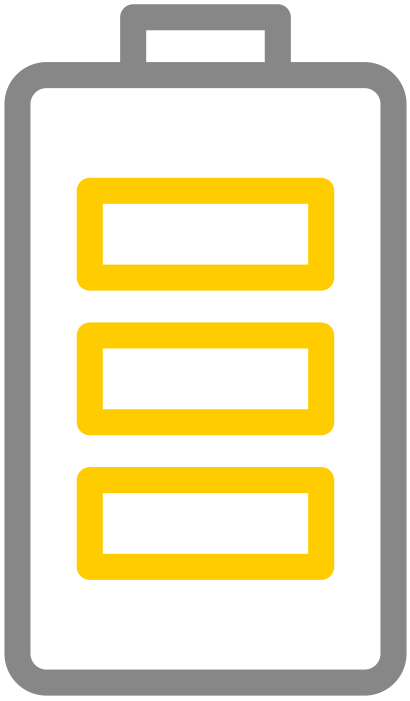
OVERVIEW

RESIDENTIAL STORAGE SYSTEMS



RESIDENTIAL
EMOBILITY
MOUNTING

krannich

Inverter manufacturer AXITEC

Storage inverter type		AXIhycon 5 / 6 / 8 / 10 H	AXIhycon 12 / 15 / 20 H	AXIhycon 29.9 / 40 / 50 H
Max. PV system size (kWp)		DC: 8.0 to 16.0 AC: without restriction	DC: 19.2 to 32.0 AC: without restriction	DC: up to 41.86 AC: without restriction
AC phases	**1**	○		
	3	●		
Surge Protection Device DC / AC		Type 2 / -		
Bat.-coupling	**AC** (Bat.-Inv)	●		
	DC (Hybrid)	●		
Bat. charging via separate PV inverter (AC-coupling)		●		
Manufacturer storage		AXITEC		
Storage type		AXIstorage Li SV1 10.1 to 23.6	AXIstorage Li SV3 9.7 to 34	AXIstorage Li SV3 9.7 to 34
Number of storages per unit (tower) / Max. Units (towers) parallel		3 - 7 / 6	2 to 7 / -	2 to 5 (WR 5-10), to 6 (WR 12-20), to 7 (WR 29-50) / -
Max. charging power System		to be calculated depending on the set / table		
Usable capacity (kWh) per unit		10,1 to 23,6	9.7 to 34.0	9.7 to 34.0
Time window for expansion from commissioning		Up to 5 years		
Emergency power (separate AC clamp)		● backup connection		
Battery backup light (backup connection inverter, i.n. transfer switch)		● backup connection		
Full battery backup (automatic transfer switch)		○		
Active PV-modules in backup mode		●		
Interfaces (Heat pump + FRE)		Connection FRE and heat pump via DRM interfaces		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (FW update coming soon); Limitation by EVU (currently via ext.EMS, soon via integrated DRM contact)		
System information		3-phase DC coupled storage system; power classes up to 10kW with 2 MPPT - 12 / 15 / 20 / 40 / 50 kW with 4 MPPT - 29.9 kW with 3 MPPT; UPS functionality (<10ms);Integrated arc detection; peak shaving; up to 3 devices in parallel operation (only the same inverter power classes and battery sizes, EPS outputs only synchronized at 40/50H); use hybrid as off-grid system (with / without generator) possible;Control for external NA protection possible		

*In Germany limited to 4.6 kW in single-phase operation (VDE-AR-N 4105) // **With suitable PV inverter // ***Availability /Release according to manufacturer's specification // All information without guarantee and subject to reservation according to manufacturer's approval.

Please note the instructions at the end of the document.

Inverter manufacturer

ENPHASE.

Storage inverter type		Enphase Microinverter
Max. PV system size (kWp)		AC: without restriction
AC phases	**1**	●
	3	●
Surge Protection Device DC / AC		- / -
Bat.-coupling	**AC** (Bat.-Inv)	●
	DC (Hybrid)	○
Bat. charging via separate PV inverter (AC-coupling)		●
Manufacturer storage		ENPHASE.
Storage type		Enphase Energy AC Storage System 5P-3P Flex Phase
Number of storages per unit (tower) / Max. Units (towers) parallel		1 / unlimited
Max. charging power System		to be calculated depending on the set / table
Usable capacity (kWh) per unit		5
Time window for expansion from commissioning		Unlimited
Emergency power (separate AC clamp)		○
Battery backup light (backup connection inverter, i.n. transfer switch)		○
Full battery backup (automatic transfer switch)		○ (IQ7 series) ● (IQ8 series)
Active PV-modules in backup mode		○ (IQ7 series) ● (IQ8 series)
Interfaces (Heat pump + FRE)		Connection FRE via Envoy-S Gateway
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs; Limitation by EVU (via contact at the gateway)
System information		Module inverter with 1/3-phase AC coupled storage system

Inverter manufacturer Fronius

Storage inverter type		PRIMO GEN24 / PRIMO GEN24 Plus 3.0 / 3.6 / 4.0 / 4.6 / 5.0 (not DE) / 6.0 (not DE) / 8.0 (not DE) / 10.0 (not DE)		
Max. PV system size (kWp)		DC: 4.5 to 15.0 AC: without restriction		
AC phases	**1**	●		
	3	○		
Surge Protection Device DC / AC		Type 1+2 opt. /-		
Bat.-coupling	**AC** (Bat.-Inv)	●		
	DC (Hybrid)	●		
Bat. charging via separate PV inverter (AC-coupling)		●		
Manufacturer storage		BYD		Fronius
Storage type		B-Box HVS / + 5.1 to 7.7	B-Box HVM / + 11 to 19.3	Reserva 6.3 / 9.5
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 3 / up to 3	4 - 8 / up to 3	2 - 3 / up to 4
Max. charging power System		to be calculated depending on the set / table		to be calculated depending on the set / table
Usable capacity (kWh) per unit		5,1 to 7,7	11,0 to 19,3	6,3 to 9,5
Time window for expansion from commissioning		Unlimited	Unlimited	Up to 2 years
Emergency power (separate AC clamp)		●, 1-phase at PV-Point		
Battery backup light (backup connection inverter, i.n. transfer switch)		○		
Full battery backup (automatic transfer switch)		●, backup box must be assembled by yourself		
Active PV-modules in backup mode		●		
Interfaces (Heat pump + FRE)		Connection Heat pumpMpe and FRE via 6 x DI / DO contact		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (via Smart Meter IP + FW Update); Limitation by EVU (integr.Interface)		
System information		1-phaSiges hybrid device with additional PV inverter via AC coupling Version GEN24 Plus: the GEN24 Plus series is delivered, as usual, with an active battery connection as a hybrid; Version GEN24: the new GEN24 series is delivered with deactivated battery connection;This can be activated with an additional activation code At power classes 5.0 to 10.0 kW by selecting VDE-AR-N 4105 no limit to 4.6 kVA, therefore not usable in DE		

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Inverter manufacturer Fronius

Storage inverter type		SYMO GEN24 / SYMO GEN24 Plus 3.0 / 4.0 / 5.0	**SYMO GEN24 / SYMO GEN24 Plus 6.0 / 8.0 / 10.0**		**Verto Plus 15.0 / 17.5 / 20.0 / 25.0 / 30.0 / 33.0**
Max. PV system size (kWp)		DC: 22.5 to 50.0 AC: without restriction			DC: 22.5 to 50.0 AC: without restriction
AC phases	**1**	○			
	3	●			
Surge Protection Device DC / AC		Type 1+2 opt. / -			Type 1+2 / Type 2
Bat.-coupling	**AC** (Bat.-Inv)	●			
	DC (Hybrid)	●			
Bat. charging via separate PV inverter (AC-coupling)		●			
Manufacturer storage		BYD			Fronius
Storage type		B-Box HVS / + 5.1 to 12.8	B-Box HVM / + 11.0 to 22.1	B-Box HVB 5.9 to 29.6 (Only Verto plus)	Reserve 6.3 / 9.5 / 12.6 / 15.8	Reserve PRO 12.0 / 16.0 / 20.0 / 24.0 / 28.0 / 32.0 (Only GEN24 plus + Verto plus)
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 5 / to 3	4 - 8 / To 3 (19.3), 2 (22.1)	2 - 10 / 3	2 - 5 / to 4	3 - 8 / to 4
Max. charging power System		To calculate depending on the set / Table to be taken			To calculate depending on the set / Table to be taken	
Usable capacity (kWh) per unit		5.1 to 12.8	11.0 to 22.1	5.94 to 29.69	6.3 to 15.8	11.9 to 31.9
Time window for expansion from commissioning		Unlimited			Up to 2 years	Unlimited
Emergency power (separate AC clamp)		●, 1-phase at PV-Point				○
Battery backup light (backup connection inverter, i.n. transfer switch)		○				
Full battery backup (automatic transfer switch)		●, with Fronius Backup Switch + Controller				
Active PV-modules in backup mode		●				
Interfaces (Heat pump + FRE)		Connection heat pump and FRE via 6 x DI / DO contact				
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (via Smart Meter IP + FW Update);Limitation by EVU (integrated interface)				
System information		3-phase hybrid device with high charging power and additional PV inverter via AC coupling; control for external NA protection possible; Version GEN24 (SC) Plus + Verto plus: these series are delivered, as usual, with active battery connection as a hybrid;Version GEN24 (SC): the GEN24 series is delivered with a deactivated battery port; this can be activated with an additional activation code				

Inverter manufacturer GOODWE

Storage inverter type		GW ET plus + Hybrid 5KN / 6.5KN/8KN/10KN (16A) GW ET-20 G2 Hybrid 6000 / 8000 / 10K / 12K / 15K						
Max. PV system size (kWp)		DC: 6.5 to 13.0 AC: without restriction						
AC phases	**1**	○						
	3	●						
Surge Protection Device DC / AC		Type 2 / Type 2						
Bat.-coupling	**AC** (Bat.-Inv)	●						
	DC (Hybrid)	●						
Bat. charging via separate PV inverter (AC-coupling)		●						
Manufacturer storage		BYD		PYLONTECH		AXITEC		
Storage type		B-Box HVS /+ 5.1 to 12.8 (+ only ET-20 G2)	B-Box HVM /+ 11 to 22.1 (+ only ET-20 G2)	Force-H1 13.5 to 23.6	Force-H2 6.7 to 16.9	AXIstorage Li SV1 13.5 to 23.6	AXIstorage Li SV2 6.7 to 16.9	AXIstorage Li SV3 9.7 to 24.3
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 5 / to 3	4 - 8 / to 3	4 - 7 / 6	2 - 5 / 6	4 - 7 / 6	2 - 5 / 6	2 to 5 / -
Max. charging power System		To calculate depending on the set / Table to be taken		To calculate depending on the set / Table to be taken		To calculate depending on the set / Table to be taken		
Usable capacity (kWh) per unit		5.1 to 12.8	11.0 to 22.1	13.5 to 23.6	6.7 to 16.9	13.5 to 23.6	6.7 to 16.9	9.7 to 24.3
Time window for expansion from commissioning		Unlimited	Unlimited	Up to 2 years		Up to 5 years		
Emergency power (separate AC clamp)		●, backup connection						
Battery backup light (backup connection inverter, i.n. transfer switch)		●, backup connection						
Full battery backup (automatic transfer switch)		○						
Active PV-modules in backup mode		● (only ET plus +)						
Interfaces (Heat pump + FRE)		Connection heat pump via potential-free contact; Connection FRE via connection terminals						
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (via Goodwe HEMS EzManager3000) Limitation by EVU (integr. interface / EzManager3000)						
System information		3-phase DC coupled storage system; Up to 10 devices in parallel operation (hybrid only) (SEC3000S Box necessary, DE+A: all EPS outputs active - not synchronized) ***						

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Inverter manufacturer GOODWE

Storage inverter type		GW ET plus + Hybrid 5KN / 6.5KN/8KN/10KN (16A) GW ET-20 G2 Hybrid 6000 / 8000 / 10K / 12K / 15K	
Max. PV system size (kWp)		DC: 6.5 to 13.0 AC: without restriction	
AC phases	**1**	○	
	3	●	
Surge Protection Device DC / AC		Type 2 / Type 2	
Bat.-coupling	**AC** (Bat.-Inv)	●	
	DC (Hybrid)	●	
Bat. charging via separate PV inverter (AC-coupling)		●	
Manufacturer storage		GOODWE	ZYC ENERGY
Storage type		Lynx D 5.0 to 40.0	SIMPO HV 6.4 to 28.8
Number of storages per unit (tower) / Max. Units (towers) parallel		1 - 8 / -	2 - 9 / to 8
Max. charging power System		To calculate depending on the set / Table to be taken	Depending on the set to Calculate / Table to be taken
Usable capacity (kWh) per unit		5.0 to 40.0	6.4 to 28.8
Time window for expansion from commissioning		Unlimited	Unlimited
Emergency power (separate AC clamp)		●, backup connection	
Battery backup light (backup connection inverter, i.n. transfer switch)		●, backup connection	
Full battery backup (automatic transfer switch)		○	
Active PV-modules in backup mode		● (only ET plus +)	
Interfaces (Heat pump + FRE)		Connection heat pump via potential-free contact; Connection FRE via connection terminals	
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (via Goodwe HEMS EzManager3000) Limitation by EVU (integr. interface / EzManager3000)	
System information		3-phase DC coupled storage system; Up to 10 devices in parallel operation (hybrid only) (SEC3000S Box necessary, DE+A: all EPS outputs active - not synchronized) ***	

Inverter manufacturer GOODWE

Storage inverter type		GW ET Hybrid 15K / 20K / 25K / 29.9K				GW ESA, All-in-One 8K / 10K / 15K / 20K / 25K / 29.9K
Max. PV system size (kWp)		DC: 22.5 to 44.85 AC: without restriction				DC: 16.0 to 60.0AC: without restriction
AC phases	**1**	○				○
	3	●				●
Surge Protection Device DC / AC		Type 2 / -				Type 2 / Type 2 Type 1+2 / Type 1+2 (25+29.29K)
Bat.-coupling	**AC** (Bat.-Inv)	●				In clarification
	DC (Hybrid)	●				●
Bat. charging via separate PV inverter (AC-coupling)		●				●
Manufacturer storage		BYD		ZYC ENERGY	GOODWE	GOODWE
Storage type		B-Box HVS / + 5.1 to 12.8	B-Box HVM / + 11.0 to 22.1	SIMPO HV 6.4 to 28.8	Lynx D 5.0 to 40.0	BAT-D 5.0 / 6.0 / 8.0 / 9.0 (up to 12 modules, freely combinable)
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 5 / -	4 - 8 / -	2 - 9 / to 8	1 - 8 / -	1 - 12 / -
Max. charging power System		To calculate depending on the set / Table to be taken		depending on set / Table	depending on set / Table	To calculate depending on the set / Table to be taken
Usable capacity (kWh) per unit		5.1 to 12.8	11.0 to 22.1	6.4 to 28.8	5.0 to 40.0	5.0 to 108.0
Time window for expansion from commissioning		Unlimited		Unlimited	Unlimited	Unlimited
Emergency power (separate AC clamp)		●, backup connection				●, backup connection
Battery backup light (backup connection inverter, i.n. transfer switch)		●, backup connection with UPS functionality				●, backup connection with UPS functionality
Full battery backup (automatic transfer switch)		○				○
Active PV-modules in backup mode		●				●
Interfaces (Heat pump + FRE)		Connection heat pump via SG-Ready contact; Connection FRE via DRM connection				Fixed charging times;Dynamic electricity tariffs + limitation by EVU (via Goodwe EZmanager)
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs + limitation by EVU (via Goodwe EZmanager)				Fixed charging times;Dynamic electricity tariffs + limitation by EVU (via Goodwe EZmanager)
System information		3-phase DC coupled storage system;3-fold cascadeable; no logger connection of PV-WR possible; UPS functionality (<10ms); peak-shaving; version 15K + 20K with 2 MPPT and 1 x battery; 25K + 29.9K with 3 MPPT and 2 x battery connector; High DC input currents with 15A / string; high charging currents with up to 2 x 50 A(Version 25K + 29.9K); optional with AFCI				3-phase DC coupled storage system; 4 capacity sizes of memory modules can be freely combined; UPS functionality (<10ms); version 5K - 8K with 2 MPPT; 10K - 30.0K with 3 MPPT;

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Inverter manufacturer HUAWEI

Storage inverter type		SUN2000-2 / 3 / 3.68 / 4 / 4.6 / 5* / 6* KT-L1		SUN2000-2/3/3.68 / 4 / 4.6 / 5* / 6* K-LB0	
Max. PV system size (kWp)		DC: 3,0 to 9,0 AC: without restriction		DC: 4.5 to 9.0 AC: without restriction	
AC phases	**1**	●		●	
	3	○		○	
Surge Protection Device DC / AC		Type 2 / Type 2		Type 2 / Type 2	
Bat.-coupling	**AC** (Bat.-Inv)	●		●	
	DC (Hybrid)	●		●	
Bat. charging via separate PV inverter (AC-coupling)		●		●	
Manufacturer storage		HUAWEI		HUAWEI	
Storage type		LUNA2000-5 / 10 / 15-S0	LUNA2000-5/-7/-10/-14/-15/-21-S1	LUNA2000-5 / 10 / 15-S0	LUNA2000-5/-7/-10/-14/-15/-21-S1
Number of storages per unit (tower) / Max. Units (towers) parallel		1 - 3 / up to 2	1 - 3 / to 2	1 - 3 / to 2	1 - 3 / to 2
Max. charging power System		to be calculated depending on the set / table		To calculate depending on the set / Table to be taken	
Usable capacity (kWh) per unit		5,0 to 15,0	5.0 to 21.0	5.0 to 15.0	5.0 to 21.0
Time window for expansion from commissioning		Unlimited		Unlimited	
Emergency power (separate AC clamp)		●, 1-phase with Huawei Backup Box-B0		● 1-phase with Smart Guard-63A-S0	
Battery backup light (backup connection inverter, i.n. transfer switch)		●, 1-phase with Huawei Backup Box-B0		● 1-phase with Smart Guard-63A-S0	
Full battery backup (automatic transfer switch)		○		● 1-phase with Smart Guard-63A-S0	
Active PV-modules in backup mode		●		● 1-phase with Smart Guard-63A-S0	
Interfaces (Heat pump + FRE)		Connection heat pump (with SmartAssistant) + FRE via Huawei Smart Logger			
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (with SmartAssistant); Limitation by EVU			
System information		1-phase hybrid device with additional PV inverter via AC coupling; optionalE use of the Huawei Optimizer possible		1-phase hybrid device with additional PV inverter via AC coupling; optionalE use of the Huawei Optimizer possible	

Inverter manufacturer		HUAWEI			
Storage inverter type		SUN2000- 3 / 4 / 5 / 6 / 8 / 10 KTL-M1 SUN2000 5 / 6 / 8 / 10 / 12 K MAP0		SUN2000-12 / 15 / 17 / 20 / 25K-MB0	
Max. PV system size (kWp)		DC: 4,5 to 22,0 AC: without restriction		DC: 18,0 to 37,5 AC: without restriction	
AC phases	**1**	●			
	3	●		●	
Surge Protection Device DC / AC		Type 2 / Type 2		Type 2 / Type 2	
Bat.-coupling	**AC** (Bat.-Inv)	●		●	
	DC (Hybrid)	●		●	
Bat. charging via separate PV inverter (AC-coupling)		●		●	
Manufacturer storage		HUAWEI		HUAWEI	
Storage type		LUNA2000-5 / 10 / 15-S0	LUNA2000-5/-7/-10/-14/-15/-21-S1	LUNA2000-5 / 10 / 15-S0	LUNA2000-5/-7/-10/-14/-15/-21-S1
Number of storages per unit (tower) / Max. Units (towers) parallel		1 - 3 / up to 2	1 - 3 / up to 2	1 - 3 / 2 per Input	1 - 3 / 2 per Input
Max. charging power System		to be calculated depending on the set / table		to be calculated depending on the set / table	
Usable capacity (kWh) per unit		5,0 to 15,0	5.0 to 21.0	5,0 to 15,0	5.0 to 21.0
Time window for expansion from commissioning		Unlimited		Unlimited	
Emergency power (separate AC clamp)		●, M1 with Backup Box-B1 (1-ph)MAP0 with Smart Guard-63A-T0 (3-ph)		●, With Smart Guard-63A-T0 (1-ph)	
Battery backup light (backup connection inverter, i.n. transfer switch)		●, M1 with Backup Box-B1 (1-ph)MAP0 with Smart Guard-63A-T0 (3-ph)		●, With Smart Guard-63A-T0 (1-ph)	
Full battery backup (automatic transfer switch)		●, Only MAP0 with Smart Guard-63A-T0 (3-ph)		●, With Smart Guard-63A-T0 (1-ph)	
Active PV-modules in backup mode		●		●	
Interfaces (Heat pump + FRE)		Connection heat pump (with SmartAssistant) + FRE via Huawei Smart Logger			
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (with SmartAssistant); Limitation by EVU			
System information		1-phase hybrid device with additional PV inverter via AC coupling; optional use of the Huawei Optimizer possible; use as off-grid system without mains connection possible		3-phase DC coupled system;Optional use of the Huawei Optimizer possible; Up to 3 devices in parallel operation ***; Replacement power operation M1 series only 1-phase with backup box-B1; Replacement power operation MAP0 series 3-phase with Smart Guard-63A-T0 Box	

Inverter manufacturer KACO new energy.

Storage inverter type		Hybrid NH3 M3 8.0 / 10.0 / 12.0				
Max. PV system size (kWp)		DC: 16,0 to 24,0 kWp AC: without restriction				
AC phases	**1**	○				
	3	●				
Surge Protection Device DC / AC		Type 2 / -				
Bat.-coupling	**AC** (Bat.-Inv)	●				
	DC (Hybrid)	●				
Bat. charging via separate PV inverter (AC-coupling)		●				
Manufacturer storage		BYD		AXITEC		PYLONTECH
Storage type		B-Box HVS 5.1 to 12.8	B-Box HVM 8.3 to 22.1	AXIstorage Li SV1 10.1 to 23.6	AXIstorage Li SV2 6.7 to 16.9	Force-H1 10.1 to 23.6	Force-H2 6.7 to 16.9
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 5 / up to 3	3 - 8 / up to 3	3 - 7 / 6	2 - 5 / 6	3 - 7 / 6	2 - 5 / 6
Max. charging power System		to be calculated depending on the set / table		to be calculated depending on the set / table		to be calculated depending on the set / table	
Usable capacity (kWh) per unit		5,1 to 12,8	8,3 to 22,1	10,1 to 23,6	6,7 to 16,9	10,1 to 23,6	6,7 to 16,9
Time window for expansion from commissioning		Unlimited		Up to 5 years		Up to 2 years	
Emergency power (separate AC clamp)		●, backup connection					
Battery backup light (backup connection inverter, i.n. transfer switch)		●, backup connection					
Full battery backup (automatic transfer switch)		●, with Kaco replacement power box					
Active PV-modules in backup mode		●					
Interfaces (Heat pump + FRE)		Connection FRE via connection terminals					
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (via Kaco Leaflet HEMS); Limitation by EVU (via Kaco Leaflet HEMS)					
System information		3-phase DC-coupled hybrid device with additional PV inverter via AC coupling; 3 independent MPP trackers; can also be used as a pure memory WR;Up to 3 devices in parallel operation (only the same inverter power classes and battery sizes, EPS outputs not synchronized)					

Inverter manufacturer KOSTAL Solar Electric

Storage inverter type		Plenticore Plus G2 3.0 / 4.2 / 5.5 / 7.0 / 8.5 / 10 (Plenticore Plus 3.0 with BYD HVM only 11.0)	Plenticore MP G3 S/M (Performance depending on version and activation level)	Plenticore G3S / M / L (Power depending on version and activation level of 4.0 - 20.0 kW)
Max. PV system size (kWp)		DC: 4.5 to 15.0 AC: without restriction	DC: 4,5 to 10,5 (depending on activation level) AC: without restriction	DC: 6,0 to 30,0 (depending on activation level) AC: without restriction
AC phases	**1**	○	●	○
	3	●	○	●
Surge Protection Device DC / AC		- / -	Type 2 (opt.) / -	Type 2 (opt.) / -
Bat.-coupling	**AC** (Bat.-Inv)	●	● (act. storage connection)	● (with activated storage connection)
	DC (Hybrid)	●	● (act. storage connection)	● (with activated storage connection)
Bat. charging via separate PV inverter (AC-coupling)		○		

Manufacturer storage	AXITEC		PYLONTECH		
Storage type	AXIstorage Li SV1 10.1 to 23.6	AXIstorage Li SV2 6.7 to 16.9	Force-H1 10.1 to 23.6	Force-H2 6.7 to 16.9	Force-H39.7 to 34
Number of storages per unit (tower) / Max. Units (towers) parallel	3 - 7 / 6	2 - 5 / 6	3 - 7 / 6	2 - 5 / 6	2 - 7 / 6
Max. charging power System	to be calculated depending on the set / table		to be calculated depending on the set / table		
Usable capacity (kWh) per unit	10,1 to 23,6	6,7 to 16,9	10,1 to 23,6	6,7 to 16,9	9,69 to 34,01
Time window for expansion from commissioning	Up to 5 years		Up to 2 years		

Emergency power (separate AC clamp)	○	○
Battery backup light (backup connection inverter, i.n. transfer switch)	○	○
Full battery backup (automatic transfer switch)	○	●, manually with Kostal Backup Switch
Active PV-modules in backup mode	○	●
Interfaces (Heat pump + FRE)	Connection heat pump via SG Ready contact; Connection FRE via connection terminals	Connection heat pump via SG Ready contact; Connection FRE via connection terminals
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a	Fixed charging times;Dynamic electricity tariffs; Limitation by EVU (via KSEM G2)	Fixed charging times;Dynamic electricity tariffs; Limitation by EVU (via KSEM G2)

System information	3-phase PV / hybrid / storage inverter with additional PV inverter via AC coupling; Battery connection must be activated via activation code;	1-phase AC / DC coupled storage system (hybrid / storage-WR) 2 versions (S / M) with up to 2 additional power levels; FrActivation via activation code (Plenti-Coins);	3-phase AC / DC coupled storage system (hybrid / memory-WR) Plenticore G3: 3 versions (S / M / L) with 2 additional performance levels each; activation via activation code (Plenti-Coins);3-phase PV / hybrid / storage inverter with additional PV inverter via AC coupling; Battery connection must be activated via activation code;

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Inverter manufacturer KOSTAL Solar Electric

Storage inverter type		Plenticore Plus G2 3.0 / 4.2 / 5.5 / 7.0 / 8.5 / 10 (Plenticore Plus 3.0 with BYD HVM only 11.0) Plenticore BI 5.5 / 26 and 10 / 26 - G2	Plenticore MP G3 S/M (Performance depending on version and activation level)	Plenticore G3S / M / L (Power depending on version and activation level of 4.0 - 20.0 kW)		
Max. PV system size (kWp)		DC: 4,5 to 15,0 (only Hybrid) AC: without restriction	DC: 4,5 to 10,5 (depending on activation level) AC: without restriction	DC: 6,0 to 30,0 (depending on activation level) AC: without restriction		
AC phases	**1**	○	●	○		
	3	●	○	●		
Surge Protection Device DC / AC		- / -	Type 2 (opt.) / -	Type 2 (opt.) / -		
Bat.-coupling	**AC** (Bat.-Inv)	● (only BI)	● (act. storage connection)	● (with activated storage connection)		
	DC (Hybrid)	● (only Hybrid)	● (act. storage connection)	● (with activated storage connection)		
Bat. charging via separate PV inverter (AC-coupling)		○				
Manufacturer storage		BYD		ZYC ENERGY	KOSTAL Solar Electric	VARTA
Storage type		B-Box HVS /+ 5.1 to 12.8	B-Box HVM /+ 11.0 to 22.1	B-Box HVB 5.9 to 29.6	SIMPO HV 6.4 to 28.8	HELIVOR HV 6.4 to 28.8	VARTA.wall 10.0 / 15.0 / 20.0
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 5 / to 3	4 - 8 / to 3	2 - 10 / 3	2 - 9 / -	2 - 9 / -	2 - 4 / -
Max. charging power System		to be calculated depending on the set / table					
Usable capacity (kWh) per unit		5.1 to 12.8	11.0 to 22.1	5.94 to 29.69	6.4 to 28.8	6.4 to 28.8	10.0 to 20.0
Time window for expansion from commissioning		Unlimited				Unlimited	Up to 1.5 years
Emergency power (separate AC clamp)		○	○				
Battery backup light (backup connection inverter, i.n. transfer switch)		○	○				
Full battery backup (automatic transfer switch)		○	●, manually with Kostal Backup Switch				
Active PV-modules in backup mode		○	●				
Interfaces (Heat pump + FRE)		Connection heat pump via SG Ready contact; Connection FRE via connection terminals	Connection heat pump via SG Ready contact; Connection FRE via connection terminals				
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times;Dynamic electricity tariffs; Limitation by EVU (via KSEM G2)	Fixed charging times;Dynamic electricity tariffs; Limitation by EVU (via KSEM G2)				
System information		3-phase AC / DC coupled storage system (hybrid / memory-WR) Plenticore Plus G2: 3-phase PV / hybrid / storage inverter withPV inverter via AC coupling; Battery connection must be activated via activation code;	1-phase AC / DC coupled storage system (hybrid / storage-WR) 2 versions (S / M) with up to 2 additional power levels; FrActivation via activation code (Plenti-Coins); 3-phase AC / DC coupled storage system (hybrid / memory-WR) Plenticore G3: 3 versions (S / M / L) with 2 additional performance levels each; activation via activation code (Plenti-Coins);3-phase PV / hybrid / storage inverter with additional PV inverter via AC coupling; Battery connection must be activated via activation code;				

Inverter manufacturer SMA

Storage inverter type		Sunny Island 6.0H / 8.0H	
Max. PV system size (kWp)		AC: without restriction **	
AC phases	**1**	●	
	3	●	
Surge Protection Device DC / AC		/	
Bat.-coupling	**AC** (Bat.-Inv)	●	
	DC (Hybrid)	○	
Bat. charging via separate PV inverter (AC-coupling)		●	
Manufacturer storage		BYD	
Storage type		B-Box LVS 4.0 to 24.0	B-Box LVL 15.4
Number of storages per unit (tower) / Max. Units (towers) parallel		1 - 6 / up to 16 (16.0)	1 / up to 64
Max. charging power System		to be calculated depending on the set / table	
Usable capacity (kWh) per unit		4,0 to 24,0	15,4
Time window for expansion from commissioning		Unlimited	
Emergency power (separate AC clamp)		○	
Battery backup light (backup connection inverter, i.n. transfer switch)		○	
Full battery backup (automatic transfer switch)		●, with Enwitec Backup Box (1-/3-phase, 1-phase with phase coupling	
Active PV-modules in backup mode		●**	
Interfaces (Heat pump + FRE)		Connection FRE depends on the PV-WR	
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times Limitation by EVU (via Home Manager)	
System information		1/3-phase AC coupled storage system with suitable PV inverter; use as a pure offgrid system (PV + generator) possible;	

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Inverter manufacturer		SMA		
Storage inverter type		Sunny Boy Smart Energy 3.6 / 4.0 / 5.0* / 6.0*		
Max. PV system size (kWp)		DC: 7,2 to 12,0 AC: without restriction		
AC phases	**1**	●		
	3			
Surge Protection Device DC / AC		/		
Bat.-coupling	**AC** (Bat.-Inv)	●		
	DC (Hybrid)	●		
Bat. charging via separate PV inverter (AC-coupling)		●		
Manufacturer storage		BYD		SMA
Storage type		B-Box HVS 5.1 to 10.2 ***	B-Box HVM 8.3 to 22.1 ***	Home Storage 3.2 to 13.1
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 4 / up to 3	3 - 8 / up to 3	1 - 4 / -
Max. charging power System		to be calculated depending on the set / table		to be calculated depending on the set / table
Usable capacity (kWh) per unit		5,1 to 10,2	8,3 to 22,1	3,28 to 13,12
Time window for expansion from commissioning		Unlimited		
Emergency power (separate AC clamp)		●, PLC / Backup connection		
Battery backup light (backup connection inverter, i.n. transfer switch)		●, backup connection (Release is currently still pending)		
Full battery backup (automatic transfer switch)		○		
Active PV-modules in backup mode		●		
Interfaces (Heat pump + FRE)		WP via SG Ready Contact		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; Dynamic electricity tariffs (via Home Manager 2.0); Limitation by EVU (via Home Manager)		
System information		1-phase DC-coupled hybrid unit with additional PV inverter via AC coupling; 3 MPPT with low input voltage; AFCI integrated; ShadeFix shadow management		

Inverter manufacturer SMA

Storage inverter type		Sunny Tripower 5.0 / 6.0 / 8.0 / 10.0 Smart Energy			
Max. PV system size (kWp)		DC: 7,5 to 15,0 AC: without restriction			
AC phases	**1**	○			
	3	●			
Surge Protection Device DC / AC		Type 2 / Type 2			
Bat.-coupling	**AC** (Bat.-Inv)	●			
	DC (Hybrid)	●			
Bat. charging via separate PV inverter (AC-coupling)		●			
Manufacturer storage		BYD		SMA	VARTA
Storage type		B-Box HVS 5.1 to 12.8 ***	B-Box HVM 11 to 22.1 ***	Home Storage 6.5 to 16.4	VARTA.wall 10.0 / 15.0 / 20.0
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 5 / up to 3	4 - 8 / up to 3	2 - 5 / -	2 - 4 / -
Max. charging power System		to be calculated depending on the set / table		depending on the set / table	To calculate depending on the set / Table to be taken
Usable capacity (kWh) per unit		5,1 to 12,8	11,0 to 22,1	6,56 to 16,4	10.0 to 20.0
Time window for expansion from commissioning		Unlimited			Up to 1.5 years
Emergency power (separate AC clamp)		○			
Battery backup light (backup connection inverter, i.n. transfer switch)		●, backup connection			
Full battery backup (automatic transfer switch)		○			
Active PV-modules in backup mode		●			
Interfaces (Heat pump + FRE)		WP via SG Ready contact; Connection FRE via 5 x DI contact			
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; Dynamic electricity tariffs (via Home Manager 2.0); Limitation by EVU (via Home Manager)			
System information		3-phaseDC-coupled hybrid device with additional PV inverter via AC coupling; ShadeFix shadow management			

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Inverter manufacturer SOFAR

Storage inverter type		HYD 5 / 6 / 8 KTL			HYD 10 / 15 / 20 KTL		
Max. PV system size (kWp)		DC: 7,5 to 12,0 AC: without restriction			DC: 15,0 to 30,0 AC: without restriction		
AC phases	**1**	○					
	3	●					
Surge Protection Device DC / AC		Type 2 / Type 2					
Bat.-coupling	**AC** (Bat.-Inv)	●					
	DC (Hybrid)	●					
Bat. charging via separate PV inverter (AC-coupling)		●					
Manufacturer storage		PYLONTECH			SOFAR	AXITEC	
Storage type		Force-H1 13.5 to 23.6	Force-H2 10.1 to 16.9	Force-H39.7 to 34	BTS-D5 E5 to E20	AXIstorage Li SV1 13.5 to 23.6	AXIstorage Li SV2 6.7 to 16.9
Number of storages per unit (tower) / Max. Units (towers) parallel		4 - 7 / 6	2 - 5 / 6	2 - 7 / 6	1 - 4 / up to 2 (only HYD 10-20)	4 - 7 / 6	2 - 5 / 6
Max. charging power System		to be calculated depending on the set / table					
Usable capacity (kWh) per unit		13,5 to 23,6	6,7 to 16,9	9.69 to 34.01	4,75 to 19,0	13,5 to 23,6	6,7 to 16,9
Time window for expansion from commissioning		Up to 2 years			Unlimited	Up to 5 years	
Emergency power (separate AC clamp)		● backup connection					
Battery backup light (backup connection inverter, i.n. transfer switch)		● backup connection					
Full battery backup (automatic transfer switch)		○					
Active PV-modules in backup mode		●					
Interfaces (Heat pump + FRE)		Control heat pump possible			Control of heat pump possible; Connection FRE via connection terminals		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; Dynamic electricity tariffs (via Sofar EMS Box);Limitation by EVU			Fixed charging times; Dynamic electricity tariffs (via Sofar EMS Box);Limitation by EVU		
System information		3-phase DC or AC coupled hybrid device with additional PV inverter via AC coupling; 1 battery connection; up to 10 GerPossible in grid-coupled parallel operation (VDE 4110 is available); in backup mode only 6 devices are possible in parallel; use of hybrid as off-grid system (with / without generator) possible; control for external NA protection possible					

Inverter manufacturer solaredge

Storage inverter type		RWB Home Hub Inverter*** SE3000H / SE3680H / SE4000H / SE5000H* / SE6000H*		RWS StorEdge Hybrid 5 / 7 / 8 / 10
Max. PV system size (kWp)		DC: 10,0 to 15,0 AC: without restriction		DC: 6.5 to 13.5 AC: no limitations
AC phases	**1**	○		○
	3	●		●
Surge Protection Device DC / AC		- / -		- / -
Bat.-coupling	**AC** (Bat.-Inv)	●		●
	DC (Hybrid)	●		●
Bat. charging via separate PV inverter (AC-coupling)		●		●
Manufacturer storage		solaredge	BYD	solaredge
Storage type		Home Battery HV	B-Box LVS 4.0 to 24.0	Home Battery LV 4.6 to 23.0
Number of storages per unit (tower) / Max. Units (towers) parallel		1 / up to 3	1 - 6 / -	1 - 5 / -
Max. charging power System		To calculate depending on the set / Table to be taken	To calculate depending on the set / Table to be taken	To calculate depending on the set / Table to be taken
Usable capacity (kWh) per unit		9,7	4.0 to 24.0	4.85 to 24.25
Time window for expansion from commissioning		Unlimited	Unlimited, only 1 tower	Unlimited
Emergency power (separate AC clamp)		○		○
Battery backup light (backup connection inverter, i.n. transfer switch)		○		○
Full battery backup (automatic transfer switch)		● with Home Backup Interface 1P***		○
Active PV-modules in backup mode		●		○
Interfaces (Heat pump + FRE)		Connection of heat pump via SE Smart Home components;		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (with SolarEdge ONE); Limitation by EVU (with the SolarEdge ONE Controller)		
System information		1-phase DC or AC-coupled hybrid device with additional PV inverter via AC coupling; Backup application only possible in 1P networks	1-phase DC or AC-coupled hybrid device with additional PV inverter via AC coupling; Backup application only possible in 1P networks	

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Inverter manufacturer		solaredge		
Storage inverter type		RWB48 Home Hub Inverter 5 / 8 / 10		Nexis NX20K (Multi-range 8-20 kW)
Max. PV system size (kWp)		DC: 10.0 to 15.0 AC: without restriction		DC: 16.0 to 40.0 AC: without restriction
AC phases	**1**	○		○
	3	●		●
Surge Protection Device DC / AC		- / -		- / -
Bat.-coupling	**AC** (Bat.-Inv)	●		In clarification
	DC (Hybrid)	●		●
Bat. charging via separate PV inverter (AC-coupling)		●		In clarification
Manufacturer storage		solaredge		solaredge
Storage type		Home Battery LV 4.6 to 23.0	Home Battery LV (W) 4.85 to 23.25 ***	Nexis Battery Stack 5 to 20
Number of storages per unit (tower) / Max. Units (towers) parallel		1 - 5 / -	1 - 4 / -	1 - 4 / 1 - 4***
Max. charging power System		to be calculated depending on the set / table		
Usable capacity (kWh) per unit		4,85 to 24,25	4.85 to 19.4	4.65 to 18.6
Time window for expansion from commissioning		Unlimited		Unlimited
Emergency power (separate AC clamp)		○		○
Battery backup light (backup connection inverter, i.n. transfer switch)		○		●
Full battery backup (automatic transfer switch)		● with Home Backup Interface 3P		●, optionally also with Home Backup Interface 3P
Active PV-modules in backup mode		●		●
Interfaces (Heat pump + FRE)		Connection of heat pump via SE Smart Home components; Connection FRE via RPI connections inverter		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs (with SolarEdge ONE); Limitation by EVU (with the SolarEdge ONE Controller)		
System information		3-phase DC or AC coupled hybrid device; Up to 3 devices in parallel operation (master change only)Self-richter active in emergency mode) ***		3-phase DC or AC coupled hybrid device; variable power class from 8 to 20 kW; integrated backup connection

Inverter manufacturer SOLAX POWER

Storage inverter type		X3-HYBRID G4.2 (Version D) 5.0-D / 6.0-D / 8.0-D / 10.0-D / 12.0-D / 15.0-D X3-Hybrid-G4 PRO 5.0-P / 6.0-P / 8.0-P / 10.0-P / 12.0-P / 15.0-P		
Max. PV system size (kWp)		DC: 8,0 to 30,0 AC: without restriction		
AC phases	**1**	○		
	3	●		
Surge Protection Device DC / AC		Type 2 / Type 2 (only PRO Version)		
Bat.-coupling	**AC** (Bat.-Inv)	●		
	DC (Hybrid)	●		
Bat. charging via separate PV inverter (AC-coupling)		●		
Manufacturer storage		SOLAX POWER		
Storage type		T-BAT HV-S 2.5 7.5 bis 32.5	T-BAT HV-S 3.6 7.2 to 46.8	T-BAT-HV-S 5.1 15.3 to 66.5
Number of storages per unit (tower) / Max. Units (towers) parallel		3 - 13 (Pro-Series) / 3 4 - 13 (D-Series) / 3	3 - 13 (Pro-Series) / 3 4 - 13 (D-Series) / 3	3 - 13 (Pro-Series) / 3 4 - 13 (D-Series) / 3
Max. charging power System		to be calculated depending on the set / table		
Usable capacity (kWh) per unit		6.9 to 29.9	6.5 to 43.1	13,7 to 59,8
Time window for expansion from commissioning		Unlimited		
Emergency power (separate AC clamp)		●		
Battery backup light (backup connection inverter, i.n. transfer switch)		●		
Full battery backup (automatic transfer switch)		● With Solax X3-Mate-Box G2 Caskade with X3 EPS parallel box		
Active PV-modules in backup mode		●		
Interfaces (Heat pump + FRE)		Connection HeatPump (via Solax adapter box G2); Connection FRE via Solax Datahub1000		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs; Limitation by EVU (Integrated terminals / data hub)		
System information		X3-Hybrid: each 2 MPPT + 1 Bat connection; X3-Hybrid-G4 Pro: depending on the performance class, up to 3 MPPT + 2 Bat connections;3-phase DC or AC-coupled storage system with additional PV inverter via AC coupling; Use of hybrid as offgrid system (with / without generator) possible; Hybrid up to 10 devices in parallel mode (for backup operation X3-EPS Parallel Box notwEndig, only same inverter power classes and battery sizes, EPS outputs synchronized)		

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Inverter manufacturer		SOLAX POWER				
Storage inverter type		X3-IES compact system 5K 7 6K / 8LK / 10K / 12K / 12K		X3-Ultra Hybrid 15K / 19.9K / 20K / 25K / 30K		
Max. PV system size (kWp)		DC: 10.0 to 30.0 AC: without restriction		DC: 30,0 to 60,0 kWp AC: without restriction		
AC phases	**1**	○		○		
	3	●		●		
Surge Protection Device DC / AC				Type 2 / Type 2		
Bat.-coupling	**AC** (Bat.-Inv)	●		●		
	DC (Hybrid)	●		●		
Bat. charging via separate PV inverter (AC-coupling)		●		●		
Manufacturer storage		SOLAX POWER		SOLAX POWER		
Storage type		T-BAT HV-S 2.5 7.5 to 32.5	T-BAT-HS50E 10.2 to 30.6	T-BAT HV-S 2.5 7.5 to 32.5	T-BAT HV-S 3.6 7.2 to 46.8	T-BAT-HV-S 5.1 15.3 to 66.5
Number of storages per unit (tower) / Max. Units (towers) parallel		3 - 13 / 3	3 - 6 / -	3 - 13 / 2	2 - 13 / -	3 - 13 / 2
Max. charging power System		To be calculated depending on the set / Table		to be calculated depending on the set / table		
Usable capacity (kWh) per unit		6.9 to 29.9	9.2 to 27.6	6.9 to 29.9	6.5 to 43.1	13,7 to 59,8
Time window for expansion from commissioning		Unlimited		Unlimited		
Emergency power (separate AC clamp)		●		●		
Battery backup light (backup connection inverter, i.n. transfer switch)		●		●		
Full battery backup (automatic transfer switch)		●, with Solax X3-Matebox G2		●, with Solax X3-EPS Parallel Box		
Active PV-modules in backup mode		●		●		
Interfaces (Heat pump + FRE)		Connection WP (via Solax Adapterbox G2); Connection FRE via 5 x DI		Connection WP (via Solax Adapterbox G2); Connection FRE via 5 x DI		
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times; dynamic electricity tariffs; Limitation by EVU (Integrated clamps / Solax Xhub)		Fixed charging times; dynamic electricity tariffs; Limitation by EVU (Integrated clamps / Solax Xhub)		
System information		3-Phase DC coupled storage system; Use of hybrid as offgrid system (with / without generator) possible; devices in parallel operation;		3-phase DC coupled storage system in compact design; ;Up to 10 devices in parallel operation; Version 15K - 20K With 2 MPPT and 2 x battery; 25K + 30K with 3 MPPT and 2 x battery connector; When using both battery connections the sameE Capacity (tower height) mandatory!		

Inverter manufacturer SUNGROW Clean power for all

Storage inverter type		SH 5.0 / 6.0 / 8.0 / 10.0 RT-20			
Max. PV system size (kWp)		DC: 5,0 to 15,0 AC: without restriction			
AC phases	**1**	○			
	3	●			
Surge Protection Device DC / AC		Type 2 / Type 2			
Bat.-coupling	**AC** (Bat.-Inv)	●			
	DC (Hybrid)	●			
Bat. charging via separate PV inverter (AC-coupling)		●			
Manufacturer storage		BYD		PYLONTECH	
Storage type		B-Box HVS 5.1 to 12.8	B-Box HVM 11.0 to 22.1	Force-H1 13.5 to 23.6	Force-H2 6.7 to 16.9
Number of storages per unit (tower) / Max. Units (towers) parallel		2 - 5 / up to 3	4 - 8 / up to 3	4 - 7 / 6	2 - 5 / 6
Max. charging power System		to be calculated depending on the set / table			
Usable capacity (kWh) per unit		5,1 to 12,8	11,0 to 22,1	13,5 to 23,6	6,7 to 16,9
Time window for expansion from commissioning		Unlimited		Up to 2 years	
Emergency power (separate AC clamp)		● backup connection (can only be used separately per device in parallel operation)			
Battery backup light (backup connection inverter, i.n. transfer switch)		● backup connection (can only be used separately per device in parallel operation)			
Full battery backup (automatic transfer switch)		○			
Active PV-modules in backup mode		●			
Interfaces (Heat pump + FRE)		Connection heat pump via DO contact;Connection FRE via 4 x DI contact			
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times, dynamicElectricity tariffs (via iHomeManager) Limitation by EVU (via integrated control contact)			
System information		3-phase DC-coupled storage system with additionalHem PV inverter via AC coupling; Up to 2 devices in parallel operation; (observe the requirements for FRE connection and network and system protection in DE; Only the same inverter performance classes possible)			

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Inverter manufacturer SUNGROW Clean power for all

Storage inverter type		SH 5.0 / 6.0 / 8.0 / 10.0 RT		SH 15 / 20 / 25 T	
Max. PV system size (kWp)		DC: 5,0 to 15,0 AC: without restriction		DC: 30,0 to 50,0 AC: without restriction	
AC phases	**1**	○			
	3	●			
Surge Protection Device DC / AC		Type 2 / Type 2			
Bat.-coupling	**AC** (Bat.-Inv)	●			
	DC (Hybrid)	●			
Bat. charging via separate PV inverter (AC-coupling)		●			
Manufacturer storage		AXITEC		SUNGROW Clean power for all	SUNGROW Clean power for all
Storage type		AXIstorage Li SV1 13.5 to 23.6	AXIstorage Li SV2 6.7 to 13.5	SBR (with RT Serie) 064*** / 096 / 128 / 160 / 192 / 224 / 256	SBH (RT + T Serie) 100 / 150 / 200 / 250 / 300 / 350 / 400	SBR (with T Serie) 128 / 160 / 192 / 224 / 256
Number of storages per unit (tower) / Max. Units (towers) parallel		4 - 7 / 6	2 - 5 / 6	2 - 8 / -	2 - 8 / bis 2	4 - 8 / -
Max. charging power System		to be calculated depending on the set / table		depending on the set / table	to be calculated depending on the set / table	
Usable capacity (kWh) per unit		13,5 to 23,6	6,7 to 16,9	6,4 to 25,6	10,0 to 40,0	12,8 to 25,6
Time window for expansion from commissioning		Up to 5 years		Unlimited	Unlimited	Unlimited
Emergency power (separate AC clamp)		● backup connection (can only be used separately per device in parallel operation)				
Battery backup light (backup connection inverter, i.n. transfer switch)		● backup connection (can only be used separately per device in parallel operation)			● backup connection (Compl. Domestic load up to 43 kW)	
Full battery backup (automatic transfer switch)		○				
Active PV-modules in backup mode		●				
Interfaces (Heat pump + FRE)		Connection heat pump via DO contact;Connection FRE via 4 x DI contact			Connection heat pump via DO contact;Connection FRE via 4 x DI contact	
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times, dynamicElectricity tariffs (via iHomeManager) Limitation by EVU (via integrated control contact)			Fixed charging times, dynamic electricity tariffs (Via iHomeManager); Limitation by EVU (Via integrated control contact)	
System information		3-phase DC-coupled storage system with additionalHem PV inverter via AC coupling; Up to 2 devices in parallel operation; (observe the requirements for FRE connection and network and system protection in DE; Only the same inverter performance classes possible)			3-phase DC-coupled storage system with toAdditional PV inverters via AC coupling (up to 5 WR of the CX series); Up to 4 devices in parallel operation; (Observe the requirements for FRE connection and network and system protection in DE; Only the same inverter performance classes possible)	

Inverter manufacturer SUNWODA ENERGY

Storage inverter type		SunESS SW 8 / 10 / 12 / 15 KH3UT
Max. PV system size (kWp)		DC: 12.0 to 22.5 AC: without restriction
AC phases	**1**	○
	3	●
Surge Protection Device DC / AC		Type 2 / Type 2
Bat.-coupling	**AC** (Bat.-Inv)	○
	DC (Hybrid)	●
Bat. charging via separate PV inverter (AC-coupling)		○
Manufacturer storage		SUNWODA ENERGY
Storage type		SunESS 5.0 / 10.0 / 15.0 / 20.0 / 25.0 / 30.0 / 35.0 / 40.0
Number of storages per unit (tower) / Max. Units (towers) parallel		1 - 8 / -
Max. charging power System		to be calculated depending on the set / table
Usable capacity (kWh) per unit		5,0 to 40,0
Time window for expansion from commissioning		Unlimited
Emergency power (separate AC clamp)		●
Battery backup light (backup connection inverter, i.n. transfer switch)		●
Full battery backup (automatic transfer switch)		○
Active PV-modules in backup mode		●
Interfaces (Heat pump + FRE)		Heat pump connection via DRM contact; FRE connection via 4 x DRM contacts
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		k.A.
System information		3-phase hybrid device with additional PV inverter via AC coupling; must always be installed as a complete system including storage; currently no cascading approved

*In Germany limited to 4.6 kW in single-phase operation (VDE-AR-N 4105) // **With suitable PV inverter // ***Availability /Release according to manufacturer's specification // All information without guarantee and subject to reservation according to manufacturer's approval.

Please note the instructions at the end of the document.

Inverter manufacturer

Storage inverter type		Pulse neo 6	Element Backup
Max. PV system size (kWp)		AC: without restriction	
AC phases	**1**	●	○
	3	○	●
Surge Protection Device DC / AC		-/-	
Bat.-coupling	**AC** (Bat.-Inv)	●	
	DC (Hybrid)	○	
Bat. charging via separate PV inverter (AC-coupling)		●	
Manufacturer storage		VARTA	
Storage type		Pulse neo	Element 6 / 12 /18
Number of storages per unit (tower) / Max. Units (towers) parallel		1 / -	1 - 3 / -
Max. charging power System		To be calculated depending on the set / Table to be found	
Usable capacity (kWh) per unit		5,9	5.9 / 11.7 / 17.7
Time window for expansion from commissioning		-	Unlimited
Emergency power (separate AC clamp)		○	●, backup connection / box (only active on the master device)
Battery backup light (backup connection inverter, i.n. transfer switch)		○	●, backup connection / box (only active on the master device)
Full battery backup (automatic transfer switch)		○	○
Active PV-modules in backup mode		○	
Interfaces (Heat pump + FRE)		Connection heat pump (via Varta IQ Link); FRE via external relay control	
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Fixed charging times;Dynamic electricity tariffs + limitation by EVU (via Varta IQ Link)	
System information		1-/3-phase AC-coupled storage system; Ideal for storage retrofitting in existing systems; Up to 5 devices can be cascaded with Varta Link	

Explanation of The specifications		Description
Storage inverter type		Name inverter series and power classes
Max. PV system size (kWp)		DC System size according to manufacturer's specifications *
AC phases	**1**	1-phase grid connection
	3	3-phase grid connection
Surge Protection Device DC / AC		Specification of integrated overvoltage protection, if applicable also as an additional option
Bat.-coupling	**AC (Bat.-Inv)**	Definition of battery coupling via AC: Inverter is designed as pure AC-coupled device (e.g. SMA Sunny Island) or can also be used as hybrid inverter without connection of PV modules as bat inverter.
	DC (Hybrid)	Definition of battery coupling via DC: The inverter is designed as a hybrid device and can charge the battery via DC coupling from the directly connected PV modules.
Bat. charging via separate PV inverter (AC-coupling)		Use of a second inverter (same or different manufacturer) for charging the battery storage via AC coupling
Manufacturer storage		Manufacturer storage
Storage type		Name storage types (Compatible variants) Battery sets compatible with this storage system
Number of storages per unit (tower) / Max. Units (towers) parallel		Number of battery modules in individual setups / max. parallel setups Setups
Max. charging power System		maximum charge / discharge power in the respective unit combination *
Usable capacity (kWh) per unit		Usable capacity according to storage manufacturer *
Time window for expansion from commissioning		Possibility of a battery expansion as well as the time window for this from the time of commissioning
Emergency power (separate AC clamp)		Definition: Separate clamp at inverter for external socket(s), which is fed from battery and if possible by solar power.
Battery backup light (backup connection inverter, i.n. transfer switch)		Definition: direct supply of few defined circuits via backup connection at the inverter, if necessary also with switching by backup box (no complete house load)
Full battery backup (automatic transfer switch)		Definition: by means of automatic transfer switch in central main line (according to local regulations) supply of all/defined circuits takes place
Active PV-modules in backup mode		Recharge option in case of grid failure
Interfaces (Heat pump + FRE)		Information on interfaces for heat pumps and FRE cell chemistry
SMART Charging Features Dynamic electricity tariffs, fixed charging times, Limitation by EVU according to EnWG §14a		Additional charging modes of the storage system (in addition to PV surplus) with fixed charging times or via external control based on stock market prices, energy supply company specifications, etc.
System information		Additional information on the products

* The respective columns for the appliance series contain different performance classes, therefore all information refers to the smallest and largest appliance in each case, as well as a storage tower/unit. Detailed information can be found in the data sheet.

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