



Certificate of Compliance

Certificate: 70218631

Master Contract: 259077

Project: 80230289

Date Issued: 2024-12-17

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



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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 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-PCBA Transmitter-PLC-1P	Shanghai CHINT Power Systems Co., Ltd. CPS SCA60KTL-DO/US-480 CPS SCA50KTL-DO/US-480 CPS SCA36KTL-DO/US-480 CPS SCA25KTL-DO-R/US-480 CPS SCA20KTL-DO-R/US-480 CPS SCA25KTL-DO/US-208	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power.
			Shanghai CHINT Power Systems Co., Ltd. Family series: CPS ECH12KTL/US, CPS ECH11.4KTL/US CPS ECH9.6KTL/US, CPS ECH7.6KTL/US, CPS ECH6KTL/US, CPS ECH5KTL/US, CPS ECH3.8KTL/US	600 Vdc maximum system voltage. Rapid shutdown time limit 30 s with inverter. Family series Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.



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



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			<p>JIANGSU GOODWE POWER SUPPLY TECHNOLOGY CO., LTD.</p> <p>GW9600A-ES, GW8600A-ES, GW7600A-ES, GW7000A-ES, GW6000A-ES, GW5000A-ES, GW9600A-MS, 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,</p>	<p>600 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p> <p>Initiated by the DC Switch on the inverter.</p>
			<p>Shenzhen Growatt New Energy Technology Co., Ltd</p> <p>SPH 3000TL BL-US, SPH 3600TL BL-US, SPH 4000TL BL-US, SPH 4600TL BL-US, SPH 5000TL BL-US, SPH 6000TL BL-US</p>	<p>550 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p> <p>Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.</p>

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			<p>Shenzhen Growatt New Energy Technology Co., Ltd MIN 8200TL-XH-US, MIN 9000TL-XH-US, MIN 10000TL-XH-US, MIN 11400TL-XH-US, MIN 3000TL-XH-US, MIN 3800TL-XH-US, MIN 5000TL-XH-US, MIN 6000TL-XH-US, MIN 7600TL-XH-US</p>	<p>600 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p> <p>Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.</p>
			<p>FIMER S.p.A.: 1) UNO-DM-3.3-TL-PLUS-US-XYZ-ABC-DE-F, 2) UNO-DM-3.8-TL-PLUS-US-XYZ-ABC-DE-F, 3) UNO-DM-4.6-TL-PLUS-US-XYZ-ABC-DE-F, 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)</p>	<p>600 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p> <p>Initiated by the loss of AC power.</p>

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			<p>FIMER S.p.A.: UNO-DM-6.0-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)</p>	<p>600 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p> <p>Initiated by the loss of AC power</p>
			<p>Delta Electronics, Inc. E10_BDI E8_BDI E6_BDI E4_BDI E10-TL-US E8 Plus-TL-US EC8-US EC6-US EC4-US</p>	<p>600 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p> <p>Initiated by the loss of AC power</p>
			<p>Shenzhen Eternalplanet Energy Pingshan Ltd.: HNA7W, HNA7W_TT, HNA7W_AT, HNA7G, HNA7G_TT, HNA7G_AT</p>	<p>600 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p> <p>Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.</p>
			<p>Afore New Energy Technology (Shanghai) Co., Ltd.: AF9.6K-DH AF8.6K-DH AF8K-DH AF7.6K-DH</p>	<p>600 Vdc maximum system voltage.</p> <p>Rapid shutdown time limit 30s with inverter.</p>



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			AF7K-DH AF6K-DH AF5.5K-DH AF5K-DH AF4.6K-DH AF4K-DH AF3.6K-DH AF3K-DH	Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.
			CESC New Energy Technology Co., Ltd. Mars 3000 HVSP, Mars 3600 HVSP, Mars 4000 HVSP, Mars 4600 HVSP, Mars 5000 HVSP, Mars 5500 HVSP, Mars 6000 HVSP, Mars 7000 HVSP, Mars 7600 HVSP, Mars 8000 HVSP, Mars 8600 HVSP, Mars 9600 HVSP.	600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.
			Astron United Power Energy Technology Co., Ltd. AST3K-DH, AST3.6K-DH, AST4K-DH, AST4.6K-DH, AST5K-DH, AST5.5K-DH, AST6K-DH, AST7K-DH, AST7.6K-DH, AST8K-DH, AST8.6K-DH, AST9.6K-DH.	maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.
			AMPS MIDDLE EAST FZ-LLC. ES3KDHH, ES3.6KDHH, ES4KDHH, ES4.6KDHH, ES5KDHH, ES5.5KDHH,	maximum system voltage. Rapid shutdown time limit 30s with inverter.



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			ES6KDHH, ES7KDHH, ES7.6KDHH, ES8KDHH, ES8.6KDHH, ES9.6KDHH.	Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.
			FOXESS CO., LTD.: H1-3.8-US, H1-5.7-US, H1-7.6-US, H1-9.6-US, H1-11.4-US.	600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.
			8 Star Energy North America Inc: Force 3.8DC Force 5.7DC Force 7.6DC Force 9.6DC Force 11.4DC	600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.
			Schneider Electric IT Corporation. Model: HY8K1NA1	600 Vdc maximum system voltage. 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.
			Star Charge Americas Corp. SI403LULA00, SI803LULA00, SI104LULA00	600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the DC Switch on the inverter.
			Delta Electronics, Inc. S12_BDI	480 Vdc maximum system voltage. Rapid shutdown time limit 30 s with inverter. Inverter Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit.
			General Motors Energy LLC. GM Energy Inverter e1.11	480 Vdc maximum system voltage. Rapid shutdown time limit 30 s with inverter. Inverter Initiated by external emergency button with signal wire connected to the



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				Inverter's ELV circuit.
			Delta Electronics, Inc. E4_BX, E6_BX, E8_BX, E10_BX	450 Vdc maximum system voltage. 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-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.



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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.
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Model	Attenuators	Initiation Device	Inverter	System Ratings
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	Integrated in Fronius inverter as listed in the just right column of this table	Fronius International GmbH Fronius Symo Advanced 10.0-3 208-240 Fronius Symo Advanced 12.0-3 208-240	600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power
			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	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter Initiated by the loss of AC power
			Fronius International GmbH Primo GEN24 3.8 208-240 Primo GEN24 5.0 208-240 Primo GEN24 6.0 208-240	600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter.



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				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-SW; 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-F-SW; Solis-30K-US-LSW; Solis-30K-US-SW; Solis-25K-US-SW; Solis-25K-US-F-SW; Solis-25K-US-LSW;	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power



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		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-1P7.6K-4G-US; Solis-1P7K-4G-US; Solis-1P6K-4G-US; Solis-1P6K2-4G-US; Solis-1P5K-4G-US; Solis-1P4.6K-4G-US; Solis-1P4K-4G-US; Solis-1P3.6K-4G-US; Solis-1P3K-4G-US; Solis-1P2.5K-4G-US; Solis-1P2K-4G-US; Solis-1P1.5K-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
		Integrated in Candian Solar inverters as listed in the just right column of this table	Canadian Solar Inc. : CSI-66K-T480GL01-UB, CSI-60K-T480GL01-UB, CSI-50K-T480GL01-UB, CSI-40K-T480GL01-UB, CSI-36K-T480GL01-UB, CSI-30K-T480GL01-UB, CSI-25K-T480GL01-UB.	1000 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter. Initiated by the loss of AC power



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			CSI-25KTL-GS-FLB, CSI-30KTL-GS-FLB, CSI-36KTL-GS-FLB, CSI-40KTL-GS-FLB, CSI-40KTL-GS-B, CSI-50KTL-GS-FLB, CSI-50KTL-GS-B, CSI-60KTL-GS-B, CSI-66KTL-GS-B	
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Model	Attenuators	Initiation Device	Inverter	System Ratings
APsmart Rapid Shutdown 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	Manufacturer: SolaX Power Network Technology (Zhejiang) Co., Ltd. Family series (1) Models: A1-Hybrid-6.0-US, A1-Hybrid-7.0-US, A1-Hybrid-7.6-US, A1-Hybrid-8.6-US; Family series (2) Models: A1-6.0-US, A1-7.0-US, A1-7.6-US, A1-8.6-US	600 Vdc maximum system voltage. Rapid shutdown time limit 30 s with inverter. Family series (1) Initiated by external emergency button with signal wire connected to the Inverter's ELV circuit. Family series (2) Initiated by the loss of AC Grid.



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



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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

