

# THE 3-PHASE SOLUTION

### BEYOND THE EXPECTED







No wiring between the individual modules required. Simple plug & play.



#### **BEYOND USUAL**

Profit of a maximum discharge current of 30 A and enjoy maximum self-consumption.



#### **BEYOND SERVICE**

One manufacturer, one point of contact. Enjoy direct support for the whole solution.





#### **BEYOND EFFORTLESS**

With only 33 kg per module and the simple plug & play style, the installation can easily be realized by one person. The 3-phase Hybrid recognizes and sets-up the Battery automatically after installation.

#### **BEYOND POWERFUL BACKUP**

The most optimized residential backup experience, with advanced backup load management and seamless 20 ms switching time.

#### **BEYOND SAFE**

The Battery has been certified with the most updated safety standards like the strict VDE2510-50. Furthermore, it has been designed with multiple layers of redundant measurements for maximum safety.



**Andrea Polini** Product Manager Hybrid / ESS

## MORE HARD FACTS

Type designation	SH5.0RT	SH6.0RT	SH8.0RT	SH10RT				
PV Input								
Max. PV input power	7500 W	9000 W	12000 W	15000 W				
	7300 W			13000 VV				
Max. PV input voltage			00 V					
Startup voltage	180 V	250 V	250 V	250 V				
Nominal input voltage		60	0 V					
MPP voltage range	150 V – 950 V	200 V – 950 V	200 V - 950 V	200 V - 950 V				
MPP voltage range for nominal power	210 V - 850 V	250 V - 850 V	330 V - 850 V	280 V - 850 V				
No. of MPPTs			2					
Max. number of PV strings per MPPT	1/1	1/1	1/1	1/2				
9 ,	1 / 1	,	,	1 / 2				
Max. PV input current			A / 12.5 A)					
Max. current for input connector			ΣA					
Short-circuit current of PV input	32 A (16 A / 16 A)	32 A (16 A / 16 A)	32 A (16 A / 16 A)	48 A (16 A / 32 A)				
AC Input and Output								
Max. AC input power from grid	12500 W	15000 W	18600 W	20600 W				
Nominal AC output power	5000 W	6000 W	8000 W	10000 W				
·								
Nominal AC ouput current	7.3 A	8.7 A	11.6 A	14.5 A				
Max. AC output apparent power	5000 VA	6000 VA	8000 VA	10000 VA				
Max. AC output current	7.6 A	9.1 A	12.1 A	15.2 A				
Nominal AC voltage		3 / N / PE, 220 / 380 V:	230 / 400 V; 240 / 415 V					
AC voltage range			480 V					
Nominal grid frequency /			5 – 55 Hz.					
9 , 9 ,		,	,					
Grid frequency range			55 – 65 Hz					
THD		,	ninal power)					
DC current injection		<0.5	% In					
Power factor		>0.99 / 0.8 leadii	ng to 0.8 lagging					
Protection								
-VRT								
			es					
Anti-islanding protection			es					
AC short circuit protection	Yes							
_eakage current protection	Yes							
DC switch (solar)	Yes							
DC fuse (battery)								
, , , , , , , , , , , , , , , , , , , ,	Yes							
Overvoltage category	III [MAINS], II [PV] [BATTERY]							
SPD		DC Type II	/ AC Type II					
Battery input reverse polarity protection		Υ	es					
Parallel operation / Max. No. of inverters		Master-slav	e mode / 5 *					
Battery Data								
Battery type		Li-ion	battery					
Battery voltage			- 600 V					
Max charge / discharge current			/ 30A **					
Max charge / discharge power	7500 W / 6000 W	9000 W / 7200 W	10600 W / 10600 W	10600 W / 10600 W				
System Data								
Max. efficiency	98.0%	98.2%	98.4%	98.4%				
European efficiency	97.2%	97.5%	97.9%	97.9%				
	37.270			37.370				
solation method (solar / battery)			/Transformerless					
Degree of protection		IP	65					
Operating ambient temperature range		-25 °C	– 60 °C					
Allowable relative humidity range		001	1000/					
non-condensing)		0% –	100%					
Cooling method		Natural o	onvection					
~								
Max. operating altitude			00 m derating)					
Noise (Typical)			B (A)					
Display		LI	ED					
Communication		RS485. WLAN. Ether	net, CAN, 4×DI, 1×DO					
DC connection type			nclix (Battery)					
De connection type		, ,	, , ,					
AC connection type		9 ,	ay connector	0.6033.6 :==				
* .	IEC / EN 62109, IEC / EN 61000-6, EN 62477-1, IEC 61727, IEC 62116, IEC							
• • • • • • • • • • • • • • • • • • • •			777.2, EN50549-1, NRS 0	)97-2-1, R25				
• • • • • • • • • • • • • • • • • • • •		DE-AR-N-4105, AS/NZS 4						
Compliance		DE-AR-N-4105, AS/NZS 4						
Compliance Mechanical Data			* 170 mm					
Compliance  Mechanical Data  Dimensions (W * H * D)		460 * 540	* 170 mm					
Compliance  Mechanical Data  Dimensions (W * H * D)  Mounting method		460 * 540 Wall-moun	ting bracket					
AC connection type Compliance  Mechanical Data  Dimensions (W * H * D)  Mounting method  Weight		460 * 540 Wall-moun						
Compliance  Mechanical Data  Dimensions (W * H * D)  Mounting method  Weight		460 * 540 Wall-moun 27	ting bracket kg					
Compliance  Mechanical Data  Dimensions (W * H * D)  Mounting method  Weight  Backup Data		460 * 540 Wall-moun 27	ting bracket					
Compliance  Mechanical Data  Dimensions (W * H * D)  Mounting method  Weight  Backup Data  Nominal voltage		460 * 540 Wall-moun 27 3 / N / PE, 220 Vac	ting bracket kg / 230 Vac / 240 Vac					
Mechanical Data Dimensions (W * H * D) Mounting method Weight Backup Data Nominal voltage Frequency range		460 * 540 Wall-moun 27 3 / N / PE, 220 Vac 50Hz	ting bracket kg / 230 Vac / 240 Vac / 60Hz					
Mechanical Data Dimensions (W * H * D) Mounting method Weight Backup Data Nominal voltage Frequency range Total hamonic factor output		460 * 540 Wall-moun 27 3 / N / PE, 220 Vac 50Hz	ting bracket kg / 230 Vac / 240 Vac					
Mechanical Data Dimensions (W * H * D) Mounting method Weight Backup Data Nominal voltage Frequency range Total hamonic factor output voltage(Linear load)		460 * 540 Wall-moun 27 3 / N / PE, 220 Vac 50Hz 2	ting bracket kg / 230 Vac / 240 Vac / 60Hz %					
Mechanical Data Dimensions (W * H * D) Mounting method Weight Backup Data Nominal voltage Frequency range Total hamonic factor output voltage(Linear load) Switch time to emergency mode	61683, V	460 * 540 Wall-moun 27 3 / N / PE, 220 Vac 50Hz 2	ting bracket kg / 230 Vac / 240 Vac / 60Hz % Oms					
Mechanical Data Dimensions (W * H * D) Mounting method Weight Backup Data Nominal voltage Frequency range Total hamonic factor output voltage(Linear load)		460 * 540 Wall-moun 27 3 / N / PE, 220 Vac 50Hz 2	ting bracket kg / 230 Vac / 240 Vac / 60Hz %	10000 W / 10000 V				
Mechanical Data Dimensions (W * H * D) Mounting method Weight Backup Data Nominal voltage Frequency range Total hamonic factor output voltage(Linear load) Switch time to emergency mode	61683, V	460 * 540 Wall-moun 27 3 / N / PE, 220 Vac 50Hz 2	ting bracket kg / 230 Vac / 240 Vac / 60Hz % Oms 8000 W / 8000 VA	10000 W / 10000 V/ 12000 W /				

<sup>\*:</sup> This function will be available in 2021 Q2, Germany is available for 2 inverters parallel in maximum if no ripple control is used in system \*\*: Depending on the connected battery
\*\*\*: Can be reached only if PV and battery power is enough

### MORE HARD FACTS

#### SBR096/SBR128/SBR160/SBR192/SBR224/SBR256

System Data	Type designation	SBR096	SBR128	SBR160	SBR192	SBR224	SBR256			
System Data   Battery Type	Technical properties									
Battery Type Battery Module Battery Module 3.2 kWh, 33 kg Nominal Capacity 9.6 kWh 12.8 kWh 16 kWh 19.2 kWh 19.2 kWh 22.4 kWh 25.6 kWh Nominal Voltage 192.V 256 V 320 V 384 V 448 V 512 V 00erating voltage 195.V 196. W 19.2 kWh 19.2 kWh 19.2 kWh 22.4 kWh 25.6 kWh Nominal voltage 195.V 256 V 320 V 384 V 448 V 512 V 00erating voltage 195.V 196. W 19.6 kW 19.8 kW 19.8 kW 19.8 kW 19.6 kW 11.52 kW 13.3 kW 15.35 kW 15.3		3 modules	4 modules	5 modules	6 modules	7 modules	8 modules			
Sattery Module   Saz kWh, 33 kg   Sav kWh   Saz kWh	System Data									
Nominal Capacity	Battery Type	LiFePO4 Prismatic Cell								
Part	Battery Module			3.2 kWh,	, 33 kg					
Nominal voltage         192 V         256 V         320 V         384 V         448 V         512 V           Operating voltage         150 − 219 V         200 − 292 V         250 − 365 V         300 − 438 V         350 − 511 V         400 − 584 V           Rated DC power         5.76 kW         7.68 kW         9.6 kW         11.52 kW         13.44 kW         15.33 kW         17.52 kW           Max. charging/discharging current:         6.57 kW         8.76 kW         10.95 kW         13.14 kW         15.33 kW         17.52 kW           Max. charging/discharging current:         6.57 kW         8.76 kW         10.95 kW         13.14 kW         15.33 kW         17.52 kW           Max. charging/discharging current:         10.09 kW         10.09 kW         10.09 kW         10.09 kW         10.00 kW	Nominal Capacity	9.6 kWh	12.8 kWh	16 kWh	19.2 kWh	22.4 kWh	25.6 kWh			
Operating voltage         150 - 219 V         200 - 292 V         250 - 365 V         300 - 438 V         350 - 511 V         400 - 584 V           Rated DC power         5.76 kW         7.68 kW         9.6 kW         11.52 kW         13.44 kW         15.36 kW           Max. charging/discharging current: continuous         6.57 kW         8.76 kW         10.95 kW         13.14 kW         15.33 kW         17.52 kW           Max. charging/discharging current: continuous         42 A	Energy (usable) 1	9.6 kWh	12.8 kWh	16 kWh	19.2 kWh	22.4 kWh	25.6 kWh			
Rated DC power	Nominal voltage	192 V	256 V	320 V	384 V	448 V	512 V			
Max. charge/discharge power         6.57 kW         8.76 kW         10.95 kW         13.14 kW         15.33 kW         17.52 kW           Max. charging/discharging current: continuous         30 A	Operating voltage	150 – 219 V	200 – 292 V	250 – 365 V	300 – 438 V	350 – 511 V	400 – 584 V			
Max. charging/discharging current: continuous       30 A         Max. charging/discharging current: 100 pulse       42 A         Depth of Discharge       100%         Short circuit current       1700 A         Display       SOC indicator, status indicator         Communication interface       CAN         Protection         Over / under voltage protection       Yes         Over / under temperature protection       Yes         Independent of the protection of t	Rated DC power	5.76 kW	7.68 kW	9.6 kW	11.52 kW	13.44 kW	15.36 kW			
Max. charging/discharging current:  10s pulse  Depth of Discharge Short circuit current Display SOC indicator, status indicator Communication interface Protection Over / under voltage protection Over / under temperature protection Display Display SOC indicator, status indicator Communication interface  Ves Over / under voltage protection Over ourrent protection Over ourrent protection DC breaker Dimensions (W'H*D) So25*545*330 mm So25*675*330 mm So25*805*330 mm So25*935*330 mm So25*1065*330 mm So25*1195*330 mm So25*11195*330 mm So25*1195*330 mm So25*1195*330 m	Max. charge/discharge power	6.57 kW	8.76 kW	10.95 kW	13.14 kW	15.33 kW	17.52 kW			
Depth of Discharge	Max. charging/discharging current: continuous	30 A								
Depth of Discharge	Max. charging/discharging current:	42 A								
Short circuit current Display SOC indicator, status indicator Communication interface CAN  Protection Over / under voltage protection Over / under temperature protection Over / under und	10s pulse									
Display  SOC indicator, status indicator  Communication interface  CAN  Protection  Over / under voltage protection  Over / under temperature protection  Cb breaker  General Data  Dimensions (W*H*D)  Meight  Mil kg	Depth of Discharge	100%								
Communication interface CAN  Protection  Over / under voltage protection Over / under temperature follows and over stand Over / under temperature protection Indoor / Outdoor Indoor / Outdoor Indoor / Outdoor Indoor / Outdoor Over / under temperature range Over / outdoor Over / under temperature range Over / outdoor Indoor / Outdoor Over / under temperature range Over / outdoor Indoor / Outdoor Over / under temperature range Over / outdoor Over / outdoor Indoor / Outdoor Indoor / Outdoor Over / under temperature range Over / outdoor Over / outdoor Indoor / Outdoor Indoor / Outdoor Over / outdoor Indoor / Outdoor Over / outdoor Indoor / Outdoor I	Short circuit current	1700 A								
Protection Over / under voltage protection Over current protection Over current protection Over / under temperature protection Over / under temperature protection OC breaker OC	Display	SOC indicator, status indicator								
Over / under voltage protection Over current protection Over / under temperature for 625*05*330 mm 625*1065*330 mm 625*1065*330 mm 625*1065*330 mm 625*1065*330 mm 625*1095*330 mm 625*1095*330 mm 625*1095*330 mm 625*109	Communication interface									
Over current protection Over / under temperature protection Over / under temperature protection  DC breaker  General Data  Dimensions (W*H*D)  625*545*330 mm 625*675*330 mm 625*805*330 mm 625*935*330 mm 625*1065*330 mm 625*1195*330 mm Weight  114 kg 147 kg 180 kg 213 kg 246 kg 279 kg Installation location  Mounting method Operating ambient temperature range Charge: 0 to 50 °C / Discharge: -30 to 50 °C  Degree of protection IP55  Allowable relative humidity range Max. operating altitude Cooling method Corliginates CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty 2  10 Years	Protection									
Over / under temperature protection  DC breaker  Ceneral Data  Dimensions (W*H*D)  625*545*330 mm 625*675*330 mm 625*805*330 mm 625*935*330 mm 625*1065*330 mm 625*1195*330 mm  Weight  114 kg  147 kg  180 kg  213 kg  246 kg  279 kg  Indoor / Outdoor  Mounting method  Floor stand  Operating ambient temperature range  Degree of protection  Allowable relative humidity range  Max. operating altitude  Cooling method  Certificates  CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty 2  10 Years	Over / under voltage protection	Yes								
DC breaker         Yes           General Data         Dimensions (W*H*D)         625*545*330 mm         625*675*330 mm         625*805*330 mm         625*935*330 mm         625*1065*330 mm         625*1095*330 mm         625*1095*33	Over current protection	Yes								
General Data  Dimensions (W*H*D)  625*545*330 mm 625*675*330 mm 625*805*330 mm 625*935*330 mm 625*1065*330 mm 625*1195*330 mm Weight  114 kg 147 kg 180 kg 213 kg 246 kg 279 kg Installation location  Mounting method  Floor stand Operating ambient temperature range  Charge: 0 to 50 °C / Discharge: -30 to 50 °C  Degree of protection  IP55  Allowable relative humidity range  Max. operating altitude  Cooling method  Certificates  CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty <sup>2</sup>	Over / under temperature protection	Yes								
Dimensions (W*H*D) 625*545*330 mm 625*675*330 mm 625*805*330 mm 625*935*330 mm 625*1065*330 mm 625*1195*330 mm Weight 114 kg 147 kg 180 kg 213 kg 246 kg 279 kg Indoor / Outdoor Mounting method Operating ambient temperature range Charge: 0 to 50 °C / Discharge: -30 to 50 °C Degree of protection Allowable relative humidity range Max. operating altitude Cooling method Certificates CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50 Warranty <sup>2</sup>	DC breaker	Yes								
Weight 114 kg 147 kg 180 kg 213 kg 246 kg 279 kg Installation location Indoor / Outdoor  Mounting method Floor stand Operating ambient temperature range Charge: 0 to 50 °C / Discharge: -30 to 50 °C Degree of protection IP55 Allowable relative humidity range 0% to 95% (non-condensing) Max. operating altitude 2000 m Cooling method Natural convection Certificates CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50 Warranty <sup>2</sup>	General Data									
Installation location  Mounting method  Operating ambient temperature range  Degree of protection  Allowable relative humidity range  Max. operating altitude  Cooling method  Certificates  Warranty <sup>2</sup> Indoor / Outdoor  Floor stand  Charge: 0 to 50 °C / Discharge: -30 to 50 °C  IP55  (Charge: 0 to 50 °C / Discharge: -30 to 50 °C  (Charge: 0 to 50 °C /	Dimensions (W*H*D)	625*545*330 mm	625*675*330 mm	625*805*330 mm	625*935*330 mm	625*1065*330 mm	625*1195*330 mm			
Mounting method Operating ambient temperature range Charge: 0 to 50 °C / Discharge: -30 to 50 °C Degree of protection IP55 Allowable relative humidity range Max. operating altitude Cooling method Certificates CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50 Warranty <sup>2</sup> Therefore stand Charge: 0 to 50 °C / Discharge: -30 to 50 °C IP55  Nethod No 1P55 No 1	Weight	114 kg	147 kg	180 kg	213 kg	246 kg	279 kg			
Operating ambient temperature range  Charge: 0 to 50 °C / Discharge: -30 to 50 °C  Degree of protection  IP55  Allowable relative humidity range  Max. operating altitude  Cooling method  Certificates  CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty <sup>2</sup> Charge: 0 to 50 °C / Discharge: -30 to 50 °C  IP55  O% to 95% (non-condensing)  Autural convection  CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50	Installation location	Indoor / Outdoor								
Degree of protection IP55  Allowable relative humidity range 0% to 95% (non-condensing)  Max. operating altitude 2000 m  Cooling method Natural convection  Certificates CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty <sup>2</sup> 10 Years	Mounting method	Floor stand								
Allowable relative humidity range 0% to 95% (non-condensing)  Max. operating altitude 2000 m  Cooling method Natural convection  Certificates CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty <sup>2</sup> 10 Years	Operating ambient temperature range	Charge: 0 to 50 °C / Discharge: -30 to 50 °C								
Max. operating altitude  Cooling method  Certificates  CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty <sup>2</sup> 10 Years	Degree of protection	IP55								
Cooling method  Natural convection  Certificates  CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50  Warranty <sup>2</sup> 10 Years	Allowable relative humidity range	0% to 95% (non-condensing)								
Certificates         CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50           Warranty 2         10 Years	Max. operating altitude	2000 m								
Warranty <sup>2</sup> 10 Years	Cooling method	Natural convection								
	Certificates	CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50								
Expansion adaptation <sup>3</sup> Up to 4 units in parallel (need extra Junction box)	Warranty <sup>2</sup>	10 Years								
	Expansion adaptation <sup>3</sup>	Up to 4 units in parallel (need extra Junction box)								

<sup>1:</sup> Test conditions: 25°C, 100% depth of discharge (DOD), 0.2C charge&discharge

<sup>2:</sup> Refer to battery warranty document for conditional application.

<sup>3:</sup> Available in Q3, 2021

# THE NEW 3-PHASE SOLUTION

STAY UP-TO-DATE WITH OUR POWER NEWS

