Protection
Cabling, changeover relays and luminaires should be resistant to interference from transient over-voltages caused by supply surges and by switching (changeover). Protection should be provided which ensures safe operation of the emergency lighting under transient conditions, as well as protecting the equipment itself from damage.

Surge-protection devices should be self-resetting and not render the emergency lighting inoperative.

Interactions
Where a building management system (BMS) is employed, it is essential that any failure of this does not adversely affect the emergency lighting, for example by incorrectly switching maintained luminaires. A BMS failure should not be seen by the emergency lighting system hold-off relays as a general lighting power supply failure.

Lighting controls may be in use on circuits that include emergency lights. The permanent line feed to hold-off relays should be taken from a point that is independent of the control-system power supply. Where dimming systems are linked to fire alarms (e.g. in restaurants and night clubs), note that lighting provided by the dimming system under alarm conditions is additional to and separate from the emergency lighting.

Special circuits
In addition to these general considerations, there are some special circuits required for maintenance work or testing. For details, see SLL Lighting Guide 12: *Emergency lighting design guide.*

8.4.3 Luminaires

There are two basic types of emergency lighting luminaires: self-contained and slave. These should both conform to BS EN 60598-2-22.

Self contained luminaires
Self-contained emergency luminaires contain a battery to provide power and may be of three types: maintained, non-maintained or combined. A maintained luminaire is one in which all the emergency lighting lamps are operating when the normal lighting is on and when there is a failure of the mains electricity supply. A non-maintained luminaire is one in which all the emergency lighting lamps are in operation only when the electricity supply to the normal lighting fails. A combined (or sustained) luminaire is one containing at least two lamps, one of which is energised from the normal lighting supply and the other from the emergency lighting supply.

Self-contained luminaires may be dedicated or may be converted from normal luminaires by adding an emergency conversion unit. If the work is not carried out by the original equipment manufacturer, the person who does it must have relevant training and experience. More detailed guidance can be found in ICEL Publication 1004. The product must be retested for compliance with CE-mark requirements and conform to BS EN 60598-2-22.

Slave luminaires
Slave luminaires are normal luminaires that have mains-voltage operating components or have components intended only for emergency use, and have a power feed from a central emergency power source. Special care must be taken over the loop-in and loop-out of supply wiring using joint glands so that fire will not damage the feed cables in the luminaire.