

Specifications of Bidirectional Power Supply

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prepared by Japan

Specifications of Bidirectional Power Supply (1)

Annex 3

1.2. Measurement requirements

Measurement devices shall be of certified accuracy as shown in Table A3/1 traceable to an approved regional or international standard. All the items in Table A3/1 of paragraph 1.2 of this annex, unless specified otherwise in the table, shall be measured and recorded at a frequency equal to **20 Hz**.

The items 'atmospheric pressure' and 'room/ambient temperature' shall be at least recorded as single measurement activity at start of the vehicle battery testing and after end of the vehicle battery testing in all the test procedures as described in paragraph 3. of this annex.

<i>Item</i>	<i>Units</i>	<i>Accuracy</i>	<i>Remarks</i>
Electrical voltage	V	±0.3 % FSD or ±1 % of reading	Whichever is greater. Resolution 0.1 V.
Electrical current	A	±0.3 % FSD or ±1 % of reading	Whichever is greater. Resolution 0.1 A
Room/ambient temperature	K	±1 °C, with a measurement frequency of at least 0.033 Hz	
Time	s	± 10 ms; min. precision and resolution: 10 ms	
Vehicle speed	km/h	The total trip distance shall deviate by no more than 4 % from the reference distance	GNSS or Sensor or ECU

Specifications of Bidirectional Power Supply (2)

<i>item</i>	<i>Specification</i>
Altitude	functioning properly under lower or equal to 700 meters above sea level
Ambient temperature	functioning properly under greater than or equal to 273.15 K (0 ° C) and lower than or equal to 308.15 K (35 ° C)
Ambient humidity	functioning properly under greater than or equal to 30%RH and lower than or equal to 80%RH (no condensation)
Input power	follow the instruction of the product (shall comply with power unit specification and/or requirement of each region)
Powering / Regenerating efficiency	more than 80% @ maximum rated
Operating mode	Constant Power (also consider the transient power profile* to duplicate the real-world driving pattern)
Response time (10% to 90%)	less than or equal to 25ms (more than or equal to 40Hz)
* Charge↔Discharge change time	less than or equal to 50ms @ 90% of setting
Stability (static load fluctuation)	within $\pm 0.5\%$ of maximum rated
Accuracy	within $\pm 1.50\%$ of maximum rated $\pm 8.0\%$ of the reading, whichever is smaller
Output fluctuation (Ripple)	within $\pm 0.5\%$ rms
DC Charging Connector	shall comply with the specific requirement
Data recording	be able to record the current (both required and measured) and voltage (measured)

* : for potential future needs