Keepmoat Stadium

Priva integration

Keep Keen Controls has installed a building controls system from Priva Building Intelligence at the new £32 million Keepmoat Stadium in Doncaster.

The controls design included interfacing with 150 Mitsubishi split air conditioning systems, considered to be one of the largest Mitsubishi integration projects.

The 15,700 all-seater stadium is home to Doncaster Rovers Football Club, Rovers Belles Women's Football Club, Lakers Rugby League Club, and the local athletic club. The site incorporates an 800 m2 supporters' bar, 250-seat restaurant, gymnasium, martial arts centre, and premier conference and events centre. Keep Keen was contracted to design, install, and commission the building management system (BMS) and specified Priva Building Intelligence.

Four plant rooms (northeast, northwest, southeast, and southwest) serve the site, each plant room managed by a Priva Compri HX8 controller. A Mitsubishi variable refrigerant flow (VRF) system, comprising 150 split systems, provides heating and cooling to the space and has been interfaced with the Priva BMS.

"Generally, splits operate in a standalone mode with local controllers for individual comfort. Trying to maintain control over such a large number of split air conditioners, even though they can be grouped together, can lead to uncomfortable conditions for the occupiers and lead to excessive energy use.

With such a big site and large transient population, we immediately saw the benefits of interfacing the splits with the BMS, thereby allowing the BMS to collectively manage the air conditioners, dependent on the needs of the individual areas," stated John Ward, Managing Director of Keep Keen.

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The splits use the Mitsubishi proprietary protocol, but, via a specialist company, had produced a gateway (Procon) that converted their protocol to BACnet. Priva successfully tested the unit, enabling two-way communication between the BMS and the Mitsubishi splits.

"The BMS is able to communicate directly with the splits over an IP network, providing central control of the air conditioners and eliminating the need for a dedicated building services communications network," explained John Ward.

Furthermore, since the site's electricity meters use Modbus, the BMS can communicate with the meters for monitoring and analysis purposes as Modbus is one of the standard protocols available with all Priva controllers.

Gas and water consumptions are also being monitored. Keep Keen is monitoring the site using the dial-up capability of the Compri HX8s and has been awarded the controls maintenance contract.

Now the building is as intelligent as the people in it!

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