



CATALOGUE / ENGLISH

H1-LV HYBRID INVERTERS

Single-phase residential hybrid | 3 / 3.6 / 5 / 6 / 8 / 10 / 12 kW



200%

PV oversizing

<4 ms

Backup transfer

PROUDLY VIETNAMESE

HOTLINE / ZALO 0898.60.3366

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Vinh: 16 Nguyen Trai, Vinh City, Nghe An

H1-LV

Single-phase residential hybrid

200%

PV oversizing

<4 ms

Backup transfer

IP66

Protection

01 3-in-1 port: generator, smart loads or on-grid inverter.

02 Micro-grid operation with a PV inverter.

03 On- and off-grid parallel operation, up to 6 units.

04 Up to 20 A DC input per string; model/MPPT limits apply (*6).

05 200% PV input oversizing.

06 AI-driven AFCI is optional and purchased separately.

07 IP66 ingress protection.

08 Smart load control; seamless switching to backup in under 4 ms.



Product models

SMR-H1-3-LV-70 / SMR-H1-3.6-LV-90 / SMR-H1-5-LV-120 / SMR-H1-6-LV-140 / SMR-H1-8-LV-160 / SMR-H1-10-LV-200 / SMR-H1-12-LV-240

H1-LV | Complete specifications

Model group: SMR-H1-3-LV-70 / SMR-H1-3.6-LV-90 / SMR-H1-5-LV-120

Parameter	SMR-H1-3-LV-70	SMR-H1-3.6-LV-90	SMR-H1-5-LV-120
Battery input			
Max. continuous charge/discharge current (A)	70	90	120
Max. charging power (kW)	3.0 *2	3.6 *2	5.0 *2
Max. discharging power (kW)	3.3 *2	3.96 *2	5.5 *2
PV string input			
Max. input power (kW)	6.0	7.2	10.0
Max. input current per MPPT (A)	20	20	20
Max. short circuit current per MPPT (A)	26	26	26
Number of MPPT trackers	1	2	2
Number of strings per MPPT	1	1	1
AC output (on-grid)			
Nominal output power (kW)	3.0	3.6	5.0
Max. AC active power (kW) *7 *8	3.3	3.96 *9	5.5
Max. apparent power output to grid (kVA) *7 *8	3.3	3.96 *9	5.5
Max. apparent power from grid (kVA)	7.04	7.04	8.8
Max. AC current output to grid (A)	15	18 *10	25
Max. AC current from grid (A)	32	32	40
AC output (backup)			
Backup nominal apparent power (kVA)	3.0	3.6	5.0
Max. output apparent power without grid (kVA)	3.3 (6.0, 10s)	3.96 (7.2, 10s)	5.5 (10.0, 10s)
Max. output apparent power with grid (kVA)	7.04	7.04	8.8
Max. output current without grid (A)	15	18	25
Max. output current with grid (A)	32	32	40

Parameter	SMR-H1-3-LV-70	SMR-H1-3.6-LV-90	SMR-H1-5-LV-120
AC data (generator)			
Nominal apparent power from generator (kVA)	3.0	3.6	5.0
Max. apparent power from generator (kVA)	3.3	3.96	5.5
Max. AC current from generator (A)	32.0	32.0	40.0
General data			
Cooling method	Natural convection	Natural convection	Natural convection
Weight (kg)	14.5	15.5	15.5
Dimensions W × H × D (mm)	560 × 415 × 204	560 × 415 × 204	560 × 415 × 204

H1-LV | Complete specifications

Model group: SMR-H1-6-LV-140 / SMR-H1-8-LV-160

Parameter	SMR-H1-6-LV-140	SMR-H1-8-LV-160
Battery input		
Max. continuous charge/discharge current (A)	140	160
Max. charging power (kW)	6.0 *2	8.0 *3
Max. discharging power (kW)	6.6 *2	8.8 *3
PV string input		
Max. input power (kW)	12.0	16.0
Max. input current per MPPT (A)	20	32 / 16 *6
Max. short circuit current per MPPT (A)	26	48 / 24
Number of MPPT trackers	2	2
Number of strings per MPPT	1	2 / 1
AC output (on-grid)		
Nominal output power (kW)	6.0	8.0
Max. AC active power (kW) *7 *8	6.6	8.8
Max. apparent power output to grid (kVA) *7 *8	6.6	8.8
Max. apparent power from grid (kVA)	8.8	16.5
Max. AC current output to grid (A)	30	40
Max. AC current from grid (A)	40	75
AC output (backup)		
Backup nominal apparent power (kVA)	6.0	8.0
Max. output apparent power without grid (kVA)	6.6 (12.0, 10s)	8.8 (16.0, 10s)
Max. output apparent power with grid (kVA)	8.8	16.5
Max. output current without grid (A)	30	40
Max. output current with grid (A)	40	75

Parameter	SMR-H1-6-LV-140	SMR-H1-8-LV-160
AC data (generator)		
Nominal apparent power from generator (kVA)	6.0	8.0
Max. apparent power from generator (kVA)	6.6	8.8
Max. AC current from generator (A)	40.0	50.0
General data		
Cooling method	Natural convection	Smart fan cooling
Weight (kg)	15.5	27.0
Dimensions W × H × D (mm)	560 × 415 × 204	560 × 444.5 × 226

H1-LV | Complete specifications

Model group: SMR-H1-10-LV-200 / SMR-H1-12-LV-240

Parameter	SMR-H1-10-LV-200	SMR-H1-12-LV-240
Battery input		
Max. continuous charge/discharge current (A)	200	240
Max. charging power (kW)	10.0 *3	12.0 *3
Max. discharging power (kW)	11.0 *3	13.2 *3
PV string input		
Max. input power (kW)	20.0	24.0
Max. input current per MPPT (A)	32 / 32 *6	32 / 32 *6
Max. short circuit current per MPPT (A)	48 / 48	48 / 48
Number of MPPT trackers	2	2
Number of strings per MPPT	2 / 2	2 / 2
AC output (on-grid)		
Nominal output power (kW)	10.0	12.0
Max. AC active power (kW) *7 *8	11.0	13.2
Max. apparent power output to grid (kVA) *7 *8	11.0	13.2
Max. apparent power from grid (kVA)	16.5	16.5
Max. AC current output to grid (A)	50	60
Max. AC current from grid (A)	75	75
AC output (backup)		
Backup nominal apparent power (kVA)	10.0	12.0
Max. output apparent power without grid (kVA)	11.0 (20.0, 10s)	13.2 (24.0, 10s)
Max. output apparent power with grid (kVA)	16.5	16.5
Max. output current without grid (A)	50	60
Max. output current with grid (A)	75	75

Parameter	SMR-H1-10-LV-200	SMR-H1-12-LV-240
AC data (generator)		
Nominal apparent power from generator (kVA)	10.0	12.0
Max. apparent power from generator (kVA)	11.0	13.2
Max. AC current from generator (A)	54.5	54.5
General data		
Cooling method	Smart fan cooling	Smart fan cooling
Weight (kg)	29.0	29.0
Dimensions W × H × D (mm)	560 × 444.5 × 226	560 × 444.5 × 226

H1-LV | Complete specifications

Shared specifications applicable to all models in this family.

Parameter	All models
Battery input	
Battery type *1	Li-Ion / Lead-acid
Nominal battery voltage (V)	48
Battery voltage range (V)	40 ~ 60
Start-up voltage (V)	44.2
Number of battery inputs	1
PV string input	
Max. input voltage (V) *4	600
MPPT operating voltage range (V) *5	60 ~ 550
Start-up voltage (V)	58
Nominal input voltage (V)	360
AC output (on-grid)	
Nominal output voltage (V)	220 / 230 / 240
Output voltage range (V)	170 ~ 280
Nominal AC grid frequency (Hz)	50 / 60
AC grid frequency range (Hz)	45 ~ 55 / 55 ~ 65
Power factor	~1; adjustable from 0.8 leading to 0.8 lagging
Max. total harmonic distortion	<3%
AC output (backup)	
Nominal output voltage (V)	220 / 230 / 240
Nominal output frequency (Hz)	50 / 60
Output THDv at linear load	<3%
AC data (generator)	
Nominal input voltage (V)	220 / 230 / 240
Input voltage range (V)	170 ~ 280
Nominal generator frequency (Hz)	50 / 60

Parameter	All models
Generator frequency range (Hz)	45 ~ 55 / 55 ~ 65
Efficiency	
Max. efficiency	97.6%
European efficiency	96.2%
Max. battery to AC efficiency	95.5%
MPPT efficiency	99.9%
General data	
Operating temperature range (°C)	-35 ~ +60
Relative humidity	0 ~ 95%
Max. operating altitude (m)	3000
User interface	LCD, WLAN + APP
Communication with BMS	CAN
Communication	RS485, WiFi + LAN + Bluetooth
Communication protocols	Modbus-RTU, Modbus-TCP
Topology	Non-isolated
Ingress protection	IP66
Mounting method	Wall mounted

H1-LV | Conditions & notes

*1: Li-ion batteries include two mainstream types: LFP and ternary lithium.

*2: Above 500 V PV input, battery charge/discharge power is gradually limited; the limit is lifted when voltage falls.

*3: Above 490 V PV input, battery charge/discharge power is gradually limited; the limit is lifted when voltage falls.

*4: At 560-600 V input the inverter enters standby; it resumes when voltage returns to the MPPT range.

*5: Refer to the user manual for the MPPT voltage range at nominal power.

*6: Maximum current per string is 16 A for configurations marked *6; a two-string MPPT has 16 A per string.

*7: For Sri Lanka, maximum output equals the respective nominal rating: 3 / 3.6 / 5 / 6 / 8 / 10 / 12 kW.

*8: For Brazil and Chile, maximum AC output is P_n ; the 8 kW model is 8000 W (VA).

*9: For Jordan, the 3.6 kW model has maximum AC active/apparent grid output of 3.6 kW/kVA.

*10: For Jordan, maximum grid output current for the 3.6 kW model is 15.7 A.

AFCI is optional; optional functions/devices are purchased separately. Contact Samurai Solar for current certificates.

Values apply to the exact model and configuration in each table. Dimensions are width × height × depth. Optional functions are not standard equipment.

Built around your project.

PROUDLY VIETNAMESE

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Catalogue & datasheets | Edition 10/2026. Ratings, conditions and features are configuration-specific; this document does not replace installation manuals, certificates or batch warranty documents.