

Clean Power For a Carbon-Free Life



Sungrow Residential Solution



MG5RL / MG6RL

NEW



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 Switch¹⁾
- 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	
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 II	
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	≤ 18 kg	
Mounting method	Wall-mounting bracket	
Operating ambient temperature range	-25 °C to 60 °C	
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 mm²)	
Battery connection type	OT terminal (35 mm² – 50 mm²)	
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

MG8RL / MG10RL

NEW



ROBUST POWER PERFORMANCE

- 100% full power backup output, delivering stable performance even at temperatures above 45°C
- Whole-home backup with 63A bypass switch
- 314Ah Cells with battery optimizer for long service life



ROBUST BACKUP POWER

- 4ms Seamless Switch¹⁾
- 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
- Real-Time Battery Monitoring with Active Protection Kit



ROBUST CONTROL INTERFACE

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



Type designation	MG8RL	MG10RL
Input (DC)		
Recommended max. PV input power	16000 Wp	20000 Wp
Max. usable PV input power	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 ²⁾	40 V – 425 V	
No. of independent MPP trackers	3	
No. of PV strings per MPPT	1 / 1 / 1	
Max. PV input current	60 A (20 A / 20 A / 20 A)	
Max. DC short-circuit current	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 ³⁾	190 A / 190 A	220 A / 220 A
Max. charge / discharge power	8000 W / 8000 W	10000 W / 10000 W
Input / Output (AC)		
Max. AC power from grid	13860 W	
Rated AC output power	8000 W	10000 W
Max. AC output apparent power	8000 VA	10000 VA
Max. AC output current	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 ⁴⁾	13860 W	
Max. output current for backup load	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	8000 W	10000 W
Max. output power for backup load	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	
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)	552 mm * 448mm * 250 mm	
Weight	≤ 25 kg	
Mounting method	Wall-mounting bracket	
Operating ambient temperature range	-25 °C to 60 °C	
Allowable relative humidity range	0 % – 95 %	
Cooling method	Fan cooling	
Max. operating altitude	2000 m	
Noise (typical)	≤ 45 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 mm²)	
Battery connection type	OT terminal (35 mm² – 95 mm²)	
AC connection type	OT terminal (Max.16 mm²)	
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

MG12RL
MGL060

Preliminary



ROBUST POWER PERFORMANCE

- 100% full power backup output, delivering stable performance even at temperatures above 45°C
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- 314Ah Cells with battery optimizer for long service life



ROBUST BACKUP POWER

- 4 ms Seamless Switch¹⁾



ROBUST SOLAR GENERATION

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



ROBUST SAFETY FEATURES

- Dual-system pressure relief structure
- Real-Time Battery Monitoring with Active Protection Kit



ROBUST CONTROL INTERFACE

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



Technical Data Sheet		MG12RL
Input (DC)		
Recommended max. PV input power		24000 Wp
Max. usable PV input power		19200 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		3
No. of PV strings per MPPT		1/1/1
Max. PV input current		60 A (20 A / 20 A / 20 A)
Max. DC short-circuit current		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 ³⁾		240 A / 240 A
Max. charge / discharge power		12000 W / 12000 W
Input / Output (AC)		
Max. AC power from grid		13860 W
Rated AC output power		12000 W
Max. AC output apparent power		12000 VA
Max. AC output current		54.5 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 ⁴⁾		13860 W
Max. output current for backup load		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		12000 W
Max. output power for backup load		12000 W
Peak output power		1.7 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 ⁵⁾		Optional
General Data		
Topology (Inverter)		Non-isolated
Topology (Battery BDC)		Isolated
Degree of protection		IP65
Dimensions (W * H * D)		552 mm * 448 mm * 250 mm
Weight		≤ 25 kg
Mounting method		Wall-mounting bracket
Operating ambient temperature range		-25 °C to 60 °C
Allowable relative humidity range		0 % – 95 %
Cooling method		Fan cooling
Max. operating altitude		2000 m
Noise (typical)		≤ 45 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 – 95 mm ²)
AC connection type		OT terminal (Max. 16 mm ²)
Grid compliance		IEC 62109-1/-2, IEC/EN 61000-6-1/-3, IEC 62116, IEC 61727, NRS 097-2-1, DEWA

Type designation		MGL060
System Data		
Battery type		LiFePO ₄
Nominal energy		6.0 kWh
Usable energy		5.8 kWh
Nominal voltage		51.2 V
Max. charging / discharging current		60 A / 60 A
Peak charging / discharging current (10 s)		60 A / 78 A
Communication		
Display		LED
Communication interface		CAN
Protection		
Over / under voltage protection		Yes
Over current protection		Yes
Over / under temperature protection		Yes
Reverse connection protection		Yes
DC breaker		Yes
General Data		
Dimensions (W * H * D)		650 mm * 490 mm * 225 mm
Weight		≤ 55 kg
Degree of protection		IP65
Mounting method		Wall-mounting bracket / Floor-standing bracket
Installation location		Indoor / Outdoor
Operating ambient temperature range		Charge: 0 °C to 55 °C Discharge: -20 °C to 55 °C
Allowable relative humidity range		5 % – 95 %
Max. operating altitude		2000 m
Cooling method		Natural convection
Scalability		4 in parallel / 1 inverter
Certification		CE, CEC, IEC 62619, IEC 62040, UN 38.3, IEC 63056, IEC 62477

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



MBL050 / MBL120 / MBL160

NEW



LONG LIFESPAN

- Up to 8,000-cycle lifespan ensures reliable, long-term use



SAFETY

- High-safety LFP battery
- Supports up to 5 types of safety detection



FLEXIBILITY

- Supports parallel connection of 2 to 20 modules, scalable up to 320 kWh



EASY INSTALLATION

- Touchscreen for easy operation
- Equipped with wheels for effortless transport¹⁾



Technical properties	MBL050	MBL120	MBL160
System Data			
Battery type		LiFePO4	
Nominal energy	5.12 kWh	11.8 kWh	16.08 kWh
Battery cycles ²⁾	6000	6000	8000
Nominal voltage		51.2 V	
Voltage range		44.8 V – 57.6 V	
Nominal charging / discharging current	50 A / 50 A	115 A / 115 A	157 A / 157 A
Max. charging / discharging current	100 A / 100 A	230 A / 230 A	200 A / 200 A
Peak charging (1s) / discharging current (3s)	110 A / 150 A	250 A / 300 A	210 A / 300 A
Min. discharging current		2 A	
Communication			
Display	LCD touchscreen		
Language	Chinese, English, Arabic, French		
Display Parameters	SOC, Pack voltage, Pack current, Charging / Discharging status		
Communication interface	CAN / RS485		
Protection			
Over / under voltage protection	Yes		
Over current protection	Yes		
Over / under temperature protection	Yes		
DC breaker	Yes		
General Data			
Dimensions (W * H * D)	494 * 513 * 155 mm	432 * 715 * 243 mm	432 * 855 * 243 mm
Weight	47.5 kg	86.5 kg	114.2 kg
Degree of protection	IP20		
Mounting method ¹⁾	Floor-mounted (Build-in casters) or Wall-mounted		
Installation location	Indoor		
Operating ambient temperature range	Charge : 0 to 55 °C (32 °F to 131 °F) Discharge : -20 to 55 °C (-4 °F to 131 °F)		
Allowable relative humidity range	5% to 95% (non-condensing)		
Storage condition	6 months @ 25 °C; 3 months @ 35 °C; 1 month @ 45 °C		
Max. operating altitude	2000 m		
Cooling method	Natural convection		
Max. parallel units	20		
Certification	CE, IEC 62619, IEC 62477, UN 38.3, MSDS, RoHS		
Compatible inverters	MG5 / 6 / 8 / 10 / 12RL		

¹⁾ Wall mounting only for MBL050. MBL120 and MBL160 require additional wall mounting accessories.

²⁾ Life cycle test conditions: 90% DOD, 0.5C charge & discharge at 25°C.

Clean power for all

Sungrow Vietnam

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