

Installation and integration of Windcrest AVCOM Reading University AD1000EN-4R-REGU on new and modernised passenger/ passenger goods lifts

Guidance notes

Background

The auto dialler in any lift installation is classed as “Life Safety” equipment by the University of Reading. Therefore, it must be correctly installed to a high standard and have adequate ability to allow constant, reliable and uninterrupted communications with the security control room and the persons in the lift. Historically this element of the lift installation has been carried out by subcontractors to the main lift contractors as an addition to the main functions of the lift systems. Often the standard of installation has been found not to be of sufficient quality to meet the requirements of a life safety system.

- **Installation methods**

Installations of Windcrest AVCOM Reading University auto diallers must be carried out to a good standard and the adoption of high-quality robust industry standard installation methods must be employed.

- **Cables**

Signal, data and 240v mains must be suitably segregated to prevent cross talk, interference and noise. They should be contained in steel trunking, conduit or directly clipped to tray with fire rated metal clips. The cables must not be left unsupported or clipped to adjacent structures and or cables or conduits. All cables to be contained or mounted on tray up to 150mm of final termination point.

- **Terminations**

All cable terminations should be by approved methods and include the use of cable bushings, restraints, and cord grips where necessary. All screw termination blocks should be securely fixed to any enclosures using screw and nut fixings.

- **Trunking**

All trunking should be fitted with correct end caps, lid fixings, and edge protection around entry and exit locations. Grommets, glands and bushes should be used to protect cables. For vertical cabling cable retainers should be fitted every 1 metre.

- **Flexible Conduit (Kopex)**

Flexible conduits may be used to contain wiring to items that are susceptible to movement. The use should be restricted generally to less than 500mm runs and should not be used where a solid coupling can be achieved.

- **Loudspeaker positions general**

The position of the car, pit, car top and motor room speakers should be positioned to provide intelligent, easy and reliable communication. Volume levels must be set to allow the audio levels to be heard over any fan or motor noise. The use of visible speaker grilles in the car ceiling is acceptable if used to improve the audible quality, providing the finish has been agreed and signed off prior to installation.

- **Microphone positions general**

The position of the car, pit, car top and motor room microphones should be positioned to provide reliable communication. Gain levels must be correctly set to allow the audio levels to be heard and the microphone should be positioned away from any fan or motor where noise may be picked up. Gain level should be set to avoid any feedback loops from car to pit or car top.

- **Lift car microphone and speaker locations**

The car microphone and speaker should be located in the COP in the standard position provided by the lift manufacturer. This is where most passengers would assume the microphone and speaker to be located. Where difficulty is found in fitting these to the COP Windcrest offer a tailor-made unit complete with pictograms to make integration easy.

- **Pit locations**

The pit microphone and speaker should be located in the safe refuge area designated by the lift manufacturer.

- **Car top locations**

The pit microphone and speaker should be located in the safe refuge area designated by the lift manufacturer.

- **Motor room or MAP panel location**

The location of the microphone and speaker should be positioned to allow the audio levels to be heard and the microphone should be positioned away from any equipment where machine noise may be present.

- **Pictograms**

The AVCOM must be fully integrated into the COP pictograms to provide visual display of the connected status of the call.

- **Inductive loops**

Inductive loop cables should be routed so as not to reduce the loop amplifier gain. Cables must be securely fixed to the rear of the COP or the ceiling of the car. They must not be allowed to drape over other cables causing pickup to be introduced into the loop. A sign identifying that the loop is fitted should be securely affixed to the COP in the car.

- **Fixtures, fittings and accessories**

All line jack boxes, speaker boxes, terminations, batteries, relays, terminal blocks, microphones, interfaces, circuit boards, plug and socket arrangements, lids, covers, inductive loops and cabling must be fixed into steel enclosures. These should be securely retained with screws drilled and tapped or nut and bolt fixings. All fixtures, fittings and accessories must be adequately protected from being stepped on and should not be placed where they can be damaged by people walking or standing on the top of the car.

- **Self-adhesive fixings**

The use of self-adhesive pads and fixings is prohibited.

- **Plastic cable ties**

These must only be used to keep cable runs tidy during installation and must not be used to support cables. Metal ties should be used for support.

- **Battery backup**

The communications equipment should include battery backup for at least 4 hours. The battery should be marked with date of installation and a date of recommended replacement. This should not be more than 4 years total from the date of installation.

- **Earthing**

Lids and boxes must be earthed with a 1.5 mm fly lead bolted to the lid or enclosure.

- **Labelling**

All cables should be identified, and the relevant component parts should be labelled. Fire alarm interfaces should state what they operate on the front cover. E.g. fire recall.

If the enclosure has mains voltages present inside it should be identified with a 230v warning sticker

- **RJ45, telephone, data cables, connections, plugs and sockets**

All plugs and sockets should be professionally crimped, protected with shrouded boots. The use of connector blocks and crimps should be avoided on data cables.

- **Drawings**

Record drawings should be supplied in the site manual of the AVCOM installation showing the interface and connection points to the main lift control systems.

- **Programming**

The programming sheet provided by the university must be completed at handover and tests completed to prove communication with the central station as well as security control.

The recorded message should be free of any background noise in the shaft when recording.

The programming sheet details the correct message to be recorded.

In general, the level of audio from the auto dialler in the car, pit, MAP and car top should be equal to or better than that of the standard car floor annunciator.

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