

aerl

Hybrid Inverter 25–50kW

M2HT-25/29.9/30/40/50K-150

40A

Max. PV Input Current

100%

Unbalanced Output

150A

Max. Charge/Discharge

- Commercial Application
- Three-Phase System
- High-Voltage Battery
- 4 MPPT Inputs

Product Highlights



Enhanced Power & Performance

- 150% backup power @10s
- <10ms seamless on/off-grid switching
- 100% unbalanced load support
- Up to 200% grid input power support



Solar & Energy Optimization

- PV input current up to 20A
- 200% DC oversizing boosts efficiency
- High charging/discharging current
- Versatile applications for all scenarios



System Integration & Flexibility

- Parallel operation supports both off-grid and on-grid
- Half-wave load compatibility for stable performance
- Diesel generator integration secures reliable backup
- Third-party EMS & BMS compatibility



Intelligent Control & Maintenance

- 6 built-in operating modes optimize energy use
- Dynamic pricing mode maximizes cost efficiency
- Remote Upgrade Ensures Fast Updates
- Precise Export Limitation Prevents Grid Backfeed



Australian Energy Research Laboratories

📍 1/75 Bluestone Circuit, Seventeen Mile Rocks, QLD, 4073.

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Models	M2HT-25K-150	M2HT-29.9K-150	M2HT-30K-150	M2HT-40K-150	M2HT-50K-150
PV Side					
Max. PV Array Power [kWp]	50	60	60	80	100
Max. PV Input Voltage * [V]	1000*				
Rated PV Input Voltage [V]	620				
Start-up Voltage [V]	135				
MPPT Operating Voltage Range * [V]	200-950*	200-950*	200-950*	200-950*	200-950*
No. of MPP Trackers	4	4	4	4	4
No. of Strings per MPPT	2/2/2/2	2/2/2/2	2/2/2/2	2/2/2/2	2/2/2/2
Max. Input Current per MPPT [A]	40/40/40/40	40/40/40/40	40/40/40/40	40/40/40/40	40/40/40/40
Max. Short-circuit Current per MPPT [A]	50/50/50/50	50/50/50/50	50/50/50/50	50/50/50/50	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]	25/25				
Max. Charge/Discharge Power [kW]	25/25	30/30	30/30	40/40	50/50
Grid Side (On-Grid)					
Rated Output Power [kW]	25.0	29.9	30.0	40.0	50.0
Max. Output Apparent Power [kVA]	25.0	29.9	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	45.3/43.3/41.5	45.5/43.5/41.7	60.6/58/55.6	75.8/72.5/69.4
Max. Output Current [A]	37.9	45.3	45.5	60.6	75.8
Power Factor	0.8 leading ...0.8 lagging				
THDi (@Rated Power)	<3%				
Max. Input Apparent Power ** [kVA]	50.0	59.8	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	90.6	90.9	121.2	121.2
Back-up Side (Off-Grid)					
Rated Output Power [kW]	25.0	29.9	30.0	40.0	50.0
Peak Output Apparent Power [kVA]	37.5 @10s	45 @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	45.3/43.3/41.5	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]	25.0	29.9	30.0	40.0	50.0
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	45.3	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 [WxHxD mm]	919x739x305				
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 Categor	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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