Pure Sine Wave
Hybrid Solar Inverter

M-HF800-12 S1.2EU - Single Phase -

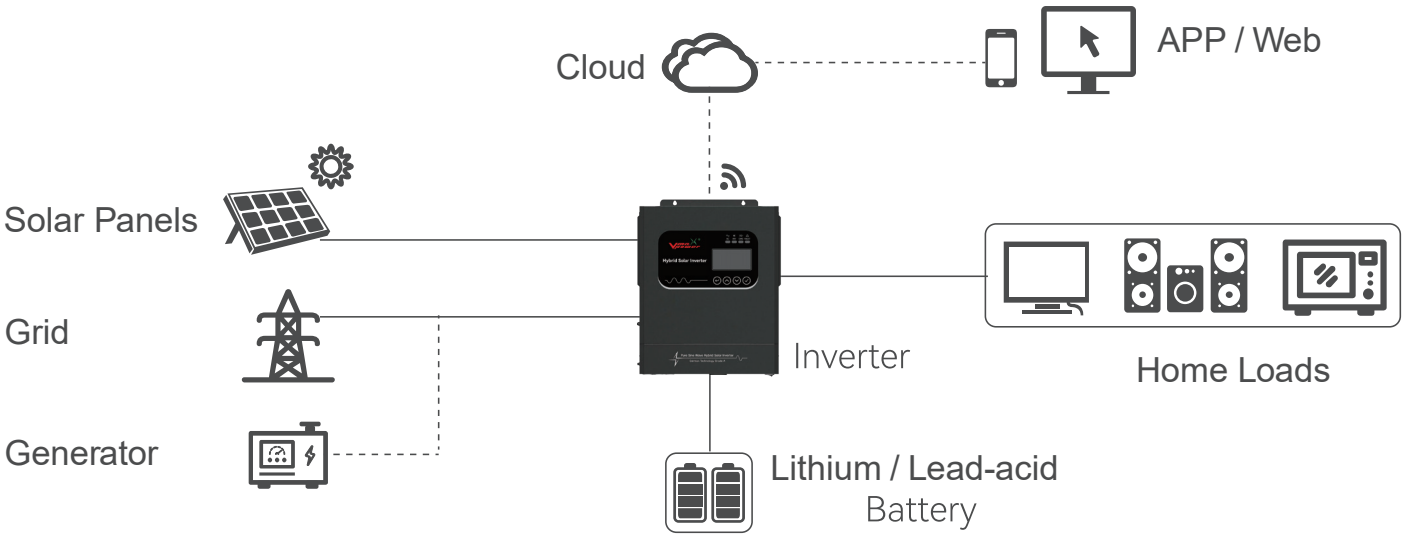
Off-grid inverter

- Built-in 50A Solar Charger
- PV Input Voltage Range 17-115V
- BMS: Support Lithium/ Lead-acid Battery
- Pure Sine Wave
- LCD: LCD Display
- PF: Power Factor 1.0
- Lithium Battery Activation
- Detachable Dust Cover
- WiFi Monitoring(optional)



German Technology Grade A

System Diagram



Model	M-HF800-12 S1.2EU
AC Input	
Rated Input Voltage (VAC)	208 / 220 / 230 / 240; L + N + PE
Voltage Range (VAC)	90~280 (APP/GEN mode); 170~264 (UPS mode)
Frequency (Hz)	50 / 60 (Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	1.2
Surge Power (kVA)	2.4
Voltage (VAC)	208 / 220 / 230 / 240
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10 (APP/UPS/GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (Battery Mode)	1min@102%-120% load, 10s@120%-200% load
Max. Efficiency (Battery Mode)	90%@12VDC
Parallel Quantity	NA
Charger (PV / AC)	
Solar Charger Type	MPPT
Max. PV input current (A) / Input power (W)	18 / 800
MPPT Range@Operating Voltage (VDC)	17 - 115
Max. PV Open Circuit Voltage (VDC)	115
Max. PV Charge Current (A)	50
Max. AC Charge Current (A)	50
Max. Charge Current (PV + AC) (A)	100
Battery	
Rated Voltage (VDC)	12
Max. Charging Current (A)	100
Max. Discharging Current (A)	110
Battery Type	Lead-acid / Lithium
Interface	
HMI	LCD
Interface	RS232 / RS485 (optional) / CAN (optional)
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5% - 95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	3.5
Dimensions (H*W*D) (mm)	301*217*97 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)
Activation	
AC Activation	YES
PV Activation	YES

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Pure Sine Wave
Hybrid Solar Inverter

M-HF3000-12 S2.0EU - Single Phase -

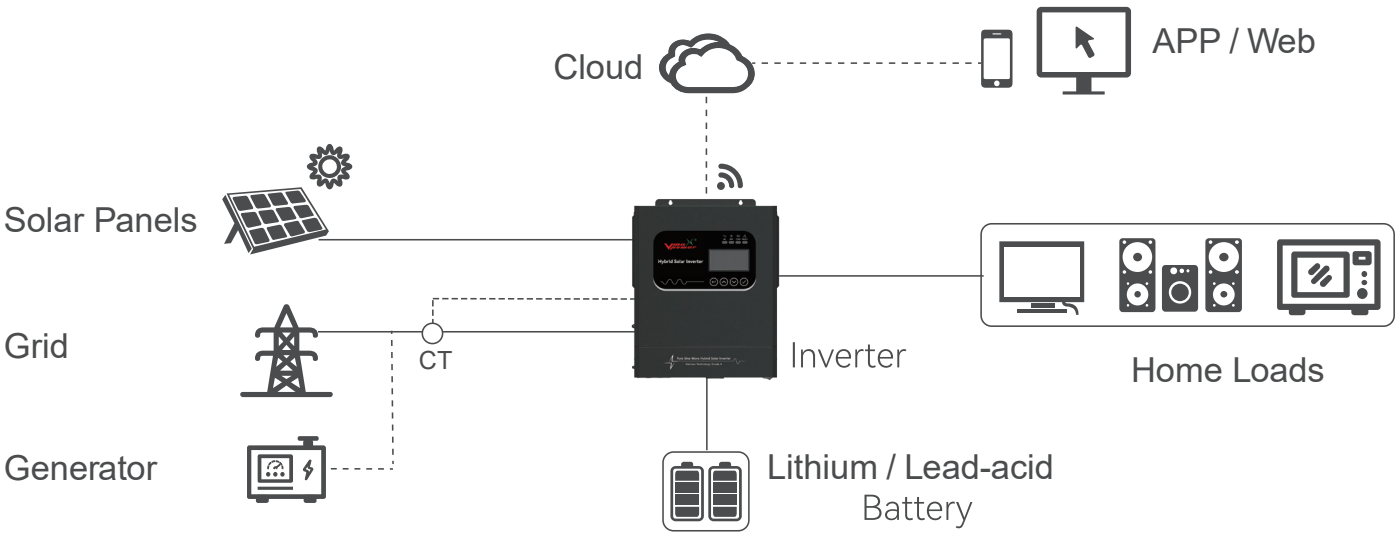
Off-grid inverter

- Built-in 100A Solar Charger
- Wide PV Input Voltage Range 30-400V
- BMS: Support Lithium/ Lead-acid Battery
- Lithium Battery Activation
- Support Meter/CT Connection(optional)
- WiFi Monitoring(optional)
- Feed-in to Grid
- Detachable Dust Cover
- DUAL: Dual AC Out



German Technology Grade A

System Diagram



Model	M-HF3000-12 S2.0EU
AC Input	
Rated Input Voltage (VAC)	208 / 220 / 230 / 240; L + N + PE
Voltage Range (VAC)	90~280 (APP/GEN mode); 170~264 (UPS mode)
Frequency (Hz)	50 / 60 (Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	2
Surge Power (kVA)	4
Voltage (VAC)	208 / 220 / 230 / 240
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10 (APP/UPS mode) / 20 (GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (PV+Battery mode / PV mode)	long term@102%-125% load, 10s@125%-250% load
Max. Efficiency (Battery Mode)	91%@12VDC
Parallel Quantity	NA
Charger (PV / AC)	
Solar Charger Type	MPPT
Max. PV input Current (A) / Input Power (W)	18 / 3000
MPPT Range@Operating Voltage (VDC)	30 - 400
Max. PV Open Circuit Voltage (VDC)	450
Max. PV Charge Current (A)	100
Max. AC Charge Current (A)	100
Max. Charge Current (PV + AC) (A)	100
Battery	
Rated Voltage (VDC)	12
Max. Charging Current (A)	100
Max. Discharging Current (A)	150
Battery Type	Lithium / Lead-acid
Interface	
HMI	LCD
Interface	RS485 / CAN / RS232 / CT(optional) / Meter (optional)
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5% ~ 95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	4.5
Dimensions (H*W*D) (mm)	331*270*100 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)

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Pure Sine Wave
Hybrid Solar Inverter

M-HF5000-24 S3.6EU - Single Phase -

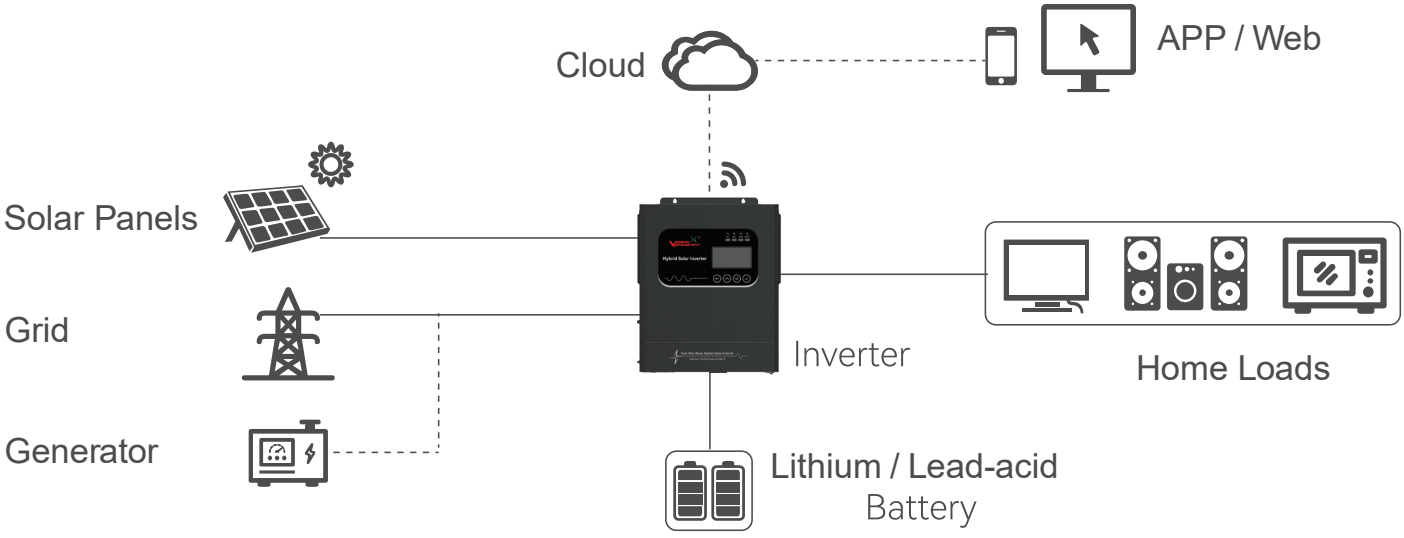
Off-grid inverter

- Built-in 100A Solar Charger
- Wide PV Input Voltage Range 30-400V
- BMS: Support Lithium/ Lead-acid Battery
- Lithium Battery Activation
- Detachable Dust Cover
- WiFi Monitoring(optional)
- Feed-in to Grid
- DUAL: Dual AC Out



German Technology Grade A

System Diagram



Model	M-HF5000-24 S3.6EU
AC Input	
Rated Input Voltage (VAC)	208 / 220 / 230 / 240; L + N + PE
Voltage Range (VAC)	90~280 (APP/GEN mode); 170~264 (UPS mode)
Frequency (Hz)	50 / 60 (Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	3.6
Surge Power (kVA)	7.2
Voltage (VAC)	208 / 220 / 230 / 240
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10 (APP/UPS mode) / 20 (GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (Battery Mode)	1min@102%~110% load, 10s@110%~200% load
Max. Efficiency (Battery Mode)	92.7%@24VDC
Parallel Quantity	NA
Charger (PV / AC)	
Solar Charger Type	MPPT
Max. PV input Current (A) / Input Power (W)	18 / 5000
MPPT Range@Operating Voltage (VDC)	40 - 450
Max. PV Open Circuit Voltage (VDC)	500
Max. PV Charge Current (A)	100
Max. AC Charge Current (A)	100
Max. Charge Current (PV + AC) (A)	100
Battery	
Rated Voltage (VDC)	24
Max. Charging Current (A)	100
Max. Discharging Current (A)	150
Battery Type	Lithium / Lead-acid
Interface	
HMI	LCD
Interface	RS485 / CAN / RS232
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5% ~ 95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	6.2
Dimensions (H*W*D) (mm)	420*284*94 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)

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Pure Sine Wave
Hybrid Solar Inverter

M-HF9000-24 S5.0EU - Single Phase -

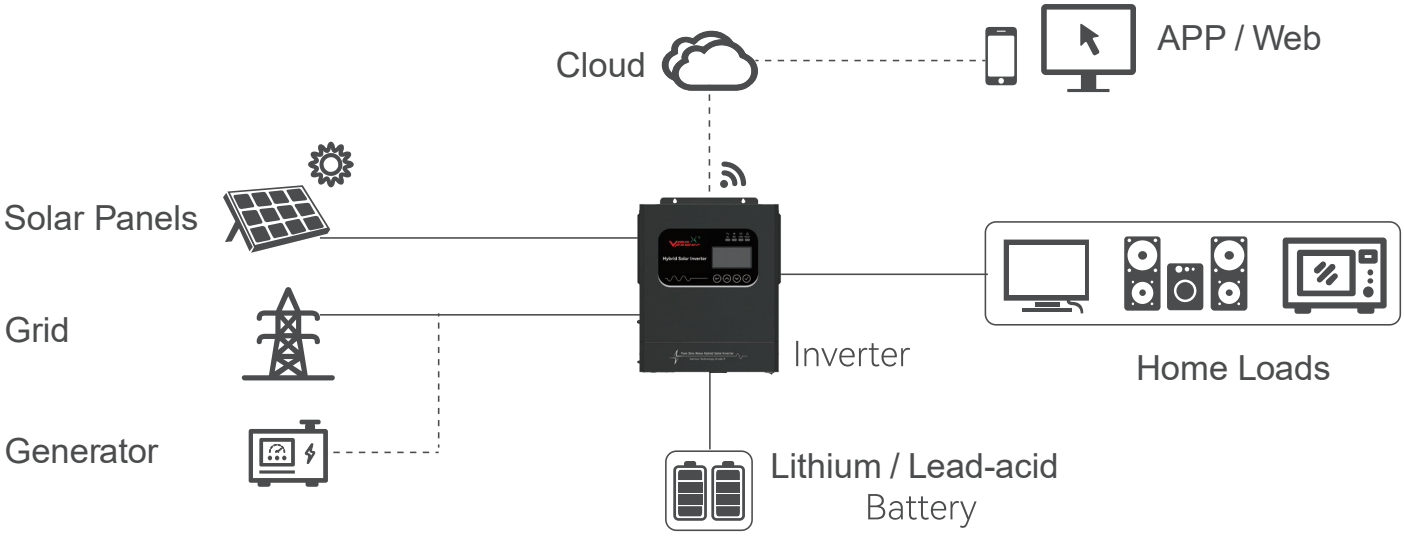
Off-grid inverter

- Built-in 100A Solar Charger
- Wide PV Input Voltage Range 30-400V
- BMS Support Lithium/ Lead-acid Battery
- Lithium Battery Activation
- 27A MAX PV Input
- WiFi Monitoring(optional)
- Feed-in to Grid
- DUAL Dual AC Out
- 5 Inch Display



German Technology Grade A

System Diagram



Model	M-HF9000-24 S5.0EU
AC Input	
Rated Input Voltage (VAC)	208 / 220 / 230 / 240; L + N + PE
Voltage Range (VAC)	90~280 (APP/GEN mode); 170~264 (UPS mode)
Frequency (Hz)	50 / 60 (Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	5
Surge Power (kVA)	10
Voltage (VAC)	208 / 220 / 230 / 240
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10 (APP/UPS mode) / 20 (GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (PV+Battery mode / PV Mode)	1min@102%-120%load, 10s@120%-200% load
Max. Efficiency (Battery Mode)	93.5%@24VDC
Parallel Quantity	NA
Charger (PV / AC)	
Solar Charger Type	MPPT
Max. PV Input Current (A) / Input Power (W)	27 / 9000
MPPT Range@Operating Voltage (VDC)	60 - 450
Max. PV Open Circuit Voltage (VDC)	500
Max. PV Charge Current (A)	160
Max. AC Charge Current (A)	160
Max. Charge Current (PV + AC) (A)	160
Battery	
Rated Voltage (VDC)	24
Max. Charging Current (A)	160
Max. Discharging Current (A)	190
Battery Type	Lithium / Lead-acid
Interface	
HMI	LCD
Interface	RS232 / RS485 / CAN
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5% ~ 95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	8.4
Dimensions (H*W*D) (mm)	410*336*110 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)

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Pure Sine Wave
Hybrid Solar Inverter

M-HF9000-48 S6.5EU - Single Phase -

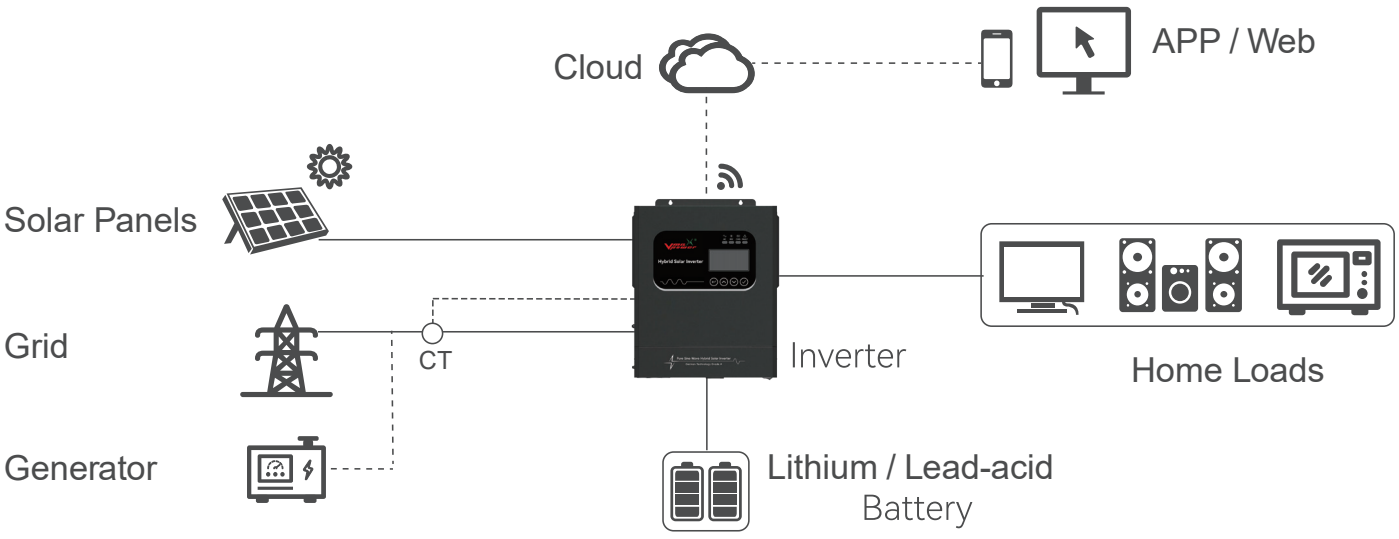
Off-grid inverter

- Built-in 120A Solar Charger
- Wide PV Input Voltage Range 60-500V
- BMS Support Lithium/ Lead-acid Battery
- Lithium Battery Activation
- 27A MAX PV Input
- WiFi Monitoring(optional)
- Support Meter/CT Connection(optional)
- Feed-in to Grid
- DUAL Dual AC Out
- 5 Inch Display



German Technology Grade A

System Diagram



Model	M-HF9000-48 S6.5EU
AC Input	
Rated Input Voltage (VAC)	208 / 220 / 230 / 240; L + N + PE
Voltage Range (VAC)	90~280 (APP/GEN mode); 170~264 (UPS mode)
Frequency (Hz)	50 / 60 (Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	6.5
Surge Power (kVA)	12
Voltage (VAC)	208 / 220 / 230 / 240
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10 (APP/UPS mode) / 20 (GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (PV+Battery mode / PV Mode)	1min@102%-120% load, 10s@ 120%-200% load
Max. Efficiency (Battery Mode)	94%@48VDC
Parallel Quantity	NA
Charger (PV / AC)	
Solar Charger Type	MPPT
Max. PV Input Current (A) / Input Power (W)	27 / 9000
MPPT Range@Operating Voltage (VDC)	60 - 450
Max. PV Open Circuit Voltage (VDC)	500
Max. PV Charge Current (A)	120
Max. AC Charge Current (A)	120
Max. Charge Current (PV + AC) (A)	120
Battery	
Rated Voltage (VDC)	48
Max. Charging Current (A)	120
Max. Discharging Current (A)	140
Battery Type	Lithium / Lead-acid
Interface	
HMI	5 inch LCD
Interface	RS232/RS485/CAN, CT(optional)/meter(optional)
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5% ~ 95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	8.4
Dimensions (H*W*D) (mm)	410*336*110 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)

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Pure Sine Wave
Hybrid Solar Inverter

M-HF9000-48 S6.5EU (Parallel Version)

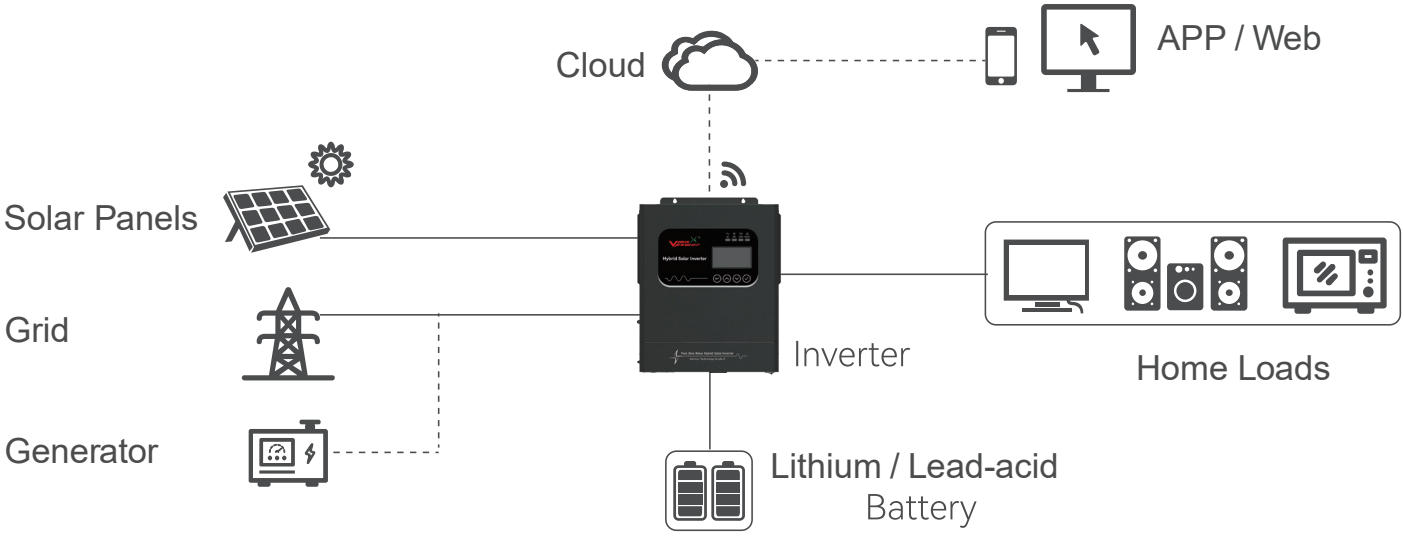
Off-grid inverter Single Phase

- Built-in 120A Solar Charger
- Wide PV Input Voltage Range 60-500V
- BMS Support Lithium/ Lead-acid Battery
- Lithium Battery Activation
- 27A MAX PV Input
- WiFi Monitoring(optional)
- 9 Inverters in Parallel
- Feed-in to Grid
- DUAL Dual AC Out
- 5 Inch Display



German Technology Grade A

System Diagram



Model	M-HF9000-48 S6.5EU (Parallel Version)
AC Input	
Rated Input Voltage (VAC)	208 / 220 / 230 / 240; L + N + PE
Voltage Range (VAC)	90~280 (APP/GEN mode); 170~264 (UPS mode)
Frequency (Hz)	50 / 60 (Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	6.5
Surge Power (kVA)	12
Voltage (VAC)	208 / 220 / 230 / 240
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10 (APP/UPS mode) / 20 (GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (PV+Battery mode / PV Mode)	1min@102%-120% load, 10s@ 120%-200% load
Max. Efficiency (Battery Mode)	94%@48VDC
Parallel Quantity	9
Charger (PV / AC)	
Solar Charger Type	MPPT
Max. PV Input Current (A) / Input Power (W)	27 / 9000
MPPT Range@Operating Voltage (VDC)	60 - 450
Max. PV Open Circuit Voltage (VDC)	500
Max. PV Charge Current (A)	120
Max. AC Charge Current (A)	120
Max. Charge Current (PV + AC) (A)	120
Battery	
Rated Voltage (VDC)	48
Max. Charging Current (A)	120
Max. Discharging Current (A)	140
Battery Type	Lithium / Lead-acid
Interface	
HMI	5 inch LCD
Interface	RS232/RS485/CAN, CT(optional)/meter(optional)
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5% ~ 95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	8.4
Dimensions (H*W*D) (mm)	410*336*110 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)

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Pure Sine Wave
Hybrid Solar Inverter

M-HF15000-48 S12.0EU - Single Phase -

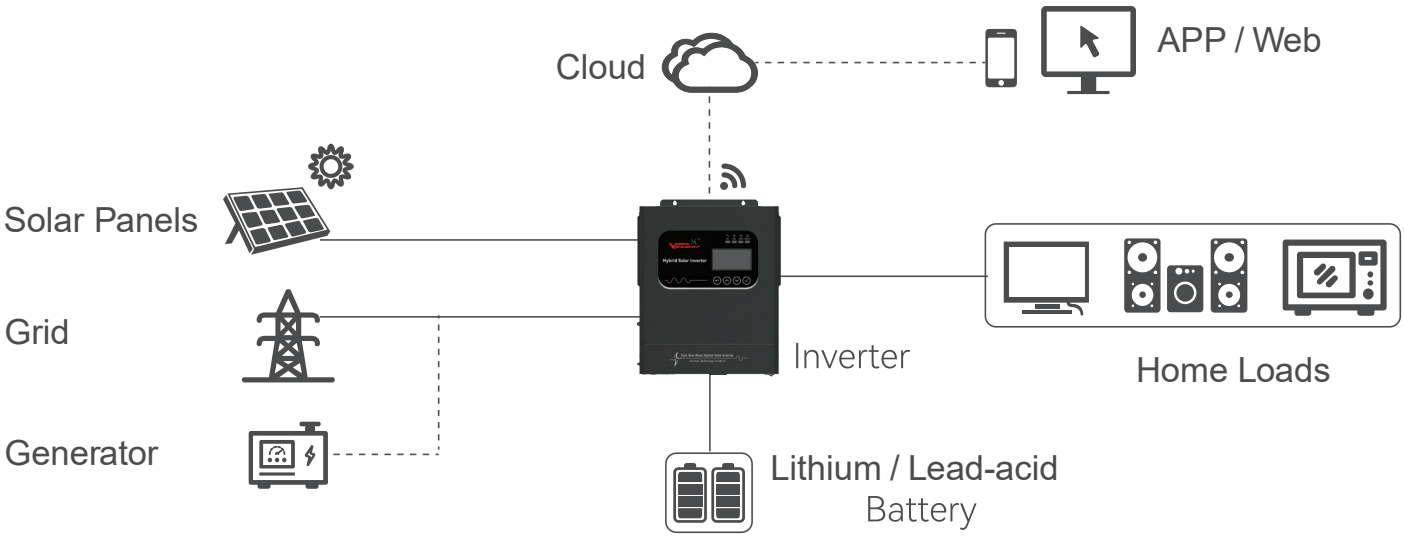
Off-grid inverter

- Built-in 160A Solar Charger
- Wide PV Input Voltage Range 60-500V
- BMS Support Lithium/ Lead-acid Battery
- Lithium Battery Activation
- 27A+27A MAX PV Input
- WiFi Monitoring(optional)
- Dual MPPTs Input
- Feed-in to Grid
- DUAL Dual AC Out
- 5 Inch Display



German Technology Grade A

System Diagram



Model	M-HF15000-48 S12.0EU
AC Input	
Rated Input Voltage (VAC)	220 / 230 / 240; L+N+PE
Voltage Range (VAC)	90~280 (APP/GEN mode); 170~264 (UPS mode)
Frequency (Hz)	50 / 60(Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	12
Surge Power (kVA)	24
Voltage (VAC)	220/230/240
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10(APP/UPS mode), 20(GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (PV+Battery mode / PV Mode)	1min@102%-125% Load, 10s@125%-200% Load
Max. Efficiency (Battery Mode)	94%@48VDC
Parallel Quantity	NA
Charger (PV / AC)	
Solar Charger Type	Dual MPPTs
Max. PV input Current / Input Power	Using One MPPT: 27A/9KW Using Two MPPTs: 27A/Per MPPT, 15kW/Total
MPPT Range@Operating Voltage (VDC)	60 - 450
Max. PV Open Circuit Voltage (VDC)	500
Max. PV Charge Current (A)	160
Max. AC Charge Current (A)	160
Max. Charge Current (PV + AC) (A)	160
Battery	
Rated Voltage (VDC)	48
Max. Charging Current (A)	160
Max. Discharging Current (A)	220
Battery	Lithium / Lead-acid
Interface	
HMI	LCD
Interface	RS232 / RS485 / CAN
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5%～95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	15
Dimensions (H*W*D) (mm)	495*425*120 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)

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Pure Sine Wave
Hybrid Solar Inverter

M-HF5000-24 S4.0US - Single Phase -

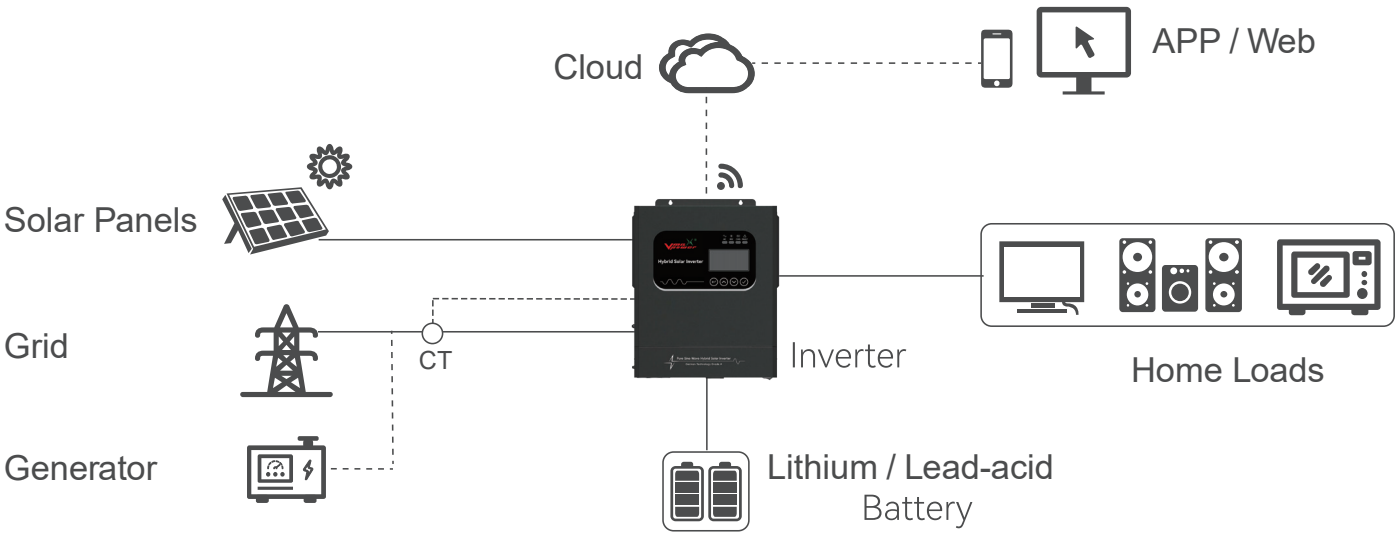
Off-grid inverter

- Built-in 100A Solar Charger
- Wide PV Input Voltage Range 60-500V
- BMS Support Lithium/ Lead-acid Battery
- Lithium Battery Activation
- 18A MAX PV Input
- WiFi Monitoring(optional)
- Support Meter/CT Connection(optional)
- Feed-in to Grid
- DUAL Dual AC Out
- 5 Inch Display



German Technology Grade A

System Diagram



Model	M-HF5000-24 S4.0US
AC Input	
Rated Input Voltage (VAC)	110 / 120; L + N + PE
Voltage Range (VAC)	90~140 (APP/GEN/UPS mode)
Frequency (Hz)	50 / 60 (Auto Adaptive)
AC Output	
Rated Capacity (kVA/kW)	4
Surge Power (kVA)	8
Voltage (VAC)	100 / 110 / 120 / 127
Power Factor (PF)	1
Frequency (Hz)	50 / 60
Switch Time (ms)	10 (APP/UPS mode) / 20 (GEN mode)
Wave Form	Pure Sine Wave
Overload Capacity (PV+Battery mode / PV Mode)	1min@102%-120%load, 10s@120%-200% load
Max. Efficiency (Battery Mode)	92%@24VDC
Parallel Quantity	NA
Charger (PV / AC)	
Solar Charger Type	MPPT
Max. PV Input Current (A) / Input Power (W)	18 / 5000
MPPT Range@Operating Voltage (VDC)	60 - 450
Max. PV Open Circuit Voltage (VDC)	500
Max. PV Charge Current (A)	100
Max. AC Charge Current (A)	100
Max. Charge Current (PV + AC) (A)	100
Battery	
Rated Voltage (VDC)	24
Max. Charging Current (A)	100
Max. Discharging Current (A)	170
Battery Type	Lithium / Lead-acid
Interface	
HMI	LCD
Interface	RS232 / RS485 / CAN / Dry Contact / CT(optional) / meter(optional)
Monitoring	WiFi (optional/built-in/external)
General Data	
Ingress Protection	IP21
Operating Temperature (℃)	-10 ~ 60
Relative Humidity	5% ~ 95% (Non-condensing)
Storage Temperature (℃)	-15 ~ 60
Net Weight (kg)	7.2
Dimensions (H*W*D) (mm)	422*325*110 (without bracket)
Max. Operating Altitude (m)	4000 (Derating above 2000)

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Pure Sine Wave
Hybrid Solar Inverter

M-HF Series - Single Phase -

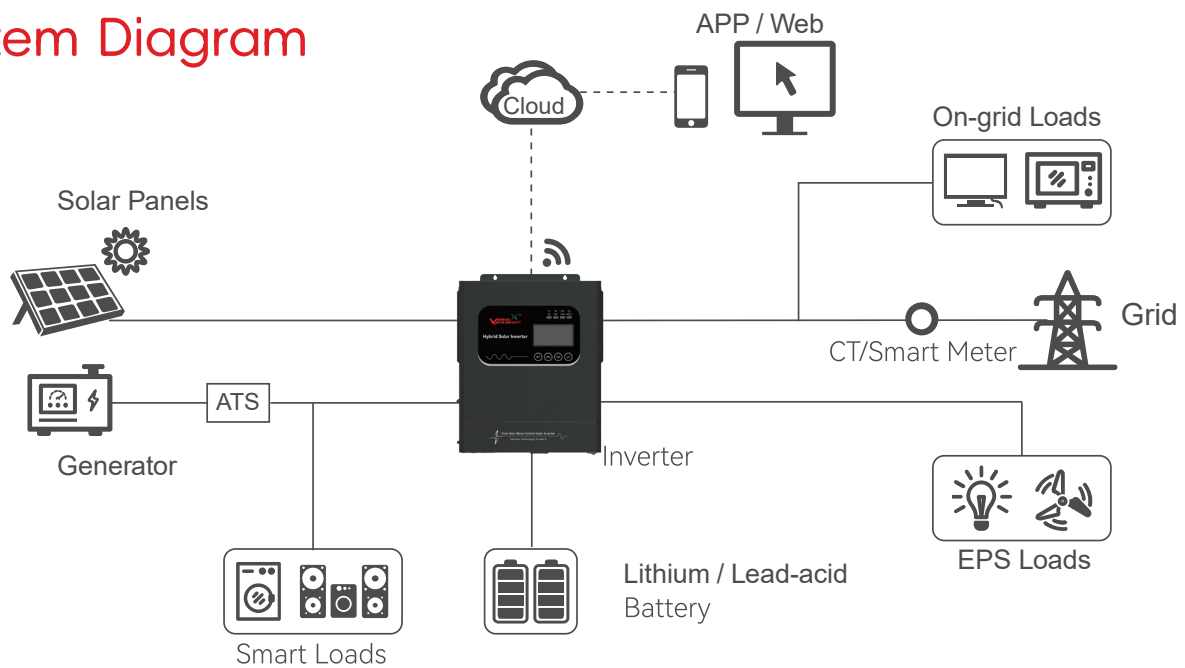
Hybrid On/off-grid Inverter

- Wide MPPT range
- 2 MPPT trackers
- Type II SPD on DC/AC
- 19A MPPT input current per string
- IP66 protection level
- Support generator and smart loads
- Integrated and concise design



German Technology Grade A

System Diagram



*Generator and smart loads function are available in some market

Model	M-HF4500-48 S3.0EU	M-HF5500-48 S3.68EU	M-HF6000-48 S4.0EU	M-HF7500-48 S5.0EU	M-HF9000-48 S6.0EU
PV Input					
Max. PV Input Power(kW)	4.5	5.5	6	7.5	9
Max. PV Open Circuit Voltage(V)			550		
MPPT Range@Operating Voltage(V)			80-520		
Full Power MPPT Voltage Range(V)	117-500	145-500	158-500	197-500	250-500
Start-up Voltage(V)			100		
Max. Input Current per MPPT(A)			19/19		
Max. Short-circuit Current(A)			25/25		
MPPT Tracker/Strings			2/1		
Rated Input Voltage(V)			360		
AC Output(On-Grid)					
Rated Output Power to Grid(kW)	3	3.68	4	5	6
Max. Apparent Power to Grid(kVA)	3	3.68	4	5	6
Max. Apparent Power from Grid(kVA)	3	3.68	4	5	6
Max. Apparent Current from Grid(A)	13.1	16	17.4	21.8	26.1
Rated Output Current from Grid(A)	13.1	16	17.4	21.8	26.1
Max. Output Current to Grid(A)	13.1	16	17.4	21.8	26.1
Rated Voltage(V)/Frequency(Hz)			230 (176~280), 50/60, L+N+PE		
Adjustable Power Factor			0.8leading-0.8lagging		
THDI			<2%		
AC Output(BackUp)					
Rated Output Power(kW)	3	3.68	4	5	6
Max. Apparent Power(kVA)	3	3.68	4	5	6
Rated Output Current(A)	13.1	16	17.4	21.8	26.1
Max. Output Current(A)	13.1	16	17.4	21.8	26.1
Rated Voltage(V)/Frequency(Hz)			230 (176~238), 50/60, L+N+PE		
Automatic Switch Time(ms)			<20		
THDu			<2%		
Overload Capacity			110%, 10s / 150%, 5s / 180%, 1s / 200%, 100ms		
Efficiency					
Max. Efficiency			96.13%		
Europe Efficiency			95.50%		
MPPT Efficiency			99.99%		
Max. Battery Charge/Discharge Efficiency			94.60%		
Battery					
Battery Voltage Range(V)			40-60		
Recommended Battery Voltage(V)			48		
Max. Charging Voltage(V)			60		
Max. Charging/Discharging Current(A)	80/80	80/80	80/80	120/120	120/120
Battery Type			Lithium/Lead Acid Battery		
Protection					
DC Switch			Yes		
DC Reverse Polarity Protection			Yes		
DC/AC Surge Protection			Type II/Type II		
AC Overvoltage Protection			Yes		
AC Short-circuit Protection			Yes		
Ground Fault Monitoring			Yes		
Anti-islanding Protection			Yes		
Residual-current Monitoring			Yes		
Insulation Resistance Monitoring			Yes		
Peak/Valley Time Setting			Yes		
General Data					
HMI			LCD & APP		
BMS			RS485/CAN		
EMS/Meter			RS485		
Communication			WiFi/LAN		
Ingress Protection			IP66		
Operating Temperature Range(℃)			-25-60		
Relative Humidity			0-95%(Non-condensing)		
Max. Operating Altitude(m)			4000(Derating above 3000)		
Cooling			Natural		
Noise Emission(dB)			≤29		
Dimensions(H*W*D)(mm)			525*485*225(without terminal and bracket)		
Net Weight(kg)	23.5	23.5	23.5	24	24
Self-consumption(W)			<15		
Standard Compliance					
Safety Regulation			IEC/EN62109-1/-2		
EMC			IEC/EN61000-6-1/-2/-3/-4		
Grid Regulation			IEC61727; IEC62116; Europe: EN50549; Belgium: C10/11; Spain: UNE217002; Italy: CEI 021; South Africa: NRS 097		

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Pure Sine Wave
Hybrid Solar Inverter

M-HF Series (Parallel Version) - Single Phase -

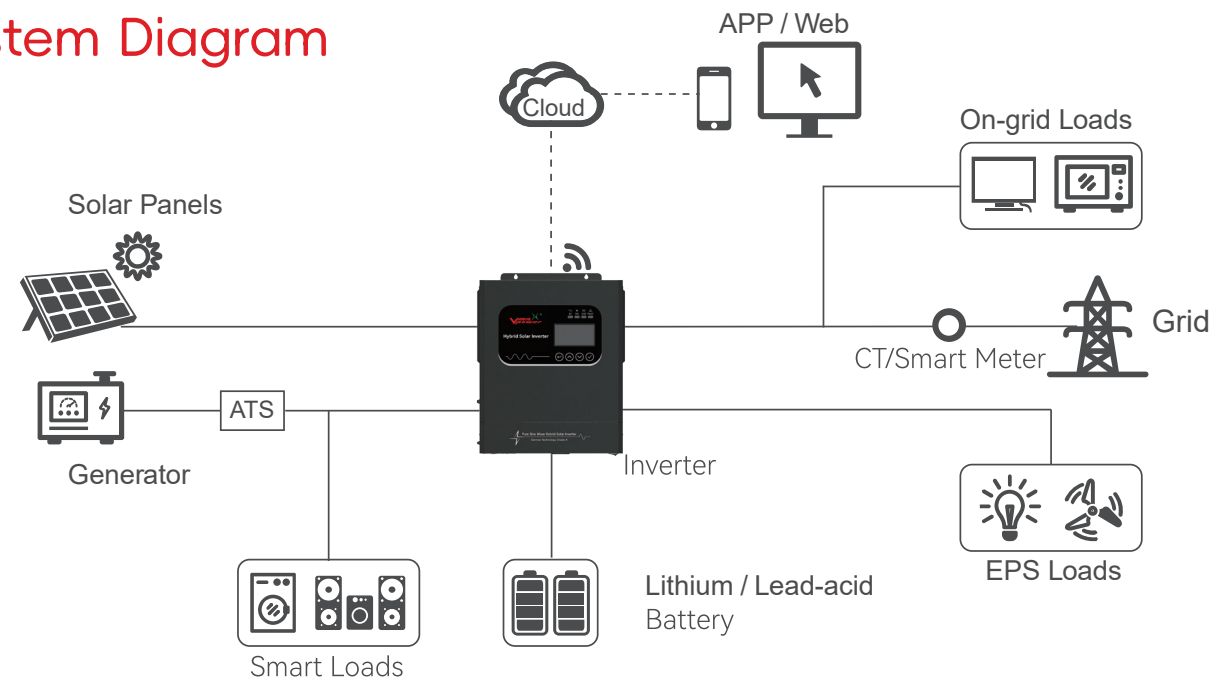
Hybrid On/off-grid Inverter

- Wide MPPT range
- 2 MPPT trackers
- Type II SPD on DC/AC
- **3 inverters in parallel**
- 19A MPPT input current per string
- IP66 protection level
- Support generator and smart loads
- **Touch screen**



German Technology Grade A

System Diagram



Model (Parallel Version)	M-HF4500-48 S3.0EU	M-HF5500-48 S3.68EU	M-HF6000-48 S4.0EU	M-HF7500-48 S5.0EU	M-HF9000-48 S6.0EU
PV Input					
Max. PV Input Power(kW)	4.5	5.5	6	7.5	9
Max. PV Open Circuit Voltage(V)			550		
MPPT Range@Operating Voltage(V)			80-520		
Full Power MPPT Voltage Range(V)	117-500	145-500	158-500	197-500	250-500
Start-up Voltage(V)			100		
Max. Input Current per MPPT(A)			19/19		
Max. Short-circuit Current(A)			25/25		
MPPT Tracker/Strings			2/1		
Rated Input Voltage(V)			360		
AC Output(On-Grid)					
Rated Output Power to Grid(kW)	3	3.68	4	5	6
Max. Apparent Power to Grid(kVA)	3	3.68	4	5	6
Max. Apparent Power from Grid(kVA)	3	3.68	4	5	6
Max. Apparent Current from Grid(A)	13.1	16	17.4	21.8	26.1
Rated Output Current from Grid(A)	13.1	16	17.4	21.8	26.1
Max. Output Current to Grid(A)	13.1	16	17.4	21.8	26.1
Rated Voltage(V)/Frequency(Hz)			230 (176~280), 50/60, L+N+PE		
Adjustable Power Factor			0.8leading-0.8lagging		
THDI			<2%		
AC Output(BackUp)					
Rated Output Power(kW)	3	3.68	4	5	6
Max. Apparent Power(kVA)	3	3.68	4	5	6
Rated Output Current(A)	13.1	16	17.4	21.8	26.1
Max. Output Current(A)	13.1	16	17.4	21.8	26.1
Rated Voltage(V)/Frequency(Hz)			230 (176~238), 50/60, L+N+PE		
Automatic Switch Time(ms)			<20		
THDu			<2%		
Overload Capacity			110%, 10s / 150%, 5s / 180%, 1s / 200%, 100ms		
Efficiency					
Max. Efficiency			96.13%		
Europe Efficiency			95.50%		
MPPT Efficiency			99.99%		
Max. Battery Charge/Discharge Efficiency			94.60%		
Battery					
Battery Voltage Range(V)			40-60		
Recommended Battery Voltage(V)			48		
Max. Charging Voltage(V)			60		
Max. Charging/Discharging Current(A)	80/80	80/80	80/80	120/120	120/120
Battery Type			Lithium/Lead Acid Battery		
Protection					
DC Switch			Yes		
DC Reverse Polarity Protection			Yes		
DC/AC Surge Protection			Type II/Type II		
AC Overvoltage Protection			Yes		
AC Short-circuit Protection			Yes		
Ground Fault Monitoring			Yes		
Anti-islanding Protection			Yes		
Residual-current Monitoring			Yes		
Insulation Resistance Monitoring			Yes		
Peak/Valley Time Setting			Yes		
General Data					
HMI			Touch LCD & APP		
BMS			RS485/CAN		
EMS/Meter			RS485		
Communication			WiFi/LAN		
Ingress Protection			IP66		
Operating Temperature Range(℃)			-25-60		
Relative Humidity			0-95%(Non-condensing)		
Max. Operating Altitude(m)			4000(Derating above 3000)		
Cooling			Natural		
Noise Emission(dB)			≤29		
Dimensions(H*W*D)(mm)			525*485*205(without terminal and bracket)		
Net Weight(kg)	23.5	23.5	23.5	24	24
Self-consumption(W)			<15		
Standard Compliance					
Safety Regulation			IEC/EN62109-1/-2		
EMC			IEC/EN61000-6-1/-2/-3/-4		
Grid Regulation			IEC61727; IEC62116; Europe: EN50549; Belgium: C10/11; Spain: UNE217002; Italy: CEI 021; South Africa: NRS 097		

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Pure Sine Wave
Hybrid Solar Inverter

M-HF22500-48 T15EU - Three Phase -

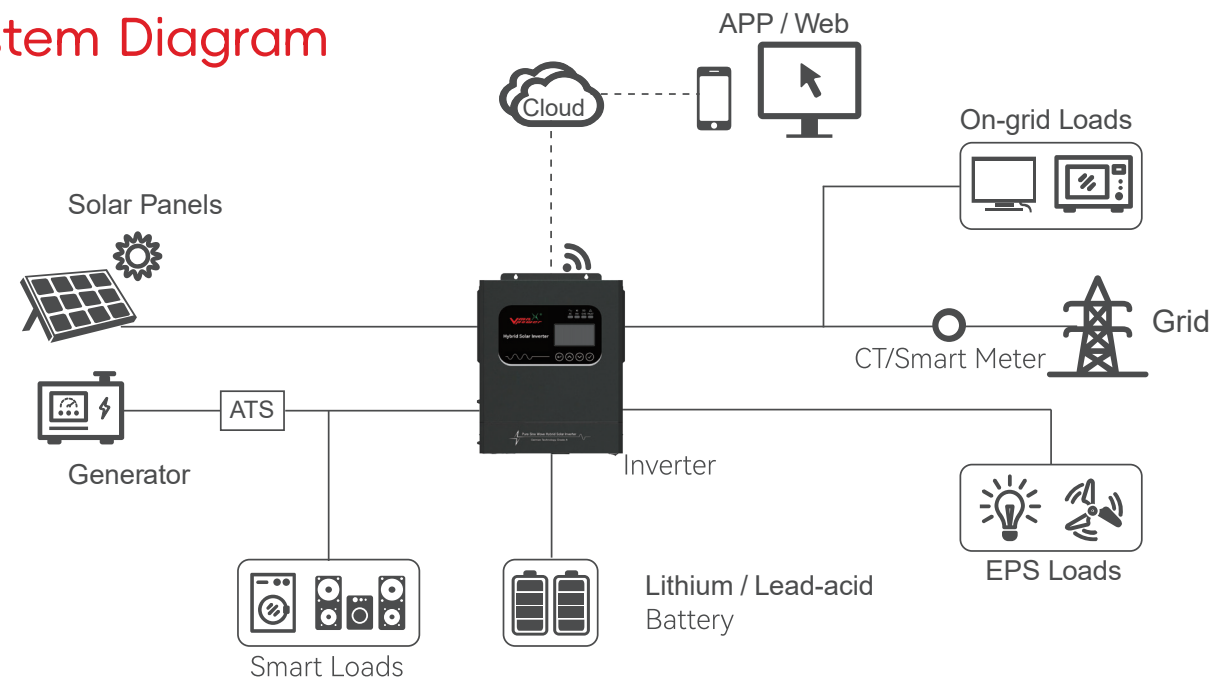
Hybrid On/off-grid Inverter



- Two MPPT channels, with 2 strings per channel; 30A input current per MPPT
- 48V low-voltage battery with built-in transformer for safe isolation
- Supports three-phase unbalanced output
- Maximum charge/discharge current of 290A
- 6 configurable charge/discharge time periods
- Supports generator and smart load; generator charges the battery directly

German Technology Grade A

System Diagram



Model	M-HF22500-48 T15EU
PV Input	
Max. PV Input Power (kW)	22.5
Max. PV Open Circuit Voltage (V)	1000
MPPT Range@Operating Voltage (VDC)	120 - 950
Full Power MPPT Voltage Range (VDC)	380 - 850
Start-up Voltage (VDC)	120
Nominal Input Voltage (V)	780
Max. Input Current per MPPT (A)	30 / 30
Max. Short-circuit Current (A)	36 / 36
MPPT Tracker/Strings	2
PV Strings per MPPT Tracker	2 / 2
AC Output(On-Grid)	
Nominal Output Apparent Power to Grid (kVA)	15
Max. Apparent Power to Grid (kVA)	16.5
Max. Output Current to Grid (A)	23.9
Nominal Apparent Power from Grid (kVA)	15
Max. Apparent Power from Grid (kVA)	24
Max. Current from Grid (A)	34.7
Nominal Voltage (V)/Frequency (Hz)	220/380, 230/400, 240/415, 50/60, L1/L2/L3+N+PE
Adjustable Power Factor	0.8leading-0.8lagging
THDI	<3%
AC Output(BackUp)	
Nominal Output Power (kW)	15
Max. Apparent Power (kVA)	16.5
Max. Output Current (A)	23.9
Nominal Voltage (V)/Frequency (Hz)	220/380, 230/400, 240/415, 50/60, L1/L2/L3+N+PE
Automatic Switch Time (ms)	<10
THDu	<2%
Overload Capacity	110%, long term / 150%, 3min / 180%, 2min / 200%, 10s
Efficiency	
Max. Efficiency	97.30%
Europe Efficiency	97.00%
Max. Battery Charge/Discharge Efficiency	94.10%
Battery	
Battery Voltage Range (V)	40 - 60
Max. Charging/Discharging Current (A)	290 / 290
Max. Charging/Discharging Power (kW)	15 / 16
BatteryType	Lithium / Lead-acid
Protection	
DC Switch	Yes
DC Reverse Polarity Protection(PV)	Yes
DC/AC Surge Protection	Type II / Type II
AC Overvoltage Protection	Yes
AC Overcurrent Protection	Yes
AC Short-circuit Protection	Yes
Anti-islanding Protection	Yes
Residual-current Monitoring	Yes
Insulation Resistance Monitoring	Yes
General Data	
HMI	Touch LCD & APP
BMS	RS485 / CAN
CT/Meter	Included / RS485
Communication	RS485, WiFi / Ethernet, USB
Ingress Protection	IP65
Operating Temperature Range (℃)	-25-60
Relative Humidity	0~100% (Non-condensing)
Max. Operating Altitude (m)	4000 (Derating above 2000)
Cooling	Intelligent Air Cooling
Topology	Transformerless
Dimensions (H*W*D, mm)	660*478*248 (without terminal and bracket)
Net Weight (kg)	43
Self-consumption (W)	<20
Standard Compliance	
Safety Regulation	IEC/EN62109-1/-2
EMC	IEC/EN61000-6-1/-2/-3/-4
Grid Regulation	EN50549-1/-10

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Data Collector
Hybrid Series
M-DUWL-NK



Model	M-DUWL-NK
General Parameters	
Connecting Inverters No. (PCs)	1
Connection Interface	USB
Inverter Communication	RS485
Data Transfer	WiFi / Ethernet
Installation	Plug and Play
Indicator	LED Indicator
WiFi Encryption Algorithm	WEP/WPA-PSK/WPA2-PSK
Dimensions (W*D*H mm)	47*32*142
Ingress Protection	IP65
Data Collection Interval (min)	5 (default)
Wireless/Ethernet Parameter	
Ethernet	10/100M
WiFi Standards & Frequencies	802.11b/g/n (2.4G-2.483G)
Bluetooth Standards	BLE 4.2 and above
Environment	
Operating Temperature (℃)	-30 ~ 85
Relative Humidity	10% - 95% (Non-condensing)
Storage Temperature (℃)	-40 ~ 105
Inverter Compatibility	
Inverter Model	M-HF9000-48 S6.0EU; M-HF5500-48 S3.68EU; M-HF6000-48 S4.0EU; M-HF7500-48 S5.0EU; M-HF4500-48 S3.0EU; M-HF22500-48 T15EU

Data Collector
Off Grid Series
M-DUWB-NK2



Model	M-DUWB-NK2
General parameters	
Connecting Inverters No . (PCs)	1
Connection Interface	USB
Inverter Communication	RS232
Installation	Plug and Play
Indicator	LED Indicator
Operation Mode	AP+STA
Encryption Algorithm	WEP/WPA-PSK/WPA2-PSK
Dimensions (W*D*H mm)	26*12*64
Weight (g)	11±3
Ingress Protection	IP21
Data Collection Interval (min)	5 (default value)
Access Data Method	APP/Remote Server/Bluetooth
Wireless Parameter	
WiFi Standards & Frequencies	802.11b/g/n (2.412G-2.484G)
Bluetooth Standards	BLE 5.0
Environment	
Operating Temperature (℃)	-30 ~ 85
Relative Humidity	5% ~ 95% (Non-condensing)
Storage Temperature (℃)	-40 ~ 90
Inverter Compatibility	
Inverter Model	M-HF800-12 S1.2EU; M-HF3000-12 S2.0EU; M-HF5000-24 S3.6EU; M-HF9000-24 S5.0EU; M-HF9000-48 S6.5EU; M-HF15000-48 S12.0EU;