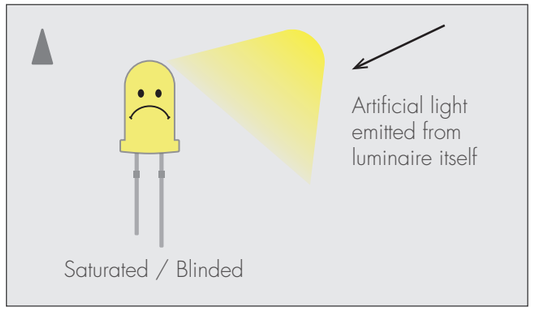
Photocell Advance™ (Pro-active Lux Switching)

For built-in type motion sensors, for a long time lux control has been a headache for OEM manufactures, because the artificial light emitted by the luminaire itself can affect the photocell/photo diode measurement, and as a result the lux reading from photocell/photo diode can be very far away from the real ambient lux level (actually in most cases, the artificial light feedback from the luminaire itself is so strong that the photocell/photo diode reaches to a saturated/blinded status and cannot perform at all).

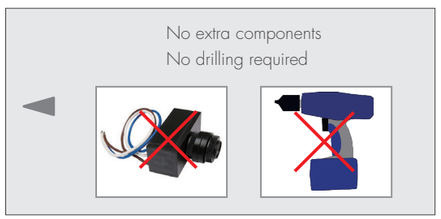


For the photocell to read ambient lux level normally, the common practice requires OEM designer to drill a hole on the luminaire so that the photocell/photo diode can be exposed outside to reduce the effect from the artificial light emitted by the luminaire itself. However, this practice can be very troublesome and limited in real applications, because it obviously compromises on the aesthetics of luminaire design, and at the same time demands OEM manufactures to have very good control over mass production and QC processes. This is not easy in real life, costing great amount of time and money in the end. Hence, many OEM manufacturers are forced to take Passive Lux Switching solution, an old technology which allows the photocell/photo diode to only measure ambient lux level when the luminaire is in OFF status. If the luminaire is ON then the photocell/photo diode does not make any lux measurements to prevent false reading.
Obviously this is not an ideal solution, an example would be that – From dawn to morning, if there is constant movement beneath the sensor then the sensor will stay on all the time and the photocell/photo diode simply does not have a chance to check the ambient lux level. Even if the sun rises and the real ambient lux level is way above the preset lux threshold value, the sensor has no chance to switch the light off. This will cause excessive energy waste, and the user experience is not friendly.

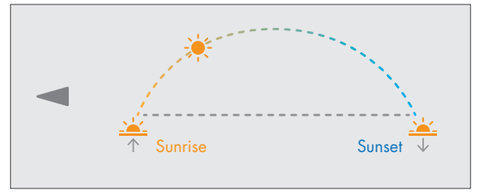
Aiming to solve this "headache" and maximize on the energy saving, a new solution called Active Lux Switching (or 24h Daylight Monitoring) is developed, which is widely accepted and adopted by the industry. With such technology the photocell/photo diode can check ambient lux level on the moment the luminaire transits from hold-time level into stand-by level, so that the sensor can determine if the luminaire should go to stand-by level or switch off. Also, during the stand-by level period the photocell/photo diode can still check ambient lux level at intervals, to determine if the luminaire should continue stand-by level or switch off.

Based on Active Lux Switching technology, Dynaluxx here formally introduces a brand-new technology called Photocell Advance™ (also as we call "Pro-active Lux Switching" technology). Thanks to the latest Photocell Advance™ (or "Pro-active Lux Switching") technology, our intelligent light fixtures can achieve:

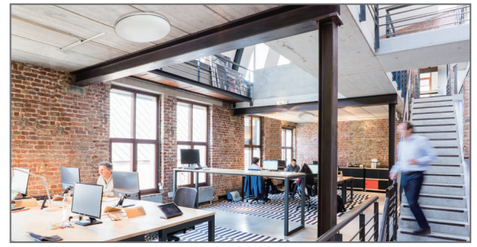
• 1. Photocell/photo diode can work perfectly even when completely placed inside luminaire cover, without needing to drill a hole on the luminaire cover.



• 2. Dusk-to-Dawn Photocell: With the advanced Pro-active Lux Switching technology, motion sensors are also able to achieve that luminaire be automatically switched on at dusk and be automatically switched off at dawn, even without movement triggering.



• 3. Daylight Prior to Motion – At any time, as long as the ambient lux level exceeds the preset lux threshold setting, the sensor will be able to switch off the luminaire even when the fixture is in ON status. During the whole process, the ambient lux measurement will not be affected by the artificial light emitted from the fixture itself.

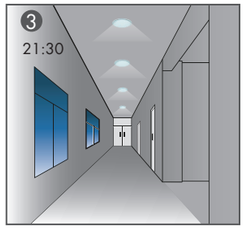


Application Example - Corridor

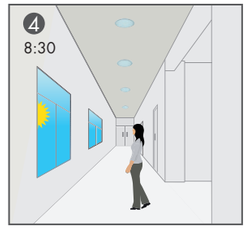
Sensor Settings Demostration: Hold-time: 10min Daylight Threshold: 50lux Stand-by Period: Infinity Stand-by Dimming Level: 10%

At sunset, the Dusk/Dawn Photocell feature starts to work. When the ambient lux level is below the preset lux value, sensor will automatically turn on the light to dim level 10%, even if there is no movement around.

Between 17:30 to 19:00, when there is no movement around, light will stay at dim level 10% until people come at 19:00 and trigger the lights to 100% brightness level.



After 21:30, when all the people left, the sensor will automatically go back and stay at dim level 10% with the expiration of hold-time 10min.



In the early morning, the Dusk/Dawn Photocell feature starts to work again. When the ambient lux level becomes above the preset lux value, sensor will automatically switch off the light. Thanks to the Daylight Prior to Motion feature, even if there is constant movement around during the process, the sensor will switch off the light accurately without any trouble.