



# Certificate of Compliance

**Certificate:** 80023770

**Master Contract:** 300612

**Project:** 80086164

**Date Issued:** 2021-09-17

**Issued To:** Jiangsu Goodwe Power Supply Technology Co.Ltd  
No.90, Zijin Road, New District  
Suzhou, Jiangsu, 215011  
China

**Attention:** Xie Jing

*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.*



*Rohana Yang*  
**Issued by:** Rohana Yang

## **PRODUCTS**

CLASS - C531109 - POWER SUPPLIES-Distributed Generation Power Systems Equipment

CLASS - C531189 - POWER SUPPLIES - Distributed Generation-Power Systems Equipment - Certified to U.S. Standards

Bi-directional Transformerless Inverter, A-ES Series and GEH Series, Model GW9600A-ES, GW8600A-ES, GW7600A-ES, GW7000A-ES, GW6000A-ES, GW5000A-ES, GEH9.6-1U-US10, GEH8.6-1U-US10, GEH7.6-1U-US10, GEH7.0-1U-US10, GEH6.0-1U-US10 and GEH5.0-1U-US10, with PV input and Battery input, Grid Support Utility Interactive, or Stand-alone with Auto-Transformer GW9600A-TX. Wall mounted, permanently connected.

Bi-directional Transformerless Inverter, A-BP Series and GEC Series, Model GW9600A-BP, GW8600A- BP, GW7600A- BP, GW7000A- BP, GW6000A- BP, GW5000A- BP, GEC9.6-1U-US10, GEC8.6-1U-US10, GEC7.6-1U-US10, GEC7.0-1U-US10, GEC6.0-1U-US10 and GEC5.0-1U-US10, with Battery input, Grid Support Utility Interactive, or Stand-alone with Auto-transformer GW9600A-TX. Wall mounted, permanently connected.



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Transformerless Inverter, A-MS Series, Model GW9600A- MS, GW8600A- MS, GW7600A- MS, GW7000A- MS, GW6000A- MS and GW5000A- MS, with PV input, Grid Support Utility Interactive. Wall mounted, permanently connected.

Transformerless Inverter, A-IS Series, Model GW9600A- IS, GW8600A- IS, GW7600A- IS, GW7000A- IS, GW6000A- IS and GW5000A- IS, with PV input and Battery input, Stand-alone with Auto-transformer GW9600A-TX. Wall mounted, permanently connected.

Bi-directional Inverter, H-ES Series, Model GW9600H-ES, GW8600H-ES, GW7600H-ES, GW7000H-ES, GW6000H-ES and GW5000H-ES, with PV input and Battery input, Grid Support Utility Interactive (Non-isolated or Isolated with Isolation transformer GW 9600G-TF or GW5000G-TF), or Stand-alone with Auto-Transformer GW9600A-TX. Wall mounted, permanently connected.

**Notes:**

- 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.
- PV input inverter, A-ES, GEH, A-MS, A-IS and H-ES are verified with PVRSS function according to NEC-2020 Article 690.12 and CEC-2018 Sec 64-218 with Inverter integrated transmitter and external mounted RSD as following:

| Model               | Attenuators   | Initiation Device  | Inverter   | System Ratings  |
|---------------------|---|--|--|---|
| Goodwe PVRSS System | Altenergy Power System Inc.<br>RSD-S-PLC-A<br>RSD-S-PLC-B<br>RSD-D-15-1000<br>RSD-D-20-1000<br>RSD-D-25-1000<br>RSD-D-15-1500<br>RSD-D-20-1500<br>RSD-D-25-1500 | Altenergy Power System Inc.<br>Single Core Transmitter-PLC (no power supply) | JiangSu GoodWe Power Supply Technology Co., Ltd.<br>GW9600A-ES, GW8600A-ES, GW7600A-ES, GW7000A-ES, GW6000A-ES, GW5000A-ES<br>GW9600A-MS, GW8600A-MS, GW7600A-MS, GW7000A-MS, GW6000A-MS, GW5000A-MS, GW9600A-IS, GW8600A-IS, GW7600A-IS, GW7000A-IS, GW6000A-IS, GW5000A-IS | 600 Vdc maximum system voltage. Rapid shutdown time limit 30s with inverter.<br><br>Initiated by the DC Switch on the inverter. |
|                     | Tigo Energy Inc.<br>TS4-A-F<br>TS4-A-2F   | Tigo Energy Inc.<br>RSS Transmitter<br>DIN Rail, Single RSS Core             | GW9600H-ES, GW8600H-ES, GW7600H-ES, GW7000H-ES, GW6000H-ES, GW5000H-ES, GEH9.6-1U-US10, GEH8.6-1U-US10, GEH7.6-1U-US10, GEH7.0-1U-US10, GEH6.0-1U-US10 and GEH5.0-1U-US10  |   |

- The models listed in GEH series and GEC series may be alternatively marked with a brand name of 'GE', the usage of the brand name has been authorized to Jiangsu GoodWe Power Supply Technology Co., Ltd. by



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General Electric Company (“GE”) company. The GEH series are the same with the A-ES series only with different model name and appearance color, they both share the same hardware and software. The GEC series are same with the A-BP series only with different model name and appearance color and they both share the same hardware and software.

### **APPLICABLE REQUIREMENTS**

|  |   |  |
|--|---|--|
| CSA-C22.2 No.107.1-16                    | - | Power Conversion Equipment   |
| CSA-C22.2 No.292-18                      | - | Dc arc fault protection for photovoltaic applications  |
| CSA-C22.2 No. 330-17                     | - | Photovoltaic rapid shutdown system   |
| *UL Std No. 1741 2 <sup>nd</sup> Edition | - | Inverters, Converters, Controllers and Interconnection System Equipment For Use With Distributed Energy Sources (Second Edition, Revision Dated June 10, 2021) |
| **UL1741 CRD                             | - | Non-Isolated EPS Interactive PV Inverters Rated Less Than 30Kva (Dated April 26, 2010)   |
| **UL 1699B                               | - | Photovoltaic (PV) DC Arc-Fault Circuit Protection (First Edition, Dated August 22, 2018)   |

**\*Note:** Conformity to UL 1741 (Second Edition, Revision Dated June 10, 2021) includes compliance with applicable requirements of IEEE 1547-2003 (R2008), IEEE 1547.1-2005(R2011), Grid support function is verified according to UL 1741 Supplement SA8-SA18 with the SRDs of California Electric Rule 21, Hawaiian Electric Co. SRD-UL-1741-SA-V1.1; and verified according to UL 1741 Supplement SB and IEEE 1547.1-2020 with the SRDs of IEEE 1547-2018, IEEE 1547a-2020 and Hawaiian Electric Co. SRD-V2.0. While the grid support function evaluated according to IEEE 1547.1-2020, the interoperability is verified with IEEE 2030.5-2018 communication protocol.

**\*\*Note:** The functional safety has been evaluated according to applicable requirement of UL 1998-Edition 3 as required by the product standard.

**\*\*\*Note:** The products have been verified with PVRSS function according to NEC-2020 Article 690.12 and CEC-2018 Sec 64-218.



## *Supplement to Certificate of Compliance*

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*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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| <b>Project</b> | <b>Date</b> | <b>Description</b>  |
|----------------|-------------|---|
| 80086164       | 2021-09-17  | Update report 80023770 to add alternated brand name and alternate model name for commercial purpose, verify the PVRSS function compatibility with alternate PV rapid shut down equipment used, increase the dimension of the wiring box and evaluate the Grid support function to comply with UL 1741 Supplement SB according to IEEE 1547.1-2020 with SRDs IEEE 1547-2018, IEEE 1547a-2020 and HECO SRD V2.0 used. |
| 80035230       | 2021-01-19  | Update report 80023770 to add an Antiresonance Inductor in the Wiring box for A-BP series.  |
| 80061973       | 2020-11-17  | Update the report 80023770 to include requirements of UL1741CRD Grid Support Utility Interactive Interoperability Optional Functions: Prevent Enter Service and Limit Active Power (CA Rule 21, Phase 3, functions 2 and 3) (Dated October 22, 2019) for A-ES series, A-BP series, A-MS series and H-ES series  |
| 80023770       | 2020-05-08  | 5-10K inverter certification(Including:on grid,AC Retro,Hybrid and off grid four models )   |