CABINET OF MINISTERS OF UKRAINE

RESOLUTION

No. 150 of 27 February 2019
Kyiv

On approval of the Technical Regulation on Ecodesign Requirements for No-load Condition Electric Power Consumption and Average Active Efficiency of External Power Supplies

In accordance with Article 5 of the Law of Ukraine 'On Technical Regulations and Conformity Assessment', the Cabinet of Ministers of Ukraine hereby **resolves:**

1. To approve the Technical Regulation on Ecodesign Requirements for No-load Condition Electric Power Consumption and Average Active Efficiency of External Power Supplies, as attached.

2. The State Agency on Energy Efficiency and Energy Saving shall ensure the implementation of the Technical Regulation approved by this Resolution.

3. To introduce to the list of types of products subject to state market surveillance by state market surveillance bodies, approved by the Resolution of the Cabinet of Ministers of Ukraine No. 1069 of 28 December 2016 (Official Journal of Ukraine, 2017, No. 50, p. 1550; 2018, No. 8, p. 305), amendment, as attached.

4. This Resolution shall enter into force after six months following its publication.

Prime Minister of Ukraine **VOLODYMYR GROYSMAN**

Ind. 21

APPROVED
by the Resolution of the Cabinet of Ministers of Ukraine
No. 150 of 27 February 2019

TECHNICAL REGULATION
on ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies

General part

1. This Technical Regulation establishes ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies.

This Technical Regulation is based on the Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies.

2. This Technical Regulation shall not apply to:

voltage converters;

uninterruptible power supplies;

battery chargers;

halogen lighting converters;

external power supplies for medical devices;

external power supplies placed on the market no later than in 2025 as a service part or spare part for an identical external power supply which was placed on the market not later than one year after this Technical Regulation has come into force, under the condition that the service part or spare part, or its packaging, clearly indicates the primary load product for which the spare part or service part is intended to be used with.

3. For the purposes of this Technical Regulation, the terms used herein shall have the following meanings:

‘active mode’ means a condition in which the input of an external power supply is connected to the mains power source and the output is connected to a load;

‘uninterruptible power supply’ means a device providing automatically backup power when the electrical power from the mains power source drops to an unacceptable voltage level;

‘active mode efficiency’ means the ratio of the power produced by an external power supply in active mode to the input power required to produce it;

‘battery charger’ means a device which connects directly to a removable battery at its output interface;

‘nameplate output power’ ($Đ_0$) means the output power as determined by the manufacturer at standard rating conditions;

‘external power supply’ means a device which meets all of the following criteria:

it is designed to convert alternating current (AC) power input from the mains power source input into lower voltage direct current (DC) or AC output;

it is able to convert to only one DC or AC output voltage at a time;

it is intended to be used with a separate device that constitutes the primary load;

it is physically separated from the device that constitutes the primary load;

it is connected to the device that constitutes the primary load via a removable or hard-wired male/female electrical connection, cable, cord or other wiring;

has nameplate output power not exceeding 250 W;

it is intended for use with electrical and electronic household and office equipment in accordance with Technical Regulation on ecodesign requirements for standby, off mode and networked standby electric power consumption of electrical and electronic household and office equipment;

‘low voltage external power supply’ means an external power supply with a nameplate output voltage of less than 6 V and a nameplate output current greater than or equal to 550 mA;

‘halogen lighting converter’ means an external power supply used with extra low voltage tungsten halogen lamps;

‘voltage converter’ means a device converting 230 V mains power source output to 110 V power output with characteristics similar to mains power source output characteristics;

‘no-load condition’ means the condition in which the input of an external power supply is connected to the mains power source, but the output is not connected to any primary load;

‘average active efficiency’ means the average of the active mode efficiencies at 25 %, 50 %, 75 % and 100 % of the nameplate output power.

Other terms used herein shall have meanings set out in the Laws of Ukraine “On Technical Regulations and Conformity Assessment”, “On State Market Surveillance and Control of Non-Food Products”, “On Standardization” and in the Technical Regulation establishing a framework for the setting of ecodesign requirements for energy-related products, approved by the Resolution of the Cabinet of Ministers of Ukraine of 3 October 2018 No. 804 (Official Journal of Ukraine, 2018, No. 80, p. 2678).

Ecodesign Requirements

4. The ecodesign requirements related to no-load electric power consumption and average active efficiency of external power supplies placed on the market are set out in Annex 1.

Conformity Assessment

5. Conformity of no-load condition electric power consumption of external power supplies with the requirements of this Technical Regulation shall be assessed by applying the internal design control procedure or the management system conformity assessment procedure set out, respectively, in Annexes 3 and 4 to the Technical Regulation establishing a framework for the setting of ecodesign requirements for energy-related products, approved by the Resolution of the Cabinet of Ministers of Ukraine No 804 of 3 October 2018 (Official Journal of Ukraine, 2018, No 80, p. 2678).

State Market Surveillance

6. Verification of conformity of no-load condition electric power consumption and average active efficiency of external power supplies with the requirements of this Technical Regulation in the course of state market surveillance shall be made in accordance with the requirements laid down in Annex 2.

Indicative benchmarks

7. The indicative benchmarks for no-load electric power consumption and average active efficiency of best-performing external power supplies placed on the market are laid down in Annex 3.

Correlation table

8. The correlation table of the provisions of Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies and of this Technical Regulation is set out in Annex 4.

Annex 1
to the Technical Regulation

ECODESIGN requirements

No-load power consumption and average active efficiency

1. One year after this Technical Regulation on Ecodesign Requirements for No-load Condition Electric Power Consumption and Average Active Efficiency of External Power Supplieshas come into force:

the no-load condition power consumption shall not exceed 0,50 W;

the average active efficiency shall be not less than:

$0,5 \cdot Ð_0$, for $Ð_0 < 1$ W;

$0,09 \cdot \ln(Ð_0) + 0,5$, for $1 \text{ W} \leq Ð_0 \leq 51$ W;

0,85, for $Ð_0 > 51$ W.

2. Two years after this Technical Regulation on Ecodesign Requirements for No-load Condition Electric Power Consumption and Average Active Efficiency of External Power Supplies has come into force:

the no-load condition power consumption shall not exceed the following limits:

Nameplate output power limit	AC -AC external power supplies, except low voltage external power supplies	AC-DC external power supplies, except low voltage external power supplies	Low voltage external power supplies
$Ð_0 \leq 51$ W	0,5 W	0,3 W	0,3 W
$Ð_0 > 51$ W	0,5 W	0,5 W	

the average active efficiency shall be not less than the following limits:

Nameplate output power limit	AC-AC and AC-DC external power supplies, except low voltage external power supplies	Low voltage external power supplies
$Ð_0 \leq 1$ W	$0,480 \cdot Ð_0 + 0,14$	$0,497 \cdot Ð_0 + 0,067$
$1 \text{ W} < Ð_0 \leq 51$ W	$0,063 \cdot \ln(Ð_0) + 0,622$	$0,075 \cdot \ln(Ð_0) + 0,561$
$Ð_0 > 51$ W	0,87	0,86

Measurements

3. The no-load condition power consumption and the average active efficiency shall be established by a state-of-the-art measurement procedure.

Information to be provided by manufacturers

For the purposes of conformity assessment, the technical documentation shall contain the following information:

Reported quantity	Description
Root mean square (Rms) output current (mA)	measured at load conditions 1–4
Rms output voltage (V)	
Active output power (W)	
Rms input voltage (V)	measured at load conditions 1–5
Rms input power (W)	
Total harmonic distortion	
True power factor	
Power consumed (W)	calculated at load condition 1–4, measured at load condition 5
Efficiency	calculated at load conditions 1–4
Average efficiency	arithmetic average of efficiency at load conditions 1–4

The relevant load conditions are as follows

Percentage of nameplate output current:

Load condition 1	100 % ± 2 %
Load condition 2	75 % ± 2 %
Load condition 3	50 % ± 2 %
Load condition 4	25 % ± 2 %
Load condition 5	0 % (no-load condition)

Annex 2
to the Technical Regulation

REQUIREMENTS
for verifying conformity of external power supplies with the requirements of the Technical Regulation on ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies during state market surveillance

1. The verification tolerances referred to in this Annex are to be applied by state market surveillance bodies and shall not be used by the manufacturer or importer to establish the values in the technical documentation or in interpreting these values with a view to achieving compliance or to communicate better performance by any means.

2. The verification of conformity of no-load condition electric power consumption and average active efficiency of external power supplies with the requirements of the Technical Regulation on ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies (hereinafter referred to as 'Technical Regulation') shall be carried out by state market surveillance authorities taking into account the following requirements:

1) one external power supply per model shall be tested;

2) an external power supply model shall be considered to comply with the requirements of the Technical Regulation if:

performance indicators given in the technical documentation and the values used to calculate these indicators are not more favourable for the manufacturer or importer than the results of the corresponding measurements;

the declared indicators meet the requirements, laid down in the Technical Regulation;

when the state market surveillance authorities test the external power supply, the determined parameters and the values comply with the respective verification tolerances as given in the Table;

3) if the results referred to in the second or third indent of subpoint 2 of this point are not achieved, the model shall be considered not to comply with the requirements of the Technical Regulation;

4) if the result referred to in the fourth indent of subpoint 2 of this point is not achieved, the state market surveillance authorities shall select three additional external power supplies of the same model from the same manufacturer for testing;

5) the model shall be considered to comply with the requirements of the Technical Regulation if, for these three external power supplies, the arithmetical mean of the determined values complies with the verification tolerances given in the Table;

6) if the result referred to in subpoint 5 of this point is not achieved, the model shall be considered not to comply with the requirements of the Technical Regulation.

3. The state market surveillance authorities shall use the measurement and calculation methods set out in Annex 1 to the Technical Regulation.

The state market surveillance authorities shall only apply the verification tolerances that are set out in the Table, taking into account the requirements set out in subpoints 1 to 6 of point 2 of this Annex. No other tolerances, such as those set out in the national standards that are identical to the European harmonised standards or in any other measurement method, shall be applied.

Table

Verification tolerances

Parameters	Verification tolerances
No-load condition	by no more than 0,1 W
The arithmetical mean of the efficiency in load conditions 1 to 4 in accordance with Annex 1 to the Technical Regulation	by no more than 5 %

Annex 3
to the Technical Regulation

INDICATIVE BENCHMARKS

No-load condition

1. The lowest available no-load condition power consumption of external power supplies shall be:

0,1 W or less, for $Đ_0 \leq 90$ W;

0,2 W or less, for $90 \text{ W} < Đ_0 \leq 150$ W;

0,4 W or less, for $150 \text{ W} < Đ_0 \leq 180$ W;

0,5 W or less, for $Đ_0 > 180$ W;

Average active efficiency

2. The best available average active efficiency shall be:

$0{,}09 \cdot \ln(Đ_0) + 0{,}680$, for $1 \text{ W} \leq Đ_0 \leq 10$ W;

0,89, for $Đ_0 > 10$ W.

Annex 4
to the Technical Regulation

CORRELATION TABLE
of the provisions of Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies and of the Technical Regulation on Ecodesign Requirements for No-load Condition Electric Power Consumption and Average Active Efficiency of External Power Supplies

Provisions of the Commission Regulation (EC)	Provisions of the Technical Regulation
Article 1(1)	point 1
Article 1(2)	point 2
First indent of Article 2	twentieth indent of point 3
Second indent of Article 2	first indent of point 3
Article 2(1)	sixth indent of point 3
Article 2(2)	fifteenth indent of point 3
Article 2(3)	sixteenth indent of point 3
Article 2(4)	third indent of point 3
Article 2(5)	fourth indent of point 3
Article 2(6)	seventeenth indent of point 3
Article 2(7)	fifth indent of point 3
Article 2(8)	eighteenth indent of point 3
Article 2(9)	second indent of point 3
Article 2(10)	fourteenth indent of point 3
Article 2(11)	nineteenth indent of point 3
Article 3	point 4

Article 4	point 5
Article 5	point 6
Article 6	point 7
Article 7	
Article 8	
Article 9	
Annex I	Annex 1
Annex II	Annex 2
Annex III	Annex 3

APPROVED
by the Resolution of the Cabinet of Ministers of Ukraine
No. 150 of 27 February 2019

AMENDMENT
to be introduced to the list of types of products subject to state market surveillance by state market surveillance authorities

The list shall be supplemented with point 51 to read as follows:

‘51. External power supplies	Resolution of the Cabinet of Ministers of Ukraine No. 150 of 27 February 2019 ‘On Approval of the Technical Regulation on Ecodesign Requirements for No-load Condition Electric Power Consumption and Average Active Efficiency of External Power Supplies’	State Service of Ukraine on Food Safety and Consumer Protection’.