

EL267. Uninterruptible Power Supply

[EL267-2011/1/2011-10]



1. Scope

This Criteria applies to products of a 30kVA rated capacity with a single-phase 220V of output voltage (If the input is 3-phase and the output is single-phase, it is deemed as single-phase), as an online system's uninterruptible power devices used for maintaining the continuity of load power in power failure situations. However, batteries are excluded from the scope.

2. Definitions

2.1

“Uninterruptible Power” means that the power is continuously supplied even where the main power supplies, such as security, hospital and computer power, fail.

2.2

“Efficiency” means the ratio of output real power to input real power in the conditions defined when an energy charging means and important transmission do not exist.

2.3

“Power Factor” means the ratio of real power to apparent power in the AC circuit.

2.4

“Load” means the consumption of electric and mechanical energy-generating device's output energy or the size of consumed electric power.

3. Certification Criteria

3.1 Environmental Criteria

3.1.1

With respect to the consumption of resource and energy at the use stage, the product shall satisfy the following requirement.

3.1.1.1

NLL (No Load Loss) shall satisfy the following criteria.

| | | | | | | |
|---------------------|------|-----------|------------|-------------|-------------|-------------|
| Rated capacity(kVA) | ≤ 1 | > 1 / ≤ 5 | > 5 / ≤ 10 | > 10 / ≤ 15 | > 15 / ≤ 20 | > 20 / ≤ 30 |
| No-load loss(W) | ≤ 50 | ≤ 100 | ≤ 130 | ≤ 150 | ≤ 200 | ≤ 250 |

3.1.1.2

The efficiency of 100% and 75% load by rated capacity shall satisfy the following criteria.

| | | | | | | | | |
|---------------------|------|------|-----------|------|------------|------|-------------|------|
| Rated capacity(kVA) | ≤ 1 | | > 1 / ≤ 5 | | > 5 / ≤ 20 | | > 20 / ≤ 30 | |
| Load ratio (%) | 100 | 75 | 100 | 75 | 100 | 75 | 100 | 75 |
| Efficiency (%) | ≥ 72 | ≥ 70 | ≥ 84 | ≥ 83 | ≥ 86 | ≥ 85 | ≥ 88 | ≥ 86 |

3.1.1.3

Input power factor shall be higher than 0.85 for a single-phase and 0.9 for a 3-phase on the basis of the input side.

3.1.1.4

Noise during the operation of the product shall satisfy the following requirements.

| | | | | |
|--------------------------|------|-----------|------------|-------------|
| Rated capacity(kVA) | ≤ 1 | > 1 / ≤ 5 | > 5 / ≤ 20 | > 20 / ≤ 30 |
| Sound power level[dB(A)] | ≤ 45 | ≤ 50 | ≤ 55 | ≤ 60 |

3.1.2

With respect to the recycling capability of product during the recycling or disposal stage of production process, the product shall satisfy the following requirements.

3.1.2.1

Shock-absorbing materials in packaging shall be made of recycled pulp or paper such as pulp mold. However, following materials are regarded as equivalent.

- a) Shock-absorbing materials certified according to 'EL 606. Packaging Materials'
- b) Shock-absorbing materials manufactured by using more than 50wt% of recycled plastics
- c) EPS (expanded polystyrene), EPE (expanded polyethylene) and EPP (expanded polypropylene) whose foaming agent has zero ODP
- d) Air cell packing bubble wrap that injects air into synthetic resins.

3.1.2.2

Applicants shall establish and implement a collecting and recycling system for waste products (including shock-absorbing material for packaging). In case that an applicant manages the system by assigning a specialized company, submission of relevant documents proving it shall be a sufficient proof of compliance.

3.1.3

To reduce environmental impact through its life cycle, the product shall be designed and produced in consideration of resource and energy-saving, reducing pollutants and hazardous substance use, using recycled materials, improving recyclability and durability, etc.

3.2 Quality Criteria: The product quality should satisfy the certification criteria of the “Regulations regarding the Promotion of High-efficiency Energy Equipment Distribution” in accordance with the Energy Use Rationalization Act.

3.3 Consumer Information

3.3.1

Labeling of matters in which a product contributes to the certification reasons (power-saving, low noise, environment-friendly product design).

3.3.2

Guide for method of collection of waste products (phone number of collection companies and etc.)

4. Test Method

| Certification Criteria | | Test and verification method | |
|------------------------|-------------|--|---|
| Environmental Criteria | 3.1.1 | 3.1.1.1~ 3.1.1.4 | Test report by an accredited testing laboratory or verification of submitted documents in accordance with KS C IEC 62040-3(Uninterruptible Power Supply- Part 3: performance and test method) |
| | 3.1.2~3.1.3 | | Verification of submitted documents |
| Quality Criteria | | Test report by an accredited testing laboratory or verification of submitted documents in accordance with KS C 4310 (Uninterruptible Power Supply) | |
| Consumer Information | | Verification of submitted documents | |

4.1 General matters

4.1.1

One test sample shall be required for each applied product.

4.1.2

Test sample shall be collected at random by a certification institute from products in market or those in storage at the production site.

4.1.3

Test result shall be numerically set according to KS Q 5002 (Statistical interpretation method of the data – Part 1: Statistical description of the data).

5. Reasons for certification

“Power-saving, Low noise, Environment-friendly product design”

Common Criteria, Notice No. 2012-36, the Ministry of Environment

1. Eco-label products must follow the following provisions with regard to the proper treatment of environmental pollution substances, such as air and water wastes and noxious chemical substances emitted in the process of manufacturing or service operation.

A. When first applying for certification, the product manufacturer should observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located for a period of one year prior to the date of application. Any case of violation of the penalty clause will be verified by confirming documents involved during a period of one year to the date of application. Regarding any violation not related to the penalty clause, confirmation will be made on the completion of appropriate measures.

B. A person who has received a certification of eco-labeling shall observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located during the period of certification. However, regarding any violation besides a penalty, confirmation will be made on the completion of appropriate measures.

2. As a general rule, information for consumers shall be indicated on the surface of the product in such a way not to be easily erased. However, in case that indication on the surface of the product is impossible or undesirable, it can be indicated on the appropriate part such as product packaging, product guidebook and user's manual that consumers can recognize. However, the service information should be indicated inside and outside of the place of service operation. In case that indication inside and outside of the place of service operation is impossible or undesirable, it can be indicated on the appropriate part such as an agreement, letter of delivery, letter of guarantee, and PR materials that consumers can recognize.

3. In order to establish fair trade and to protect consumer, the applicant for eco-label and the holder of eco-label license shall observe the Act on the Fairness of

Indication and Advertisement with respect to the environmental aspects of the product.

4. For Various standards referred in the certification criteria by target product, the latest revised edition applies at the date of application, if not specified otherwise.

5. In applying the quality related criteria for each target product, if no standard is available that can be applied as the quality criteria, the president of Korea Environmental Industry & Technology Institute (KEITI) (hereafter referred to as "president of KEITI") may establish and operate the quality criteria for the product involved after review by a competent committee.