SUNGROW
Clean power for all

Preliminary

SH50/80CX
Multi-MPPT Commercial & Industrial Hybrid Inverter

SUPERIOR YIELD

- Up to 200% PV oversizing
- 20 A per string with 182 / 210 mm high-power modules
- PID Zero ® anti-PID technology

ROBUST PERFORMANCE

- 150% off-grid overload (10 s)
- Up to 180 / 200 A charge / discharge current for SH50 / 80CX
- Built-in ≤ 10 ms UPS level on / off-grid switching

FLEXIBLE APPLICATION

- Smart trading ready for intelligent TOU, dynamic pricing, and VPP participation
- DC coupled solution for new installation and retrofit upgrades
- 100% three-phase unbalance output

ACTIVE SAFETY

- AFCI 3.0+ , intelligent DC arc interrupter, with a detection range of 600m
- Intelligent string-level protection switch & PV-to-Ground fault protection
- IP66, C5, and self-cleaning air ducts function



Type designation	SH50CX	SH80CX
Input (DC)		
Max. PV input power	100 kWp	160 kWp
Max. PV input voltage [1]	1100 V	
Min. PV input voltage / Startup input voltage	180 V / 200 V	
Rated PV input voltage	600 V	
MPPT voltage range [2]	180 V - 1000 V	
No. of independent MPP inputs	5	10
No. of PV strings per MPPT	2	
Max. PV input current	40 A * 5	40 A * 10
Max. DC short-circuit current	50 A * 5	50 A * 10
Max. current for DC connector	30 A	
Battery data		
Battery type	Lithium-ion battery	
Battery Voltage Range [3]	129 V - 880 V	
Communication	CAN	
Max. charge / discharge current [4]	180 A / 180 A	200 A / 200 A
Max. charge / discharge power	50 kW / 50 kW	80 kW / 80 kW
Input and output (AC)		
Max. AC power from grid [5]	100 kVA @ 230 V	160 kVA @ 230 V
Rated AC output power	50 kW	80 kW
Max. AC output apparent power	55 kVA	88 kVA
Max. AC output current	83.6 A	133.7 A
Rated AC output current	72.2 A	115.5 A
Rated AC voltage	3 / N / PE, 220 / 380 V, 230 / 400 V	
AC voltage range	270 - 480 V	
Rated grid frequency	50 Hz / 60 Hz	
Grid frequency range	45 Hz - 55 Hz / 55 Hz - 65 Hz	
Harmonic (THD)	< 3 % (at 400V AC voltage and rated power)	
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging	
Feed-in phases / AC connection	3 / 3 - N - PE	
Backup data		
Rated voltage	3 / N / PE, 220 / 380 V, 230 / 400 V	
Rated frequency	50 Hz / 60 Hz	
THDv (@Linear load)	< 2 % (at rated power)	
Backup switch time	≤ 10 ms	
Rated output power	50 kW	80 kW
Peak load power	1.5 times of rated power, 10 s	
Efficiency		
Max. efficiency / European efficiency	98.2 % / 97.9 %	98.3 % / 98 %
Protection & function		
Grid monitoring	Yes	
DC reverse polarity protection	Yes	
AC short-circuit protection	Yes	
Leakage current protection	Yes	
DC switch	Yes	
Ground fault monitoring	Yes	
PV string current monitoring	Yes	
Arc fault circuit interrupter (AFCI)	Yes	
Surge protection	DC Type I+II / AC Type II	
PID zero	Yes	
Battery input reverse polarity protection	Yes	
General data		
Topology	Transformerless	
Degree of protection	IP66	
Dimensions (W * H * D)	1095 mm * 795 mm * 360 mm	
Weight	≤ 115 kg	≤ 128 kg
Mounting method	Wall-mounting bracket	
Operating ambient temperature range	- 30 ℃ to 60 ℃	
Allowable relative humidity range (non-condensing)	0 - 100 %	
Corrosion	C5	
Cooling method	Smart forced air cooling	
Max. operating altitude	3000 m	
Noise (Typical)	≤ 65 dB(A)	
Grid compliance	IEC 62109-1/-2, IEC 62477-1, IEC 62920, EN 55011, IEC 63027, VDE-AR-N 4105, VDE-AR-N 4110, NRS 097-2-1, UNE 207002, UNE 207001, NTS 2.1, CEI 0-16, CEI 0-21, EN 50549, EN 50530, IEC 61683, IEC 62116, IEC 61727, IEC 60068, IEC 61000-6-3, IEC 63027	
Interface		
Display	LED, Bluetooth + APP	
Communication with battery	CAN	
Communication with Logger	RS485	
Communication between Logger and iSolarCloud	4G (optional) / WLAN / Ethernet	
DI / DO	DI * 2 / DO * 3	
DC connection type	MC4 (Max. 6 mm²)	
AC connection type [6]	OT / DT terminal (Max. 300 mm²)	

[1] Input voltage exceeding the MPPT operating voltage range triggers inverter protection
[2] Please refer to the user manual for the full load MPPT voltage range
[3] Minimum battery voltage for black-start would be 150V for SH50CX and 270V for SH80CX
[4] Depending on the connected battery
[5] Max. AC power from grid would be 55 kVA for SH50CX and 88 kVA for SH80CX if inverter works without backup loads
[6] Please refer to the user manual for detail information

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