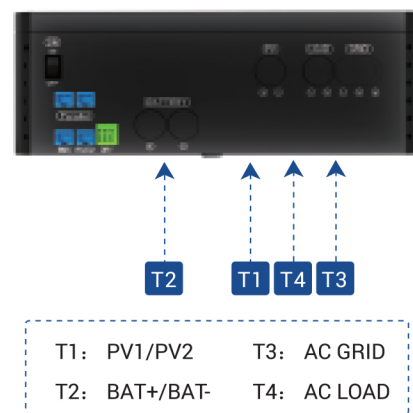
IP54 Design
Pure Sine Wave
Wide MPPT Operating Range
Built-In BMS Communication
Max. 12 Units Parallel
3 Years Warranty

CE EN 62109-1 EN 62109-2 IEC 61000

HOUSE ENERGY SYSTEM (OFF GRID)



CONNECTOR



		GRENADE-4KL1	GRENADE-6KL1	GRENADE-12KL1
PV (DC Input)	Recommended max. PV input power	4000W	6000W	12000W
	Max. input voltage(Voc)	500V	500V	500V
	MPPT operating voltage range	85V-450V (@85V start up)	85V-450V (@75V start up)	85V-450V (@75V start up)
	Number of MPPT	1	1	2
	Max. number of input strings per MPPT	1	1	1
	Max. input current per MPPT	15A	27A	27/27A
	Max. short-circuit current per MPPT	18A	35A	35/35A
Grid (AC Input)	Max input power	5000W	11500W	16000W
	Max input current	28A	50A	90A
	Rated grid voltage	220/230/240Vac	220/230/240Vac	220/230/240Vac
	Rated grid frequency	50/60Hz	50/60Hz	50/60Hz
	Acceptable range	170-280Vac (For UPS) ; 90-280Vac (For Home Appliances)	170-280Vac (For UPS) ; 90-280Vac (For Home Appliances)	170-280Vac (For UPS) ; 90-280Vac (For Home Appliances)
Battery Parameters (Bidirection)	Battery type	LiFePO ₄ /Lead-acid	LiFePO ₄ /Lead-acid	LiFePO ₄ /Lead-acid
	Battery voltage range	20~30Vdc	40~60Vdc	40~60Vdc
	Rate Battery Voltage	24Vdc	48Vdc	48Vdc
	Max. charge/discharge current	120A/160A	120A/130A	210A/230A
	BMS communication mode	RS485	RS485	RS485
Back-up Output (AC Output)	Rated output power	4000W/4000VA	6000W/6000VA	12000W/12000VA (Twin output)
	Rated output current	18.2A	27.3A	54.5A
	Rated output voltage / Frequency	220/230/240Vac 50/60Hz	220/230/240Vac 50/60Hz	220/230/240Vac 50/60Hz
	Parallel Capacity	-	Max. 12 Units	Max. 12 Units
	Surge power	8000VA 5s	12000VA 5s	24000VA 5s
	THDv (@ linear load)	<3%	<3%	<3%
	Switching time	10ms typical (For UPS) 20ms typical (For Home Appliances)		
	Efficiency	Peak efficiency	95.00%	98.00%
Max. MPPT efficiency	99.90%	99.90%	99.90%	
Protection	Inner protection	√ Output short-circuit protection √ Output overvoltage protection		
	Surge protection	PV: Type III, AC: Type III		
	IP rating	IP54		
General Parameters	Operating temperature range	-10°C ~ 55°C		
	Relative humidity range	5%~95%	5%~95%	5%~95%
	Max. operating altitude	>2000m derating	>2000m derating	>2000m derating
	Standby self-consumption	<10W	<10W	<20W
	Installation type	Wall-mounted	Wall-mounted	Wall-mounted
	Cooling mode	Fan cooling	Fan cooling	Fan cooling
	Communication	RS232/RS485/Dry contact/WI-FI	RS232/RS485/Dry contact/WI-FI	RS232/RS485/Dry contact/WI-FI
	Display	LCD	LCD	LCD
Mechanical Specifications	Inverter dimensions (L*W*H) (mm)	444.7*346.6*120	444.7*346.6*120	630*535*125
	Net weight (kg)	9.2	12.4	27
	Shipping dimensions (L*W*H) (mm)	560*465*240	560*465*240	745*650*240
	Gross weight (kg)	11.4	14.6	30
	Warranty Period	3 Years		