

Certificate of Compliance

Certificate: 70218631 Master Contract: 259077

Project: 80202435 **Date Issued:** 2024-05-06

Issued to: ALTENERGY POWER SYSTEM INC.

Building 2, No. 522, Yatai Road, Nanhu District

Jiaxing City, Zhejiang, 314050

CHINA

Attention: Kevin Lu

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only



Issued by: Hart Cai

Hart Cai

PRODUCTS

CLASS 5311 09 - POWER SUPPLIES - Distributed Generation Power Systems Equipment CLASS 5311 89 - POWER SUPPLIES - Distributed Generation Power Systems Equipment - Certified to U.S. Standards

APsmart Rapid Shutdown System:

Model	Attenuators	Initiation Device	System Ratings
Type-A	RSD-S-PLC-A	Transmitter-PLC	System voltage 1000Vdc, Attenuators Input:
			8~80Vdc, 15Amax per module, 15A max input
			short circuit. Attenuators Output: 8~80Vdc,
			15Amax, 800W max per module.
			Rapid shutdown time limit 15s.
			Initiated by the loss of AC power
Type-B	RSD-S-PLC-B	Transmitter-PLC	System voltage 1500Vdc, Attenuators Input:
			8~80Vdc, 15Amax per module, 15A max input
			short circuit. Attenuators Output: 8~80Vdc,
			15Amax, 800W max per module.
			Rapid shutdown time limit 15s.
			Initiated by the loss of AC power



Type-C	RSD-S-PLC-A	Transmitter-PLC-PCBA	System voltage 1000Vdc, Attenuators Input:
			8~80Vdc, 15Amax per module, 15A max input
			short circuit. Attenuators Output: 8~80Vdc,
			15Amax, 800W max per module.
			Rapid shutdown time limit 15s.
			Initiated by the loss of AC power
Type-D	RSD-S-PLC-B	Transmitter-PLC-PCBA	System voltage 1500Vdc, Attenuators Input:
			8~80Vdc, 15Amax per module, 15A max input
			short circuit. Attenuators Output: 8~80Vdc,
			15Amax, 800W max per module.
			Rapid shutdown time limit 15s.
			Initiated by the loss of AC power

Model	Attenuators	Initiation Device	Inverter	System Ratings
APsmart's RSD	ALTENERGY	ALTENERGY	Shanghai CHINT	1000 Vdc
system, PVRSS:	POWER SYSTEM	POWER SYSTEM	Power Systems Co.,	maximum system
Sunspec	INC.	INC.	Ltd.	voltage.
	RSD-S-PLC-A	Transmitter-PLC	CPS SCA60KTL-	
	RSD-S-PLC-B	Transmitter-PLC-	DO/US-480	Rapid shutdown
	RSD-D-15-1000	PCBA	CPS SCA50KTL-	time limit 30s
	RSD-D-20-1000	Transmitter-PLC-1P	DO/US-480	with inverter.
	RSD-D-25-1000		CPS SCA36KTL-	
	RSD-D-15-1500		DO/US-480	Initiated by the
	RSD-D-20-1500		CPS SCA25KTL-DO-	loss of AC power.
	RSD-D-25-1500		R/US-480	
			CPS SCA20KTL-DO-	
			R/US-480	
			CPS SCA25KTL-	
			DO/US-208	
			Shanghai CHINT	600 Vdc
			Power Systems Co.,	maximum system
			Ltd.	voltage.
			Family series:	
			CPS ECH12KTL/US,	Rapid shutdown
			CPS ECH11.4KTL/US	time limit 30 s
			CPS ECH9.6KTL/US,	with inverter.
			CPS ECH7.6KTL/US,	
			CPS ECH6KTL/US,	Family series
			CPS ECH5KTL/US,	Initiated by
			CPS ECH3.8KTL/US	external
				emergency button
				with signal wire
				connected to the
				Inverter's ELV
				circuit.



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Delta Electronics	600 Vdc
(Shanghai) Co., Ltd.	maximum system
M10-4-TL-US	voltage.
M10-TL-US	
M8-TL-US	Rapid shutdown
M6-TL-US	time limit 30s
M5-TL-US	with inverter.
M4-TL-US	
E8-TL-US	Initiated by the
E6-TL-US	loss of AC power.
E4-TL-US	·
LG ELECTRONICS,	600 Vdc
INC.	
D007KEEN261	maximum system
DUU/KEEN201	voltage.
	Danid shutdown
	Rapid shutdown time limit 30s
	with inverter.
	Initiated by the
	Initiated by the
0.1	loss of AC power.
Solectria Renewables,	1000 Vdc
LLC	maximum system
PVI 50TL-480	voltage.
PVI 60TL-480	
PVI 20TL-480-R	Rapid shutdown
PVI 25TL-480-R	time limit 30s
PVI 25TL-208	with inverter.
PVI-36TL-480-V2	
	Initiated by the
	loss of AC power.



	JIANGSU GOODWE	600 Vdc
	POWER SUPPLY	maximum system
	TECHNOLOGY CO.,	voltage.
	LTD.	
	GW9600A-ES,	Rapid shutdown
	GW8600A-ES,	time limit 30s
	GW7600A-ES,	with inverter.
	GW7000A-ES,	
	GW6000A-ES,	Initiated by the
	GW5000A-ES,	DC Switch on the
	GW9600A-MS,	inverter.
	GW8600A-MS,	
	GW7600A-MS,	
	GW7000A-MS,	
	GW6000A-MS,	
	GW5000A-MS,	
	GW9600A-IS,	
	GW8600A-IS,	
	GW7600A-IS,	
	GW7000A-IS,	
	GW6000A-IS,	
	GW5000A-IS	
	GW9600H-ES,	
	GW8600H-ES,	
	GW7600H-ES,	
	GW7000H-ES,	
	GW6000H-ES,	
	GW5000H-ES,	
	Shenzhen Growatt	550 Vdc
	New Energy	maximum system
	Technology Co., Ltd	voltage.
	SPH 3000TL BL-US,	, onugo.
	SPH 3600TL BL-US,	Rapid shutdown
	SPH 4000TL BL-US,	time limit 30s
	SPH 4600TL BL-US,	with inverter.
	SPH 5000TL BL-US,	with myortor.
	SPH 6000TL BL-US	Initiated by
	STIT GOOGLE DE-OS	external
		emergency button
		with signal wire
		connected to the
		Inverter's ELV
		circuit.



Shenzhen Growatt	600 Vdc
New Energy	maximum system
Technology Co., Ltd	voltage.
MIN 8200TL-XH-US,	voltage.
MIN 9000TL-XH-US,	Rapid shutdown
MIN 10000TL-XH-	time limit 30s
US,	with inverter.
MIN 11400TL-XH-	with inverter.
US,	Initiated by
MIN 3000TL-XH-US,	external
MIN 3800TL-XH-US,	emergency button
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MIN 5000TL-XH-US,	with signal wire
MIN 6000TL-XH-US,	connected to the
MIN 7600TL-XH-US	Inverter's ELV
EDAED C. A	circuit.
FIMER S.p.A.:	600 Vdc
1)UNO-DM-3.3-TL-	maximum system
PLUS-US-XYZ-ABC-	voltage.
DE-F,	
2) UNO-DM-3.8-TL-	Rapid shutdown
PLUS-US-XYZ-ABC-	time limit 30s
DE-F,	with inverter.
3) UNO-DM-4.6-TL-	
PLUS-US-XYZ-ABC-	Initiated by the
DE-F,	loss of AC power.
4) UNO-DM-5.0-TL-	
PLUS-US-XYZ-ABC-	
DE-F.	
(X: blank, S;	
Y = blank, B, E, Z;	
Z = blank, M;	
A = blank, X;	
B = blank, R;	
C = blank, A;	
D = blank, Q;	
E = blank, U;	
F = blank, AP, TI	



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FIMER S.p.A.:	600 Vdc
UNO-DM-6.0-TL-	maximum system
PLUS-US-XYZ-ABC-	voltage.
DE-F	
(X: blank, S;	Rapid shutdown
Y = blank, B, E, Z; Z	time limit 30s
= blank, M;	with inverter.
A = blank, X;	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
B = blank, R;	Initiated by the
C = blank, A;	loss of AC power
D = blank, Q;	loss of AC power
E = blank, U;	
F = blank, AP, TI	-00
Delta Electronics, Inc.	600 Vdc
E10_BDI	maximum system
E8_BDI	voltage.
E6_BDI	
E4_BDI	Rapid shutdown
E10-TL-US	time limit 30s
E8 Plus-TL-US	with inverter.
EC8-US	
EC6-US	Initiated by the
EC4-US	loss of AC power
Shenzhen	600 Vdc
Eternalplanet Energy	maximum system
Pingshan Ltd.:	voltage.
HNA7W,	
HNA7W_TT,	Rapid shutdown
HNA7W_AT,	time limit 30s
HNA7G,	with inverter.
HNA7G_TT,	
HNA7G_AT	Initiated by
12.1.2, 0	external
	emergency button
	with signal wire
	connected to the
	Inverter's ELV
A.C. AV. TO	circuit.
Afore New Energy	600 Vdc
Technology	maximum system
(Shanghai) Co., Ltd.:	voltage.
AF9.6K-DH	
	l .
AF8.6K-DH	Rapid shutdown
AF8.6K-DH AF8K-DH	Rapid shutdown time limit 30s



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		AF7K-DH	
		AF6K-DH	Initiated by
		AF5.5K-DH	external
		AF5K-DH	emergency button
		AF4.6K-DH	with signal wire
		AF4K-DH	connected to the
		AF3.6K-DH	Inverter's ELV
		AF3K-DH	circuit.
		FOXESS CO., LTD.:	600 Vdc
		H1-3.8-US,	maximum system
		H1-5.7-US,	voltage.
			voltage.
		H1-7.6-US,	Danid shutdawa
		H1-9.6-US,	Rapid shutdown
		H1-11.4-US.	time limit 30s
			with inverter.
			Initiated by
			external
			emergency button
			with signal wire
			connected to the
			Inverter's ELV
			circuit.
		8 Star Energy North	600 Vdc
		America Inc:	maximum system
		Force 3.8DC	voltage.
		Force 5.7DC	, 91150
		Force 7.6DC	Rapid shutdown
		Force 9.6DC	time limit 30s
		Force 11.4DC	with inverter.
		Polee 11.4DC	with inverter.
			Initiated by
			Initiated by
			external
			emergency button
			with signal wire
			connected to the
			Inverter's ELV
			circuit.
		Schneider Electric IT	600 Vdc
		Corporation.	maximum system
			voltage.
		Model: HY8K1NA1	_
			Rapid shutdown
			time limit 30 s
			with inverter.
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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	Inverter Initiated
	by external
	emergency button
	with signal wire
	connected to the
	Inverter's ELV
	circuit.
Wanbang Digital	600 Vdc
Energy Co., Ltd.	maximum system
	voltage.
SI403LULA00,	
SI803LULA00,	Rapid shutdown
SI104LULA00	time limit 30s
SHOTEOLINO	with inverter.
	William Voluet.
	Initiated by the
	DC Switch on the
	inverter.
Delta Electronics, Inc.	480 Vdc
Delta Electionics, inc.	maximum system
S12_BDI	_
S12_BD1	voltage.
	Don'd about down
	Rapid shutdown time limit 30 s
	with inverter.
	T . T 1
	Inverter Initiated
	by external
	emergency button
	with signal wire
	connected to the
	Inverter's ELV
	circuit.
General Motors	480 Vdc
Energy LLC.	maximum system
	voltage.
GM Energy Inverter	
e1.11	Rapid shutdown
	time limit 30 s
	with inverter.
	Inverter Initiated
	by external
	emergency button
	with signal wire
	connected to the



				Inverter's ELV circuit.
APsmart's RSD system, PVRSS: Sunspec	ALTENERGY POWER SYSTEM INC. RSD-S-PLC-A RSD-S-PLC-B RSD-D-15-1000 RSD-D-20-1000 RSD-D-20-15-1500 RSD-D-20-1500	ALTENERGY POWER SYSTEM INC. Transmitter-PLC Transmitter-PLC-PCBA Transmitter-PLC-1P	Ginlong Technologies Co., Ltd. Solis-75K-5G-US, Solis-80K-5G-US, Solis-90K-5G-US, Solis-100K-5G-US, S5-GC75K-US, S5-GC80K-US, S5-GC90K-US, S5-GC100K-US.	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of inverter power of AC Grid.
			CSI Solar Co., Ltd. CSI-75K-T480GL02- U, CSI-80K-T480GL02- U, CSI-90K-T480GL02- U, CSI-100K-T480GL02- U.	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of inverter power of AC Grid.
APsmart's RSD system, PVRSS: Sunspec	ALTENERGY POWER SYSTEM INC.: RSD-S-PLC-A RSD-S-PLC-B RSD-D-15-1000 RSD-D-20-1000 RSD-D-25-1000 RSD-D-15-1500 RSD-D-20-1500 RSD-D-25-1500.	ALTENERGY POWER SYSTEM INC.: Transmitter-PLC, Transmitter-PLC-1P	Jiangsu RCT Power Energy Technology Co., Ltd: Power Storage DC US-8.0	520 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the disconnecting external AC breaker in the field.

Model	Attenuators	Initiation Device	Inverter	System Ratings
APsmart's RSD	ALTENERGY	Integrated in Fronius	Fronius International	600 Vdc
system, PVRSS:	POWER SYSTEM	inverter as listed in	GmbH	maximum
Sunspec	INC.	inverter as fisted in		system voltage.



RSD-S-PLC-A RSD-S-PLC-B RSD-D-15-1000 RSD-D-25-1000 RSD-D-15-1500 RSD-D-20-1500 RSD-D-25-1500	the just right column of this table	Fronius Symo Advanced 10.0-3 208- 240 Fronius Symo Advanced 12.0-3 208- 240 Fronius International GmbH Fronius Symo Advanced 15.0-3 480 Fronius Symo Advanced 20.0-3 480 Fronius Symo Advanced 22.7-3 480 Fronius Symo Advanced 24.0-3 480 Fronius International GmbH Primo GEN24 3.8 208-240 Primo GEN24 5.0 208-240 Primo GEN24 6.0 208-240	Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power 1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter Initiated by the loss of AC power 600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter Initiated by the loss of AC power 600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by external buttons with signal wire connected to the WSD interface of the Inverter.
	Integrated in Ginlong inverters as listed in the just right column of this table	Ginlong Technologies Co., Ltd. Solis-50K-US-SW; Solis-50K-US-LSW; Solis-66K-US-F-SW; Solis-66K-US-F-LSW; Solis-60K-US-F-LSW; Solis-50K-US-F-LSW; Solis-50K-US-F-SW; Solis-40K-US-F-SW; Solis-40K-US-SW;	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power



Integrated in Ginlong inverters as listed in the just right column of this table	Solis-36K-US-SW; Solis-36K-US-F-SW; Solis-36K-US-F-SW; Solis-30K-US-F-SW; Solis-30K-US-LSW; Solis-30K-US-SW; Solis-25K-US-SW; Solis-25K-US-F-SW; Solis-25K-US-LSW; Ginlong Technologies Co., Ltd. Solis-1P10K-4G-US; Solis-1P9K-4G-US; Solis-1P8K-4G-US; Solis-1P7K-4G-US; Solis-1P7K-4G-US; Solis-1P6K-4G-US; Solis-1P6K-4G-US; Solis-1P5K-4G-US; Solis-1P5K-4G-US; Solis-1P4K-4G-US; Solis-1P4K-4G-US; Solis-1P4K-4G-US; Solis-1P4K-4G-US; Solis-1P4K-4G-US; Solis-1P4K-4G-US; Solis-1P5K-4G-US; Solis-1P3K-4G-US; Solis-1P3K-4G-US; Solis-1P2K-4G-US; Solis-1P2K-4G-US;	600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of inverter power of AC Grid.
Integrated in Ginlong inverters as listed in the just right column of this table		500 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power



	Solar in	ed in Candian verters as listed ast right column able	Canadian Solar Inc.: CSI-66K-T480GL01- UB, CSI-60K-T480GL01- UB, CSI-50K-T480GL01- UB, CSI-40K-T480GL01- UB, CSI-36K-T480GL01- UB, CSI-36K-T480GL01- UB, CSI-30K-T480GL01- UB, CSI-25K-T480GL01- UB, CSI-25K-T480GL01- UB, CSI-25K-T480GL01- UB, CSI-25K-T480GL01- UB, CSI-50K-TL-GS-FLB, CSI-36KTL-GS-FLB, CSI-36KTL-GS-FLB, CSI-40KTL-GS-FLB, CSI-50KTL-GS-FLB, CSI-50KTL-GS-B, CSI-60KTL-GS-B, CSI-60KTL-GS-B,	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power
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Model	Attenuators	Initiation Device	Inverter	System Ratings
APsmart Rapid	ALTENERGY	ALTENERGY	Manufacturer: SolaX	600 Vdc
Shutdown	POWER SYSTEM	POWER SYSTEM	Power Network	maximum
System, PVRSS:	INC.	INC.	Technology (Zhejiang)	system voltage.
Sunspec	RSD-S-PLC-A	Transmitter-PLC	Co., Ltd.	
	RSD-S-PLC-B			Rapid shutdown
	RSD-D-15-1000		Family series (1)	time limit 30 s
	RSD-D-20-1000		Models: A1-Hybrid-	with inverter.
	RSD-D-25-1000		6.0-US, A1-Hybrid-	
	RSD-D-15-1500		7.0-US, A1-Hybrid-	Family series
	RSD-D-20-1500		7.6-US, A1-Hybrid-	(1) Initiated by
	RSD-D-25-1500		8.6-US;	external
				emergency
			Family series (2)	button with
			Models: A1-6.0-US,	signal wire
			A1-7.0-US, A1-7.6-	connected to the
			US, A1-8.6-US	Inverter's ELV
				circuit.
				Family series
				(2) Initiated by



		the loss of AC
		Grid.
	Manufacturer: Hanhua	600 Vdc
	Q CELLS America	maximum
	Inc.	system voltage.
	Family series (1):	
	Q. HOME ⁺ HYB-G1-	Rapid shutdown
	X.X series, models:	time limit 30 s
	Q.HOME ⁺ HYB-G1-	with inverter.
	6.0, Q.HOME ⁺ HYB-	
	G1-7.0, Q.HOME ⁺	Family series
	HYB-G1-7.6,	(1) Initiated by
	Q.HOME ⁺ HYB-G1-	external
	8.6;	emergency
		button with
	Family series (2):	signal wire
	Q.HOME ⁺ AC-G1-	connected to the
	X.X series, models:	Inverter's ELV
	Q.HOME ⁺ AC-G1-6.0,	circuit.
	Q.HOME ⁺ AC-G1-7.0,	
	Q.HOME ⁺ AC-G1-7.6,	Family series
	Q.HOME ⁺ AC-G1-	(2) Initiated by
	8.6;	the loss of AC
		Grid.

Note:

1. For details related to rating, size, configuration, etc., reference should be made to the CSA Certification Record, Certificate of Compliance Annex A, or the Descriptive Report.



APPLICABLE REQUIREMENTS

UL Std. No. 1741-Third Edition - Inverters, Converters, Controllers and Interconnection System Equipment

for Use With Distributed Energy Resources

(Third Edition, Dated May 19, 2023)

CSA C22.2 No. 330-23 - Photovoltaic rapid shutdown systems

Note: Photovoltaic Rapid Shutdown Function has also been evaluated according to CEC Code, Part I, Rule 64-218; NEC-2017, NEC-2020 and NEC-2023 Section 690.12 applicable requirement.

Notes:

Products certified under Class C531109 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

