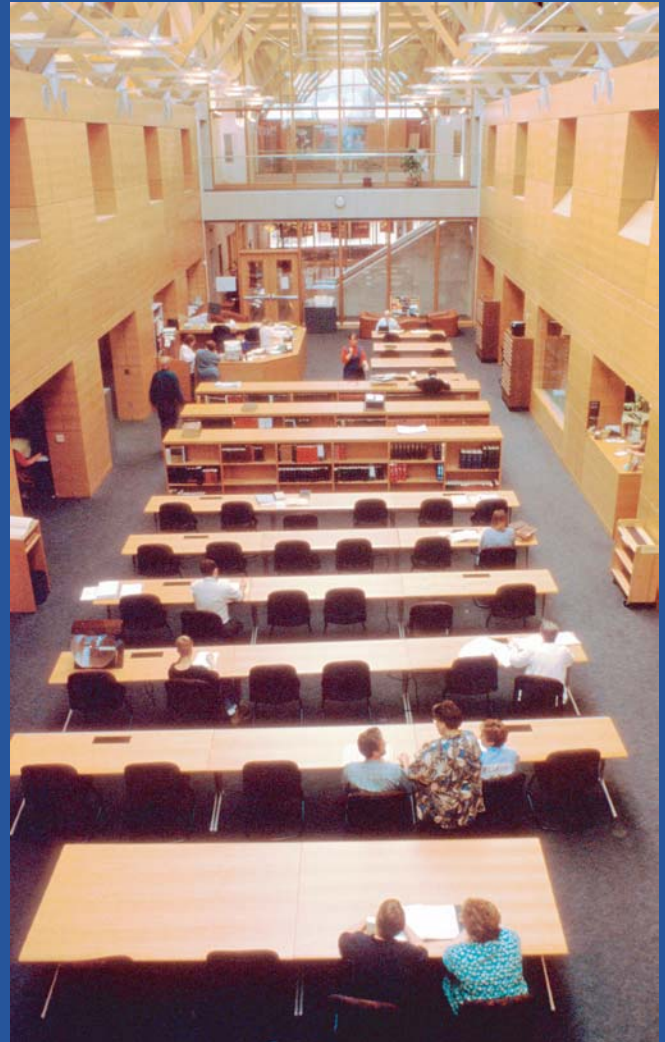


# W-2000

Lighting Control Networks



Constant  
Light  
Control

Daylight Harvesting

**DOUGLAS**  
lighting controls

# W-2000 Low Voltage Lighting Control Systems

## W-2000 Digital Lighting Control Networks and Daylight Harvesting

The relay panels are interconnected with a 2-conductor data line. Relay panels in a Douglas W-2000 Network can be standard **Douglas HID Relay Panels** or can be **Douglas Satellite Panels** installed near their loads, minimizing wiring.

The W-2000 Network is controlled by a **Douglas Network Manager**. The Network Manager is programmed and monitored via a PC (direct or remote) using a standard internet browser.

**Daylight Harvesting** utilizes existing ambient lighting to attain optimum lighting levels with less energy expenditure.

**Central Lighting Control Relay Panel**



**Douglas Satellite Panel**  
installed near loads



**Douglas Daylight Sensors**  
to data signal or to Satellite Panels



2-wire data signal

to Douglas Relay Panels

**Douglas Network Manager**



The W-2000 Network measures ambient light levels with **Douglas Daylight Sensors**, then adjusts the lighting levels accordingly by switching or dimming the lighting circuits. Various types of Douglas Sensors can connect to the data signal or be wired directly to Douglas Satellite Panels.

The Douglas Network Manager utilizes a **Constant Light Controller** to maintain the lighting circuits at optimum levels in response to the measured ambient light. Satellite Panels also have Constant Light Controllers for their local circuits.

The lighting controls can be set up to operate in a **Closed Loop System** or in an **Open Loop System** for maintaining the light levels.



In both systems, occupancy sensors or time controls can be integrated with the daylight controls to shut off the lights when the areas under control are not being occupied.

**DOUGLAS**  
lighting controls

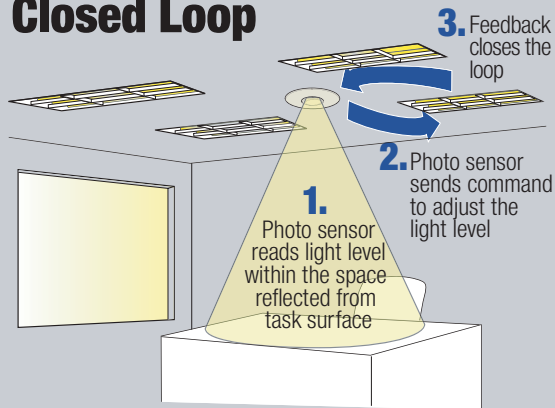
# W-2000 Low Voltage Lighting Control Systems

## Closed Loop Systems

Closed Loop Systems measure the contribution to the overall lighting level from available daylight **and** from electric light output. They then adjust the electric light output to maintain the desired level of overall illumination. Because the photo sensor measures both the available

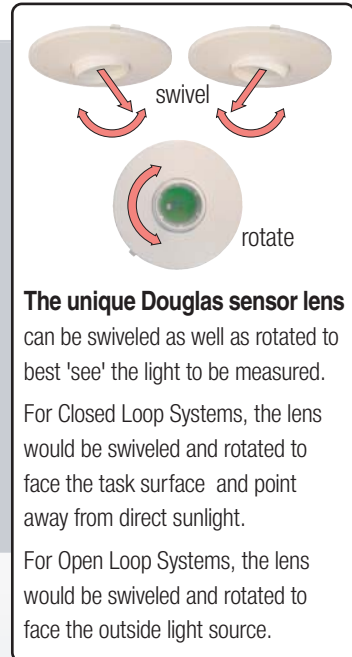
daylight contribution as well as the electric light output, it 'sees' the results of its own adjustment. The System can then make continuous changes based on contributions of both elements. This creates a **Closed Loop**.

### Closed Loop



### Closed Loop Systems

measure the light level reflected from the task surface. The System responds to occupants opening or closing blinds or other overall changing conditions, including lamp lumen depreciation.

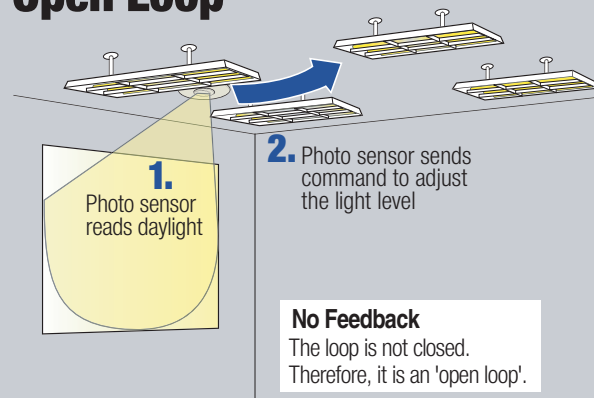


## Open Loop Systems

Open Loop Systems measure the incoming daylight, not the electric lighting. The photo sensor should be mounted either inside a skylight light well, between the blinds and glazing or outside, so that it does not see any electric light. Because there is no feedback from the task surface, this is an **Open Loop**.

With switching, the sensor signals some or all of the circuits to shut off when daylight reaches a predetermined level, effectively dimming the space. With dimming ballasts, the sensor signals the controller to proportionally adjust the lights based on the current measured daylight levels.

### Open Loop



### Open Loop Systems

can control multiple channels from a single photo sensor and are recommended for designs such as high bay applications with skylights.

The unique Douglas sensor lens can be rotated and swiveled so that its field of view is not influenced by the electric light contribution.

If an occupant closes the blinds, the electric light output won't be affected. Light levels can be adjusted using manual methods, but only if the State Energy Codes support overrides.

# Daylight Controls

Douglas photo sensors detect ambient light levels.

## INTERIOR DAYLIGHT SENSORS



- ceiling-mounted
- adjustments under snap-on cover
- can switch Douglas relays directly or signal other systems
- swivel lens
- available as:
  - WPS-5621 Direct to relay, ON/OFF switching
  - WPS-5951 W-2000 System-wide Sensor
  - WPS-5533 W-2000 Satellite Panel Sensor

## EXTERIOR SENSORS



- measure daylight levels
- weatherproof, compact design
- range: 0-10,000 fc
- available as:
  - WPS-5941 W-2000 System-wide Sensor
  - WPS-5527 W-2000 Satellite Panel Sensor

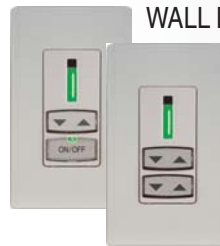
# Dimming Ballast Controls

## REGULATING DAYLIGHT SENSOR



- ceiling-mounted
- adjustments under snap-on cover
- regulates dimmable ballasts to maintain constant light level in an interior space
- swivel lens
- can control up to 50 ballasts
- available as:
  - WPS-5700 Standard 2-wire configuration

## WALL DIMMERS



- can operate up to 50 dimmable ballasts
- dimming level controls with LED indicating dimming level
- available as:
  - WPN-5821 Dimming & ON/OFF controls
  - WPN-5522 Dimming controls for 2 channels

# Constant Light Controller/Daylight Harvesting

## Switched Circuits OR Dimmed Circuits

### How it Works:

1. Daylight Sensor measures light level.



2. W-2000 Control System sends signal to adjust light level by switching or dimming lamps.

