granta park

smartkontrols

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Granta Park – a landmark science park development

Using its innovative SeaChange range of fixed function controllers, smartkontrols has provided an integrated, fully effective, mixed mode ventilation control solution for Granta Park – a landmark science park development, near Cambridge. Specified by consulting engineers, Max Fordham LLP, smartkontrols' SeaChange control system for the site's Amenities Building features a purpose-developed standard natural ventilation controller, helping to ensure that all HVAC services operate at optimum energy efficiency and comfort levels.

The heating within the building is delivered by an innovative under-floor heating system developed by Max Fordham LLP and OSMA Underfloor Heating. This new type of system is also connected to a heat exchanger on a chilled water system to allow changeover to summertime cooling in peak internal conditions.

On the external walls of the building, located in only a 200mm raised floor void, are openings with dampers and air quality, speed-controlled blowers which direct fresh air across the thermal mass of the concrete floor slab. The supply air is tempered by the thermal mass, pre-heated and mixed in the floor void before entering the room through dispersed floor grilles to provide low velocity displacement ventilation in a process sensitively controlled by smartkontrols' SeaChange system.

smartkontrols developed a straightforward control solution for the project working in partnership with Max Fordham LLP and making use of their extensive experience in naturally ventilated buildings and the control regimes required.

Each sub-zone features a SeaChange NatVent controller located in the floor void and networked to its respective series of temperature, air quality, condensation and external weather station sensors around the building.

This newly developed product from smartkontrols ensures effective control over both the quantity of fresh air entering the two-storey building, based on space temperature and air quality, and also the temperature of the floor void and space. Another sensor sends global information on wind speed and direction to all SeaChange NatVent modules, ensuring that the underfloor inlet damper and window opening ranges are reduced as the wind speed increases and only the leeward extract windows in the building's atrium open.

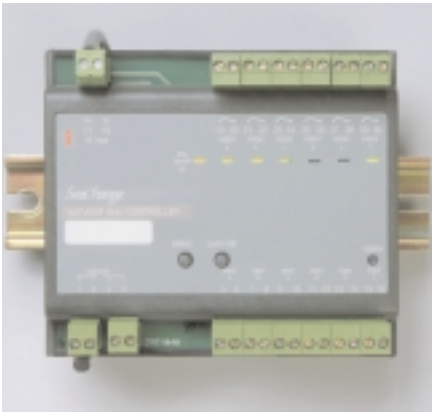
Thus, the design enables discrete and secure night-time fabric cooling, attenuation of wind and noise and simple, stable control of the supply air temperature with no draughts.

> "the SeaChange NatVent controller – a simple, reliable, low cost solution, configurable to a large number of flexible applications"

"We approached smartkontrols for this project, recognising the real need to evolve a standard, off-the-shelf controller for natural ventilation projects" explains Richard Quincey of Max Fordham LLP. "Working closely together we have developed the SeaChange NatVent controller – a simple, reliable, low cost solution,

configurable to a large number of flexible applications, including natural, mixed mode and other low energy HVAC solutions, which can easily be augmented by other standard SeaChange modules to add further functionality as required. Engineering a low energy, low cost solution is now far easier and possible in a wider range of buildings without having to "reinvent the wheel" each time and confronting the traditional problem of a large number of controls defects."

The Granta Park Amenities Building is divided into 7 flexible zones, with users able to set up and adjust temperatures and occupancy times for their zone through simple push button operation of the networked SeaChange zone controller, wall-mounted in the space.
All SeaChange plant controllers, including the chiller and condensing boiler control modules, are housed within compact **smart**box enclosures, further reducing engineering time and the need for large, expensive control panels.



SeaChange NatVent controller

The controls installation was completed by Kent-based Publicstar (contact www.publicstar.co.uk), a **smart**partner member company, in September 2001. Architects for the project were the London-based practice, Eric Parry Architects.

Site	Granta Park
Main system components	• Wall mounted zone controllers • Duct mounted air quality sensors • **smart**box panels mounted below raised floor controlling underfloor heating, cooling and air ventilation • **smart**box panels mounted in plant room controlling heating plants
Key Benefits	• Fixed function modular solution for natural ventilated buildings • Weather station interface prevents nuisance drafts • Green low cost solution for heating, cooling and air ventilation • Grunflos pumps require no starters making the panels • **smart**box panels compact and cost effective • simple user interface

smart*k*ontrols

smart*k*ontrols systems offer a proven solution in both large and small commercial buildings. Making building control easier for engineers and, ultimately, the end-user is at the heart of the **smart***k*ontrols philosophy. SeaChange systems from **smart***k*ontrols are versatile enough to control all types or any combination of heating, air conditioning and natural ventilation. **smart***k*ontrols ltd is part of a group of companies which includes ENER.G plc, the clean provider of electricity.