E.D.S.F position Standby

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Interpretation of the Ecodesign Regulation – Standby

(1) General

The Ecodesign Regulation (EU) 2023/826 specifies requirements for the energy consumption of electrical and electronic household and office appliances in off-mode and standby mode (standby). The Ecodesign Regulation does not cover industrial appliances.
This E.D.S.F. guide covers in particular the applications relating to doors and gates.

In the Ecodesign Regulation “motor-operated building element” and thus also doors, gates and windows were included in the scope of application.

The term “motor-operated building element” means a device used in buildings for opening or comfort, excluding ventilation devices, which can be moved and/or rotated by power from the supply network. The motorized building component comprises an electric motor or actuator and a control unit and is controlled by the end user by means of one or more wired controls and/or wireless controls via a network or automatically with sensors (Annex I, 21.).

Motor-operated building elements are listed in Annex II, 6.:
- Shutters
- blinds
- screens
- awnings
- pergolas
- curtains
- doors
- gates
- windows
- skylights
- other motor-operated building elements

This list is not exhaustive, as the last indent includes “other motor-operated building elements”, which opens the list for further products. Nevertheless, the list of elements should give a good overview of products covered by the Ecodesign Regulation.

Please be careful with the terms shutter, door and gate. The used terms in the Regulation do not correspond with the terms used in European standards and could be misleading.

Explanation of terms:

- *The term ‘shutter’ is defined in EN 12216 as a product installed to provide or modify characteristics such as thermal, visual, security level, of a window, door, curtain walling or façade to which it is applied.*

- *The term ‘door’ is often used for*
  - *‘(powered) pedestrian doorset’ according EN 14351-1, EN 14351-2 and EN16005, where the main intended use is the passage of persons,*

  or for
  - *‘(powered) industrial, commercial, garage doors and gates and barriers ‘according EN 13241, where the main intended use is the passage of goods and vehicles accompanied or driven by persons.*

- *The term 'gate' is often used, unfortunately inaccurate, as a collective term for 'industrial / commercial / garage doors, gates and barriers', where 'gate' cannot be a collective term but is one product of the covered products. A 'gate' can be found e. g. in the premises of an industrial area giving access to cars and/or trucks entering the premises.*

We must assume that the term "gate" is being used incorrectly. From the Commission's point of view, gates are "industrial, commercial, garage doors and gates and barriers", according EN 13241. EN 13241 and E.D.S.F. define "gate" as one product in the product family, as mentioned above.

The following text explicitly states which product is concerned.

Apart from these specialities of terminology, the products are mentioned in Annex II, 6. and should make clear which range of products are covered.

Please note that it can be assumed that barriers are included in the scope of the Regulation (see also explanation of terms above), as these fall under the term 'used in buildings', e.g. in underground car parks or in front of access roads to garages.

(2) Definitions for drives and operators of commercial and garage doors

Definition Network [Art. 2, (9)]
A network is the connection of at least two devices with a communication method (wireless or physical). Switch and control unit, connected with at least one two-wire line, form the smallest network. A (plugged-in / permanently installed) radio receiver also forms a network with the control unit.

Standby mode [Art. 2, (3)]
The power consumption of the device in a mode in which only a
- reactivation function or a
- reactivation function with the indication of its activation

is provided (i. e. all other components are not connected) shall not exceed 0,50 W [Annex III, 1.b)].

Example: radio receivers and sensors (e.g. light barriers or light grids) are therefore disconnected (pinched off) from drives.

The power consumption of the appliance in a condition providing only
- an information or status indication (providing functional information to the user) or
- only a reactivation function combined with an information or
- status indication or only a reactivation function with the indication of its activation and an information or status indication

shall not exceed 0,80 W [Annex III, 1. (b)].

Standby mode in closed or open position
The standard condition of an industrial, commercial, garage door and/or gate is in closed position, an open industrial, commercial, garage door and/or gate is not considered as normal condition. In accordance with the intended use (Annex III 2, (c)), the standby mode of a door operator can therefore only occur when the door is closed.

The situation may well be different for barriers and/or doors if the open position can be defined as the intended condition.

Networked standby operation

The power consumption of a networked device (permanently connected, see test methods in Annex IV], with the exception of HiNA device and device with HiNA functions, must not exceed 2,00 W in networked standby mode [Annex III, 1, (c)].

Example: The radio receiver is permanently integrated on the control unit.

Definition of household area

The household area, as described in the Regulation, is best explained with the more common terms domestic environment, living- or residential area. This area, resp. environment means an environment in which radio or television receivers are likely to be used within a radius of 10 m from the appliance in question [Annex I, 2].
The intended use of the drive (area of application, range of selection of features and accessories to be connected) can be taken from the manufacturer's specifications; the area of application for the residential or industrial sector is thus clearly identified.

Test method [Annex IV]

Annex IV describes measurement and calculation methods for determining the energy consumption of the drive. The energy consumption of the drive is determined after deactivating or disconnecting the network ports (wired or wireless physical inter-face to the network connection on the device, via which the device can be activated remotely) [Annex IV, (a)].

(3) Conclusion for drives and operators for commercial and garage doors

- **Drives and operators for commercial and garage doors do not have an off mode, but only a standby mode**

- **Based on the requirements of the Ecodesign Regulation (EU) 2023/826, a standby value of 0,50 W or 0,80 W for the operator with information or status display is used to determine the energy consumption for operators of commercial and garage doors without associated, deactivatable components.**

- **For drives for commercial and garage doors with permanently connected components that cannot be deactivated (e. g. radio modules, WiFi, Bluetooth LE, ...), a standby value of 2,00 W applies.**

(4) Modes of operation of power operated (automatic) pedestrian doors

Since the Regulation mainly considers the standby mode the following information is important for power operated (automatic) doors.

Explanation of terms:
‚Power operated doors', as covered by EN 16005, are often also called 'automatic doors'. The term 'power operated (automatic) door' is intended to take this into account and thus make it clear.

Standby mode (Standby) [Art.2, (3)]
This mode indicates a condition in which the appliance is connected to the mains supply,

is dependent on the power supply from the mains supply in order to function as intended and provides only one or more of the following functions for an unlimited period of time:

a) Reactivation function;
b) Reactivation function together with only an indication that the reactivation function is active;
c) Information- or status display.

Active mode [Art.2, (7)]
This mode indicates a condition in which the device is connected to the mains supply and at least one of the main functions is activated.

Off mode [Art. 2, (8)]
Off mode indicates a condition in which the device is connected to the power supply but does not provide any function or only provides the following:

a) Indication of the off mode;
b) Functions to ensure electromagnetic compatibility in accordance with Directive 2014/30/EU.

(5) Special consideration of power operated (automatic) doors that have to open for safety reasons and their deviation from the requirements and definitions as given in the Regulation

The „active operation" of power operated (automatic) doors is any condition in which the door fulfils its (safe) main function(s), e. g. the automated movement of people in one or two directions (opening and closing).

The most common operating modes of different manufacturers in which a power operated (automatic) doors is in active operation are:
- Automatic mode
- Store closing / One-way mode
- Partly open mode

In addition to opening activators, safety devices are usually also in operation during Active operation which detect the presence of obstacles (person(s)) and prevent the Movement of the power operated (automatic) door from posing a risk to the obstacle (person(s)) as long as the obstacle (person(s)) is located within the detection range of the power operated (automatic) door.

These sensors and safety devices must remain functional at all times to ensure a fast reaction (when an obstacle is detected) or safe movement (of the power operated (automatic) door), which are among the basic functions of these products.

Safety devices on the power operated (automatic) door have the task of ensuring that no door movement is started unless a successful function check has been carried out first. This function check usually only takes a few milliseconds when the door is in active operation. However, if the door were put into a standby mode, in which the power supply

or the function of the safety devices is reduced or switched off, a significantly longer period of time (up to 30 seconds depending on the function and equipment of the door) would be required for a function check.

There is a risk that a person will approach the power operated (automatic) door during this period and collide with the door because the function check has not been completed

and the door is not yet ready for operation. The product functions would then no longer be fulfilled.

In addition, there are other operating modes that can also be seen as active operation, although the door remains motionless (in the open or closed position), e. g:

- Continuous open mode
- Night setting („Off“) mode

Main and safety functions are also active in these operating modes to ensure the operation expected by the user. These include internal functions such as position determination, battery charging and safety and status monitoring, detection of a fire door leaf in the open position.

This condition is an idle mode[1], according the definition of the International Electrotechnical Commission IEC, where the device (here: power operated (automatic) door) can promptly provide a primary function[2] but is not doing so.

There are also additional requirements for power operated (automatic) doors in escape and rescue routes. Based on European standards (e. g. EN 16005) and relevant building regulations, it is required that the door opens even if there is a fault or the power supply fails. These products are therefore equipped with an additional battery to ensure a continuous power supply. In this case, if the door is set to a “standby” or “off” mode, the battery would discharge, preventing the door from returning to a safe operating mode. Safe operation is not possible with a discharged battery and is only possible again when the battery is recharged.

[1] Environmental standardization for electrical and electronic products and systems / Terms relating
to energy efficiency and power consumption (IEV ref 904-03-14): “idle mode - condition during which the equipment can promptly provide a primary function but is not doing so”
[2] Environmental standardization for electrical and electronic products and systems / Terms relating
to energy efficiency and power consumption (IEV ref 904-03-02): “primary function – function providing the intended purpose”

(6) Conclusion for power operated (automatic) doors:

- **Only the active operating mode applies to power operated (automatic) doors. This is the mode in which the door fulfils its (safe) function.**

- **A "standby" mode or "off" mode[3], as described in Regulation (EU) 2023/826, is not compatible with the intended use of power operated (automatic) doors. Therefore, power operated (automatic) doors are not covered by the scope of the Ecodesign Regulation (EU) 2023/826**

[3] Please note that the term "off" used in the industry to date (e. g. for night mode) does not technically correspond to the term "off" in accordance with Regulation (EU) 2023/826.

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