MG5RL / MG6RL

ROBUST POWER PERFORMANCE

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

ROBUST BACKUP POWER

- 4ms Seamless Switch[1)]
- 10 seconds of 200% backup peak power capability

ROBUST SOLAR GENERATION

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

ROBUST SAFETY FEATURES

- Dual-system pressure relief structure

ROBUST CONTROL INTERFACE

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



Technical Data Sheet	MG5RL	MG6RL
Input (DC)		
Recommended max. PV input power	10000 Wp	12000 Wp
Max. usable PV input power	8000 Wp	9600 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[2)]	40 V – 425 V	
No. of independent MPP trackers	2	
No. of PV strings per MPPT	1 / 1	
Max. PV input current	40 A (20 A / 20 A)	
Max. DC short-circuit current	50 A (25 A / 25 A)	
Max. current for DC connector	25 A	
Battery data		
Battery type	Li-ion battery / Lead-acid battery	
Compatible battery model	MGL060 / MBL050 / MBL120 / MBL160 / Third-party LV batteries	
Battery voltage range	40 V – 60 V	
Max. charge / discharge current[3)]	120 A / 120 A	135 A / 135 A
Max. charge / discharge power	5000 W / 5000 W	6000 W / 6000 W
Input / Output (AC)		
Max. AC power from grid	8800 W	
Rated AC output power	5000 W	6000 W
Max. AC output apparent power	5000 VA	6000 VA
Max. AC output current	22.7 A	27.3 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 / 0.8 leading to 0.8 lagging	
Feed-in phases / Connection phases	1 / 1	
Backup Data (on grid mode)		
Max. output power for backup load[4)]	8800 W	
Max. output current for backup load	40 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	6000 W
Max. output power for backup load	5500 W	6600 W
Peak output power	2 times of rated power, 10 s	
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 III	
PID Zero	Yes	
Micro-inverter compatibility[5)]	Optional	
Arc fault circuit interrupter (AFCI)	Optional	
General Data		
Topology (Inverter)	Non-isolated	
Topology (Battery BDC)	Isolated	
Degree of protection	IP65	
Dimensions (W * H * D)	532 mm * 386 mm * 210 mm	
Weight	< 19 kg	
Mounting method	Wall-mounting bracket	
Operating ambient temperature range	-25 ℃ to 60 ℃	
Allowable relative humidity range	0 % – 95 %	
Cooling method	Natural convection	
Max. operating altitude	2000 m	
Noise (typical)	≤ 35 dB (A)	
Display	LCD digital touchable display & LED indicator	
Communication	CAN, RS485, Ethernet, WLAN	
DI / DO	DI * 1 / DO * 1	
DC connection type	MC4 compatible (Max. 6 mm^2)	
Battery connection type	OT terminal (35 mm^2 – 50 mm^2)	
AC connection type	Plug and Play (Max. 8 AWG)	
Scalability[6)]	8 in parallel	
Grid compliance	IEC 62109-1/-2, IEC/EN 61000-6-1/-3, IEC 62116, IEC 61727, NRS 097-2-1, MEA, PEA, DEWA	

[1)] Available in typical conditions
[2)] Please refer to the user manual for the full load MPPT voltage range
[3)] The system's charging and discharging capability is also limited by the battery's charging and discharging performance
[4)] Please refer to the user manual and modify the settings based on actual load power
[5)] For micro-inverter compatibility, it is only available for the grid-connection port of the inverter
[6)] If the number of inverters in parallel exceeds 4, please consult SUNGROW