

Technical Bulletin

Using a Control Panel to Switch Inductive Loads for Plant Control

TB 1021

A standard feature of a fire control panel is the ability to control building plant in the event of a fire (and some cases, fault) condition.

Typical applications include the control of;

- Electromagnetic door retainers / door closers
- Lift control panels, to recall lifts.
- Escalator control
- Air conditioning plant shutdown - to reduce airflow and fresh air supplies
- Start stair pressurisation fans
- Start extract fans
- Control smoke extract and supply dampers
- Provide signals to remote monitoring equipment.
- To interrupt audio broadcast systems so that evacuation signal is audible (nightclubs).

Such a facility is fully supported by fire control panels manufactured by Kentec Electronics Ltd, with the exception of the single zone Sigma economy panel.

The Kentec control panel ranges are supplied with at least a common fire (remote signal) change over relay and common fault change over relay as standard. These relay contacts are rated at 30 volts, 1A current switching as a maximum.

In some cases, it is necessary to switch higher voltage signals (240 volts a.c.) or currents that exceed 1 Amp. In such situations, the panel change over relay may be used to switch an external 240 volt / high current rating relay. To do this, the panel must supply a switched 24-volt output to the relay. This also applies when the panel is used to supply and control low voltage electromagnetic door holders.

The source of the 24 volts switched supply is normally derived from the control panel "Aux 24 volts" output terminal, or directly from the panel power supply unit, switched via the appropriate relay contact.

When switching an inductive load, such as a remote relay or electromagnetic door holder, it is essential that the load be adequately suppressed. This is performed by connecting a diode (1N4004 or similar) in parallel with the inductive load, as shown in the diagrams below.

Failure to do so will result in an induced voltage spike being fed back into the panel power supply, which may adversely affect the panel operation and could result in damage to the panel circuits.

For detailed connection diagrams, refer to the appropriate product manual.

