SUNGROW
Clean power for all

NEW

MG5RL / MG6RL / MG8RL / MG10RL

Robust Power Performance

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

Robust Backup Power

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

Robust Solar Generation

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

Robust Safety Features

- Dual-system pressure relief structure
- AFCI protection

Robust Control Interface

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

Type designation	MG5RL	MG6RL	MG8RL	MG10RL
Input (DC)				
Recommended max. PV input power	10000 Wp	12000 Wp	16000 Wp	20000 Wp
Max. usable 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 / 5000 W	6000 W / 6000 W	8000 W / 8000 W	10000 W / 10000 W
Input / Output (AC)				
Max. AC power from grid	8800 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 / 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 ***	8800 W		13860 W	
Max. output current for backup load	40 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	6000 W	8000 W	10000 W
Max. output power for backup load	5500 W	6600 W	8800 W	11000 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 II			
PID Zero	Yes			
Arc fault circuit interrupter (AFCI)	Optional			
Micro-inverter compatibility ****	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		552 mm * 448 mm * 250 mm	
Weight	≤ 18 kg		≤ 25 kg	
Mounting method	Wall-mounting bracket			
Operating ambient temperature range	-25 ℃ to 60 ℃			
Allowable relative humidity range	0 % – 95 %			
Cooling method	Natural convection		Fan cooling	
Max. operating altitude	2000 m			
Noise (typical)	< 35 dB (A)		≤ 45 dB (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 compatible (Max. 6 mm^2)			
Battery connection type	OT terminal (35 mm^2 – 50 mm^2)		OT terminal (70 mm^2 – 95 mm^2)	
AC connection type	Plug and Play (Max. 8 mm^2)		Plug and Play (Max. 16 mm^2)	
Grid compliance	IEC 62109-1 / -2, IEC / EN 61000-6-1 / -3, IEC 62116, IEC 61727, NRS 097-2-1, MEA, PEA, DEWA			

* Input voltage exceeding the MPPT operating voltage range triggers inverter protection
** Please refer to the user manual for the full load MPPT voltage range
*** Please refer to the user manual and modify the settings based on actual load power
**** For micro-inverter compatibility, please consult Sungrow before placing an order