



## ICEL Technical Statement No.2

### High Frequency Ballasts and their use with Emergency Conversion Modules in Self-Contained Maintained Emergency Luminaires

High frequency electronic fluorescent control gears (H.F. Ballasts) are now in widespread use. They are frequently used in integral maintained emergency luminaires where a battery operated emergency conversion module operates a lamp during power failure.

It is essential that the electronic ballast and emergency conversion module, used, are fully compatible and do not damage each other. Unfortunately, there are currently no standards ensuring electrical compatibility.

The current pace of electronic ballast development means that designs are evolving constantly and some of these changes may affect compatibility between H.F. ballasts and emergency conversion modules.

Ultimately, it is always the responsibility of the system integrator (usually the person converting the luminaire) to ensure the system is fully compatible.

To minimise the possibility of problems arising following installation it is essential that the following steps be taken:

1. Carry out specific compatibility tests to the satisfaction of the manufacturer of the ballasts and/or the manufacturer of the emergency conversion modules

**If this facility is not available, the following solution is possible:**

2. Choose circuit arrangements that ensure lamp isolation in emergency operation and suitable time delay for reconnection to the mains.

This may be achieved by the use of a 4 pole changeover device, with all 4 poles being used to isolate the lamp. The normal mains supply to the H.F. ballast, should be removed prior to the disconnection of the emergency lamp and its subsequent connection to the emergency inverter. Similarly, the lamp should be reconnected for operation by the H.F. ballast after the emergency duration/test but prior to the reconnection of the mains supply to the H.F. ballast. This is achieved using a suitable time delay circuit and or ordering emergency lighting luminaires and lamps to ensure full compatibility.

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