



Case study

Westfield Corporate Office

Location
Philips Lighting

Sydney, Australia
Philips Dynalite Controls

PHILIPS
dynalite

Background

Westfield, the world's largest retail property group, is committed to making sustainability part of its day-to-day business practices. It's therefore not surprising that its corporate headquarters is an example of excellence in environmental sustainable design.

The 10-floor office building under the iconic Centrepoint Tower was designed to minimize the use of natural resources, provide a more productive and comfortable workspace for staff and target a 5-star NABERS energy rating and a 6-star Green Star rating.

Integral to reducing the building's environmental footprint and achieving world's best practice in environmental sustainable design was the installation of a Philips Dynalite lighting control system.

The challenge

It was essential that the lighting architecture would meet the project's green criteria and complement the environmental design ethos of the building.

The client wanted the lighting system to reduce the energy requirement for lighting as well as enhance the working environment by maximizing natural light where possible.



The solution

Philips Dynalite specified Digital Addressable Lighting Interface (DALI) technology because it delivers increased energy savings, is simple to install and maintain, provides maximum flexibility and control and is easy to modify in the future.

Creating an intelligent office

Simple to install and commission, the DALI lighting control system monitors and controls lighting within the office environment, which significantly reduces the use of energy. Energy costs are lowered through daylight harvesting and standard controls such as dimming and occupancy sensors. Rather than depend on staff to turn off the lighting, the intuitive DALI system does it.

Each luminaire in the building is individually addressable which delivers flexibility in control and monitoring. Lights can easily be grouped, ungrouped and regrouped into different control areas without the need to reconfigure any fixed control wiring and redundant lighting can easily be temporarily disabled.

The entire system is centrally monitored through the BMS, which allows the automatic identification of failed lamps and ballasts.

The installation of dimming luminaires around the perimeters of the office enables artificial lighting to be increased or decreased to balance natural light levels. Switching was used in the building core where natural light levels were too low.

Products and technology used

In total, 300 DALI fittings were installed in the 32,000 square meter space. A combination of fluorescents and LEDs were used, with 64 channels of switching controlled through the Dynalite DMRC210 relay fixture couplers and the remaining 236 channels of dimming controlled through Philips' Dynalite DDBC300-DALI ballast controllers.

A single lighting control network was used, with the Dynalite DDNG485 network bridges used to connect each floor's sub-network into the sophisticated Philips Dynalite peer-to-peer communications Dynet RS485 trunk network. A combination of Dynalite DUS804C and DUS804C-UP universal sensors were used for both lux levels and presence sensing. The DUS804C-UP sensors, which use ultrasonics rather than infrared and are more sensitive than the standard DUS804C, were installed in the core areas of the building, which reduced the number of sensors required.

Philips Dynalite has delivered a sophisticated and energy-efficient lighting solution for Westfield that is saving energy and providing a better work environment for staff.

A comfortable work environment

The continuous automatic adjustment of the lighting in response to changing ambient light levels provides a constant comfortable light level.

To optimize energy efficiency, lighting is fully automated during normal office hours. The lighting control system is interfaced through a Philips Dyalite DDNI-BACnet switching device to the main building management system (BMS). After hours the BMS assumes global control over the lighting controls – along with HVAC and security systems – and is able to switch off the lighting after a pre-set time.

Dyalite DPN eight-button user interface panels were installed near the lift areas to allow staff to activate lighting when needed. The DPN panels were installed in the boardroom to allow the selection of preset lighting scenes such as 'conference', 'presentation' and 'meeting'. A Philips Dyalite DTK622/RS232 AMX interface allows control of the audio-visual systems through the system and also allows supervision of the lighting through the AMX controls.

The entire lighting system is managed through Philips Dyalite's Mapview software, which is accessed through a head-end computer in the security area. From here, all lighting systems can be monitored, managed and - when required – reconfigured to meet changing needs within the building over time.

Benefits

The cutting-edge lighting solution has not only helped Westfield to achieve both a 5-star NABERS Energy rating and a 6-star Green Star rating, but has created a new benchmark for energy savings, occupancy comfort and flexibility.

Savings in energy bills aside, the continuous automatic adjustment of the lighting in response to changing ambient light levels has provided occupants with a constant light level that has enhanced workplace comfort levels, productivity and efficiency.



A green office for the future

The lighting system allows the building to make intelligent decisions about the optimum delivery of light. Lighting controls can switch lights off when no one is around, automatically adjust lighting levels based on the amount of natural daylight in the space and turn off or dim lights, based on the daily cycle of the office. The perfect control of the lighting means that the least possible amount of light is supplied when needed.

Together with the many energy-efficient building and services designs that have been included in this project, the lighting control system has helped reduce energy consumption by 30 per cent.



Fast facts

Customer

Westfield Sydney Corporate Office

Location

Sydney, Australia

Architect

John Wardle Architects

Lighting Designer

PointOfView

Products

DALI Lighting control system, Dimming and occupancy sensors, DMRC210 Relay Controller; DUS804C-UP Ultrasonic Sensor DUS804C Multifunction sensor; DDBC300-DALI Dimmer Controller; DDNG485 Network Gateway, DDNI-BACnet Gateway, DPN Classic Series panels, Mapview.

Lighting Solutions

Energy efficiency, ambience through lighting controls in the office, boardroom's and meeting rooms, staff cafe, break-out areas, lobby and reception.



www.philips.com/dynalite



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