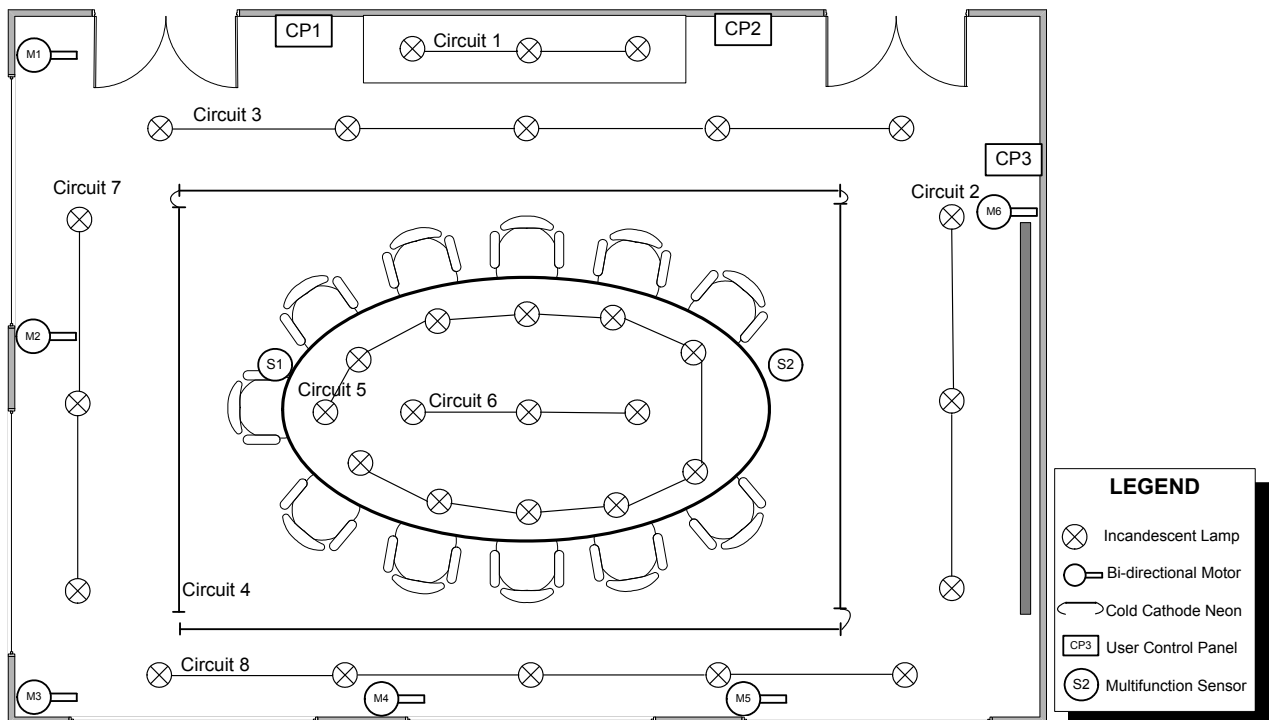


This application guide contains information on:

- Control of workspace and decorative lighting
- Control of a data projector via RS232
- Control of audio-visual equipment via infrared (IR)
- Control of a projection screen
- Control of window curtains
- Infrared (IR) remote control
- Integration with a room booking calendar via the office Ethernet LAN

The boardroom is often the centrepiece of a workplace, communicating an overall image of the company. During corporate presentations, precisely co-ordinated control of lighting, audio-visual systems and other devices, such as motorised blinds and curtains, is vital. Boardrooms and meeting rooms are often used for corporate hospitality, so it is desirable for a control system to accommodate entertaining.

typical layout



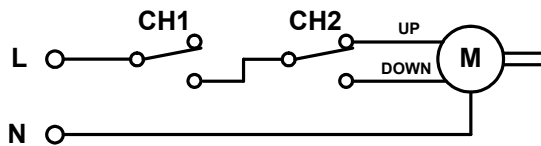
system outline

The boardroom includes a cabinet that houses audio-visual equipment. A ceiling-mounted data projector casts images on to a motorised screen, which is retracted when not in use to provide access to a whiteboard.

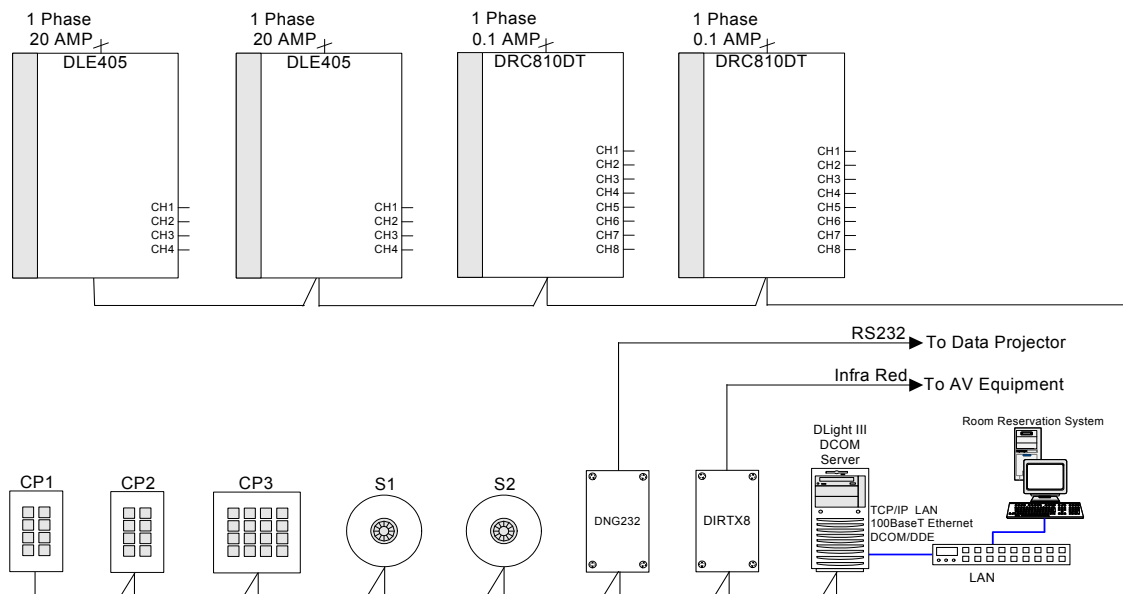
Lighting over the audio-visual cabinet (circuit 1) and the boardroom table (circuits 5 & 6) comprises narrow beam low voltage downlights, which enables precise illumination over work areas. Downlights (circuits 2 & 3) are also used for general room lighting (circuits 2 & 3) and cold cathode neon, concealed in a ceiling coffer, provides perimeter lighting around the table (circuit 4). Separate control of circuit 2 allows fittings near the screen to be dimmed when the projector is being used.

Control panels are located adjacent to the entry doors (CP1 & CP2) and to the left of the whiteboard (CP3). An infrared remote provides control for those seated at the boardroom table. Ceiling mounted sensors (S1 & S2) pick up signals from the IR remote.

Each of the five windows is fitted with motorised curtain track to reduce natural light levels during projector operation. Two control channels are used per curtain; one for direction of travel and the other for motion. This enables partial closure of the curtains and de-energises the motors at the end of travel so that motor limit switches are not relied upon constantly. The figure below illustrates the motor control circuit.



the equipment



the system in operation

Control Panels

CP1 and CP2 are located next to the entry doors and provide control over lighting and curtains. CP3 is located to the left of the whiteboard and has the same functionality as CP1 and CP2, with an additional eight buttons for controlling the audio-visual system. Meeting members seated at the table use an IR remote for control of lighting and other devices, as does the standing presenter.

Sensors

Dynalite DUS703 360° universal sensors incorporate motion detect, infrared receiver and PE cell capability (in this application the PE function would not be used). The motion detect function is used to turn lighting off after a predetermined period of no activity, ensuring that lights are not left on unnecessarily and to notify the building management system (BMS) that the room is no longer occupied. The IR receive function is used to recall preset scenes by a roving presenter with the hand-held remote.

Gateways to Other Systems

AV equipment

Many popular AV system vendors have developed software integration tools that enable direct network integration to the Dynalite system. Connection to the DyNet network is generally achieved using a DTK622 PC node connected to an RS232 port on the AV system. This support enables control objects within the AV system, such as buttons and sliders, to be configured so they directly control and monitor functions within the Dynalite system.

Where direct control of AV equipment is required from the Dynalite system, integration to audio-visual equipment can be implemented using a DIRTX8 Infrared Transmitter. This is a convenient and cost effective method of integration, as most commercial and domestic AV products are supplied with an IR port. The DIRTX8 has eight outputs, more than meeting the requirements of a typical application. It is capable of replaying 'macros' of IR commands with appropriate delays and conditional logic in between each step of the macro. In addition to the supplied library of IR commands, the DIRTX8 has an inbuilt learner to record IR commands.

data projector

Control of the data projector is implemented using a DNG232 Network Gateway configured to ASCII mode. This allows bi-directional communication with the projector using text, via an RS232 port. Other methods of interfacing include using a DIRTX8 infrared transmitter for projectors that are IR enabled.

LAN services – DLight III Server provides a DCOM® integration platform that enables connectivity over TCP/IP across an office or commercial LAN. With this approach the Dynalite system can be readily controlled from any PC installed on the LAN, using intranet web pages, or a range of software utilities available from Dynalite. It also enables popular applications from Microsoft® and many other software vendors to directly control the

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 system. An example may involve a reservation system within Microsoft Outlook® or Lotus Notes® that sets a boardroom into an appropriate mode prior to a scheduled meeting.

Load Controllers

Two DLE405 4 x 5A dimmers provide eight channels of leading edge dimming for downlights and cold cathode neon. Control of curtain motors and the projection screen is achieved using two DRC810DT 8 x 10A relay controllers. The DRC810DT employs dry contact changeover outputs, which are particularly suitable for control of curtain motors.

Load Schedule

Load Controller	Cct Capacity	Drawing Designator	Fixture	Qty	Load
DLE405 Box 1 C1	1200W	Circuit 1	LV Downlight 50W	3	150W
DLE405 Box 1 C2	1200W	Circuit 2	Downlight 100W	3	300W
DLE405 Box 1 C3	1200W	Circuit 3	Downlight 100W	5	500W
DLE405 Box 1 C4	1200W	Circuit 4	Cold Cathode Neon	1	600W
DLE405 Box 2 C1	1200W	Circuit 5	LV Downlight 50W	11	550W
DLE405 Box 2 C2	1200W	Circuit 6	LV Downlight 50W	3	150W
DLE405 Box 2 C3	1200W	Circuit 7	Downlight 100W	3	300W
DLE405 Box 2 C4	1200W	Circuit 8	Downlight 100W	5	500W
DRC810DT Box 3 C1	2400W	M1	M1 curtain movement	1	25W
DRC810DT Box 3 C2	2400W	M1	M1 curtain direction		
DRC810DT Box 3 C3	2400W	M2	M2 curtain movement	1	25W
DRC810DT Box 3 C4	2400W	M2	M2 curtain direction		
DRC810DT Box 3 C5	2400W	M3	M3 curtain movement	1	25W
DRC810DT Box 3 C6	2400W	M3	M3 curtain direction		
DRC810DT Box 3 C7	2400W	M4	M4 curtain movement	1	25W
DRC810DT Box 3 C8	2400W	M4	M4 curtain direction		
DRC810DT Box 4 C1	2400W	M5	M5 curtain movement	1	25W
DRC810DT Box 4 C2	2400W	M5	M5 curtain direction		
DRC810DT Box 4 C3	2400W	M6	M6 curtain movement	1	25W
DRC810DT Box 4 C4	2400W	M6	M6 curtain direction		
DRC810DT Box 4 C5	2400W	Spare			
DRC810DT Box 4 C6	2400W	Spare			
DRC810DT Box 4 C7	2400W	Spare			
DRC810DT Box 4 C8	2400W	Spare			