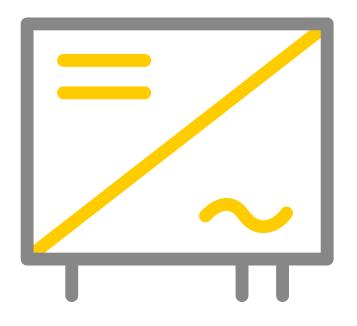
PROJECT INVERTER



PROJECT
COMMERCIAL
INDUSTRY



Inverter manufacturer



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Series Project inverter	M20A Flex	M30A Flex	M50A Flex	M70A Flex	М88Н	M100A Flex	M125HV 111 Gen2
Quantity MPPT	2	3		5	2	8	1
Connections per MPPT		2 each 3 each			9 each	2 each	20
Max. Current MPPT (A)	26 each	30 each	26 6	each	70 each	30 each	20 each
Type of DC connections	Amp	ohenol H4 (includ	ed in delivery)	ı	Stäubli MC4	Amphenol H4 (included)	Amphenol H4 plus
DC string fuses		0			•	0	•
DC system voltage (V)			110	0	,		1500
Surge protection DC / AC	Type 2 /	/ Type 2		1+2 opt.) / o 1+2 opt.)	Type 2 / Type 2 (interchan- geable)	Type 2 (Type 1+2 opt.) / Type 2	Type 2 (Type 1+2 opt.) / Type 2 (Type 1+2 opt.)
Arc fault detection AFCI		•			0		•
DC I/V Curve measurement		•			0	•	0
Shading management		I			0		
AC Nominal power (kW)	20	30	50	70	73	100	125
Grid voltage			400	V			600V
Grid certificates	VDE 4105				VDE 4105 / 41	110	
Warranty / Extendable to				5 years /	up to 20 years		
Interfaces Communication / FRE	WLAN, 2 x	x RS485, 6 x dig. Ir	n (FRE)		WLAN op	ot., 2 x RS485, 6 x	dig. In (FRE)
Monitoring			D	elta DC1 Gate	way on Delta Poi	rtal	
Measurement grid connec- tion + Self consumption (measurement type)			Delta	DC1 Gateway	+ Delta P3 Powe	r Meter	
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)					0		
Implementation of direct marketing > 100kWp				with compati	ble park controll	er	
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individually with grid provider)				with compati	ble park controll	er	
System information	passive coo	ling system		Flexib	le wall/floor mo	unting, active cod	oling system

 $^{^{\}star}$ Release and availability according to manufacturer's specifications



Series Project inverter	PVS-50-TL / -SX / -SX2 / -SX2 SPD 1+2	PVS-60-TL / -SX / -SX2 / -SX2 SPD 1+2	PVS-100-TL-SX / -SX2 / -SY2	PVS-120-TL-SX / -SX2 / -SY2
Quantity MPPT	1 (TL version) / 3	(SX + SX2 version)		5
Connections per MPPT	1(TL version) / 5	(SX + SX2 version)		4
Max. Current MPPT (A)		36 e	each	
Type of DC connections	Clamps (TL version) / Qu	iick-Fit (SX + SX2 version)	Quick-Fit (Connectors
DC string fuses	(TL version) / yes	(SX + SX2 version)		
DC system voltage (V)		10	00	
Surge protection DC / AC	Type 2 (Type 1+2 opt. or	nly version SX2) / Type 2	Type 2 (Type 1+2 opt. or	nly version SY2) / Type 2
Arc fault detection AFCI		(
DC I/V Curve measurement		(
Shading management		(
AC Nominal power (kW)	50	60	100	120
Grid voltage		40	00V	
Grid certificates	VDE	4105	VDE 411	0 / 4120
Warranty / Extendable to		5 years / up	o to 10 years	
Interfaces Communication / FRE	3 x RS485, 2 x I	Ethernet, WLAN	RS485, 2 x Et	hernet, WLAN
Monitoring		Fimer Aur	ora Vision	
Measurement grid connection + Self consumption (measurement type)		with compatib	le smart meter	
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)		()	
Implementation of direct marketing > 100kWp		with compatible	e park controller	
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		with compatible	e park controller	
System information		s, active cooling system, pole g possible	disconnector, Version SY2: with	ctor, Version SX2: with AC/DC n AC/DC disconnector + DC SPD em, pole grounding possible

^{**} Discontinuation announced by manufacturer

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Inverter manufacturer



Series Project inverter	Tauro 50-3-P (precombined)	Tauro Eco 50-3-P (precombined)	Tauro Eco 99-3-P (precombined)	Tauro Eco 100-3-P (precombined)			
Quantity MPPT	3		1				
Connections per MPPT		2 e	ach				
Max. Current MPPT (A)	36 / 36 / 72		75 / 75				
Type of DC connections		Cla	mps				
DC string fuses		()				
DC system voltage (V)		10	000				
Surge protection DC / AC		Type 1+2	/ Type 1+2				
Arc fault detection AFCI		(\supset				
DC I/V Curve measurement		()				
Shading management		()				
AC Nominal power (kW)	5	50	99	100			
Grid voltage		40	00V				
Grid certificates		VDE 4105	/ VDE 4110				
Warranty / Extendable to		5 years (registration re	quired) / up to 20 years				
Interfaces Communication / FRE		WLAN, 2 x Ethernet, 2 x R	S485, 6 x dig. In/Out (FRE)				
Monitoring		Data logger and web server	integrated on Fronius Portal				
Measurement grid connec- tion + Self consumption (measurement type)		Fronius Smart Met	er (direct / indirect)				
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)							
Implementation of direct marketing > 100kWp		Feed-in management via integrated data logger					
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		with compatibl	e park controller				
System information	Unit location with direct sunli		g position enabled, active cooling OOkW.	system, AC daisy chaining (

 $^{^{\}star}$ Release and availability according to manufacturer's specifications



Series Project inverter	Tauro 50-3-D (direct)	Tauro Eco 50-3-D (direct)	Tauro Eco 99-3-D (direct)	Tauro Eco 100-3-D (direct)		
Quantity MPPT	3		1			
Connections per MPPT	4/4/7	7/7		7 / 8 C fuse protection)		
Max. Current MPPT (A)	36 / 36 / 72	36 / 36 / 72 75 / 75 75 75 / 75				
Type of DC connections		Stäub	ili MC4			
DC string fuses		integrated	I (20/ 30 A)			
DC system voltage (V)		10	00			
Surge protection DC / AC		Type 1+2	/ Type 1+2			
Arc fault detection AFCI		opti	ional			
DC I/V Curve measurement		()			
Shading management		(
AC Nominal power (kW)	5	0	99	100		
Grid voltage		40	00V			
Grid certificates		VDE 4105	/ VDE 4110			
Warranty / Extendable to		5 years (registration re	quired) / up to 20 years			
Interfaces Communication / FRE		WLAN, 2 x Ethernet, 2 x R	S485, 6 x dig. In/Out (FRE)			
Monitoring		Data logger and web server	integrated on Fronius Portal			
Measurement grid connection + Self consumption (measurement type)		Fronius Smart Met	er (direct / indirect)			
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)						
Implementation of direct marketing > 100kWp		Feed-in management vi	a integrated data logger			
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		with compatible	e park controller			
System information	Unit location with direct sunli		g position enabled, active cooling	g system, AC daisy chainin		

^{**} Discontinuation announced by manufacturer

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Inverter manufacturer

GOODME

Series Project inverter	GW25K-MT	GW30K-MT	GW36K-MT	GW50KS-MT	GW60KS-MT			
Quantity MPPT		3		5	6			
Connections per MPPT			2 each					
Max. Current MPPT (A)			30 each					
Type of DC connections		Stä	ubli MC4 (included in deliv	very)				
DC string fuses			0					
DC system voltage (V)		1100						
Surge protection DC / AC		Type 2 / Type 2						
Arc fault detection AFCI			optional					
DC I/V Curve measurement			0					
Shading management			•					
AC Nominal power (kW)	25	30	36	50	60			
Grid voltage			400V					
Grid certificates			VDE 4105					
Warranty / Extendable to			5 years / up to 20 years					
Interfaces Communication / FRE		RS485 / Wifi,	connection FRE with Good	dwe EZLogger				
Monitoring	Direct net	work connection or Goodv	ve EZLogger on Goodwe p	ortal + app or external ma	nufacturer			
Measurement grid connection + Self consumption (measurement type)		SEC1000 S	mart Meter (indirect mea	surement)				
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)		Cont	rol via ext. NA monitor ena	abled				
Implementation of direct marketing > 100kWp		wi	th compatible park contro	ller				
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		wi	th compatible park contro	ller				
System information			active cooling system					

 $^{^{\}star}$ Release and availability according to manufacturer's specifications

Inverter manufacturer

GOODME

Series Project inverter	GW100K-HT	GW110K-HT	GW120K-HT	GW225K-HT	GW250K-HT		
Quantity MPPT	10	10 12					
Connections per MPPT			2 each				
Max. Current MPPT (A)			30 each				
Type of DC connections		Stä	ubli MC4 (included in deliv	ery)			
DC string fuses			0				
DC system voltage (V)		1100		150	00		
Surge protection DC / AC			Type 2 / Type 2				
Arc fault detection AFCI			optional				
DC I/V Curve measurement		0			•		
Shading management			0				
AC Nominal power (kW)	100	1:	20	225	250		
Grid voltage		400V		800V			
Grid certificates		VDE 4105 / 4110		VDE 4110) / 4120		
Warranty / Extendable to			5 years / up to 20 years				
Interfaces Communication / FRE	RS485 / Wifi,	connection FRE with Goo	dwe EZLogger	RS485, connection FRE	with GoodWe EZLogge		
Monitoring	Direct net	work connection or Goodv	ve EZLogger on Goodwe p	ortal + app or external ma	nufacturer		
Measurement grid connection + Self consumption (measurement type)	SEC1000 S	imart Meter (indirect mea	surement)		-		
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)		Cont	rol via ext. NA monitor ena	abled			
Implementation of direct marketing > 100kWp		wi	th compatible park contro	ller			
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		wi	th compatible park contro	ller			
System information			active cooling system				

^{**} Discontinuation announced by manufacturer

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Inverter manufacturer



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Series Project inverter	SUN2000-20KTL-M2	SUN2000-30KTL-M3	SUN2000-36KTL-M3	SUN2000-40KTL-M3	SUN2000-50KTL-M3 *			
Quantity MPPT	2 4							
Connections per MPPT	2 each							
Max. Current MPPT (A)	22 each		26 each		30 each			
Type of DC connections	Stäubli MC4 (included)		Amphenol Helios H4	(included in delivery)				
DC string fuses			0					
DC system voltage (V)			1000					
Surge protection DC / AC			Type 2 / Type 2					
Arc fault detection AFCI			•					
DC I/V Curve measurement		(•			
Shading management			•					
AC Nominal power (kW)	20	30	36	40	50			
Grid voltage			400V					
Grid certificates	VDE 4105 / 4110		VDE	4105				
Warranty / Extendable to			5 years / up to 20 years					
Interfaces Communication / FRE		RS485, WLAN, Ethernet	with smart dongle / inte	grated FRE connections				
Monitoring		Directly via Etherr	net (optional smart dongle	e) to Huawei portal				
Measurement grid connection + Self consumption (measurement type)			Huawei Smart Meter					
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)			0					
Implementation of direct marketing > 100kWp		wit	h compatible park contro	ller				
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		wit	h compatible park contro	ller				
System information		passive co	oling system, opt. Huawe	i optimizer				

 $^{^{\}star}$ Release and availability according to manufacturer's specifications



Series Project inverter	SUN2000- 100KTL-M2 *	SUN2000- 105KTL-H1	SUN2000- 115KTL-M2	SUN2000- 185KTL-H1	SUN2000- 215KTL-H0	SUN2000- 215KTL-H3	SUN2000- 330KTL-H3	
Quantity MPPT	10	6	10	Č)	3	б	
Connections per MPPT			2 each	2 each 4/5/5 4/5				
Max. Current MPPT (A)	30 each	25 each	30 each	26 each	30 each	100 each	65 each	
Type of DC connections	Stäubli MC4 (included)	Amphenol UTX (included)	Amphenol HH4 (included)	S	täubli MC4 EVO2 (included in deliver	y)	
DC string fuses				0				
DC system voltage (V)	1100	1500	1100		15	500		
Surge protection DC / AC				Type 2 / Type 2				
Arc fault detection AFCI	•							
DC I/V Curve measurement				•				
Shading management				•				
AC Nominal power (kW)	110	105	115	185	215	215	330	
Grid voltage	400V	800V	400		80	00V		
Grid certificates		VDE 410	05 / 4120			on request		
Warranty / Extendable to		5 years / up	to 20 years		<u>.</u>	5 years / on reques	st .	
Interfaces Communication / FRE			RS485, FRE cor	nection via Huawe	ei Smart Logger			
Monitoring			Huawei Sn	nart Logger on Hua	wei Portal			
Measurement grid connection + Self consumption (measurement type)			Н	uawei Smart Mete	er			
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)				0				
Implementation of direct marketing > 100kWp			with co	ompatible park cor	itroller			
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)			with co	ompatible park cor	itroller			
System information	passive coo	iling system		ad	tive cooling syste	em		

^{**} Discontinuation announced by manufacturer

Inverter manufacturer KACO

					new energy.		
Series Project inverter	"Blueplanet 20.0 NX3 M3"	Blueplane	et 25.0 / 30.0 M3 *	/ 33.3 NX3	Blueplanet 50.0 TL3 M1 INT	Blueplanet 60.0 TL3 M1 INT	
Quantity MPPT	2		3			1	
Connections per MPPT		2 each			S/B/M:1, XL:10	B/M: 1 , XL: 12	
Max. Current MPPT (A)		32 each			90	107	
Type of DC connections	Phoenix	Contact Sur	nclix		S/B/M: Cable lug +	clamp / XL: Sunclix	
DC string fuses		\bigcirc			XL:	•	
DC system voltage (V)				1000			
Surge protection DC / AC	Type 2 / Type 2		*		XL: Typ	e 1+2 / -	
Arc fault detection AFCI				0			
DC I/V Curve measurement				0			
Shading management				\circ			
AC Nominal power (kW)	20	25 *	30 *	33 *	50	60	
Grid voltage				400V	,		
Grid certificates	VDE 4105		VDE 4105 *		VDE 4105 / 4110		
Warranty / Extendable to			5 <u>y</u>	rears / up to	10 years		
Interfaces Communication / FRE	Wifi / RS485, FRE to Kaco Powador protect		S485, 4G, FRE owador prote		Ethernet, RS485, opt.: 4 x dig. In (FRE)		
Monitoring		dire	ectly or with K	aco blue'log	S series on Kaco Portal		
Measurement grid connection + Self consumption (measurement type)		Kacc	blue'log with	ı ext. meter	/ Kaco NX3 Smart Meter		
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)			to	(aco Powad	or protect		
Implementation of direct marketing > 100kWp			to	Kaco Powad	or protect		
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)			К	aco blue'log	X-Serie		
System information	Ultra-flat desig	n, active coo	iling system		versions with stri	ng fuses available	

 $^{^{\}star}$ Release and availability according to manufacturer's specifications



		new energy.								
Series Project inverter	"Blueplanet 87.0 TL3 M1 INT"	"Blueplanet 92.0 TL3 M1 INT"	"Blueplanet 105 TL3 M1 INT"							
Quantity MPPT		1								
Connections per MPPT		1								
Max. Current MPPT (A)	160	160 160 183								
Type of DC connections		Cable lug + clamp								
DC string fuses		0								
DC system voltage (V)		1500								
Surge protection DC / AC		Туре 1+2 / -								
Arc fault detection AFCI		0								
DC I/V Curve measurement		0								
Shading management		0								
AC Nominal power (kW)	87	92	99,9							
Grid voltage		400V								
Grid certificates		VDE 4105 / 4110								
Warranty / Extendable to		5 years / up to 10 years								
Interfaces Communication / FRE		Ethernet, RS485, opt.: 4 x dig. In (FRE)								
Monitoring	direc	tly or with Kaco blue'log S series on Kaco P	Portal							
Measurement grid connection + Self consumption (measurement type)	Касо	blue'log with ext. meter / Kaco NX3 Smart	Meter							
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)		to Kaco Powador protect								
Implementation of direct marketing > 100kWp		to Kaco Powador protect								
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		Kaco blue'log X-Serie								
System information		DC input up to 1500V								

^{**} Discontinuation announced by manufacturer

Inverter manufacturer



		Joiai Liectric	
Series Project inverter	Piko Cl 30	Piko CI 50	Piko Cl 60
Quantity MPPT	2	4	4
Connections per MPPT	3/3	3/3/2/2	3/3/3/3
Max. Current MPPT (A)	40,5 / 40,5	39 / 39 / 26 / 26	39 / 39 / 39 / 39
Type of DC connections		Amphenol H4 (included in delivery)	
DC string fuses		integrated for >2 inputs	
DC system voltage (V)		1100	
Surge protection DC / AC		Type 2 / Type 2	
Arc fault detection AFCI		0	
DC I/V Curve measurement		0	
Shading management		•	
AC Nominal power (kW)	30	50	60
Grid voltage		400V (4-core)	
Grid certificates		VDE 4105 / 4110	
Warranty / Extendable to		5 years / up to 10 years	
Interfaces Communication / FRE		WLAN, 2 x Ethernet, RS485, 4 x dig. In (FRE)
Monitoring		Data logger integrated, Kostal Portal, App	
Measurement grid connection + Self consumption (measurement type)	,	Kostal Smart Energy Meter (direct / indirect	t)
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)		•	
Implementation of direct marketing > 100kWp		with compatible parking controller	
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)		with compatible parking controller	
System information	System voltage up to 1100V, integrated w	eb server with various interfaces, active co (in symmetrical networks) possible	oling system, 4-wire network connection

^{*} Release and availability according to manufacturer's specifications

Inverter manufacturer



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Series Project inverter	STP	X 12 / 15	/ 20 / 25	- 50	"STP 50-41 Core1"	"STP 110-60 Core2"	Sunny Highpower 100-21	Sunny Highpower 150-21	
Quantity MPPT		:	3		6 12			1	
Connections per MPPT					2 each			1	
Max. Current MPPT (A)		24 6	each		20 each	26 each	18	30	
Type of DC connections			Phoenix	Contact Su	nclix (included in delivery)		Bolt clamps v	vith cable lug	
DC string fuses					0				
DC system voltage (V)				1000		1	100	1500	
Surge protection DC / AC		opt	/-		opt. / opt.	Type 1+2 / Type 2	(
Arc fault detection AFCI					•		(
DC I/V Curve measurement							\circ		
Shading management					yes		г	o	
AC Nominal power (kW)	12	15	20	25	50	110	100	150	
Grid voltage					400V	600V			
Grid certificates				VDE	4105 / 4110	VDE 4110 / 4120			
Warranty / Extendable to					5 years / up to 2	0 years			
Interfaces Communication / FRE	WLAN, 2		et, RS485 (FRE)	(opt.), 6 x	WLAN, 2 x Ethernet, RS485 (opt.), FRE via I/0 module (opt.)	2 x Ethernet, FRE via Data Manager M			
Monitoring					SMA Sunny Portal / SMA Sur	nny Portal ennex09	5		
Measurement grid connection + Self consumption (measurement type)			SM	1A Home M	lanager / Energy Meter (dire	ct / indirect)		0	
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)		•			with I/O module	0 module			
Implementation of direct marketing > 100kWp	via integi		tem mana SPOT	ager with		via SMA Data M	anager M		
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)	-	mic Powe	tem mana er Control Manager	opt.)		via SMA Data M	anager M		
System information	WR / 135k	κVA), Inte	n manage grated int ing SMA S	erface for	free setup possible	inclined moun- ting position possible		oust be assembled ustomer	

^{**} Discontinuation announced by manufacturer

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Inverter manufacturer

SCIFAR

Series Project inverter	25 / 30 / 33 / 36 KTLX-G3			40 / 45 / 50 KTLX-G3			60 KTLX-G3	80 KTLX-G3	
Quantity MPPT	3			4			6		
Connections per MPPT	2 each								
Max. Current MPPT (A)		40 each 32 each 40 each					40 each		
Type of DC connections		Stäubli MC4 (included in delivery)							
DC string fuses						\bigcirc			
DC system voltage (V)						1100			
Surge protection DC / AC			7	Гуре 2 / Туре	2			Type 2 (Type	1 opt.) / Type 2
Arc fault detection AFCI						0			
DC I/V Curve measurement						•			
Shading management	•								
AC Nominal power (kW)	25	30	33	36	40	45	50	60	80
Grid voltage	400V								
Grid certificates	VDE 4105 / 4110 (prototype)								
Warranty / Extendable to	10 years / up to 20 years								
Interfaces Communication / FRE	RS485, Wifi, Bluetooth, Ethernet (opt. with LAN dongle), $4 \times$ dig. In (FRE)								
Monitoring	Sofar Portal + App								
Measurement grid connection + Self consumption (measurement type)	with compatible Energy Meter								
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)									
Implementation of direct marketing > 100kWp	with compatible park controller								
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)	with compatible park controller								
System information	active cooling system								

 $^{^{\}star}$ Release and availability according to manufacturer's specifications

Inverter manufacturer

SCFAR

Series Project inverter	100 KTL-G4	110 KTLX-G4	125 KTL-G4	255 KTL-HV
Quantity MPPT	10			12
Connections per MPPT	je 2			
Max. Current MPPT (A)		40 each		30 each
Type of DC connections	Stäubli MC4 (included in delivery) MC4 EVO 2			
DC string fuses		()	
DC system voltage (V)		1100		1500
Surge protection DC / AC		Type 2	/ Type 2	
Arc fault detection AFCI				
DC I/V Curve measurement				
Shading management	•			
AC Nominal power (kW)	100	110	125	255
Grid voltage		400V		800V
Grid certificates	VDE 4105 / 4110			VDE 4110 / 4120
Warranty / Extendable to	10 years / up to 20 years			
Interfaces Communication / FRE	RS485, Wifi, Bluetooth, Ethernet (opt. with LAN dongle), $4 \times \text{dig.}$ In (FRE)			
Monitoring	Sofar Portal + App			
Measurement grid connection + Self consumption (measurement type)	with compatible Energy Meter			
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)	•			
Implementation of direct marketing > 100kWp	with compatible park controller			
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individually with grid provider)	with compatible park controller			
System information	active cooling system			

^{**} Discontinuation announced by manufacturer

Inverter manufacturer



Series Project inverter	SE25K Setapp	SE30K Setapp	SE33.0K Setapp		
Quantity MPPT	no				
Connections per MPPT	3 total 4 total				
Max. Current MPPT (A)	37 total	43.5 total	48.25 total		
Type of DC connections	Stäubli MC4				
DC string fuses		0			
DC system voltage (V)		0			
Surge protection DC / AC	Type 2 (opt.) / -	Type 2 / Ty	/pe 2 (opt.)		
Arc fault detection AFCI		•			
DC I/V Curve measurement		yes, through SE optimizer			
Shading management	yes, through SE optimizer				
AC Nominal power (kW)	25	29,99	33,3		
Grid voltage	400V				
Grid certificates	VDE 4105				
Warranty / Extendable to	5 years / up to 20 years				
Interfaces Communication / FRE	WLAN (antenna required), Ethernet, 2 x RS485, FRE via CCG				
Monitoring	SolarEdge Portal				
Measurement grid connection + Self consumption (measurement type)	SolarEdge Modbus Meter (indirect) / Inline Energy Meter (direct)				
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)					
Implementation of direct marketing > 100kWp	via SolarEdge Communication Gateway SE1000 CCG				
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)	0				
System information	quick and easy commissioning via setapp, active cooling system				

^{*} Release and availability according to manufacturer's specifications



Series Project inverter	SE50K	SE66.6K	SE90K	SE100K		
Quantity MPPT	no (2 synergy units)		no (3 synergy units)			
Connections per MPPT	4 per unit	t (8 total)	4 per unit	4 per unit (12 total)		
Max. Current MPPT (A)	36,25 each (per unit)	48.25 each (per unit)	43.5 each (per unit)	48.25 each (per unit)		
Type of DC connections	Stäubli MC4					
DC string fuses	(opt.)					
DC system voltage (V)		(
Surge protection DC / AC		Type 2 / Ty	ype 2 (opt.)			
Arc fault detection AFCI						
DC I/V Curve measurement		yes, through	SE optimizer			
Shading management		yes, through	SE optimizer			
AC Nominal power (kW)	50	66,6	90	100		
Grid voltage	400V					
Grid certificates	no VDE 4105 / 4110					
Warranty / Extendable to	5 years / up to 20 years					
Interfaces Communication / FRE	WLAN (opt.), Ethernet, 2 x RS485, FRE via CCG					
Monitoring	SolarEdge Portal					
Measurement grid connection + Self consumption (measurement type)	SolarEdge Modbus Meter (indirect) / Inline Energy Meter (direct)					
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)	•					
Implementation of direct marketing > 100kWp	via SolarEdge Communication Gateway SE1000 CCG					
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individually with grid provider)	through SolarEdge communication gateway SE1000 CCG					
System information	modular Synergy topology, overvoltage protection of RS485 interfaces, active cooling system					

^{**} Discontinuation announced by manufacturer

Inverter manufacturer



Series Project inverter	X3-PRO-20K-G2	X3-PRO-25K-G2	X3-PRO-30K-G2		
Quantity MPPT	2	:	3		
Connections per MPPT	2 each				
Max. Current MPPT (A)	32 each				
Type of DC connections	Vaconn MC4 (included in delivery)				
DC string fuses		0			
DC system voltage (V)		1100			
Surge protection DC / AC		Type 2 / Type 2			
Arc fault detection AFCI		yes (opt.)			
DC I/V Curve measurement		0			
Shading management	yes				
AC Nominal power (kW)	20	25	30		
Grid voltage	400V				
Grid certificates	VDE 4105				
Warranty / Extendable to	5 years / up to 20 years				
Interfaces Communication / FRE	Pocket Wifi (opt.), RS485, FRE via Solax DataHub1000				
Monitoring	Solax Cloud Portal				
Measurement grid connection + Self consumption (measurement type)	Solax Smart Meter (version direct + version indirect with CT's)				
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)	with compatible park controller				
Implementation of direct marketing > 100kWp	with compatible park controller				
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)	with compatible park controller				
System information	Compact design, active cooling system				

 $^{^{\}star}$ Release and availability according to manufacturer's specifications



Series Project inverter	X3-FTH-80K	X3-FTH-100K	X3-FTH-110K	X3-FTH-120K	X3-FTH-125K	X3-FTH-136K- MV	X3-FTH-150K MV
Quantity MPPT	9 12				12	,	
Connections per MPPT		2 each					
Max. Current MPPT (A)		32 each					
Type of DC connections			Vaconn	MC4 (included in o	delivery)		
DC string fuses				no			
DC system voltage (V)				1100			
Surge protection DC / AC				Type 2 / Type 2			
Arc fault detection AFCI				yes (opt.)			
DC I/V Curve measurement				•			
Shading management				0			
AC Nominal power (kW)	80	100	110	120	125	136	150
Grid voltage	400V 500V)0V	
Grid certificates	VDE 4105 on request						
Warranty / Extendable to	5 years / up to 20 years						
Interfaces Communication / FRE	Pocket Wifi (opt.), RS485, FRE via Solax DataHub1000						
Monitoring	Solax Cloud Portal						
Measurement grid connection + Self consumption (measurement type)	Solax Smart Meter (version direct + version indirect with CT's)				\supset		
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)	X3-Forth series does not have any integrated NA protection, must always be implemented on site						
Implementation of direct marketing > 100kWp	with compatible park controller						
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individually with grid provider)	with compatible park controller						
System information	Multistring-WR for large plants, active cooling system						

^{**} Discontinuation announced by manufacturer

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Inverter manufacturer

SUNGROW Clean power for all

Series Project inverter SG33CX - P2 SG50CX - P2 **Quantity MPPT** Connections per MPPT 2 each Max. Current MPPT (A) 30 each Type of DC connections Stäubli MC4 (included in delivery) DC string fuses \bigcirc DC system voltage (V) 1000 Surge protection DC / AC Type 1+2 / Type 2 Arc fault detection AFCI DC I/V Curve measurement no Shading management no AC Nominal power (kW) 33 50 Grid voltage 400V **Grid certificates** VDE 4105 / 4110 Warranty / Extendable to 5 years / up to 20 years Interfaces Communication RS485, WLAN (opt.), Ethernet (opt.), FRE via Sungrow Logger / FRE Monitoring Sungrow iSolar Cloud Portal Measurement grid connection + Self consumption Sungrow Smart Meter (measurement type) Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA) Implementation of direct with compatible park controller marketing > 100kWp Control interfaces according to VDE-AR-N 4110 / 4120 with compatible park controller (to be coordinated individually with grid provider) **System information** inclined mounting position enabled, active cooling system

Inverter manufacturer

SUNGROW

Clean power for all

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Series Project inverter	SG125CX-P2	SG125HX	SG350HX - V135	SG350HX - V115		
Quantity MPPT	12	6	16	12		
Connections per MPPT	2 each					
Max. Current MPPT (A)		30 each 40 each				
Type of DC connections	MC4 EVO2 (included in scope of delivery)					
DC string fuses		C)			
DC system voltage (V)	1100		1500			
Surge protection DC / AC		Type 2 / Type 1+2	Туре 2	/ Type 2		
Arc fault detection AFCI	•		0			
DC I/V Curve measurement)			
Shading management	• 0		\circ			
AC Nominal power (kW)	125		350	350		
Grid voltage	400V 800V					
Grid certificates	VDE 4105 / 4110 VDE 4110 / 4120					
Warranty / Extendable to	5 years / up to 20 years					
Interfaces Communication / FRE	RS485, FRE via logger RS485, PLC, FRE via logger			FRE via logger		
Monitoring	Sungrow iSolar Cloud Portal					
Measurement grid connection + Self consumption (measurement type)	Sungrow Smart Meter					
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)	0					
Implementation of direct marketing > 100kWp	with compatible park controller					
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)	with compatible park controller					
System information	inclined mounting position enabled, active cooling system Connection to medium voltage mains, inclined mounting position enabled, active cooling system			sition enabled, active cooling		

 $^{^{\}star}$ Release and availability according to manufacturer's specifications

^{**} Discontinuation announced by manufacturer

Explanation of the
specifications

Information

Series Project inverter	Name of the device series / model.
Quantity MPPT	Number of MPP trackers installed in the device.
Connections per MPPT	Number of physical DC connections per MPP tracker.
Max. Current MPPT (A)	Maximum current that can be processed by the device per MPP tracker.
Type of DC connections	Possible variants of string connections: Terminals, Stäubli MC4, Stäubli EVO2, Phoenix Contact Sunclix, Amphenol,
DC string fuses	Are DC fuses for the inputs installed in the device?
DC system voltage (V)	Maximum DC input voltage from module side.
Surge protection DC / AC	Is surge protection installed in the device on the AC / DC side / optionally retrofittable? Which protection class (type 2 / type 1+2)?
Arc fault detection AFCI	Does the inverter have detection for arcing on the string side?
DC I/V Curve measurement	Does the inverter have an integrated characteristic curve measurement for the module strings?
Shading management	Does the inverter have a function to work best even in shaded conditions?
AC Nominal power (kW)	AC output power of the device.
Grid voltage	Voltage level at the mains connection.
Grid certificates	According to which standards is the device certified?
Warranty / Extendable to	Duration of standard warranty / Extendable to X years.
Interfaces Communication / FRE	Which integrated communication interfaces does the device have? To which can the required radio ripple control receiver be connected?
Monitoring	On which portal and with which additional components can a visualization of the plant take place?
Measurement grid connection + Self consumption (measurement type)	Which additional components are required for measuring the self-consumption share at the grid connection point?
Approval of use of grid relay for external NA protection (VDE-AR-N 4105, up to 135kVA)	Can the mains relays installed in the device be controlled externally by an NA monitor? This must be expressly approved by the manufacturer.
Implementation of direct marketing > 100kWp	Which additional components can be used to implement direct marketing, which is mandatory from 100kW?
Control interfaces according to VDE-AR-N 4110 / 4120 (to be coordinated individu- ally with grid provider)	Which additional components can be used by the utility to implement the prescribed control interfaces?
System information	Additional information about the system, special features, etc.



Heimsheimer Str. 65/1 71263 Weil der Stadt/Hausen Deutschland

Tel. +49 (0) 7033 3042-0 info@de.krannich-solar.com