

Barnsley Hospital, South Yorkshire



Project Outline

Contractor	NHS
Location	Barnsley, South Yorkshire
Sector	Health
Disciplines Covered	Fire Alarm
Key Points of Interest	50 Protec 6500 Fire Alarm Control Panels 3,942 Addressable Sensors 604 Manual Call Points 472 Fire Alarm Interfaces

Project Overview

Barnsley Hospital is a 400-bed acute care facility dedicated to providing high-quality healthcare to over 250,000 residents in the Barnsley area of South Yorkshire. Since its establishment in the 1970s, the hospital has continuously evolved to meet the changing needs of its community. It offers a comprehensive range of district healthcare services, including accident and emergency care, outpatient clinics, inpatient treatment, and specialist maternity and children's services.

In January 1998, the hospital underwent a significant upgrade to its fire alarm system, replacing the original Shorrock's system with a then state-of-the-art Protec 5400 system. This upgrade enhanced life safety and remained in operation for over 20 years, ensuring the continued protection of the hospital, its staff, and the public. Over recent years this system has been upgraded to the current generation Protec 6500 fire alarm system.

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The Challenge

Taking over an existing project is never a simple task, and the challenge is even greater when dealing with a large-scale site that operates 24/7, 365 days a year. This complexity is further amplified in environments like hospitals, where continuous development leads to the expansion of wards and departments. Over time, additional loops and devices are integrated into the existing fire alarm system, often resulting in a mix of device generations.

When a system is from a single manufacturer, as was the case at Barnsley Hospital, compatibility issues are less pronounced. However, to fully leverage the latest features and capabilities of a fire alarm system, it is always best to ensure that all components share the same digital addressable technology. A unified system enhances efficiency, reliability, and overall safety for both staff and patients.

The Solution

Front End System – Barnsley Hospital already benefited significantly from the initial implementation of the Hercules 6 front-end system, it provides a robust and scalable solution for managing its fire alarm infrastructure. The system in place allowed for the seamless integration of the newly introduced 6500 panels and devices while maintaining full compatibility with the existing 6400 fire alarm control panels. By ensuring continuity between different generations of fire alarm technology, the Hercules 6 eliminated potential compatibility issues and streamlined system management.

One of the standout features of the Hercules 6 is its comprehensive graphical interface, which provides a high level, real-time representation of the entire hospital site. This allows staff to efficiently monitor the status of the fire alarm system, instantly identifying device activations, faults, and overall system performance. With a clear visual overview, response times to potential fire incidents or system malfunctions are significantly improved, enhancing both safety and operational efficiency.

Fire Detection – The major upgrade fire alarm system consisted of replacing the outdated 5400 panels, along with several hundred 5000-range devices, with the latest 6500 panels and 6000PLUS devices. With a new secure fire alarm network installed, seamlessly integrating with the existing Hercules Graphics system.

The upgrade was carried out in a phased approach to minimise disruption. Before replacing each panel, with existing data taken from the redundant 5400 fire alarm panels and preloaded to the new 6500's to ensure a smooth transition. Where 5400 panels were replaced, loop devices were also upgraded. Where possible the 6400 panel replacements only required panel updates to work alongside the 6500 fire alarm system. In total over 5,500 devices across all zones were installed and then thoroughly tested to ensure correct functionality.

To manage unavoidable downtime during the transition, fire marshals were advised to patrol affected areas, ensuring continued safety. The recent upgrade has delivered a modern, reliable fire alarm system that enhances monitoring, improves safety, and future-proofs the hospital's fire detection infrastructure.

The Aftercare

Barnsley Hospital benefits from a comprehensive service and maintenance agreement with Protec, which includes 24-hour, year-round reactive call-out support. This partnership has ensured continuous reviews of the hospital's life safety and security systems while fostering strong communication between the building management team and our service and maintenance teams.

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As a result, the upgrade process was highly efficient. The Protec team, with their in-depth knowledge of both the systems and the building layout, took the lead on the project. This familiarity played a key role in delivering the upgrade smoothly and effectively, ensuring minimal disruption and a seamless transition to the new system.