

11.1 GENERAL AND EMERGENCY LIGHTING

A low energy, artificial lighting system is provided throughout the Building served from local distribution boards. The circuits are protected by miniature circuit breakers (MCB's) mounted within the distribution boards, as detailed on the circuit charts included within Section Ten of this Manual.

A 'Spectrum' Lighting Management System has been provided to automatically control and monitor the lighting installation at Third Floor Level. The lighting control system incorporates intelligent control management, with PIR detection, daylight sensing and various manual override switching stations. The system has been programmed to accommodate notional corridor control and detection together with dimming lighting control to all areas where daylight levels are sufficient to provide significant proportion of the required illuminance levels. Manual override is also provided with scene setting facilities. The system can be readily programmed to provide pre-set lighting control modes and scene setting.

The system is set to operate when a person enters the floor from the lift or one of two staircases. This activates a presence detector, and lights in the immediate corridor will come on; these lights will remain illuminated for a period of ten minutes after the last presence is detected. This timeout period is adjustable via the Central PC Manager System.

Entrance to other corridors will trigger the presence detectors and will bring on those lights, but also hold on the lights where the entrance was made (either the stairs or lifts).

Each room has an override switch and a detector; the lights will illuminate by activation of the switch and will turn off by either the switch or by presence detector if no movement is detected for ten minutes.

Where daylight penetrates a room or area the sensor will utilise an inbuilt photocell to maintain a set light level by dimming the lights where sufficient natural light is present. This is set up to make sure the lights do not dim up and down too quickly but occur at a rate that will not be noticed. Provision is also made to manually dim the lights by using a 'press and hold' switch.

Emergency lights can be tested manually by the use of the two key switches on this floor (one for each half), but can also be tested automatically via the Central PC Manager System.

Luminaires located adjacent to windows are automatically controlled, dimmed and switched via daylight sensors.

Luminaires within toilets, stairs and corridor routes are controlled via passive infrared detectors.

The Lighting Management System incorporates the following components:

- Area Controllers
- Lighting Control Modules, Pluggable and Hard Wired
- Combined Sensors and Presence Detectors
- Local Override Devices including Wall Switches

The system can be set up and commissioned either by the use of a portable laptop computer (with suitable software installed) connected directly to each Lighting Control Module or system wide from the dedicated ALT1072-1 Central PC Manager System. The following functions can be set-up:

- Independent control over every luminaire
- Dimming or switching of luminaires
- Time Control
- Presence Detection (with corridor hold and background lighting)
- Daylight Control
- Infra-red Control
- Alarm Overrides
- Load Shedding
- Control of analogue, DSI or DALI ballasts
- Monitor hours run

The luminaires comprise a variety of surface and flush mounted fittings. The luminaire types are detailed within a schedule included within Section Four of this Manual.

The emergency luminaires are provided with emergency packs, including inverter/charger units, maintenance free nickel cadmium battery packs and LED "On Charge" indicator lamps.

The emergency lamps are illuminated by the integral battery via the inverter for a minimum duration of three hours in the event of mains failure to an emergency luminaire. The batteries automatically re-charge on restoration of the circuit electrical supply.

The emergency lighting system has been installed to assist with evacuation should the mains power or normal lighting systems fail. The system complies with BS EN 1838.

The routine testing of emergency luminaires is arranged to be carried out automatically by the ALT1072-1 Central PC Manager System or it can be carried out manually from the two key switches provided for this purpose. Manual checks are however required to ensure the lighting control system continues to be set up and operating correctly and to also check the logs produced by the system and to arrange for any faults notified to be corrected.