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What's Behind the Button? – Lift Alarms in the UK

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The humble alarm button: that little yellow circle on the lift car operating panel that no passenger ever wants to use but every passenger wants to be sure will work if the time ever comes!

Modern lifts are built with a wide variety of features to prevent passengers become trapped. However, if all else fails, lifts in the UK are required to have a 'two-way means of communication allowing permanent contact with a rescue service'[1] fitted.

Today this requirement is interpreted as a lift alarm which will automatically dial a telephone number upon the alarm button being pressed. However, this wasn't always the case, so depending on the age of your lift and the upgrade cycle it's been through in its life there maybe one of a variety of devices connected to your alarm button. Over the course of this article, we'll look at the different types of alarm equipment you're likely to encounter on lifts in the UK and the various pros and cons of each.

Very early lifts were fitted with a physical bell on the top of the lift car attached to a cord, which a passenger could pull to ring the bell to summon help. Although this system was quickly replaced by electrically initiated systems (the 'alarm button' was born at this point), the "alarm bell" persisted as a valid solution for lift alarms for many years.

As late as 1985 it was still acceptable for the 'alarm device' to 'take the form of a bell' under the safety standards of the day[2]. In fact, even by 2009 the Lift and Escalator Industry Association (LEIA) were still warning lift managers that 'Many existing lifts rely upon an alarm bell to attract attention'[3]. The issue with any audible alarm system is that it's only of any use if someone is around to hear it who's not directly

affected by the hazard of which the alarm is warning. So as LEIA went on to point out in 2009 an alarm bell was 'not…sufficient particularly where the [alarm] equipment might be used when the building has been otherwise vacated'; if it's only the trapped passengers who can hear the bell it's of no use. Additionally, as time passed, and fewer buildings (especially residential buildings) had full-time on-site building staff there was the added risk that the person who heard the lift alarm bell wouldn't know what it was and/or what to do when they heard it. Even with full time building staff, on site 24/7, who are trained on how to proceed upon hearing the alarm, the risk remains that the layout of the building may mean staff don't hear the alarm.

Where buildings did still have on site staff the next iteration of the lift was the introduction of intercoms. These systems provided a call point in the lift car which when activated would call another call point on site (typically a reception desk, security office, or similar). A trapped passenger could now speak directly to someone outside of the lift shaft and ask them to summon help. So, for the first-time trapped passengers had a two-way communication system.

Today large office buildings with a 24/7 security presence use modern systems configured to work as an intercom in exactly this way. However, for an on-site system to be effective you still needed to have building staff available on site to answer the call. Some older intercom systems also relied on a handset inside the lift car. This would typically be located behind a door at the base of the car operating panel (aka "where the buttons are"). The trapped passenger would open the door, lift the handset, and this would cause the intercom point elsewhere in the building to ring. Whilst this system was fine for non-disabled lift passengers, those with disabilities can struggle to use a handset-based system. Lifts are, and always have been, a key component in making buildings accessible for all users. Therefore, the inclusion of systems that pose a challenge for or un-usable by people with certain disabilities is at odds with an accessible budling.

The other big downside to on-site communication systems is that they also don't typically connect the trapped passenger with the 'rescue service' that will free them. Whilst some building personnel receive 'release training' this can only be used in certain scenarios and only on certain configurations of lifts.

All of the above issues, led to the introduction of systems which called from the lift car on-site directly to the lift maintenance provider. It's worth noting at this point that a trapped lift passenger is unlikely to be freed from a lift by the Emergency Services. Unless there is a medical emergency inside the lift or there is another emergency in the building (i.e., a fire) trapped passengers are freed by lift engineers from the company who maintain the lift.

Earlier I mentioned that as late as 1985 an "alarm bell" was still an acceptable form of lift alarm. In contrast to this, as early as 1970 the safety standards allowed for 'either…an emergency signal that is operative from the lift car and audible outside the lift well [alarm bell] or…a telephone'[4]. This meant we now had a system on the lift that could call out and contact the lift company directly. These early systems are the forebears of modern lift alarms and is why you'll often hear the term 'lift emergency telephone' used.

Whilst modern systems are at their heart a 'telephone' you won't find handsets and keypads (or rotary dials for those that remember those!). The systems are setup to automatically dial the number of the lift company once the alarm button has been pressed. Today's safety standards, from 2003 onwards, also call out the need for the system to self-test at least every three days[5]. This means the system will simulate

an alarm input and place a call to a software receiver. This call log can then be used in compliance records to demonstrate that the system is in working order.

Traditionally these modern systems placed their alarm calls over a landline connection. However, with the demise of copper landlines and the introduction of fibre optic lines, many are opting to switch to a more resilient gateway solution which routes the call over the mobile network.

In my next article, we'll look at how, between now and the end of 2025, key changes to the communication networks will impact an estimated 85% lift alarms already fitted in the UK. We'll also look at steps you can take to minimize the risk to your lift passengers.

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[1] The Lifts Regulations 1997

[2] EN81-1:1985/BS5655-1:1986 'Lifts and service lifts Part1 Safety rules for the construction and installation of electric lifts' published by British Standards Institute (BSI)

[3] 'Guidance on the management of lifts, escalators and similar products' published by the Lift and Escalators industry Association

[4] BS 2655-1:1970 'Lifts, escalators, passenger conveyors and paternosters — Part 1: General requirements for electric, hydraulic and hand-powered lifts' by BSI

[5] EN81-28:2022 'Safety rules for the construction and installation of lifts — Lifts for the transport of persons and goods. Part 28: Remote alarm on passenger and goods passenger lifts' by BSI