NeoSwitch™

Wall Switch Occupancy Sensors

COOPER Controls

NeoSwitch™

NeoSwitch is the newest line of wall switch occupancy sensors from Cooper Controls.

This comprehensive line is available in both passive infrared (PIR) and dual technology (DT), single or dual relay, and with or without a neutral wire.

- 🍃 No Neutral required
- 🍃 No minimum load required
- 🍃 Dual Relay units offer 2 circuits of control
- 🍃 Integral photocell for Daylighting applications
- 🍃 1000 square feet of coverage
- 🍃 Light bulb and light/fan icon buttons ship standard with dual relay sensors
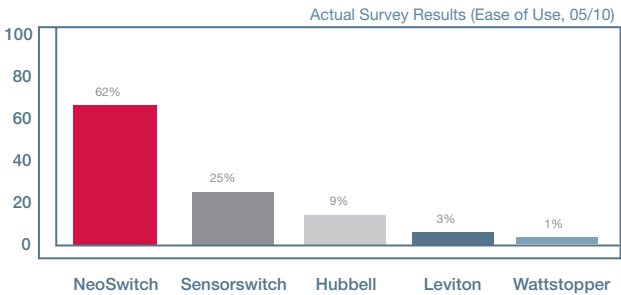
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Why NeoSwitch?

The Easiest to Use and Most Sustainable Occupancy Sensing Wall Switch Product Line Available

- 62% of Surveyed users chose NeoSwitch as the easiest to use wall switch occupancy sensor compared to 4 other leading manufacturers.

Actual Survey Results (Ease of Use, 05/10)

	NeoSwitch	Sensorswitch	Hubbell	Leviton	Wattstopper
	62%	25%	9%	3%	1%

- Up to 60% electrical energy savings typical using NeoSwitch.

- 5 - 15% additional energy savings have been shown by providing visual indication of energy usage like those provided on NeoSwitch with EcoMeter.

- 970 pounds of CO2* saved per device per year between electrical energy savings and 100% recycled packaging.

- Reduce impact on the environment with lead, mercury, and other chemical free components and assembly.   **RoHS**

* US DOE data on C02 per kWh generated from burning fossil fuel (weighted average of 1.9 lbs per kWh)

Color Matched Lens creates a better aesthetic for the space.

EcoMeter provides visual indicator of energy usage, increasing awareness allowing individuals to take control of their lighting.

Universally recognized light icon makes it easy for someone to understand how to operate.

COOPER Controls

On/Off Button Disable
Tamper-proof Automatic ON Mode that automatically turns lighting ON and OFF without requiring a user to push a button. (ONW-D-1001-MV-* only)

Tracking/HVAC Mode
Low Voltage Sensors offer Tracking/HVAC Mode that allows the load connected to the Form C BAS relay to remain on when the lights are turned OFF manually. Applications may include keeping the room at a desired temperature while giving a presentation and the lights are OFF.

Isolated Relay	
4	
Tracking ▼	
HVAC ▲	Default =

Vandal Resistant Color Matched Lens

Bathroom Mode
(Dual Relay Sensors)
When selected, Bathroom Mode keeps the second relay ON for an additional 8 minutes after the first relay has been turned OFF. Combine this with changing the pushbutton to the light/fan graphic and you now have the universally recognized and easy to use bathroom solution.

Bath	
9	
Disable ▼	
Enable ▲	Default =

Discrete Time Delay Settings
Time Delays are set using DIP Switches allowing exact, separate, and distinct timing.

res and Benefits

Relay Swap Option
(Dual Relay Sensors)

A common problem in electric wiring is wiring the wrong switch to the wrong load. This can make control of loads confusing to an end user. The Relay Swap option solves the problem by allowing the switch buttons on the face of the unit to be swapped, after the unit is wired and installed.

Relay Swap	
	10
Normal	▼
Swap	▲

Default =

Daylighting

Dual Relay Sensors shall offer daylighting footcandle adjustment control for either or both relays. Single Relay Sensors also offer daylight control (excluding night light unit).

Daylighting			
Relay 1		Relay 2	
	11		12
Disable	▼	Disable	▼
Enable	▲	Enable	▲

Default =

Walk-Through Mode

Walk-Through feature maximizes energy savings by not leaving the lights ON after a momentary occupancy. The sensor will switch the lights ON when it detects a person entering the area. If the sensor does not continue to detect motion 20 seconds following the initial activation, it will automatically go to a shorter 2 minute Time Delay.

EcoMeter

Provides a visual indicator of energy usage, increasing end user awareness and reminding individuals to take control of their lighting to maximize energy savings (available on select units).

COOPER Controls

Bi-Level Lighting Control Application

ALL LIGHTS ARE ON AND THE ECOMETER IS NOT ILLUMINATED

ECO

ON RELAY IS OFF AND THE ECOMETER IS ILLUMINATED 50%

ECO

BOTH RELAYS ARE OFF AND THE ECOMETER GLOWS 100% GREEN

ECO

5 - 15% additional energy savings have been shown by providing visual indication of energy usage like those provided on NeoSwitch with EcoMeter.

100% ON

50% ON

0% ON

COOPER Controls

Passive Infrared Relay (PIR) Technology

- Designed to detect motion from a heat-emitting source (such as a person entering a room) within its field-of-view and automatically switch lights ON and OFF.
- PIR sensors are considered line-of-sight sensors, meaning that the sensor must be able to have a direct line-of-sight to the person making the motion.

Dual Technology

- Dual Technology is the combination of PIR and Ultrasonic into one sensor and is the ultimate sensing solution available today.
- This pairing helps to eliminate false activations (both ON and OFF) thus saving additional energy use.
- Dual Technology sensors ensure the greatest sensitivity and coverage for tough applications without the threat of false triggers.

Self-Adaptive Technology

- Continuously adjusts to conditions by adjusting sensitivity and Time Delay in real-time.
- By adjusting sensitivity and Time Delay automatically, the sensor is maximizing the potential energy savings that are available.
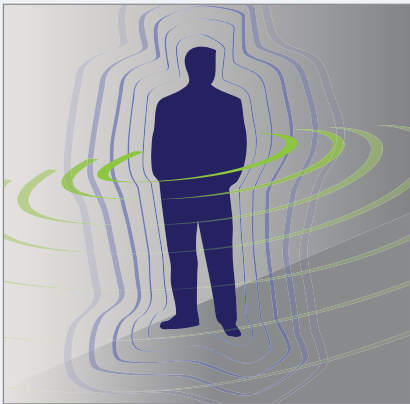
PIR Activated
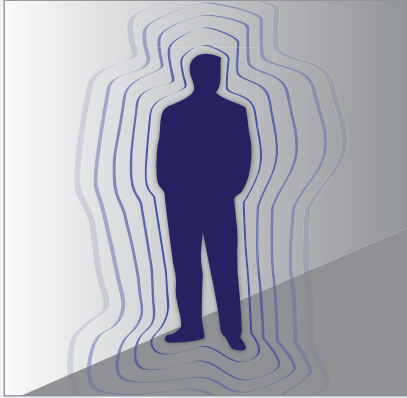
PIR Activated

UltraSonic Activated

Self Adaptive

COOPER Controls

About Energy Codes

Energy costs and consumption continue to rise in the United States. Today, many energy codes and energy policies either require or incentivize the use of energy efficient lighting controls on commercial projects.

ASHRAE 99.1-1999, 2001, 2004, 2007

In buildings over 5,000 square feet, all general lighting must be able to be automatically turned off.

- Occupancy sensors can be used through out the building, in lieu of programmable timing, to meet the Automatic-Off requirement outlined in the ASHRAE standard.

- In every building, regardless of size, ASHRAE requires that occupancy sensors be placed in classrooms, conference/meeting rooms, employee cafeterias and break rooms.

As of December 30, 2010 The Department of Energy (DOE) recognizes the ASHRAE 2004 standard as the new national minimum. States have until 2010 to ensure that their building codes meet or exceed this standard.

LEED Green Building Rating System

Both of the above ASHRAE requirements must be met by any project hoping to earn LEED certification. Lighting controls can contribute toward meeting a prerequisite and earning up to 24 percent or 24 of the 100 points available in LEED 2009.

Use occupancy sensors to earn LEED points by significantly improving the energy performance of the building.

Applicable Lighting Control Sections			
Credit Number	Credit Name	Category	Possible Points
Prerequisite 2	Minimum Energy Performance	Energy & Atmosphere (EA)	Prerequisite
Credit 1	Optimize Energy Performance	Energy & Atmosphere (EA)	1-19 Points
Credit 5	Measurement & Verification	Energy & Atmosphere (EA)	3 points
Credit 6.1	Controllability of Systems: Lighting	Indoor Environmental Quality (EQ)	1 point
Credit 8	Light Pollution Reduction	Sustainable Sites (SS)	1 point

California Title 24

Automatic shut-off occupancy sensors must be installed in the following areas to turn off the lighting when a space is unoccupied:

California Title 24 Compliant

- Offices 250 sq ft or smaller
- Multipurpose rooms of less than 1000 sq ft
- Classrooms of any size
- Conference rooms of any size

Space Control - Requires individual control devices in spaces enclosed with floor to ceiling height partitions and include individual rooms for partitioned open offices.

Light level reduction control - Requires simple switching strategies to reduce light levels by up to 50%. Bi-level occupancy sensors can also meet the requirements by offering 2 levels of control.

Programmable Timing - California, Title 24 mandates that the lighting system in any building, residential and non-residential, regardless of size, must include programmable timing.

IECC

ASHRAE and Title 24 requirements must be met.

- IECC 2003 & 2006, Occupants must be able to reduce lighting load in the space in a reasonably uniform pattern by at least 50%. Bi-Level occupancy sensors offering personal control can be used to comply with this mandatory requirement.

Commercial Building Tax Deduction

An incentive for building owners to adopt the most energy-efficient lighting control strategies with tax credit capped at 60¢ per square foot and was recently extended through December 31, 2013.
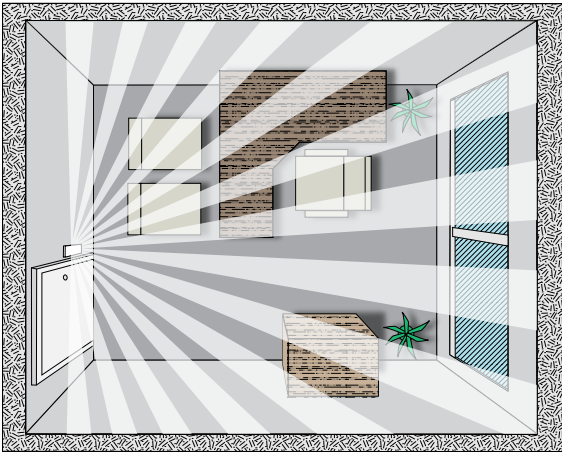
To qualify for the tax deduction, bi-level switching is required in all occupancies except hotel and motel guest rooms, restrooms, and public lobbies.

- Bi-level occupancy sensors can also meet the bi-level switching requirements outlined in the Commercial Tax Deduction. These occupancy sensors turn all of the lights in a space on to 50% when an occupant enters a room. Occupants can then manually turn the lights on to 100%, if they require maximum illumination.

COOPER Controls

Small Office (12' x 12')

Control Needs

- Turn lights ON/OFF automatically
- Manual On/Off control
- On/Off daylighting control
- Control of two separate lighting loads (bi-level switching)

PIR coverage pattern shown above.

Ceiling Sensor

In locations where creating a premium aesthetic is crucial or where furniture obstructions are a concern.

OMC-P-0450-R

- New or Retrofit construction
- Low Voltage Sensor requires coordinating SP20-MV switchpack

Wall Switch Sensors

Single Level

- New Construction or Retrofit
- Single lighting load
- Direct line-of-sight or occupant facing sensor

  Shown with screwless wallplate.
  Standard decorator wallplate included.

ONW-P-1001-MV-*

Dual Level

- New Construction or Retrofit
- Sensor has direct line-of-sight and occupant faces sensor
- Two lighting loads

  Shown with screwless wallplate.
  Standard decorator wallplate included.

ONW-P-1001-DMV-*

COOPER Controls

Executive Office (18' x 15')

Control Needs

- Turn lights ON/OFF automatically
- Manual On/Off control
- On/Off daylighting control
- Control of two separate lighting loads
  (bi-level switching)

PIR and Ultrasonic coverage patterns shown above.

Ceiling Sensor

In locations where creating a premium aesthetic is crucial or where furniture obstructions are a concern.

OMC-DT-0701-R

- New or Retrofit construction
- Low Voltage Sensor requires
  coordinating SP20-MV switchpack

Wall Switch Sensors

Single Level

- New Construction
  (for retrofit use ONW-D-1001-MV-*)
- Single lighting load
- No direct line-of-sight or
  occupant not facing sensor

  Shown with screwless wallplate.
  Standard decorator wallplate included.

ONW-D-1001-MV-N-*

Dual Level

- New construction
  (for retrofit use ONW-D-1001-DMV-*)
- Two lighting loads
- No direct line-of-sight or
  occupant not facing sensor

  Shown with screwless wallplate.
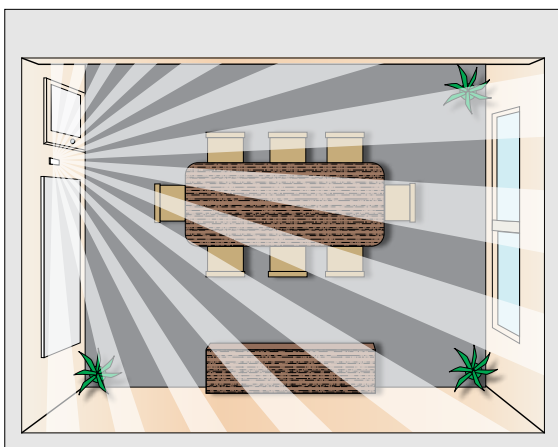 Standard decorator wallplate included.

ONW-D-1001-DMV-N-*

COOPER Controls

Small Conference Room (12' x 12')

Control Needs

- Turn lights ON/OFF automatically
- Manual On/Off control
- On/Off daylighting control
- Control of two separate lighting loads (bi-level switching)
- Keep lights OFF during a presentation

PIR coverage pattern shown above.

Ceiling Sensor

In locations where creating a premium aesthetic is crucial or where furniture obstructions are a concern.

OMC-P-0450-R

- New or Retrofit Construction
- Low Voltage Sensor requires coordinating SP20-MV switchpack

Wall Switch Sensors

Single Level

- New Construction or Retrofit
- Single lighting load
- Sensor has direct line-of-sight and occupant facing sensor

  Shown with screwless wallplate.
  Standard decorator wallplate included.

ONW-P-1001-MV-*

Dual Level

- New Construction or Retrofit
- Two lighting loads
- Sensor has direct line-of-sight and occupant facing sensor

  Shown with screwless wallplate.
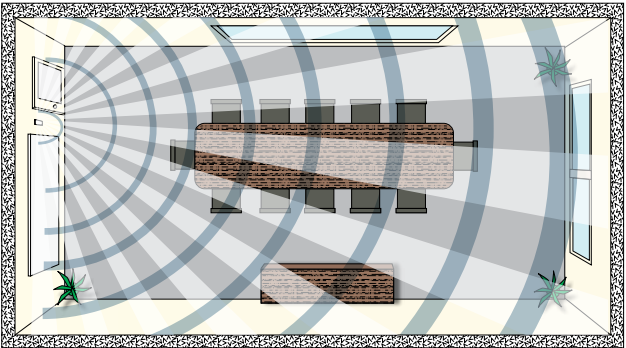 Standard decorator wallplate included.

ONW-P-1001-DMV-*

COOPER Controls

Large Conference Room (18' x 15')

Control Needs

- Turn lights ON/OFF automatically
- Manual On/Off control
- On/Off daylighting control
- Control of two separate lighting loads (bi-level switching)
- Keep lights OFF during a presentation

PIR and Ultrasonic coverage patterns shown above.

Ceiling Sensor

In locations where creating a premium aesthetic is crucial or where furniture obstructions are a concern.

OMC-DT-0701-R

- New or Retrofit Construction
- Low Voltage Sensor requires coordinating SP20-MV switchpack

Wall Switch Sensors

ONW-D-1001-MV-N-*

Single Level

- New Construction
  (For retrofit use ONW-D-1001-MV-*)
- Single lighting load
- No direct line-of-sight or occupant
  not facing sensor

  Shown with screwless wallplate.
  Standard decorator wallplate included.

ONW-D-1001-DMV-N-*

Dual Level

- New Construction
  (For retrofit use ONW-D1001-DMV-*)
- Two lighting loads
- No direct line-of-sight or occupant
  not facing sensor
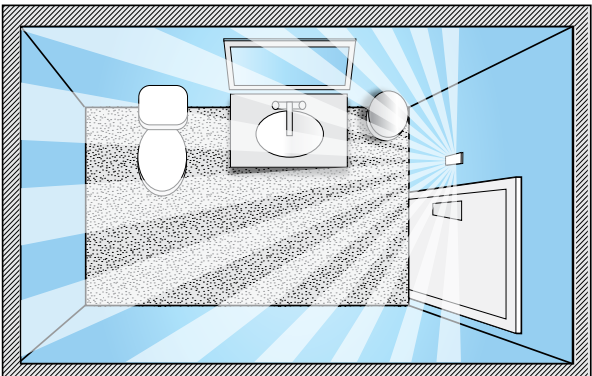
  Shown with screwless wallplate.
  Standard decorator wallplate included.

COOPER Controls

Small Restroom (No Stalls)

Control Needs

- Turn lights ON/OFF automatically
- Manual On/Off control
- Control of an exhaust fan with a
  longer Time Delay than the lighting

PIR coverage pattern shown above.

Ceiling Sensor

In locations where creating a premium aesthetic is crucial
or where furniture obstructions are a concern.

OMC-P-0450-R

- New or Retrofit Construction
- Low Voltage Sensor requires coordinating
  SP20-MV switchpack

Wall Switch Sensors

ONW-P-1001-MV-*

Single Level

- New Construction or Retrofit
- Single lighting load
- Sensor has direct line-of-site and occupant facing sensor

Shown with screwless wallplate.
Standard decorator wallplate included.

ONW-P-1001-DMV-*

Dual Level

- New or Retrofit construction
- Two lighting loads or one lighting load and one exhaust fan load
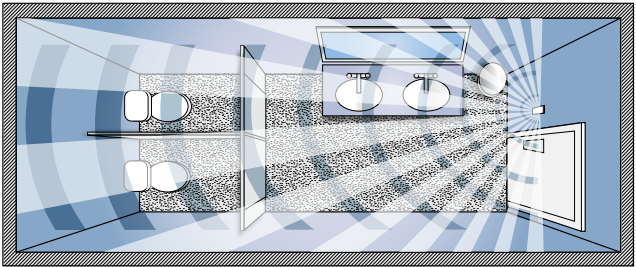- Sensor has direct line-of-site and occupant facing sensor

Shown with screwless wallplate.
Standard decorator wallplate included.

COOPER Controls

Restroom (Up To 2 Stalls)

Control Needs

- Turn lights ON/OFF automatically
- Manual On/Off control
- Control of an exhaust fan with a longer Time Delay than the lighting

PIR and Ultrasonic coverage patterns shown above.

Ceiling Sensor

In locations where creating a premium aesthetic is crucial or where furniture obstructions are a concern.

OMC-U-0501

- New Construction
- Low Voltage Sensor requires coordinating SP20-MV switchpack

Wall Switch Sensors

ONW-D-1001-MV-N-*

Single Level

- New Construction
  (for retrofit use ONW-D-1001-MV-*)
- Single lighting load
- No direct line-of-site or
  occupant not facing sensor

  Shown with screwless wallplate.
  Standard decorator wallplate included.

ONW-D-1001-DMV-N-*

Dual Level

- New Construction
  (for retrofit use ONW-D-1001-DMV-*)
- Two lighting loads or one lighting
  load and one exhaust fan load
- No direct line-of-site or
  occupant not facing sensor

  Shown with screwless wallplate.
  Standard decorator wallplate included.

COOPER Controls

Greengate

Catalog Number	Type
PIR (Passive Infrared)	
ONW-P-1001-MV-*	NeoSwitch Passive Infrared (PIR)
ONW-P-1001-DMV-*	NeoSwitch Passive Infrared (PIR)
ONW-P-1001-347-*	NeoSwitch Passive Infrared (PIR)
ONW-P-1001-D347-*	NeoSwitch Passive Infrared (PIR)
ONW-P-1001-SP-*	NeoSwitch Passive Infrared (PIR)
ONW-P-1001-RR7-*	NeoSwitch Passive Infrared (PIR)
Dual Tech (Passive Infrared & Ultrasonic)	
ONW-D-1001-MV-N-*	NeoSwitch Dual Technology (with neutral)
ONW-D-1001-MV-*	NeoSwitch Dual Technology
ONW-D-1001-DMV-N-*	NeoSwitch Dual Technology (with neutral)
ONW-D-1001-DMV-*	NeoSwitch Dual Technology
ONW-D-1001-SP-*	NeoSwitch Dual Technology
ONW-D-1001-RR7-*	NeoSwitch Dual Technology
Vacancy-PIR (Passive Infrared)	
VNLW-P-1001-MV-N-*	NeoSwitch Passive Infrared (PIR)

White - W

Ivory - V

Light Alm

Available in 5 designer co

Description	Color*
Single Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Dual Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
347V Single Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
347V Dual Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Low Voltage Occupancy Sensing Wall Switch.	*W, V, LA, G, B
RR7 Compatible Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Single Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Single Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Dual Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Dual Relay Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Low Voltage Occupancy Sensing Wall Switch.	*W, V, LA, G, B
RR7 Compatible Occupancy Sensing Wall Switch.	*W, V, LA, G, B
Single Relay Vacancy Sensing Wall Switch w/Night Light	*W, V, LA

Color Options

nond - LA

Gray - G

Black - B

lors with color matched lens.

COOPER Controls

Contactor/Timeclock vs. LiteKeeper

Contactor/Timeclock:

LiteKeeper 8*:

Increase quality & flexibility while reducing installation & long-term costs.

* The LiteKeeper family is available in 4/8/16/32 circuit configurations.

Ordering . . . . .Coordination Required

Installation . . . . .Contractor Assembly
Required Prior to
Installation

Warranty . . . . .1 Year

Technical Service . . . . .Not Provided

Inputs for Switches/Occupancy Sensors . . . . . . .Not Available

Programming . . . . .Not Available

Average Contractor Cost . . . .$750 - $1,000

Timeclock . . . . .Not Standard

Warn Offs . . . . .Not Available

Controllability . . . . .Not Available

Start-Up . . . .$50 - $75/HR

Ordering . . . . .One Model Number (LK8)

Installation . . . . .Ready to Install

Warranty . . . . .10 Year on Relays

Technical Service . . . . .Free Lifetime Service
Call 800-553-3879

Inputs for Switches/ Occupancy Sensors . . . . . .Provided

Programming . . . . .Keypad w/LCD

Average Contractor Cost $650

Timeclock . . . . .64 Time Schedules
Astronomic

Warn Offs . . . . .User Definable

Controllability . . . . .Group Circuits or
Control Individually

Start-Up . . . . .Free w/Modem or EIM

Title 24 and ASHRAE 90.1 require automatic shut-off in most commercial applications. The LiteKeeper relay panel from Greengate is more flexible and typically cost less than the contactor/timeclock approach.

COOPER Controls

Quick Reference Guide

Applications

Wall Switch Sensors

Private Office (Small Size)

Private Office w/ Bi-Level Control (Small Size)

Executive Office

Executive Office w/ Bi-Level Control

Restroom w/ up to 2 Stalls (Small Size)

Restroom w/ up to 2 stalls w/ Bi-Level Control

Conference Room (Small to Medium size)

Closet/Storage Room (Small Size)

Ceiling Sensors (coordinating SP20-MV switchpack required)

Private Office (Small to Medium Size)

Executive Office

Restroom (Small Size)

Conference Room

Open Office

Corridors

Classroom

Wall/Corner Sensors (coordinating SP20-MV switchpack required)

Private Office (Small to Medium Size)

Executive Office

Conference Room

Corridors

Highbay Sensors

Warehouse

Warehouse w/ Daylighting

Relay Panel with Timeclock, 4 Single Pole Relays

Relay Panel with Timeclock, 8 Single Pole Relays

Better	Best
OSW-P-0451-MV-*	ONW-P-1001-MV-*
OSW-P-0451-DMV-*	ONW-P-1001-DMV-*
	ONW-D-1001-MV-*
	ONW-D-1001-DMV-*
OSW-P-0451-MV-*	ONW-D-1001-MV-*
ONW-P-1001-DMV-*	ONW-D-1001-DMV-*
OSW-P-0451-MV-*	ONW-D-1001-MV-*
	OSW-P-0451-MV-*
OMC-P-0450-R	OMC-U-0501-R
OMC-U-0501-R	OMC-DT-0701-R
	OMC-U-0501-R
OMC-U-0501-R	OMC-DT-0701-R
	OMC-U-2000-R
	ODC-U-0100-H and/or ODC-U-0051-H
OMC-U-2000-R	OMC-DT-2000-R
OAWC-P-120W-R	OAWC-DT-120W-R
	OAWC-DT-120W-R
OAWC-P-120W-R	OAWC-DT-120W-R
	OAWC-P-120W-R and/or OAWC-P-009L-H-R
OEF-P-2MHO-MV-S	LiteKeeper/Control Keeper Panels
OEF-P-2MHO-MV-S	LiteKeeper/Control Keeper Panels with Daylighting Sensors
	LiteKeeper LK4 NO
	LiteKeeper LK8 NO

COOPER Controls

Using this paper versus standard paper
produced the following environmental benefits.

25% PCRF

Based on Environmental Defense Fund Paper Calculator	
Number of Trees Saved	7
Total Energy Saved—Million BTU's	4.6
Greenhouse Gas Reduction—lbs of CO_2	745
Gallons of Water Saved	2441
Solid Waste Reduction— lbs of Waste	404
Kilo-watt (kwh) Hours Saved	1258

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