

# Open Protocol Control Solution takes Centre Stage for Ambassador Theatre Group

## FOREWORD



An open protocol control solution from Resource Data Management (RDM) is helping Edinburgh Playhouse deliver optimal environmental conditions and comfort to their visitors whilst reducing energy consumption and carbon footprint.

Controlling multiple aspects of the heating and ventilation system, the solution

utilises RDM's Intuitive PLC controller range and RDM's PLC software TDB featuring free lifetime software licences. The new installation was completed by J Fletcher Engineers, who are working with the Ambassador Theatre Group, owners of the Edinburgh Playhouse, to reduce energy consumption.

## THE PROJECT

The core objective of the project was a standard service replacement of the existing HVACR control panel and

assets. RDM controls were selected to replace failing Trend controls from packaged plant and the existing

third party BEMS (Building & Energy Management Systems).

## THE SOLUTION

Bespoke control algorithms were created utilising RDM's PLC software TDB, featuring free lifetime software licences, which J Fletcher found to be powerful given its programming flexibility and free custom blocks. The intuitive line of controls were utilised to deliver efficient control of the heating, ventilation and domestic hot water systems, providing optimised start, weather compensation and demand based control. While a similar level of control could have been achieved with alternate PLC software and controls from other leading suppliers, it would have proven much more complicated and would have resulted in additional costs being incurred by both J Fletcher and the client.

Remote monitoring will limit downtime, while allowing ATG to predict possible equipment failures and ensure breakdowns are handled efficiently. Alternatively, plant equipment could be installed and potentially left unchecked for weeks, months or even years if it is believed to be operating efficiently. Detailed, real-time visibility of how equipment is operating will allow for the vast majority of call outs to be dealt with remotely, eliminating wasted man hours, travel expenses and non-essential site visits. On the rare occasions where a remote fix is not possible, and an engineer is required to attend site, secondary visits can sometimes be prevented by remotely identifying where in the system the

fault lies. Engineers will have the visibility to identify which parts may be required to resolve the issue on first visit to the site.

Recent trends have resulted in end-users becoming more aware of the technical solutions they are being provided and, as a result, one of the key requirements specified in this installation was that the system must be open protocol. RDM products are based on open protocols, and non-propriety networking communications, through the use of IP, XML, BACnet™ and Modbus®. The ability to switch between networking mediums; Ethernet, Wi-Fi and wireless, for example, has been especially beneficial in the delivery of this project.

## BENEFITS

Key benefits, when compared to traditional BEMS are scalability and the reduced cost of linking equipment on site via open protocols, the level of potential integration between RDM and third party equipment, and the networking flexibility that RDM products and solutions provide.

When selecting and investing in a new control solution, end users are typically required to commit to a

large minimum annual spend before programmable logic control software is made available. As businesses become ever-more cost-conscious, RDM solutions have proven to be more accessible - especially as end users do not need to commit to a minimum annual spend. This has resulted in legacy systems from other leading control suppliers, being removed and replaced. Not because of technical failure but

simply because it is cost prohibitive to expand existing systems, when compared to installing a new system utilising RDM products and technologies.

Overall, the scalability of the RDM solution, particularly the open protocols, expansions, and remote monitoring has minimised initial investments costs, while allowing the system to be proven in its simplest format first.

## J FLETCHER ENGINEERS

J Fletcher's multi-disciplined team culture is to work with clients to meet project objectives by providing cost effective solutions within the shortest time scales. The close relationship of operating divisions lends itself to timely conclusions with a single source of responsibility for a wide

variety of services.

Their design, manufacture and installation capability means that they can exercise greater quality control from design to offsite prefabrication which in turn leads to shorter on-site times and more competitive

products. Recent projects include system upgrades and replacements for premium leisure club operator David Lloyd, Shepherd's Bush O2 Academy and the Reel Cinema Group.

## INTUITIVE CONTROLS AND TDB (THE DATA BUILDER)

The Intuitive TDB controller is particularly suited for the HVACR and BEMS markets because of its incredible flexibility, including its ability to communicate using the Modbus® and BACnet protocols.

The device comprises of 8 resistive temperature inputs, 12 digital inputs, 8 universal I/O and 12 relay outputs.

Intuitive TDB also manages space for 3 USB ports, a CAN bus interface (for expansion modules) and Ethernet connectivity.

TDB is the highly flexible programmable logic control software that can easily be configured in an almost infinite number of ways to precisely meet your control

requirements. It's free to download and available on Microsoft Windows and our Intuitive and DMTouch platforms.

