Application note:
Setup and operation of Active+ solution

GENERAL DESCRIPTION

Active+ solution is

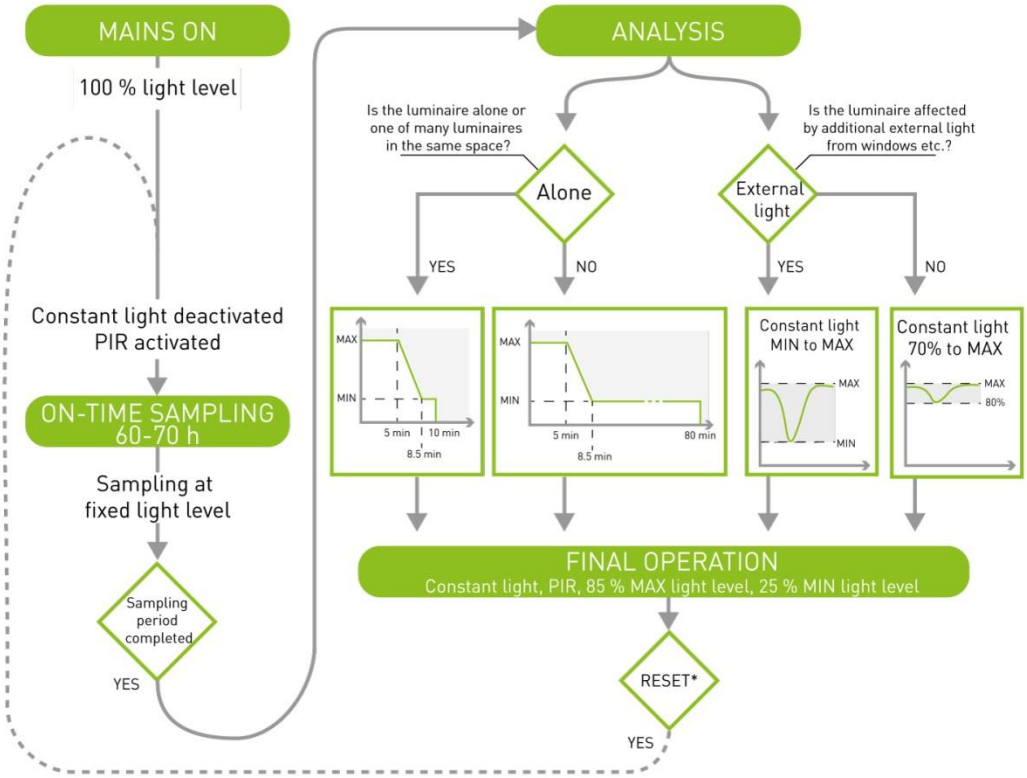
- Stand-alone, inbuilt lighting control solution for luminaires with LED lamps
- Fully automatic setup through smart learning function
- Optimized occupancy detection for different situations
- Light level compensation over entire life cycle (CLO)
- Automatic daylight harvesting
- No programming, configuration or external control wiring
- Manual override of settings by Mobile App

PRODUCTS NEEDED

The only products needed for each luminaire:

- Active+ LED driver – intelligent dimmable LED driver with inbuilt power supply
- Active+ Sense – extremely small and capable sensor

AUTOMATIC SETUP



FINAL OPERATION

Energy saving is achieved when the daylight harvesting and the occupancy detection are activated. The initial light level is set at approximately 85-90 % to avoid over-illumination of new luminaires (CLO). This is close to the designed luminaire light level, which will be maintained over the entire life cycle generating further energy saving. The sensor fade down time is made slow enough (3.5 min) to make reduction in light level invisible for the eye.

- If the luminaire is alone, such as a storage room, cupboard, copy room et.c. then the luminaire goes to minimum level and OFF in 10 minutes.
- If the luminaire is one of many luminaires, such as an open plan office or a retail store then the light stays on minimum level for more than an hour before switching OFF. This is done not to disturb other people in the working area and to create a safe and comfortable lighting scene.
- When the luminaire is affected by additional external light, i.e. close to a window, energy saving is utilized over the entire dynamic dimming area: 25-100 %
- When there is no external light affecting the luminaire additional energy saving cannot be utilized by daylight harvesting. The minimum light level is in this case clamped to 80 %, which ensures stable and reliable functioning of several luminaire sensors acting close to each other, preventing “waving effect” of sensors.

* RESET

If there is a need to restart the learning process, i.e. during a layout change of an office, the luminaires can be reset to start the learning period. You can reset either a single luminaire or an entire electrical circuitry with multiple luminaires.

1) Reset of single luminaire

- Ensure the sensor is connected
- Switch the mains on to the luminaire and ensure the lights are ON
- Cover the light sensor totally preventing any light from entering the sensor for a period of 60 seconds or more
- A successful reset is acknowledged by flashing the light 3 times

2) Reset of entire electrical circuitry

Perform the following 5 successive switching sequences of the mains:

- Start with mains OFF
- Sequence 1:
    - Switch mains ON for 15-20 seconds
    - Switch mains OFF for 5 seconds or more
- Sequences 2-5:
    - Switch mains ON for 5-10 seconds
    - Switch mains OFF for 5 seconds or more

A successful reset is acknowledged by flashing the light 3 times when the mains next time is reconnected.

MANUAL OVERRIDE

If there is a need to adjust the automatic settings a personnel override can be achieved by using the Active+ Mobile app. To use this app you must have an approved smart phone running Android (version 4.0 onwards) or iOS (version 8.0 onwards) equipped with an LED flash (list of tested and approved Android phones can be found on the app store description), a luminaire fitted with an Active+ LED driver and the Active+ Sense. Settings that can be adjusted are:

- Lights on and Power Save light levels
- Occupancy time-outs
- Fade times
- Transition time-outs
- Daylight dimming ranges
- Bright-out functionality

Note: Light levels should always be set when it is dark in order to achieve proper daylight dimming and bright-out functionality

Further information of the App operation can be found in the User Guide: Operation of Active+ Mobile Application