

Certificate of Compliance

Certificate: 70218631 Master Contract: 259077

Project: 80199085 **Date Issued:** 2024-03-04

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

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:
1 ypc-c	KSD-S-I LC-A	Transmitter-1 LC-1 CDA	
			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.



1	
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.	maximum system
D007KEEN261	voltage.
DUU/KEEN201	voitage.
	Panid shutdown
	Rapid shutdown time limit 30s
	with inverter.
	with inverter.
	Initiated by the
	Initiated by the loss of AC power.
Calastria D	1000 Vdc
Solectria Renewables,	
LLC DVI 50TI 490	maximum system
PVI 50TL-480	voltage.
PVI 60TL-480	Dominion of
PVI 20TL-480-R	Rapid shutdown
PVI 25TL-480-R	time limit 30s
PVI 25TL-208	with inverter.
PVI-36TL-480-V2	T 1,1 , 11 1
	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,	D 11 1 1
	MIN 9000TL-XH-US,	Rapid shutdown
	MIN 10000TL-XH-US,	time limit 30s
	MIN 11400TL-XH-US,	with inverter.
	MIN 3000TL-XH-US,	
	MIN 3800TL-XH-US,	Initiated by
	MIN 5000TL-XH-US,	external
	MIN 6000TL-XH-US,	emergency button
	MIN 7600TL-XH-US	with signal wire
		connected to the
		Inverter's ELV
		circuit.
	FIMER S.p.A.:	600 Vdc
	1)UNO-DM-3.3-TL-	maximum system
	PLUS-US-XYZ-ABC-	voltage.
	DE-F,	, 5144801
	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-	with inverter.
		Tuitint ad law tha
	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;	
1		



	1.00.774
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
122, 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



1	1	A FOUL DAY	
		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.
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1			



				Inverter Initiated by external
				emergency button with signal wire connected to the Inverter's ELV
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-15-1500 RSD-D-15-1500	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.	circuit. 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		Fronius International	600 Vdc
system, PVRSS:	POWER SYSTEM		GmbH	maximum
Sunspec	INC.		Fronius Symo	system voltage.
	RSD-S-PLC-A		Advanced 10.0-3 208-	
	RSD-S-PLC-B		240	Rapid shutdown
	RSD-D-15-1000		Fronius Symo	time limit 30s
	RSD-D-20-1000		Advanced 12.0-3 208-	with inverter.
	RSD-D-25-1000		240	
	RSD-D-15-1500			Initiated by the
	RSD-D-20-1500			loss of AC
	RSD-D-25-1500			power
			Fronius International	1000 Vdc
			GmbH	maximum
			Fronius Symo	system voltage.
			Advanced 15.0-3 480	D 111 1
			Fronius Symo	Rapid shutdown
		Integrated in Fronius	Advanced 20.0-3 480	time limit 30s
		inverter as listed in	Fronius Symo	with inverter
		the just right column	Advanced 22.7-3 480	T '.' . 11 .1
		of this table	Fronius Symo	Initiated by the
			Advanced 24.0-3 480	loss of AC
			T ' T ' ' 1	power
			Fronius International	600 Vdc
			GmbH	maximum
			Primo GEN24 3.8 208- 240	system voltage.
			Primo GEN24 5.0 208-	Danid shutdown
			240	Rapid shutdown time limit 30s
			Primo GEN24 6.0 208-	with inverter.
			240	with inverter.
				Initiated by
				external buttons
				with signal wire
				connected to the
				WSD interface
				of the Inverter.
			Ginlong Technologies	1000 Vdc
			Co., Ltd.	maximum
		Integrated in Ginlong	Solis-50K-US-SW;	system voltage.
		inverters as listed in the	Solis-50K-US-LSW;	
		just right column of this	,	Rapid shutdown
		table	Solis-66K-US-F-LSW;	time limit 30s
			Solis-60K-US-F-SW;	with inverter.
			Solis-60K-US-F-LSW;	



		Solis-50K-US-F-SW; Solis-50K-US-F-LSW; Solis-40K-US-F-SW; Solis-40K-US-LSW; Solis-40K-US-SW; Solis-36K-US-SW; Solis-36K-US-F-SW; Solis-36K-US-LSW; Solis-30K-US-LSW; Solis-30K-US-LSW; Solis-25K-US-SW; Solis-25K-US-SW;	Initiated by the loss of AC power
	Integrated in Ginlong inverters as listed in the just right column of this table	Ginlong Technologies Co., Ltd. Solis-1P10K-4G-US; Solis-1P9K-4G-US; Solis-1P8.6K-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-1P4K-4G-US; Solis-1P4K-4G-US; Solis-1P3K-4G-US; Solis-1P3K-4G-US; Solis-1P2K-4G-US; Solis-1P2K-4G-US; Solis-1P2K-4G-US; Solis-1P1K-4G-US; Solis-1P1K-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	Ginlong Technologies Co., Ltd. RHI-1P5K-HVES-5G; RHI-1P6K-HVES-5G; RHI-1P7K-HVES-5G; RHI-1P7.6K-HVES- 5G; RHI-1P8K-HVES-5G; RHI-1P9K-HVES-5G; RHI-1P10K-HVES- 5G;	500 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power



So	ategrated in Candian olar inverters as listed the just right column f this table	TITO	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power
----	---	------	---

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

