



REEFMAGIC FHM SERIES HYBRID INVERTER

Scalable Energy Storage Solution for Homes & C&I



REEFMAGIC

FHM SERIES HYBRID INVERTER



Scalable from 15kWh to 450kWh

7.5kWh per module, up to 75kWh per tower and up to 6 groups in parallel, covering homes, small businesses and C&I applications.



Built for Cold Conditions

With self-heating support and a -20°C to 55°C operating range, the system is designed for reliable use in colder climates.



More Solar Value

The system supports higher PV input, with up to 200% PV oversizing on selected FHM models to make better use of rooftop solar.



3-50kW System Coverage

Paired with FHM Series hybrid inverters, the system supports single-phase and three-phase applications from residential to C&I.



Smarter Energy Scheduling

AI-driven forecasting helps optimize charging and discharging based on tariffs, solar generation and load demand.



Fast Backup Support

<10ms backup switching helps keep key loads running when grid issues occur.

ReefMagic | Recommended Configurations

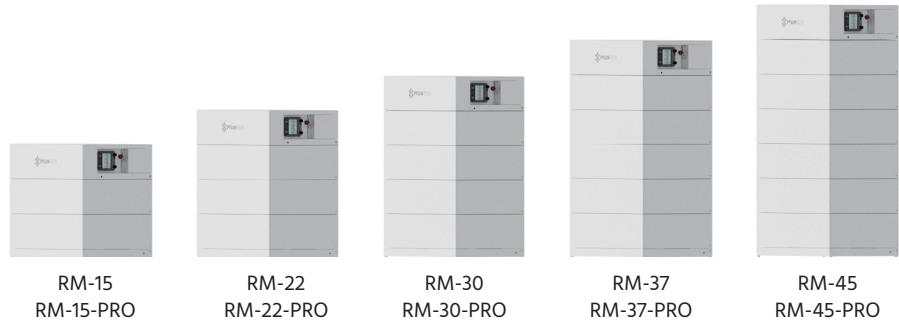
Inverter Phase		Single-phase				Three-phase							
Recommended battery configuration	kW	3.0	3.60	4.20	5.00	10.00	12.00	15.00	20.00	25.00	30.00	40.00	50.00
1*Tower(2 Packs)	15.00	FHM-3K-30-1P-EU 5.00h*	FHM-3.6K-30-1P-EU 4.17h*	FHM-4.2K-30-1P-EU 3.57h*	FHM-5K-30-1P-EU 3.40h*								
1*Tower(3 Packs)	22.50	FHM-3K-30-1P-EU 7.50h*	FHM-3.6K-30-1P-EU 6.25h*	FHM-4.2K-30-1P-EU 5.36h*	FHM-5K-30-1P-EU 4.50h*								
1*Tower(4 Packs)	30.00				FHM-5K-30-1P-EU 6.00h*	FHM-10K-40-3P-EU 3.00h*	FHM-12K-40-3P-EU 2.55h*						
1*Tower(5 Packs)	37.50					FHM-10K-40-3P-EU 3.75h*	FHM-12K-40-3P-EU 3.12h*	FHM-15K-40-3P-EU 2.55h*					
1*Tower(6 Packs)	45.00					FHM-10K-40-3P-EU 4.50h*	FHM-12K-40-3P-EU 3.75h*	FHM-15K-40-3P-EU 3.00h*					
1*Tower(7 Packs)	52.50							FHM-15K-40-3P-EU 3.50h*	FHM-20K-40-3P-EU 2.62h*				
1*Tower(8 Packs)	60.00								FHM-20K-40-3P-EU 3.00h*				
1*Tower(9 Packs)	67.50								FHM-20K-40-3P-EU 3.38h*	FHM-25K-150-3P-EU 2.10h*	FHM-30K-150-3P-EU 2.25h*		
1*Tower(10 Packs)	75.00									FHM-25K-150-3P-EU 2.70h*	FHM-30K-150-3P-EU 2.50h*		
2*Tower (6 Packs/Tower)	90.00											FHM-40K-150-3P-EU 2.25h*	
2*Tower (7 Packs/Tower)	105.00											FHM-40K-150-3P-EU 2.62h*	FHM-50K-150-3P-EU 2.10h*
2*Tower (8 Packs/Tower)	120.00											FHM-40K-150-3P-EU 3.00h*	
2*Tower (9 Packs/Tower)	135.00												FHM-50K-150-3P-EU 2.70h*
2*Tower (10 Packs/Tower)	150.00									FHM-25K-150-3P-EU 6.00h*	FHM-30K-150-3P-EU 5.00h*	FHM-40K-150-3P-EU 3.75h*	FHM-50K-150-3P-EU 3.00h*
3*Tower (10 Packs/Tower)	225.00											FHM-40K-150-3P-EU 5.62h*	FHM-50K-150-3P-EU 4.50h*
4*Tower (10 Packs/Tower)	300.00												FHM-50K-150-3P-EU 6.00h*

Nearly full-power output

Nominal power matching
100%

*Theoretical full charge/discharge time (h)

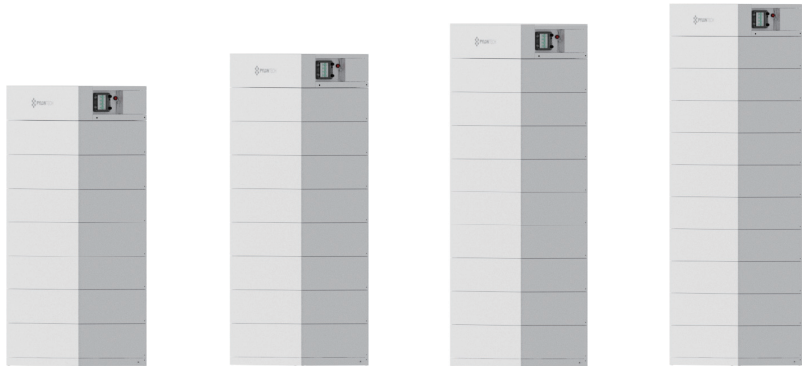
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Module

Control Module Model	RMC1000 RMC1000-Pro				
Battery Module Model	RMB70100 RMB70100-Pro				
Battery System Energy (kWh)	15.0	22.5	30.0	37.5	45.0
Battery System Voltage (VDC)	147.2	220.8	294.4	368	441.6
Battery Module Quantity (pcs)*	2	3	4	5	6
Battery Module Energy (kWh)	7.5				
Battery Module Voltage (VDC)	73.6				
Battery Module Capacity (Ah)	102				
Battery System Charge Upper Voltage (VDC)	165.6	248.4	331.2	414	496.8
Dimension (W*D*H mm)	770*380*550	770*380*720	770*380*890	770*380*1060	770*380*1230
Weight (kg)	135	192	249	306	363
Depth of Discharge	95%				
Battery System Charge/Discharge Current (Amps, Normal)	50				
Battery System Charge/Discharge Current (Amps, Max)	55@15min/65A@15S				
Communication port	Modbus RTU/CAN				
Multi-group	Max 6 groups in parallel				
IP rating	IP65				
Working Temperature/ (°C) Charge	0~55/-20-55 (pro)				
Working Temperature/ (°C) Discharge	-10~55/-20-55 (pro)				
Humidity (RH)	5%~95% No condensation				
Firefighting	Aerosol				
Design life (@25°C)	15 Years				
Cycle life (@25°C)	8,000+				
Certification	VDE2510-50/CE/IEC62477/IEC62619/IEC63056/UN38.3				

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Module

RM-52 | RM-52-PRO

RM-60 | RM-60-PRO

RM-67 | RM-67-PRO

RM-75 | RM-75-PRO

Control Module Model	RMC1000 RMC1000-Pro			
Battery Module Model	RMB70100 RMB70100-Pro			
Battery System Energy (kWh)	52.5	60.0	67.5	75
Battery System Voltage (VDC)	515.2	588.8	662.4	736
Battery Module Quantity (pcs)*	7	8	9	10
Battery Module Energy (kWh)	7.5			
Battery Module Voltage (VDC)	73.6			
Battery Module Capacity (Ah)	102			
Battery System Charge Upper Voltage (VDC)	579.6	662.4	745.2	828
Dimension (W*D*H mm)	770*380*1400	770*380*1570	770*380*1740	770*380*1910
Weight (kg)	420	477	534	621
Depth of Discharge	95%			
Battery System Charge/Discharge Current (Amps, Normal)	50			
Battery System Charge/Discharge Current (Amps, Max)	55@15min/65A@15S			
Communication port	Modbus RTU/CAN			
Multi-group	Max 6 groups in parallel			
IP rating	IP65			
Working Temperature/ (°C) Charge	0~55/-20-55 (pro)			
Working Temperature/ (°C) Discharge	-10~55/-20-55 (pro)			
Humidity (RH)	5%~95% No condensation			
Firefighting	Aerosol			
Design life (@25°C)	15 Years			
Cycle life (@25°C)	8,000+			
Certification	VDE2510-50/CE/IEC62477/IEC62619/IEC63056/UN38.3			

Single Phase Hybrid

Model

Model	FHM-3k-HY-1P-EU	FHM-3.6k-HY-1P-EU	FHM-4.2k-HY-1P-EU	FHM-5k-HY-1P-EU
PV Input				
Recommended Max. input power [kW]	4.80	5.76	6.72	8.00
Start-up voltage [V]	80	80	80	80
Max. DC input voltage* [V]	600*	600*	600*	600*
Rated DC input voltage [V]	360	360	360	360
MPPT voltage range* [V]	100-550*	100-550*	100-550*	100-550*
No. of MPPT	1	1	2	2
No. of DC inputs per MPPT	1	1	1/1	1/1
Max. input current [A]	15	15	15/15	15/15
Max. short-circuit current [A]	20	20	20/20	20/20
Battery Side				
Battery Type	Lithium Battery (with BMS)			
Battery voltage range [V]	85-450			
Maximum charging/discharge current Grid Side [A]	30/30			
Grid Side				
Rated output power [kW]	3.00	3.60	4.20	5.00 ³⁾
Max. output apparent power [kVA]	3.30	3.96 ³⁾	4.60	5.50 ⁴⁾
Max. input apparent power [kVA]	6.00	7.20	8.40	10.00
Max. charging power of battery [kW]	3.00	3.60	4.20	5.00
Rated AC voltage	L/N/PE; 220/230/240V			
Rated AC frequency [Hz]	50/60	50/60	50/60	50/60
Max. output current [A]	15.00	18.00 ²⁾	21.00	25.00 ⁵⁾
Power factor	0.8 leading ...0.8 lagging			
Max. total harmonic distortion	<3% @Rated output power			
DCI	<0.5%In	<0.5%In	<0.5%In	<0.5%In
Back-up Side				
Rated output power [kW]	3.00	3.60	4.20	5.00
Max. output apparent power [kVA]	3.30	3.96	4.60	5.50
Max. output current [A]	15.00	18.00	21.00	25.00
UPS switching time	<10ms	<10ms	<10ms	<10ms
Rated output voltage	L/N/PE; 220/230/240V			
Rated output frequency [Hz]	50/60	50/60	50/60	50/60
Voltage harmonic distortion	<3% @Linear load			
Efficiency				
Max. efficiency	97.6%	97.6%	97.6%	97.6%
European efficiency	97.0%	97.0%	97.0%	97.0%
Protection				
DC reverse polarity protection	Integrated			
Battery input reverse connection protection	Integrated			
Insulation resistance protection	Integrated			
Surge protection	Integrated			
Over-temperature protection	Integrated			
Residual current protection	Integrated			
Islanding protection	Integrated			
AC over-voltage protection	Integrated			
Overload protection	Integrated			
AC short-circuit protection	Integrated			
General Data				
Over voltage category	PV: II Main: III			
Dimensions [W×H×D mm]	534×418×210			
Weight [kg]	27.0			
Protection degree	IP65			
Standby self-consumption [W]	<15			
Topology	Transformerless			
Operating Temperature Range [°C]	-30~60			
Relative Humidity [%]	0~100			
Operating Altitude	3000 (>3000m derating)			
Cooling	Natural Convection			
Noise Level [dB]	<25			
Display	OLED & LED			
Communication	CAN, RS485, WiFi/LAN (Optional)			

Three Phase Hybrid

Model

FHM-10K2-HY-3P-EU

FHM-12K2-HY-3P-EU

FHM-15K-HY-3P-EU

FHM-20K-HY-3P-EU

PV Side				
Max. PV Array Power [kWp]	15.0	18.0	22.5	30.0
Start-up voltage [V]	135			
Max. DC input voltage* [V]	1000*			
Rated DC input voltage [V]	620			
MPPT voltage range* [V]	200-950*	200-950*	200-950*	200-950*
No. of MPPT	2	2	2	2
No. of DC inputs per MPPT	2/2	2/2	2/2	2/2
Max. input current [A]	30/30	30/30	30/30	30/30
Max. short-circuit current [A]	40/40	40/40	40/40	40/40
Battery Side				
Battery type	Lithium Battery (with BMS)			
Battery voltage range [V]	135-750			
Maximum charging/discharging current [A]	40/40	40/40	40/40	40/40
Grid Side				
Rated output power [kW]	10.0	12.0	15.0	20.0
Max. output apparent power [kVA]	11.0 ⁹⁾	13.2	16.5 ³⁾	22.0
Max. input apparent power [kVA]	20.0	24.0	30.0	30.0
Max. charging power of battery [kW]	10.0	12.0	15.0	20.0
Rated AC voltage	3L/N/PE; 220/380V;230/400V;240/415V			
Rated AC frequency [Hz]	50/60	50/60	50/60	50/60
Max. output current [A]	16.5 ²⁾	20.0	25.0 ⁴⁾	33.5
Power factor	0.8 leading ...0.8 lagging			
Max. total harmonic distortion	<3% @Rated output power			
DCI	<0.5%In			
Back-up Side				
Rated output power [kW]	10.0	12.0	15.0	20.0
Max. output apparent power [kVA]	11.0	13.2	16.5	22.0
Max. output current [A]	16.5	20.0	25.0	33.5
UPS switching time	<10ms	<10ms	<10ms	<10ms
Rated output voltage	3L/N/PE; 220/380V;230/400V;240/415V			
Rated output frequency [Hz]	50/60	50/60	50/60	50/60
Voltage harmonic distortion	<3% @Linear load			
Efficiency				
Max. efficiency	98.4%	98.4%	98.4%	98.4%
European efficiency	97.5%	97.5%	97.5%	97.5%
Protection				
DC reverse polarity protection	Integrated			
Battery input reverse connection protection	Integrated			
Insulation resistance protection	Integrated			
Surge protection	Integrated			
Over-temperature protection	Integrated			
Residual current protection	Integrated			
Islanding protection	Integrated			
AC over-voltage protection	Integrated			
Overload protection	Integrated			
AC short-circuit protection	Integrated			
General Data				
Over voltage category	PV: II Main: III			
Dimensions [W×H×D mm]	534×418×210			
Weight [kg]	28.0	28.0	31.0	31.0
Protection degree	IP65			
Standby self-consumption [W]	<15			
Topology	Transformerless			
Operating Temperature Range [°C]	-30~60			
Relative Humidity [%]	0~100			
Operating Altitude [m]	3000 (>3000m derating)			
Cooling	Smart fan			
Noise Level [dB]	<40	<40	<40	<40
Display	OLED & LED			
Communication	CAN, RS485, WiFi/LAN (Optional)			

** PV Max. Input voltage is 950V without battery, or 850V with battery, otherwise inverter will be waiting;

** Max apparent power from the grid means the maximum power imported from the utility grid used to satisfy the backup loads and charge the battery;

1) G98: 10.5kVA; 2) G98: 16.00A; 3) AS 4777.2: 15.0kVA; 4) AS 4777.2: 21.7A

Three Phase Hybrid

Model

FHM-25K-HY-3P-EU FHM-30K-HY-3P-EU FHM-40K-HY-3P-EU FHM-50K-HY-3P-EU

PV Side				
Max. PV Array Power [kWp]	50	60	80	100
Max. PV Input Voltage ¹ [V]			135	
Rated PV Input Voltage [V]			1000*	
Start-up Voltage [V]			620	
MPPT Operating Voltage Range ¹ [V]			200-950*	
No. of MPPT			4	
No. of Strings per MPPT			2/2/2/2	
Max. Input Current per MPPT [A]			40/40/40/40	
Max. Short-circuit Current per MPPT [A]			50/50/50/50	
Battery Side				
Battery Type			Lithium-ion	
Battery Voltage Range [V]			150-840	
No. of Battery Input			1	
Max. Charge/Discharge Current [A]			150/150	
Max. Charge/Discharge Power	25/25	30/30	40/40	50/50
Grid Side (On-Grid)				
Rated Output Power [kW]	25.0	30.0	40.0	50.0
Max. Output Apparent Power [kVA]	25.0	30.0	40.0	50.0
Rated AC Voltage [V]		3L/N/PE; 220/380V; 230/400V; 240/415V		
Rated AC Frequency [Hz]		50/60		
Rated Output Current [A]	37.9/36.2/34.7	45.5/43.5/41.7	60.6/58/55.6	75.8/72.5/69.4
Max. Output Current [A]	37.9	45.5	60.6	75.8
Power Factor		0.8 leading ...0.8 lagging		
THDi (@Rated Power)		<3%		
Max. Input Apparent Power **	50.0	60.0	80.0	80.0
Rated AC Voltage [V]		3L/N/PE; 220/380V; 230/400V; 240/415V		
Rated AC Frequency [Hz]		50/60		
Max. AC Input Current [A]	75.8	90.9	121.2	121.2
Back-up Side (Off-Grid)				
Rated Output Power [kW]	25.0	30.0	40.0	50.0
Peak Output Apparent Power [kVA]	37.5 @10s	45 @10s	60 @10s	75 @10s
Rated Output Voltage [V]		3L/N/PE; 220/380V; 230/400V; 240/415V		
Rated Output Frequency [Hz]		50/60		
Rated Output Current [A]	37.9/36.2/34.7	45.5/43.5/41.7	60.6/58/55.6	75.8/72.5/69.4
On/Off-grid Switching Time [ms]		< 10ms		
THDv (@Linear Load)		<3%		
Generator Side				
Max. Input Apparent Power [kVA]	25	30	40	50
Rated Input Voltage [V]		3L/N/PE; 220/380V; 230/400V; 240/415V		
Rated Input Frequency [Hz]		50/60		
Max. Input Current [A]	37.9	45.5	60.6	75.8
Efficiency				
MPPT Efficiency		99.90%		
Max. Efficiency		97.80%		
European Efficiency		97.20%		
Max. Battery to AC Efficiency		98.50%		
Max. PV to Battery Efficiency		97.50%		
Protection				
Integrated Protection	DC reverse polarity protection / Battery input reverse connection protection / Insulation resistance protection / Surge protection(DC/AC: Type II/Type II) / Over-temperature protection / Residual current protection / Islanding protection / AC over-voltage protection / Overload protection / AC short-circuit protection			
General Data				
Dimensions [W×H×D mm]	919*739*305			
Weight [kg]	89			
Ingress Protection	IP66			
Standby Self-consumption [W]	< 40			
Topology	Transformerless			
Operating Temperature Range [°C]	-30~60			
Relative Humidity [%]	0~100			
Max. Operation Altitude [m]	3000			
Over Voltage Category	II(PV+Battery), III(Mains)			
Cooling	Smart Fan			
Noise Level [dB]	< 65			
Display	LED & OLED			
Communication	CAN, RS485			

* PV Max. Input voltage is 950V, otherwise inverter will be waiting;

** Max apparent power means the maximum power imported from the grid used to satisfy the backup loads and charge the battery;



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