



H1 Series Three Phase Hybrid Inverter (HV) (9.9-50) kW

Smarter Power Better Life

H1 Series - Three Phase Hybrid Inverter (HV) (9.9-14.9) kW

Type Designation	SiH-9.9kW-TH-PRO		SiH-10kW-TH-PRO	SiH-12kW-TH	SiH-14.9kW-TH
PV (input)					
Max. recommended PV array power [Wp]	20000			24000	30000
Max. PV input voltage [V]				1000	
Rated PV input voltage [V]				650	
Start-up input voltage [V]				150	
MPPT voltage range [V]				150-950	
No. of MPPT/Strings per MPPT				3 (2/1/1)	
Max. PV input current [A]				64 (32/16/16)	
Max. DC short-circuit current [A]				80 (40/20/20)	
Battery (input/output)					
Battery type	Li-ion battery				
Battery voltage range [V]	100-800				
Max. charge/discharge current* [A]	50 / 50				
Max. charge/discharge power [W]	15000 / 9999	15000 / 10000		15000 / 12000	30000 / 14999
Grid (input/output)					
Max. AC power from grid	43000 W / 43000 VA				
Rated AC output power [VA]	9999	10000		12000	14999
Max. AC output power [VA]	9999	10000		12000	14999
Max. AC output current [A]	15.2			18.2	22.8
Rated voltage [V]	3 / N / PE, 220 / 380 Va.c; 230 / 400 Va.c; 240 / 415 Va.c				
AC voltage range [V]	270-480				
Rated grid frequency [Hz]	50/60				
Grid frequency range [Hz]	45-55 / 55-65				
Total harmonic distortion (THDi, rated power) [%]	< 3% (of rated power)				
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading to 0.8 lagging				
Backup (output)					
Rated voltage [V]	3 / N / PE, 220 / 380 Va.c; 230 / 400 Va.c; 240 / 415 Va.c (± 2 %)				
Rated current [A]	15.2			18.2	22.8
Frequency range [Hz]	50 / 60				
Total harmonic distortion (THDv, rated power, Linear load) [%]	≤2				
Backup switching time [ms]	< 10				
Rated output power (off-grid mode) [VA]	9999	10000		12000	14999
Peak output power (off-grid mode)**	16800 W / 16800 VA, 10s				25500 W / 25500 VA, 10s
Max. output power (on-grid mode)	43000 W / 43000 VA				
Max. output current (on-grid mode) [A]	3*63				
Efficiency					
Max. efficiency/European efficiency [%]	98.0 / 97.5				98.1 / 97.6
Protection & Function					
Parallel***	Master-slave mode				
Surge protection	Type II , DC and AC				
Overvoltage category	II DC and III AC				
Protective class	Class I				
Grid monitoring	Yes				
DC reverse polarity protection	Yes				
Battery input reverse polarity protection	Yes				
Insulation monitoring	Yes				
AC short-circuit protection	Yes				
Residual current protection	Yes				
DC switch (PV)	Yes				
Over-heat protection	Yes				
AFCI	OPT				
Active anti-islanding method	Frequency shift				
General Data					
Topology (PV/battery)	Transformerless / Transformerless				
Degree of protection	IP66				
Dimensions (W*H*D) [mm]	615 * 465 * 255				
Weight [kg]	35				
Mounting method	Wall-mounting bracket				
Operating ambient temperature range [°C]	-25-60 (Derating above 45)				
Allowable relative humidity range (Non-condensing) [%]	0-100				
Cooling method	Natural convection				
Max. operating altitude [m]	2000				
Noise (Typical)	35 dB (A)				
Display	LED				
Communication	2 ×RS485, WLAN, 2 × CAN				
DI/DO	4 × DI, 2 × DO, DRMO				
DC connection type	MC4 (PV , Max.6mm²) Plug and play connector (battery , Max.10mm²)				
AC connection type	OT Terminals (grid / backup , Max.26mm²)				
Country of manufacture	China				

* Depending on the connected battery
** Can be reached only if PV and battery power is sufficient
***Detail refer to inverters parallel configuration in user manual
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H1 Series - Three Phase Hybrid Inverter (HV) (15-25) kW

Type Designation	SiH-15kW-TH	SiH-19.9kW-TH	SiH-20kW-TH	SiH-25kW-TH
PV (input)				
Max. recommended PV array power [Wp]	30000	40000	50000	
Max. PV input voltage [V]		1000		
Rated PV input voltage [V]		650		
Start-up input voltage [V]		150		
MPPT voltage range [V]		150-950		
No. of MPPT/Strings per MPPT	3 (2/1/1)	3 (2/2/1)		3 (2/2/2)
Max. PV input current [A]	64 (32/16/16)	80 (32/32/16)		96 (32/32/32)
Max. DC short-circuit current [A]	80 (40/20/20)	100 (40/40/20)		120 (40/40/40)
Battery (input/output)				
Battery type	Li-ion battery			
Battery voltage range [V]	100-800			
Max. charge/discharge current* [A]	50 / 50			60 / 60
Max. charge/discharge power [W]	30000 / 15000	30000 / 19999	30000 / 20000	30000 / 25000
Grid (input/output)				
Max. AC power from grid	43000 W / 43000 VA			55000 W / 55000 VA
Rated AC output power [VA]	15000	19999	20000	25000
Max. AC output power [VA]	15000	19999	20000	25000
Max. AC output current [A]	22.8	30.3		37.9
Rated voltage [V]	3 / N / PE, 220 / 380 Va.c; 230 / 400 Va.c; 240 / 415 Va.c			
AC voltage range [V]	270-480			
Rated grid frequency [Hz]	50/60			
Grid frequency range [Hz]	45-55 / 55-65			
Total harmonic distortion (THDi, rated power) [%]	< 3% (of rated power)			
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading to 0.8 lagging			
Backup (output)				
Rated voltage [V]	3 / N / PE, 220 / 380 Va.c; 230 / 400 Va.c; 240 / 415 Va.c (± 2 %)			
Rated current [A]	22.8	30.3		37.9
Frequency range [Hz]	50 / 60			
Total harmonic distortion (THDv, rated power, Linear load) [%]	≤2			
Backup switching time [ms]	< 10			
Rated output power (off-grid mode) [VA]	15000	19999	20000	25000
Peak output power (off-grid mode)**	25500 W / 25500 VA, 10s	32000 W / 32000 VA, 10s		36500 W / 36500 VA, 10s
Max. output power (on-grid mode)	43000 W / 43000 VA			55000 W / 55000 VA
Max. output current (on-grid mode) [A]	3*63			3*80
Efficiency				
Max. efficiency/European efficiency [%]	98.1 / 97.6			98.2 / 97.8
Protection & Function				
Parallel***	Master-slave mode			
Surge protection	Type II , DC and AC			
Overvoltage category	II DC and III AC			
Protective class	Class I			
Grid monitoring	Yes			
DC reverse polarity protection	Yes			
Battery input reverse polarity protection	Yes			
Insulation monitoring	Yes			
AC short-circuit protection	Yes			
Residual current protection	Yes			
DC switch (PV)	Yes			
Over-heat protection	Yes			
AFCI	OPT			
Active anti-islanding method	Frequency shift			
General Data				
Topology (PV/battery)	Transformerless / Transformerless			
Degree of protection	IP66			
Dimensions (W*H*D) [mm]	615 * 465 * 255			
Weight [kg]	35	36.5	38	
Mounting method	Wall-mounting bracket			
Operating ambient temperature range [°C]	-25-60 (Derating above 45)			
Allowable relative humidity range (Non-condensing) [%]	0-100			
Cooling method	Natural convection			Fan cooling
Max. operating altitude [m]	2000			
Noise (Typical)	35 dB (A)			55 dB (A)
Display	LED			
Communication	2 ×RS485, WLAN, 2 × CAN			
DI/DO	4 × DI, 2 × DO, DRMO			
DC connection type	MC4 (PV , Max.6mm²) Plug and play connector (battery , Max.10mm²)			
AC connection type	OT Terminals (grid / backup , Max.26mm²)			
Country of manufacture	China			

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H1 Series - Three Phase Hybrid Inverter (HV) (29.9-50) kW

Type Designation	SiH-29.9kW-TH		SiH-30kW-TH		SiH-40kW-TH		SiH-50kW-TH	
PV (input)								
Max. recommended PV array power [Wp]	60000							
Max. PV input voltage [V]	1000							
Rated PV input voltage [V]	650							
Start-up input voltage [V]	150							
MPPT voltage range [V]	150-950							
No. of MPPT/Strings per MPPT	3 (2/2/2)							
Max. PV input current [A]	96 (32/32/32)							
Max. DC short-circuit current [A]	120 (40/40/40)							
Battery (input/output)								
Battery type	Li-ion battery							
Battery voltage range [V]	100-800							
Max. charge/discharge current* [A]	60 / 60						65 / 65	
Max. charge/discharge power [W]	30000 / 29999		30000 / 30000		40000 / 40000		50000 / 50000	
Grid (input/output)								
Max. AC power from grid	55000 W / 55000 VA							
Rated AC output power [VA]	29999		30000		40000		50000	
Max. AC output power [VA]	29999		30000		40000		50000	
Max. AC output current [A]	45.5				60.6		75.8	
Rated voltage [V]	3 / N / PE, 220 / 380 Va.c; 230 / 400 Va.c; 240 / 415 Va.c							
AC voltage range [V]	270-480							
Rated grid frequency [Hz]	50/60							
Grid frequency range [Hz]	45-55 / 55-65							
Total harmonic distortion (THDi, rated power) [%]	< 3% (of rated power)							
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading to 0.8 lagging							
Backup (output)								
Rated voltage [V]	3 / N / PE, 220 / 380 Va.c; 230 / 400 Va.c; 240 / 415 Va.c (± 2 %)							
Rated current [A]	45.5				60.6		75.8	
Frequency range [Hz]	50 / 60							
Total harmonic distortion (THDv, rated power, Linear load) [%]	≤2							
Backup switching time [ms]	< 10							
Rated output power (off-grid mode) [VA]	29999		30000		40000		50000	
Peak output power (off-grid mode)**	45000 W / 45000 VA, 10s				60000 W / 60000 VA, 10s		70000 W / 70000 VA, 10s	
Max. output power (on-grid mode)	55000 W / 55000 VA							
Max. output current (on-grid mode) [A]	3*80							
Efficiency								
Max. efficiency/European efficiency [%]	98.2 / 97.8				98.2 / 97.9			
Protection & Function								
Parallel***	Master-slave mode							
Surge protection	Type II , DC and AC							
Overvoltage category	II DC and III AC							
Protective class	Class I							
Grid monitoring	Yes							
DC reverse polarity protection	Yes							
Battery input reverse polarity protection	Yes							
Insulation monitoring	Yes							
AC short-circuit protection	Yes							
Residual current protection	Yes							
DC switch (PV)	Yes							
Over-heat protection	Yes							
AFCI	OPT							
Active anti-islanding method	Frequency shift							
General Data								
Topology (PV/battery)	Transformerless / Transformerless							
Degree of protection	IP66							
Dimensions (W*H*D) [mm]	615 * 465 * 255							
Weight [kg]	38				39.5		39.8	
Mounting method	Wall-mounting bracket							
Operating ambient temperature range [°C]	-25-60 (Derating above 45)							
Allowable relative humidity range (Non-condensing) [%]	0-100							
Cooling method	Fan cooling							
Max. operating altitude [m]	2000							
Noise (Typical)	55 dB (A)						60 dB (A)	
Display	LED							
Communication	2 ×RS485, WLAN, 2 × CAN							
DI/DO	4 × DI, 2 × DO, DRMO							
DC connection type	MC4 (PV , Max.6mm²) Plug and play connector (battery , Max.10mm²)							
AC connection type	OT Terminals (grid / backup , Max.26mm²)							
Country of manufacture	China							

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