Classroom

Digital Lighting Controls

LIGHTING CONTROLS

integrated solutions

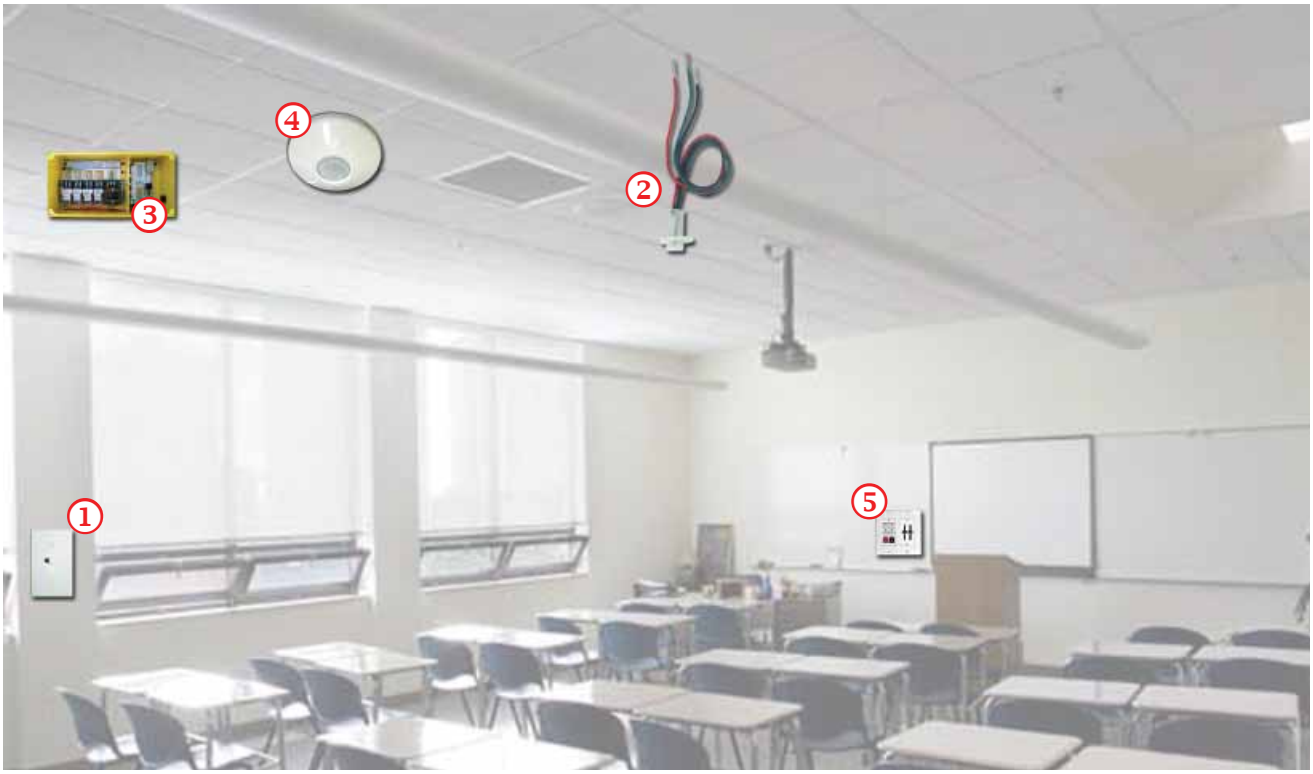
Digital Classroom Lighting Controls

The squeeze is on for schools. Budgets have been slashed. Energy prices have gone through the roof. Most schools spend more money on energy than on books and supplies. In fact, the cost of energy is second only to salaries.

High-efficiency lighting and digital controls will reduce electric lighting consumption by 85% and, when combined with proper daylighting, can increase student performance over 20%.

The Classroom Digital Control package from LC&D represents years of testing and fine-tuning in classrooms throughout the country and now offers the very best in energy savings and flexibility - flexibility for the teacher and for the energy manager.

Classroom Digital Controls from LC&D can control lighting or ballasts from many different manufacturers.



① **Entry Station**
② **Digital Photosensor**
③ ***Micro*Panel**
④ **Digital Occupant Sensor**
⑤ **Digital Control Station**

This complete package will allow you to comply to almost any zone lighting requirements your plans call for.

LCDISCLASS10307

Classroom Digital Controls

Controls for every classroom or lab

Occupants (teachers, students) are presented with an intuitive wall-mounted switch for manual control at room entry. Teachers are also provided with a teacher's control station to override automatic control levels.

Behind the scenes, automatic functions such as day-light harvesting and time-based shut-off can be quickly adjusted to meet changing requirements in seconds. The software is so simple to use that LC&D offers free lifetime programming.

Teacher Control Station
The teacher may override automatic controls (on or off) and can turn lights off for quiet-time or presentations.

***Micro*Panel**
Links wall stations, occupant and photo sensors seamlessly and controls the electric lighting. Available with dimming or switching.

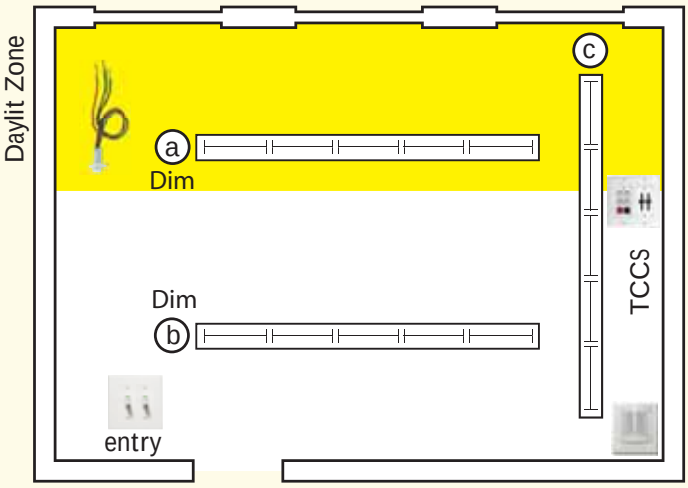
Entry Switch
Lights are turned on to the levels allowed by the photosensor. Rooms can be zoned by rows or as “a & b” switching.

Digital Photosensor
With the click of a mouse, photocell trip points can be changed, ending costly work orders and building engineer visits.

Occupant Sensor
Ceiling or wall mount sensors are locally and remotely adjustable. Sensors are programmed to turn lights off only.

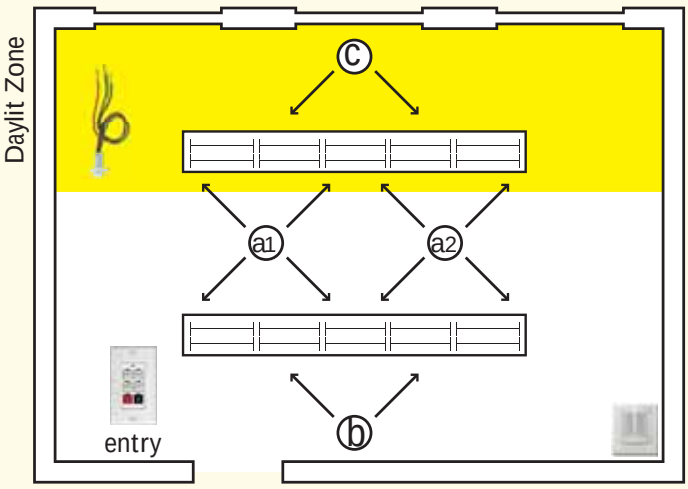
Three Zone Control

(direct/indirect, 2-dim, 1-switch, T5 HO Dim)



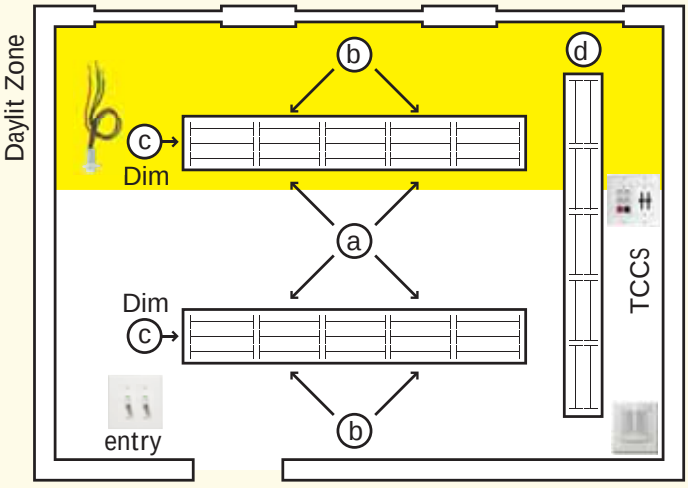
Four Zone Control

(direct/indirect, 4-switched circuits)



Four Zone Control

(direct/indirect, center lamps dim, 3-switched circuits)



Three Zone Control

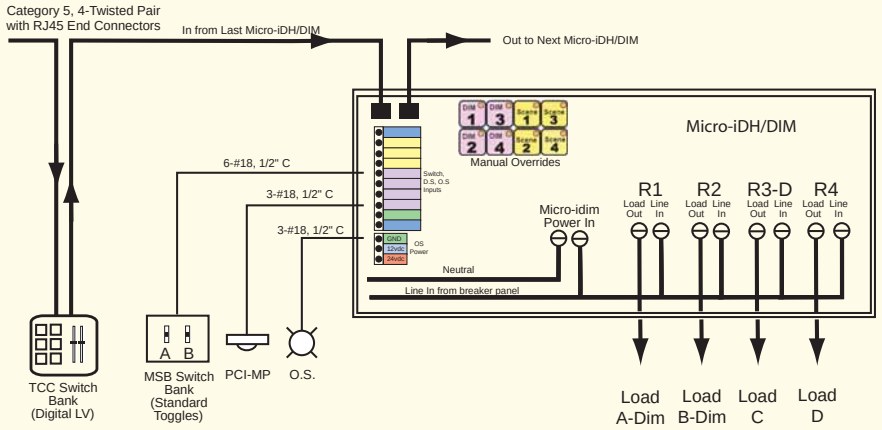
The *Micro*Panel switches the “a” and “b” legs and dims the “c” leg. Entry Station controls one row per switch. Teacher Control Station overrides all automatic controls to turn lights full on or off.

Four Zone Control

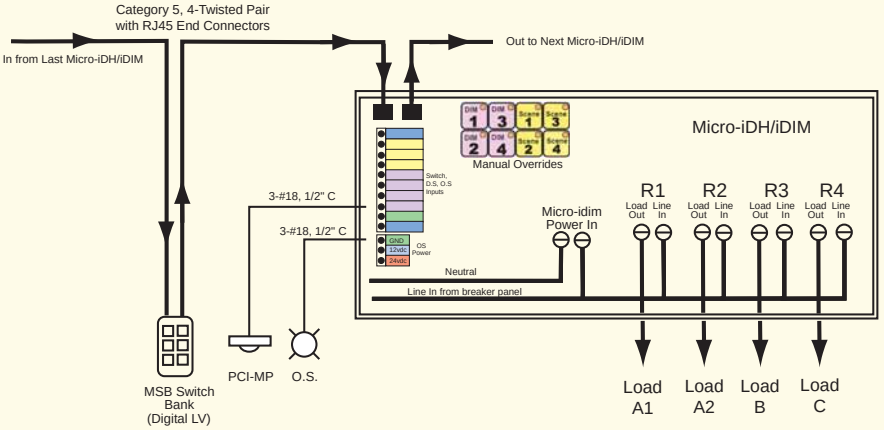
Switch 50% of the luminaires in the front and the back of the classroom. Separately control 50% of the luminaires in the daylit zone (switch or dim).

Four Zone Control

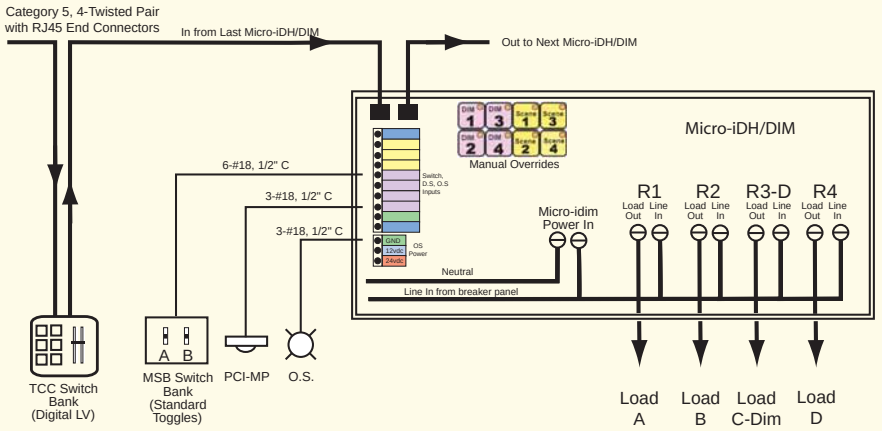
Dim 50% of the lamps in response to daylight and switch the remaining 50%. Lights nearest the white board can be separately controlled from the Teacher Control Station.



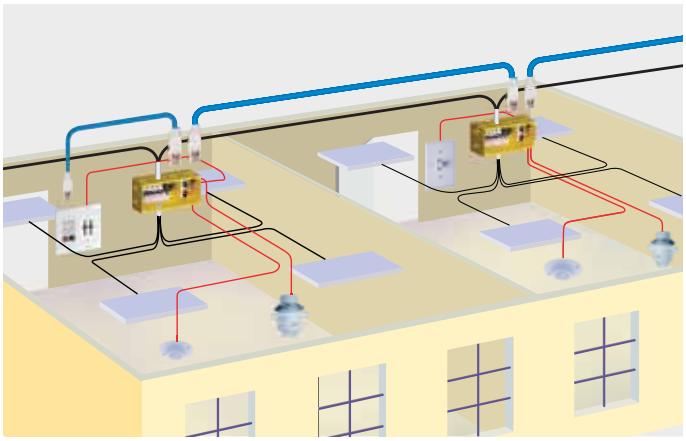
The GR2404-*Micro*Panel provides 100% digital lighting control for any daylight harvesting application. Whether switching, dimming or controlling state-of-the-art hardware, the GR2404 is the answer. All system settings including daylight harvesting settings are remotely accessible and can be changed by LC&D at no cost for the life of the system. Typical GR2404 daylight harvesting settings:



- Photocell: Digital 10-bit photocell, update 1/sec, scaled 1 to 1024 FC
- Start Point: Point in FC at which iDIM begins to reduce light output
- Mid Point: Point in FC at which iDIM outputs 5v (50%) to light fixtures
- Off Point: Point in FC at which iDIM outputs 0v (All Off) to light fixtures and turns lighting circuits Off
- Fade Up Time: Time to "Raise" lights from 0v to 10v, rate of change constant
- Fade Down Time: Time to "Dim" lights from 10v to 0v, rate of change constant
- Time Out From Off: Time photocell must be below "Off Point" before lights "Fade Up"
- Must Turn On: Point in FC at which iDIM must begin to fade-up lights, overriding "Time Out From Off" while maintaining "Fade Up Time." Lights will not "bang" on to 50% or more



Building-Wide Solution

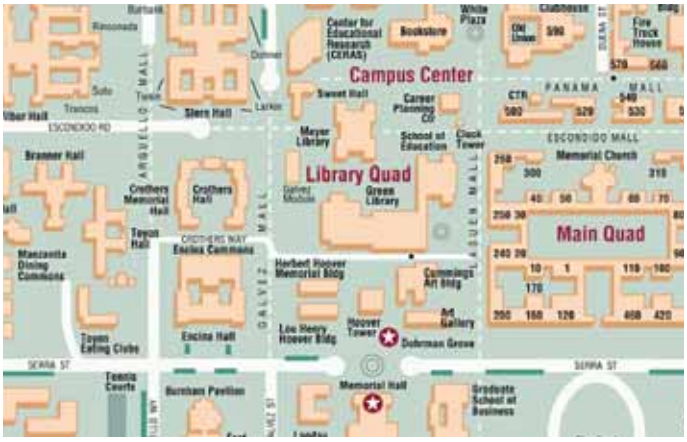


The ideal lighting control system for a campus standard should be capable of managing both classrooms and the rest of the building in a single package, and LC&D offers the most practical solution.

We simplify the concept of building-wide controls by combining traditional "centralized" relay panels with our distributed controls. One digital system, one platform, and one comprehensive software package to monitor, program and control it all. Programming, monitoring, adjustments and real-time control can be accomplished with or without a PC computer.

From simple to very sophisticated - we offer a wide range of products to cover any scenario. LC&D offers a number of interfaces to many building automation systems.

Campus-Wide Solution



Our lighting controls will simplify the way you manage your lighting controls and are ideal as a campus standard. Instead of programming on-site or making adjustments with a screw-driver on top of a ladder, you can program or monitor your lighting controls right from your desk, eliminating time consuming (and costly) work orders.

Control and program any aspect of your lighting controls, for a single building, a campus or even an entire district. LC&D offers a number of hardware and software options for any application. We can even link your new buildings with existing ones to create a comprehensive campus-wide or even district-wide system.

Support - Web-Based or People-Based

Log onto our web site and try some of our design tools, such as the Single Line Drawing generator or Unity Software. You can also download typical drawings at our schools and classrooms section at http://www.lighting-controls.com/campus/classroom.asp.

Or call us at 800-345-4448. Our Engineering Assistance Department can suggest control strategies and the most effective method to implement them. They can generate typical single line drawings or actual drawings in Auto-CAD format to almost any level of detail for your plans. For a free energy analysis of your building to determine the best approach for lighting controls, feel free to contact us.

Lighting Control & Design, Inc. CA
www.lightingcontrols.com (800) 345-4448

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