



Product Service

Compliance Document

No. D 075386 0314 Rev. 00

Holder of Attestation: **Shenzhen Kstar New Energy Company Limited**

The 9th Floor, R&D Building
Kstar Industrial Park, Guangming Hi-tech Industrial Zone
518107 Shenzhen, Guangdong Province
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter**
(Hybrid Inverter & Energy Storage Inverter)

Model(s): **Hybrid Inverter:**
KAC125DP2, KAC110DP2, KAC100DP2,
KAC80DP2, KAC125DP2-S0, KAC110DP2-
S0, KAC100DP2-S0, KAC80DP2-S0
Energy Storage Inverter:
KAC125D2, KAC110D2, KAC100D2,
KAC80D2, KAC125D2-S0, KAC110D2-S0,
KAC100D2-S0, KAC80D2-S0

Parameters: See page 2-5

Tested according to: EN 50549-1:2019/A1:2023
EN 50549-2:2019/A1:2023
EN 50549-10:2022

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the particular sample. This compliance document makes no statement regarding the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290253070101

Date, 2025-12-17

(Billy Qiu)



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Parameters:

Model	KAC125DP2	KAC110DP2	KAC100DP2	KAC80DP2
PV terminal parameters				
Maximum input voltage [V _{DC}]	1000	1000	1000	1000
Rated input voltage [V _{DC}]	720	720	720	720
MPPT voltage range (full load) [V _{DC}]	700-800	660-800	620-800	550-800
MPPT tracker number	8	8	8	8
Maximum input current [A _{DC}]	45*8	45*8	45*8	45*8
Isc PV [A _{DC}]	60*8	60*8	60*8	60*8
Maximum input power [W]	250000	200000	200000	160000
Battery input/output parameters				
Battery type	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Battery rated voltage [V _{DC}]	820	820	820	820
Battery voltage range [V _{DC}]	820-890	820-890	820-890	820-890
Maximum charge power [W]	125000	110000	110000	88000
Maximum discharge power [W]	125000	110000	110000	88000
Maximum charge current [A _{DC}]	80/80	80/80	80/80	80/80
Maximum discharge current [A _{DC}]	80/80	80/80	80/80	80/80
Grid terminal input parameters				
Rated input voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated input frequency [Hz]	50	50	50	50
Maximum continuous input current from grid to battery [A _{AC}]	208	183	183	133
Maximum continuous input current [A _{AC}]	227	227	227	227
Maximum continuous input power from grid to battery [W]	125000	110000	110000	88000
Maximum continuous input active power [W]	150000	150000	150000	150000
Maximum continuous input apparent power [VA]	172000	172000	172000	165000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			
Grid terminal output parameters				
Rated output voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated output frequency [Hz]	50	50	50	50
Rated output current [A _{AC}]	181	160	145	116
Maximum continuous output current [A _{AC}]	199	175	160	127
Rated output active power [W]	125000	110000	100000	80000
Maximum output active power [W]	125000	110000	100000	80000
Maximum continuous output apparent power [VA]	137500	121000	110000	88000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			



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Model	KAC125DP2-S0	KAC110DP2-S0	KAC100DP2-S0	KAC80DP2-S0
PV terminal parameters				
Maximum input voltage [V _{DC}]	1000	1000	1000	1000
Rated input voltage [V _{DC}]	720	720	720	720
MPPT voltage range (full load) [V _{DC}]	700-800	660-800	620-800	550-800
MPPT tracker number	8	8	8	8
Maximum input current [A _{DC}]	45*8	45*8	45*8	45*8
Isc PV [A _{DC}]	60*8	60*8	60*8	60*8
Maximum input power [W]	250000	200000	200000	160000
Battery input/output parameters				
Battery type	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Battery rated voltage [V _{DC}]	820	820	820	820
Battery voltage range [V _{DC}]	820-890	820-890	820-890	820-890
Maximum charge power [W]	125000	110000	110000	88000
Maximum discharge power [W]	125000	110000	110000	88000
Maximum charge current [A _{DC}]	80/80	80/80	80/80	80/80
Maximum discharge current [A _{DC}]	80/80	80/80	80/80	80/80
Grid terminal input parameters				
Rated input voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated input frequency [Hz]	50	50	50	50
Maximum continuous input current from grid to battery [A _{AC}]	190	167	167	133
Maximum continuous input current [A _{AC}]	190	167	167	133
Maximum continuous input power from grid to battery [W]	125000	110000	110000	88000
Maximum continuous input active power [W]	125000	110000	110000	88000
Maximum continuous input apparent power [VA]	137500	121000	110000	88000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			
Grid terminal output parameters				
Rated output voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated output frequency [Hz]	50	50	50	50
Rated output current [A _{AC}]	181	160	145	116
Maximum continuous output current [A _{AC}]	199	175	160	127
Rated output active power [W]	125000	110000	100000	80000
Maximum output active power [W]	125000	110000	100000	80000
Maximum continuous output apparent power [VA]	137500	121000	110000	88000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			



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Model	KAC125D2	KAC110D2	KAC100D2	KAC80D2
Battery input/output parameters				
Battery type	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Battery rated voltage [V _{DC}]	820	820	820	820
Battery voltage range [V _{DC}]	820-890	820-890	820-890	820-890
Maximum charge power [W]	125000	110000	110000	88000
Maximum discharge power [W]	125000	110000	110000	88000
Maximum charge current [A _{DC}]	80/80	80/80	80/80	80/80
Maximum discharge current [A _{DC}]	80/80	80/80	80/80	80/80
Grid terminal input parameters				
Rated input voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated input frequency [Hz]	50	50	50	50
Maximum continuous input current from grid to battery [A _{AC}]	208	183	183	133
Maximum continuous input current [A _{AC}]	227	227	227	227
Maximum continuous input power from grid to battery [W]	125000	110000	110000	88000
Maximum continuous input active power [W]	150000	150000	150000	150000
Maximum continuous input apparent power [VA]	172000	172000	172000	165000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			
Grid terminal output parameters				
Rated output voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated output frequency [Hz]	50	50	50	50
Rated output current [A _{AC}]	181	160	145	116
Maximum continuous output current [A _{AC}]	199	175	160	127
Rated output active power [W]	125000	110000	100000	80000
Maximum output active power [W]	125000	110000	100000	80000
Maximum continuous output apparent power [VA]	137500	121000	110000	88000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			



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Model	KAC125D2-S0	KAC110D2-S0	KAC100D2-S0	KAC80D2-S0
Battery input/output parameters				
Battery type	Lithium-ion	Lithium-ion	Lithium-ion	Lithium-ion
Battery rated voltage [V _{DC}]	820	820	820	820
Battery voltage range [V _{DC}]	820-890	820-890	820-890	820-890
Maximum charge power [W]	125000	110000	110000	88000
Maximum discharge power [W]	125000	110000	110000	88000
Maximum charge current [A _{DC}]	80/80	80/80	80/80	80/80
Maximum discharge current [A _{DC}]	80/80	80/80	80/80	80/80
Grid terminal input parameters				
Rated input voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated input frequency [Hz]	50	50	50	50
Maximum continuous input current from grid to battery [A _{AC}]	190	167	167	133
Maximum continuous input current [A _{AC}]	190	167	167	133
Maximum continuous input power from grid to battery [W]	125000	110000	110000	88000
Maximum continuous input active power [W]	125000	110000	110000	88000
Maximum continuous input apparent power [VA]	137500	121000	110000	88000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			
Grid terminal output parameters				
Rated output voltage [V _{AC}]	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400	3P+N+PE, 230/400
Rated output frequency [Hz]	50	50	50	50
Rated output current [A _{AC}]	181	160	145	116
Maximum continuous output current [A _{AC}]	199	175	160	127
Rated output active power [W]	125000	110000	100000	80000
Maximum output active power [W]	125000	110000	100000	80000
Maximum continuous output apparent power [VA]	137500	121000	110000	88000
Power factor range	0.9 inductive(under-excited) to 0.9 capacitive(over-excited)			



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Evaluated protection function and operational capabilities

Clause(s) / subclause(s) of EN 50549-1:2019+ A1:2023 and EN 50549-2:2019+ A1:2023	Applicable clause(s) / subclause(s) of EN 50549-10:2022	Remarks, optional modes and constraints	Verdict
4.4.2 Operating frequency range	5.2.1 Frequency operating range	--	Pass
4.4.3 Minimal requirement for active power delivery at underfrequency	5.2.1 Frequency operating range	--	Pass
4.4.4 Continuous operating voltage range	5.2.2 Voltage operating range	--	Pass
4.5.2 Rate of change of frequency (ROCOF) immunity	5.3.1 Immunity to disturbances - Rated of change of frequency (ROCOF)	--	Pass
4.5.3.2 Generating plant with nonsynchronous generating technology	5.3.3 Immunity to disturbances - Fault ride through, over-voltage (OVRT) and under-voltage (UVRT)	--	Pass
4.5.4 Over-voltage ride through (OVRT)	5.3.3 Immunity to disturbances - Fault ride through, over-voltage (OVRT) and under-voltage (UVRT)	--	Pass
4.5.5 Phase jump immunity	5.3.2 Phase jump	--	Pass
4.6.1 Power response to overfrequency	5.4 Active response to frequency deviation	--	Pass
4.6.2 Power response to underfrequency	5.4 Active response to frequency deviation	--	Pass
4.7.2.2 Voltage support by reactive power, Capabilities	5.5.1 Power capabilities assessment	--	Pass
4.7.2.3 Voltage support by reactive power, Control modes	5.5.2 Voltage support by reactive power - test to determine the reactive power control modes	Q setp. Q(U) Cos φ setp. Cos φ (P) Q (P) only for EN 50549-2	Pass
4.7.2.3.2 Set point control modes	5.5.2.3 Verification procedure for set point control	Q setp.	Pass
4.7.2.3.3 Voltage related control modes	5.5.2.4 Verification procedure for voltage related control mode for reactive power Q(U)	Q(U)	Pass
4.7.2.3.4 Power related control mode	5.5.2.5 Verification procedure for power related control modes for reactive power	Cos φ (P) or Q (P) Q (P) only for EN 50549-2	Pass
4.7.3 Voltage related active power reduction	5.6 Voltage related active power reduction - P(U)	P(U)	Pass



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4.7.4.2.1 Voltage support during faults and voltage steps	5.3.3 Immunity to disturbances - Fault ride through, over-voltage (OVRT) and under-voltage (UVRT)	--	Pass
4.7.4.2.2 Zero current mode for converter connected generating technology	5.3.3 Immunity to disturbances - Fault ride through, over-voltage (OVRT) and under-voltage (UVRT)	--	Pass
4.9.3 Requirements on voltage and frequency protection	5.8.3 Verification procedure for generating plants to be connected to a LV distribution network with Interface protection as internal device	External interface protection for generating plants to be connected to the LV/MV network according to EN 50549-1:2019+A1:2023/EN 50549-2:2019+A1:2023 must be installed in final installation.	N/A
4.9.4 Means to detect island situation	5.8.6 Islanding detection	The inverter has an active islanding detection capability. External interface protection as dedicated device must be installed in final installation.	Pass
4.10.2 Automatic reconnection after tripping	5.9.3 Automatic reconnection after tripping	--	Pass
4.10.3 Starting to generate electrical power	5.9.4 Starting to generate electrical power	--	Pass
4.11.1 Ceasing active power	5.10 Active power reduction on set point	--	Pass
4.11.2 Reduction of active power on set point	5.10 Active power reduction on set point	--	Pass
4.12 Remote information exchange	5.11 Remote information exchange	Standardized communication protocol not provided by manufacturer.	N/A
4.13 Single fault tolerance of interface protection system and interface switch	5.12 Requirements regarding single fault tolerance of interface protection system and interface switch	External interface protection as dedicated device must be installed in final installation.	N/A



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Evaluated parameter and parameter range

Specific technical requirement (e.g. grid codes)		EN 50549-1:2019+A1:2023 and EN 50549-2:2019+A1:2023			
Clause(s) / subclause(s) of EN 50549-1:2019+A1:2023 and EN 50549-2:2019+A1:2023	Parameter	Remarks/ additional information	Configurable value range	Default value	
4.4.2 Operating frequency range	47.0 - 47.5 Hz Duration	--	0 - 20 s	20 s	
	47.5 - 48.5 Hz Duration	--	30 - 90 min	30 min	
	48.5 - 49.0 Hz Duration	--	30 - 90 min	30 min	
	49.0 - 51.0 Hz Duration	--	not configurable	unlimited	
	51.0 - 51.5 Hz Duration	--	30 - 90 min	30 min	
	51.5 - 52.0 Hz Duration	--	0 - 15 min	15 min	
4.4.3 Minimal requirement for active power delivery at underfrequency	Reduction threshold	--	not configurable	No reduction.	
	Maximum reduction rate	--	not configurable	Maximum allow 10 % of P _{max} per 1 Hz	
4.4.4 Continuous operating voltage range	Upper limit	--	not configurable	253.0 V	
	Lower limit	--	not configurable	195.5 V for EN50549-1 207.0 V for EN50549-2	
4.5.2 Rate of change of frequency (ROCOF) immunity	ROCOF withstand capability (defined with a sliding measurement window of 500 ms)	--	not configurable	2 Hz/s	
4.5.3.2 Under-voltage ride through (UVRT) Generating plant with non-synchronous generating technology	Maximum power resumption time	--	not configurable	1 s	
	Voltage-Time-Diagram	--	See figure 6 most stringent curve of EN 50549-1:2019+A1:2023	Time [s]	U [p.u.]
		--		--	0.05
		--		0.25	0.05
		--		3.0	0.85
	Voltage-Time-Diagram	--	See figure 6 most stringent curve of EN 50549-2:2019+A1:2023	Time [s]	U [p.u.]
		--		--	0.05
		--		0.25	0.05
		--		3.0	0.85



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				180.0	0.85
				180.0	0.90
4.5.4 Over-voltage ride through (OVRT)	Voltage-Time-Diagram	--	See figure 8 of EN 50549-1:2019+A1:2023 and EN 50549-2:2019+A1:2023	Time [s]	U [p.u.]
		--		--	1.25
		--		0.1	1.25
		--		0.1	1.20
		--		5.0	1.20
		--		5.0	1.15
		--		60	1.15
		--		60	1.10
4.5.5 Phase jump immunity	Phase jump immunity	--	not configurable	50°, 90°, 180°	
4.6.1 Power response to overfrequency	Threshold frequency f1		50.2 Hz - 52.0 Hz	50.2 Hz	
	Droop	--	2 % - 12 %	5 %	
	Power reference	--	P _M P _{max}	P _{max} for Energy Storage Inverter, P _M for Hybrid Inverter	
	Intentional delay	--	0 - 2 s	0 s	
	Deactivation threshold fstop	--	50.0 Hz - f1	deactivated	
	Deactivation time tstop	--	0 - 600 s	--	
	Acceptance of staged disconnection	--	yes no	yes	
4.6.2 Power response to underfrequency	Threshold frequency f1	--	49.8 Hz - 46.0 Hz	49.8 Hz	
	Droop	--	2 - 12 %	5 %	
	Power reference	--	P _M P _{max}	P _{max}	
	Intentional delay	--	0 - 2 s	0 s	
4.7.2.2 Voltage support by reactive power - Capabilities	Active factor / Reactive power range overexcited	--	0.900 - 1.000 / 0 % - 48 %Pn	1.000 / 0 %Pn	
	Active factor / Reactive power range underexcited	--	-0.900 - 1.000 / -48 % - 0 %Pn	1.000 / 0 %Pn	



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4.7.2.3 Voltage support by reactive power - Control modes	Enabled control mode	--	Q setp. Q(U) Cos φ setp. Cos φ (P) Q (P) only for EN 50549-2	Q setp(Q setpoint)
4.7.2.3.2 Voltage support by reactive power - Setpoint control modes	Q setpoint and excitation	--	-48 % – 48 %P _n	0 %P _n
	Cos φ setpoint and excitation	--	0.900 underexcited - 0.900 overexcited	1.000
4.7.2.3.3 Voltage support by reactive power - Voltage related control modes	Characteristic curve - Q (U)	--	--	Indicate default characteristic
	Point a	--	195.5 V - 230.0 V	213.9 V
	Point b	--	195.5 V - 230.0 V	216.2 V
	Point c	--	230.0 V - 253.0 V	243.8 V
	Point d	--	230.0 V - 253.0 V	248.4 V
	Reactive power of Point a	--	-48 % – 48 %P _n	48 %P _n
	Reactive power of Point b	--	-48 % – 48 %P _n	0 %P _n
	Reactive power of Point c	--	-48 % – 48 %P _n	0 %P _n
	Reactive power of Point d	--	-48 % – 48 %P _n	-48 %P _n
	Time constant	--	3 s - 60 s	3 s
	Min cos φ	--	0.0 - 1.0	0.4
	Lock in power	--	0 % - 20 % P _n	deactivated
	Lock out power	--	0 % - 20 % P _n	deactivated
4.7.2.3.4 Voltage support by reactive power - Power related control mode	Characteristic curve - Cos φ (P) and Q(P) (Q(P) mode only for EN 50549-2)	--	--	Indicate default characteristic, Cos φ (P) and Q (P) can be enabled only one at a time
	Cos φ (P) Point a	--	0 % - 100 %P _d	15 %P _d
	Cos φ (P) Point b	--	0 % - 100 %P _d	20 %P _d
	Cos φ (P) Point c	--	0 % - 100 %P _d	80 %P _d
	Cos φ (P) Point d	--	0 % - 100 %P _d	90 %P _d
	Cos φ of Cos φ (P) Point a	--	0.9 un - 0.9 ov	0.9 ov
	Cos φ of Cos φ (P) Point b	--	0.9 un - 0.9 ov	1.0



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	Cos φ of Cos φ (P) Point c	--	0.9 un - 0.9 ov	1.0
	Cos φ of Cos φ (P) Point d	--	0.9 un - 0.9 ov	0.9 un
	Q (P) Point a (P0)	--	0 - 100 %P _d	15 %P _d
	Q (P) Point b (P1)	--	0 - 100 %P _d	20 %P _d
	Q (P) Point c (P2)	--	0 - 100 %P _d	80 %P _d
	Q (P) Point d (P3)	--	0 - 100 %P _d	90 %P _d
	Reactive power of Q(P) Point a (Q0)	--	-48 % - 48 %P _n	48 %P _n
	Reactive power of Q(P) Point b (Q1)	--	-48 % - 48 %P _n	0 %P _n
	Reactive power of Q(P) Point c (Q2)	--	-48 % - 48 %P _n	0 %P _n
	Reactive power of Q(P) Point d (Q3)	--	-48 % - 48 %P _n	-48 %P _n
	Time constant	--	3 s - 60 s	3 s
	Lock in voltage	--	241.5 V	deactivated
	Lock out voltage	--	230.0 V	deactivated
4.7.3 Voltage related active power reduction	Characteristic curve - P (U)	--	--	Indicate default characteristic
	Voltage high Point 1	--	230.0 V – 276.0 V	253.0 V
	Voltage high Point 2	--	230.0 V – 276.0 V	257.6 V
	Power high Point 1	--	0 % - 100 %P _n	100 %P _n
	Power high Point 2	--	0 % - 100 %P _n	0 %P _n
	Time constant	--	3 s - 60 s	3 s
4.7.4.2.1 Voltage support during faults and voltage steps	Enabling	For type B of EN 50549-1 or EN 50549-2	enable disable	disabled
	Static voltage range overvoltage		230.0 V - 276.0 V	253.0 V
	Static voltage range undervoltage		184.0 V - 230.0 V	195.5 V for EN 50549-1 207.0 V for EN 50549-2
	Insensitivity range		0 % - 15 %	0 %
	Gradient k1 for LVRT (both positive and negative)		0 - 6	2
	Gradient k2 for HVRT(both positive and negative)		0 - 6	2
4.7.4.2.1.2 Optional Modes Only for EN 50549-	Active power priority	--	enable disable	This mode is not supported for EN 50549-2:2019+A1:2023



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2:2019+A1:2023	Reactive current limitation [% rated current]	--	0 – 100 %	This mode is not supported for EN 50549-2:2019+A1:2023
	Zero current threshold	--	20 – 100 %U _n	This mode is not supported for EN 50549-2:2019+A1:2023
4.7.4.2.2 Zero current mode for converter connected generating technology	Enabling	For type A of EN 50549-1	enable disable	disabled
	Static voltage range overvoltage		230.0 V – 276.0 V	276.0 V
	Static voltage range undervoltage		46.0 V – 230.0 V	115.0 V
	Enabling	For EN 50549-2	enable disable	disabled
	Static voltage range undervoltage		46.0 V – 230.0 V	115.0 V
4.9.3 Requirements on voltage and frequency protection	Threshold for protection as dedicated device [in A or kW, kVA]	--	16 A - 250 kVA	External interface protection for generating plants to be connected to the LV/MV network according to EN 50549-1:2019+A1:2023/EN 50549-2:2019+A1:2023 must be installed in final installation.
	Undervoltage threshold stage 1	--	46 V - 230 V	
	Undervoltage operate time stage 1	--	0.1 s - 100 s	
	Undervoltage threshold stage 2	--	46 V - 230 V	
	Undervoltage operate time stage 2	--	0.1 s - 5 s	
	Overvoltage threshold stage 1	--	230 V - 276 V	
	Overvoltage operate time stage 1	--	0.1 s - 100 s	
	Overvoltage threshold stage 2	--	46 V – 230 V	
	Overvoltage operate time stage 2	--	0.1 s - 5 s	
	Overvoltage threshold 10 min mean protection	--	230 V – 264.5 V	
	Underfrequency threshold stage 1	--	47.0 Hz - 50.0 Hz	
	Underfrequency operate time stage 1	--	0.1 s - 100 s	
	Underfrequency threshold stage 2	--	47.0 Hz - 50.0 Hz	
	Underfrequency operate time stage 2	--	0.1 s - 5 s	



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	Overfrequency threshold stage 1	--	50.0 Hz - 52.0 Hz	Only for EN 50549-2:2019+A1:2023
	Overfrequency operate time stage 1	--	0.1 s - 100 s	
	Overfrequency threshold stage 2	--	50.0 Hz - 52.0 Hz	
	Overfrequency operate time stage 2	--	0.1 s - 5 s	
	Positive sequence under-voltage protection threshold	--	20 – 100 %U _n	
	Positive sequence under-voltage protection operate time	--	0.2 – 100 s	
	Negative sequence over-voltage protection threshold	--	1 – 100 %U _n	
	Negative sequence over-voltage protection threshold time	--	0.2 – 100 s	
	Zero sequence over-voltage protection threshold	--	0 – 100 %U _n	
	Zero sequence over-voltage protection threshold time	--	0.2 – 100 s	
4.10.2 Automatic reconnection after tripping	Lower frequency	--	47.0 Hz - 50.0 Hz	49.5 Hz
	Upper frequency	--	50.0 Hz - 52.0 Hz	50.2 Hz
	Lower voltage	--	115.0 V – 230.0 V	195.5 V for EN 50549-1 207.0 V for EN 50549-2
	Upper voltage	--	230.0 V – 276.0 V	253.0 V
	Observation time	--	10 s - 600 s	60 s
	Active power increase gradient	--	6% - 3000%/min	10 %P _n /min
4.10.3 Starting to generate electrical power	Lower frequency	--	47.0 Hz - 50.0 Hz	49.5 Hz
	Upper frequency	--	50.0 Hz - 52.0 Hz	50.1 Hz
	Lower voltage	--	115.0 V – 230.0 V	195.5 V for EN 50549-1 207.0 V for EN 50549-2
	Upper voltage	--	230.0 V – 276.0 V	253.0 V
	Observation time	--	10 s - 600 s	60 s



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	Active power increase gradient	--	6% - 3000 %/min	disabled
4.11.1 Ceasing active power	Activation option	--	Can be achieved by Modbus communication protocol, decision should be made by the DSO and responsible party	
4.11.2 Reduction of active power on set point	Activation option	--	Can be achieved by Modbus communication protocol, decision should be made by the DSO and responsible party	
4.12 Remote information exchange	Available communication standards	--	Standardized communication protocol not provided by manufacturer	