

MG5RL/MG6RL/MG8RL/MG10RL

Preliminary



ROBUST POWER PERFORMANCE

- 100% full power backup output, delivering stable performance even at temperatures above 45°C
- Whole-home backup with 40/63A bypass switch



ROBUST SOLAR GENERATION

- Industry-leading Max.20A PV input per string
- Wider MPPT voltage range



ROBUST CONTROL INTERFACE

- 4.3-inch large LCD touchscreen
- Multi-functional interface for Generator, Smart load control or Microinverter



ROBUST BACKUP POWER

- Seamless switching <4ms
- 10 seconds of 200% backup peak power capability



ROBUST SAFETY FEATURES

- Dual-system pressure relief structure for PCS
- AFCI Protection



Type designation	MG5RL	MG6RL	MG8RL	MG10RL
Input (DC)				
Recommended max. PV input power	8000 Wp	9600 Wp	12800 Wp	16000 Wp
Max. PV input voltage *	500 V			
Min. PV input voltage / Startup input voltage	40 V / 50 V			
Rated PV input voltage	360 V			
MPPT operating voltage range **	40 V - 425 V			
No. of independent MPP trackers	2	3		
No. of PV strings per MPPT	1/1	1/1/1		
Max. PV input current	40 A (20 A / 20 A)	60 A (20 A / 20 A / 20 A)		
Max. DC short-circuit current	50 A (25 A / 25 A)	75 A (25 A / 25 A / 25 A)		
Max. current for DC connector	25 A			
Battery data				
Battery type	Li-ion battery			
Battery voltage range	40 V - 60 V			
Max. charge / discharge current	120 A / 120 A	135 A / 135 A	190 A / 190 A	220 A / 220 A
Max. charge / discharge power	5000 W	6000 W	8000 W	10000 W
Input / Output (AC)				
Max. AC power from grid	8800 W	8800 W	13860 W	13860 W
Rated AC output power	5000 W	6000 W	8000 W	10000 W
Max. AC output apparent power	5000 VA	6000 VA	8000 VA	10000 VA
Max. AC output current	22.7 A	27.3 A	36.4 A	45.5 A
Rated AC voltage	220 V / 230 V / 240 V			
AC voltage range	154 V - 276 V			
Rated grid frequency	50 Hz / 60 Hz			
Grid frequency range	45 Hz – 55 Hz / 55 Hz – 65 Hz			
Harmonic (THD)	< 3 % (of rated power)			
Power factor at rated power / Adjustable power factor	> 0.99 at default value at rated power			
Feed-in phases / Connection phases	1/1			
Backup data (on grid mode)				
Rated output power for backup load	5000 W	6000 W	8000 W	10000 W
Rated output current for backup load	22.7 A	27.3 A	36.4 A	45.5 A
Max. output power for backup load	5500 W	6600 W	8800 W	11000 W
Max. output current for backup load	25 A	30 A	40 A	50 A
Max. continuous current passthrough (grid to load)	40 A	40 A	63 A	63 A
Backup data (off-grid mode)				
Rated voltage	220 V / 230 V / 240 V			
Rated frequency	50 Hz / 60 Hz			
THDV(@Linear load)	< 2 %			
Backup switch time	≤ 4 ms			
Rated output power	5000 W / 5000 VA	6000 W / 6000 VA	8000 W / 8000 VA	10000 W / 10000 VA
Max. output power for backup load	5500 W	6600 W	8800 W	11000 W
Peak output power	2 times of rated power, 10s			
Efficiency				
Max. efficiency / European efficiency	97.6 % / 96.7 %			
Protection & Function				
Grid monitoring	Yes			
DC reverse polarity protection	Yes			
AC short-circuit protection	Yes			
Leakage current protection	Yes			
DC switch (solar)	Yes			
Surge protection	DC Type II / AC Type II			
PID Zero	Yes			
Micro-inverter compatibility ***	Optional			
General data				
Topology (Inverter)	Non-isolated			
Topology (Battery)	Isolated			
Degree of protection	IP65			
Dimensions (W * H * D)	536 mm * 386 mm * 210 mm		536 mm * 448mm * 250 mm	
Weight	≤ 18 kg		≤ 26 kg	
Mounting method	Wall-mounting bracket			
Operating ambient temperature range	-25 °C - 60 °C			
Allowable relative humidity range(Non-condensing)	0% - 100%			
Cooling method	Natural convection		Fan cooling	
Max. operating altitude	2000 m			
Noise (typical)	< 35dB(A)		≤ 45dB(A)	
Display	LCD digital touchable display & LED indicator			
Communication	CAN, RS485, Ethernet (optional), WLAN (optional)			
DI / DO	DI *1 / DO *1			
DC connection type	MC4 (Max.6 mm²)			
Battery connection type	OT terminal (35 mm² - 50 mm²)		OT terminal (70 mm² -95 mm²)	
AC connection type	Plug and Play (Max.8 mm²)		Plug and Play (Max.16 mm²)	
Grid compliance	IEC 62109-1/-2, IEC/EN 61000-6-1/-3, IEC 63027, IEC 62116, IEC 61727, NRS 097-2-1, MEA, PEA, DEWA, Inmetro 140			

* Input voltage exceeding the MPPT operating voltage range triggers inverter protection ** Please refer to the user manual for the full load MPPT voltage range

*** For micro-inverter compatibility, please consult Sungrow before placing an order