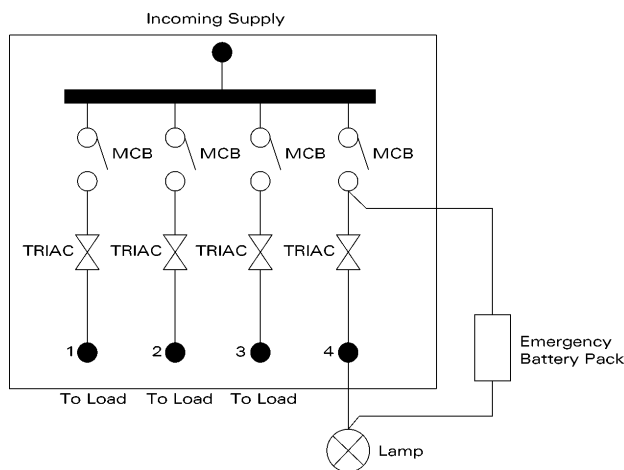


## Emergency Lighting and Dimmers

In most applications where architectural lighting controls are to be employed, there is a requirement for emergency lighting. Whilst it is possible to run the emergency lighting independently of the dimming or control system, this suffers from the problem that some lights will always be on at full. This is most distracting in such spaces as Auditoria and rooms where video projection is being used. In this section we detail three methods of emergency lighting systems integrated with an iCAN™ architectural lighting control system.

Figure 1



### Emergency Battery Pack

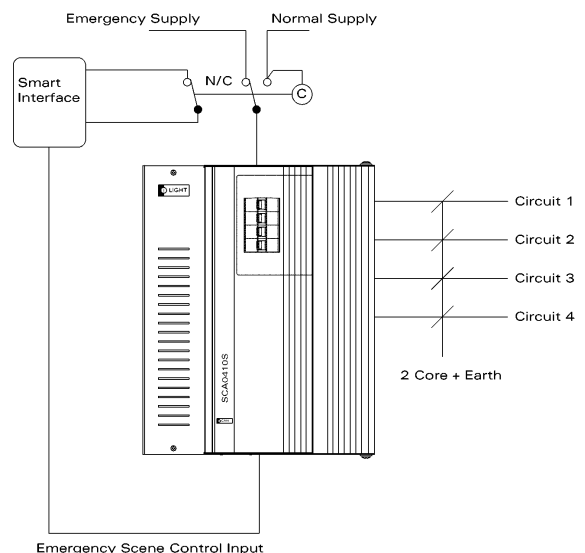
This is the most common form of emergency lighting. It can be used with any iLight™ source controller fitted with MCB's. *Figure 1* is a schematic diagram of a typical arrangement for a simple four circuit dimmer, being used in, say, a training room. There is a common incoming supply to each of the four dimmer channels. For each channel this is connected to an MCB, which in turn supplies the power control device (twin FETS in an Adaptive Source Controller). The load is then connected to the output of the device.

In this example, the emergency battery pack is connected to channel four of the source controller via the load side of the MCB. In normal operation, the battery pack receives a 240 volt non dimmed supply, which provides a trickle charge to the battery, and at the same time this voltage indicates to the emergency unit that the supply is thus present to the source controller. The dimmer is thus able to control the lamp to any intensity, without

impairing the performance of the emergency battery pack. If the MCB trips, or the supply fails to the dimmer, the voltage into the emergency battery pack is lost and this is the signal for the inverter and emergency supply to be turned on. This then brings on the lamp(s) at the designated emergency output for the statutory period of one or two hours. In the event of the normal supply being restored and/or the MCB being reset, the source controller will return to the output it was at before the power failure and the emergency battery pack automatically switches off its output and recommences the charging cycle.

If it is intended to use this method of emergency lighting with 0 to 10 volt HF Ballasts, great care must be exercised to ensure that the ballasts will force the lamps to full output, when the battery inverter supplies the ballasts with 240V feed but no 10 volt control signal. The iCAN™ series of source controllers from iLight™ may be fitted with a relay to force the output of HF Ballast to full when in emergency mode. Please contact the iLight™ help desk for further details.

Figure 2



### Central Emergency Generator

In this application the building is served by an emergency stand-by generator. This is typical for five star hotels and for Bank and Insurance HQ buildings. *Figure 2*, details such an arrangement. In this approach, the source controller supply is routed via a power contactor, with an auxiliary contact. With the normal mains supply to the contactor coil on, the contactor closes and routes

# Emergency Lighting and Dimmers

the supply to the dimmer. If the normal supply fails, then the contactor reverts to the normally closed position and the feed from the generator is connected to the source controller. Note that in most cases the generator is not capable of carrying the total load for all of the lighting in the building. For this reason it is important to “force” a preset scene on the dimmers that loads the generator to, say, 25% of the lighting load. iLight™ supply a configurable interface device which will send a master scene command to the source controller when it is being fed from the generator. Whilst this signal is present, no other scene can be selected from a control panel.

## Central Battery/Inverter Supply

In this approach, one or more circuits are connected to the emergency supply via a normally closed set of contacts on a contactor (see figure 3). Under normal supply conditions, the line to circuit 1 is fed via channel 1 on the source controller. If the normal supply to the dimmer fails, contacts change over

and the emergency feed is connected to the load (circuit 1) thus ensuring that the electrical supply is isolated from the unit and that there can be no feed back to the dimmer channel.

Figure 3

