



Alliance

Position paper

The impact of reduced standby power limits for connected separate control gears availability on EU market.

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Given that buildings are responsible for a significant 40% of EU energy usage and 36% of carbon emissions, it is crucial to reduce their power consumption. Non-residential buildings consume approximately 17% of their total electricity usage on lighting¹. Upgrading lighting installations to LED and incorporating lighting controls, significant energy savings of up to 50TWh/year² can be achieved.

Streetlighting alone accounts for 35TWh/year, which can be greatly reduced by switching to LED lighting with lighting controls. It is estimated that 24TWh/year³ energy savings for streetlighting can be achieved by upgrading lighting installations to LED and incorporating lighting controls.

To take advantage of this opportunity, lighting installations must be equipped with lighting control systems in buildings, and streetlights must be dimmable and connected. This requires luminaires with control gears that can be controlled, also known as connected separate control gears. The vast majority of these control gears use the DALI digital control interface, which is optimized for lighting applications and allows for light control. The standby mode, in which the light source is not producing light, but the control gear is still controllable through the DALI interface, is limited to 0.5W of power consumption by EU regulation (EU/2019/2020).

The DALI Alliance has conducted an inquiry among its members to explore the potential impact of decreasing the limit of standby power for connected separate control gears and its effects on product availability on the market. The inquiry's findings are illustrated in Figure 1, which displays the percentage of available control gear products as a function of standby power limit (W).

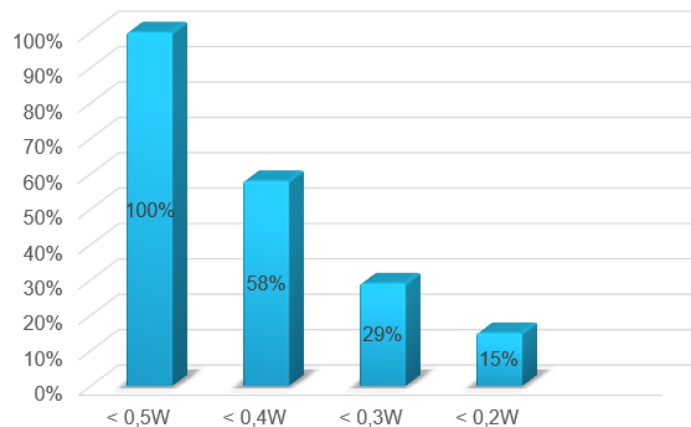


Figure 1, Percentage of control gear products available as function of standby power limit (W)

The DALI Alliance certifies a correct DALI interface implementation in connected separate control gears, the certified control gears can be easily accessed via the DALI Alliance product database⁴. This database contains approximately 4,800 control gears from 150 different brands, all of which are currently available on the market. However, if the permissible standby power is lowered to a maximum of 0.3W, the number of available products would plummet by a staggering 71%. Further decreasing the standby power to 0.2W would result in only 15% of the current product portfolio being available, leaving the market with very limited options. Any modifications to standby power limits would require the industry to undertake a significant overhaul of their connected separate control gear portfolio.

Can the industry efficiently redesign their products within a short period of time to meet the new standby power requirements? This question comprises two main aspects: technical feasibility and industry capacity. The inquiry carried out by the DALI Alliance also examined the average standby power of their members products, which provides insight into the current state of standby power consumption of control gears. The results show that the average standby power of member control gears is 0.4W for DALI connected separate control gears. Reducing the standby power to 0.3W may seem feasible, but it would render 42% of the portfolio non-compliant and unable to be offered to the market.

In terms of industry capacity, the number of certifications per month is a key indicator of the industry's ability to innovate. On average, the DALI Alliance receives 55 separate control gear certifications each month. However, if the standby power limit is reduced to 0.3W, approximately 71% of the portfolio would need to be redesigned, which equates to around 3,400 products. With an industry capacity of 55 certifications per month, it would take approximately 60 months to complete the redesign process. Even if not all of these products require redesigning and industry capacity is increased, it will still take several years before the industry has a product portfolio available to meet market needs similar to what they can offer today.

Reduction in the availability of DALI products would hamper the EU's ambitions for energy efficiency in buildings and outdoor lighting, also causing disruption to the construction industry.

The DALI Alliance urges regulators to carefully consider the standby power requirements and timing in future regulations. The industry will need ample time to develop compliant products to meet the new requirements. This is necessary to prevent the large energy reduction potential that lighting controls offer from being undermined by introducing overly stringent standby power requirements too fast in future regulations.

Take care of the opportunity cost: Rather than focus industry resources on reducing standby power by a small amount, it is much better to focus resources on reducing overall consumption in commercial buildings.

About the DALI Alliance

The DALI Alliance is an open, global consortium of more than 370 lighting companies that drives the growth of lighting-control solutions based on internationally standardized Digital Addressable Lighting Interface (DALI) technology. The organization operates the DALI-2 and D4i certification programs to boost levels of cross-vendor interoperability. For more information, visit www.dali-alliance.org.

1: Preparatory Study on Light Sources for Ecodesign and/or Energy Labelling Requirements ('Lot 8/9/19'), Task 3

2: LOT 37 study, [Documents | Lot 37 Ecodesign Lighting Systems \(ecodesign-lightingsystems.eu\)](http://Documents | Lot 37 Ecodesign Lighting Systems (ecodesign-lightingsystems.eu))

3: Preparatory study for the Ecodesign and Energy Labelling Working Plan 2020-2024, TASK 3 PRELIMINARY ANALYSIS OF PRODUCT GROUPS AND HORIZONTAL INITIATIVES

4: [Product database - Digital Illumination Interface Alliance \(dali-alliance.org\)](http://Product database - Digital Illumination Interface Alliance (dali-alliance.org))

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