

JESSICA – a universal lighting tool for modern street lighting



JESSICA 800



JESSICA 600

Berlin, March 2011 – In the 1950s, the first upswept street lanterns started to dominate the streets of many German cities. Now, 60 years later, SELUX has reinterpreted this universal upswept pole design with linear fluorescent luminaire in the JESSICA. The shape of the luminaire head has been completely revised and its design reduced to the essentials. The flat luminaire housing appears to be melting into the slim 15° degree upswept pole to form a single puristic unit while, for use as a pole-top fixture, a variant with an arm has also been developed. Its reserved look by day enables it to blend harmoniously into the urban environment while at the same time, this universal light tool represents a fine balance between design quality and sophisticated lighting technology. The JESSICA product family is particularly suitable for the lighting of distributor roads, public highways, car parks, business parks and residential streets.

One shape, many options

Customers can select from a variety of lighting technologies and illuminants for the JESSICA depending on the lighting task. The design of the luminaire housing remains the same in every case. Long-life fluorescent, halogen metal vapour or high-pressure sodium lamps may all be used as light sources, as well as high-power, next-generation LEDs. The use of long-lasting LEDs ensures optimal thermal management – with no visible cooling ribs to diminish the beauty of the luminaire's design. The JESSICA can be used in the low or high luminance range and is available in two sizes, the JESSICA 600 or 800 for various energy-efficient illuminants and optics:

1. SELUX® High Comfort Butterfly Module for LEDs: The SELUX® LED butterfly reflector system is distinguished by the optimal anti-glare characteristics of each individual reflector. Yet despite its efficiency, the system has a uniform look. The large luminance densities of the LEDs have been optically widened while contrast differences within the housing have been reduced to a minimum. The customised optics design generates a high level of visual lighting comfort, resulting in outstanding results for an LED street luminaire. In addition, optimised thermal management guarantees a long service life for the LED modules used.

2. SELUX® reflectors for discharge lamps: SELUX® high-power reflectors have been developed for street lighting requirements in EN 13201. Their asymmetrical light distribution allows maximum pole distances for a very wide range of lighting classes and they provide maximum performance while allowing use of a variety of lamp types. In addition, the surface refinement of the reflectors, which are produced using the hydroforming method, ensures a high level of long-term efficiency.

3. Linear reflector for compact fluorescent lamps: The elegant and slim shape of the JESSICA 800 guarantees highly-efficient light direction for particularly economical, compact 40 W, 55 W or 80 W fluorescent lamps. The precise angle position of the side reflector areas made from pur aluminium result in high trajectory ranges and maximum pole distances. Replacing standard T26 linear fluorescent luminaires, the JESSICA 800 TC-L attains better light uniformity fitted with 2 x 58 W illuminants, while at the same time improving energy efficiency.

Anti-glare light direction for visual ergonomics

Compared to conventional light sources, LED systems are distinguished by their optimised light direction. With the JESSICA, SELUX engineers placed particular importance on improving direction of light when distributed on the usable area. This removes risk of direct glare due to excessive luminance, creating a pleasantly uniform light without dazzling of the eye. Precise light direction also ensures the luminaire has a particularly high level of energy efficiency.

JESSICA LED: Save energy with intelligent control units

Today, light-emitting diodes offer excellent prospects for street lighting – both from a commercial and ecological point of view. Particularly in the context of intelligent light control, they reduce energy consumption sustainably while, at the same time, the environment is protected from harmful CO₂ emissions. The JESSICA LED can optionally be fitted with a 1-10V interface integrated in the converter for a requirements-oriented, individual control unit. Possible examples of energy saving uses include:

- 1. Constant, low-power operation:** In this operating mode, the luminaire is not operated at maximum power but at a reduced power level on a constant basis.
- 2. Phase-controlled half-night switching – switchable low-power operation:** The luminaire can be switched between two user-defined power levels by means of a control phase.
- 3. Power-reduced operation – with up to five adjustable dimming values:** This dynamic control unit enables the luminaire to be operated at up to five different power-reduced values. This is enabled by an autonomous control module in the luminaire housing.

Integration of the JESSICA LED into individual lighting scenarios is simple. It provides new opportunities, not just in relation to energy saving but also in the context of considerable improvements to road safety. Flexible dimming and switching can be used for reduced light during bright nights or off-peak traffic periods, or more intensive light can be used where lighting requirements are greater such as in poor weather conditions.

Maximum quality of materials and low maintenance

The JESSICA combines high-quality materials such as pressure die-cast aluminium, stainless steel and safety glass, all of which guarantee a long service life. Yet it is also extremely low-maintenance: the housing can be opened up via a knee-lever closing mechanism on the front and, when the frame is opened up, it is damped via a spring mechanism that protects it from any damage. The frame can then be closed in a single-hand operation.

Maintenance and replacement of electrical components, including high-power reflectors, illuminant and LED butterfly module is simple. The modular design also enables efficient recycling of individual components once the luminaire has reached the end of its service life.

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