



Scope

All energy saving devices which are special designed to reduce the energy consumption of the connected machine. Admissible categories of energy saving devices: for hot beverage machines, copiers, monitors, printers, fax machines, luminaries, TV, VCR, audio equipment etc.

Criteria

Energy saving devices complies with GEEA criteria if the following criteria are met:

Category	Criteria
Energy saving devices	<p>The power consumption in any of its operation modes is 0.5 W or less.</p> <hr/> <p>The machine connected to the energy saving device is switched off completely after the energy saving device has become active. If the connected machine requires regular connection to the mains in order to not loose memory content the energy saving device may switch the machine on and off for short periods of time.</p> <hr/> <p>The energy saving device detects automatically if the connected machine can be switched off. Switching on again may require interactions of the user.</p> <hr/> <p>The energy saving device becomes active after a maximum delay time (default) of</p> <ul style="list-style-type: none"> • 45 minutes when used for copiers or hot beverage machines; • 30 minutes when used for monitors; • 15 minutes when used for fax machines, printers, TV, VCR, audio equipment or luminaries after the connected machine has finished its operation mode or cycle. <hr/> <p>If the maximum delay time of the energy saving device can be set by the users the maximum permissible delay time is 60 minutes. If the energy saving device detects the delay time or the on-off cycle from the user pattern and therefore the user cannot define the delay time the restriction of the maximum delay time is not applicable.</p>

Definition

Term	Definition
Machine	The device which is connected to the energy saving device in order to be switched off after it has performed its operation cycle.

Test method

1. Testing requirements

1.1 Testing area

Measurements are to be carried out in a testing area that is free of draughts and has ambient temperature of $22^{\circ}\text{C} \pm 4^{\circ}\text{C}$. All components of the device to be measured must be at room temperature.

1.2 Measuring device

For measuring the effective power consumption, a measuring device must be used that:

- a. automatically calculates the average power consumption during a time interval; or
- b. carries out a time measurement parallel to the energy measurement, from which it is possible to numerically calculate the average power consumption.

Reference: PS01-2007

The maximum permissible relative measurement error for both the power consumption and the energy consumption is 5%.



1.3 Main voltage and frequency

The device to be measured must be operated on a mains supply at rated voltage [V_{AC}] and rated frequency [Hz]. The permissible deviation is $\pm 2\%$ for the supply voltage and the mains frequency. The alternating current must be a sinus wave with harmonic distortion not exceeding 5%.

2. Testing procedure power consumption standby mode and off mode

The *Energy Saving Device* is connected to the machine according to the manufacturer's instructions¹. The machine is switched into operation mode and is then allowed to finish its operation cycle². The time after the end of the operation cycle and the moment when the *Energy Saving Device* is switching the machine off is measured. The power consumption of the *Energy Saving Device* when the connected machine is on **and** when it is switched off should be calculated.

The time until the *Energy Saving Device* is switching the machine off is to be indicated in minutes [min]. The power consumption is to be indicated in watts [W], rounded to the first digit after the decimal point.

¹ Manufacturer's settings

² The operation cycle may be finished in a forced way by the measuring person.