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Virtual Midnight

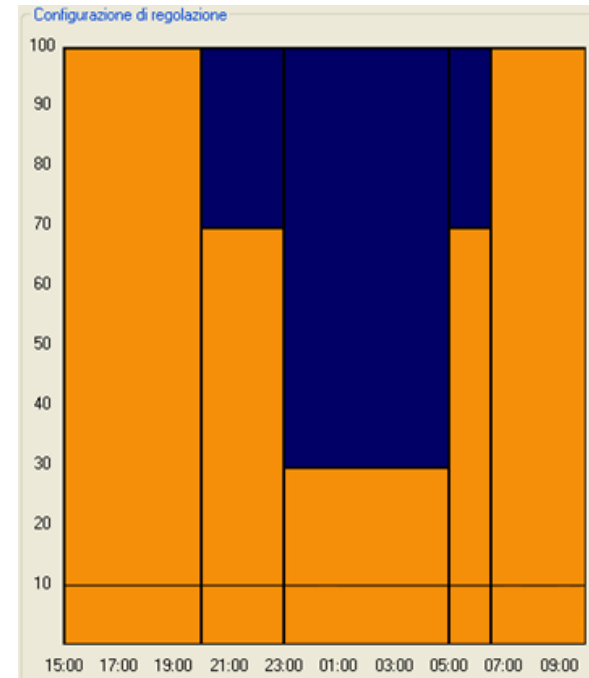
The virtual midnight is an electronic regulated protocol designed for saving energy reducing the lumens output in the central hours of the night. This system, built-in in the driver of each light, works independently and it doesn't need any external hardware (stand-alone).

The system is based on the calculation of a *virtual midnight* (midpoint of working time) which is used as reference for the possible dimming steps. The calculation of the virtual midnight is automatic and continuously updated through the year. The light works for the first three days at full power, in the same time it acquires the on-off time in order to calculate the midpoint. From the fourth day the dimming starts to operate. If a power outage of more than half second occurs, this process will be repeated automatically.

The system can be fully customized: up to 5 time ranges and percentages of reduction can be specified when ordering the lights and programmed at the factory, without requiring any operation on the field. This allows the project manager to reduce considerably the power consumption and increase the building energy rating in a fast and cheap way.

EXAMPLE:

1. From turning on to 8pm: full power
2. From 8pm to 11pm: 30% reduction
3. From 11pm to 5am: 70% reduction
4. From 5am to 7am: 30% reduction
5. From 7am until shutting down: full power



Profile designed for streetlighting;

This profile cuts energy usage of 48% in a sample application (on-time from 6pm to 8am):

Applied to 10 Detas Dleds Stratos G 80R700, the power drops from 25.2 Kw/h to 13.1 Kw/h each day.