

Toshiba Solutions

VRF and controls - total flexibility, comprehensive interfaces

Case Study: Controls in Scotland

Control - can be a dream or a promise. With Toshiba's latest system choices its a guarantee. Three installations in Scotland demonstrate the effectiveness of the options.



Application 1

A new 25,000 m² office complex in Motherwell, Glasgow. is a beacon of regeneration in an unfashionable area and already has a Government tenant.

The ultra-modern office building by developer William Hill, who created the Strathclyde Business Park, needs a reliable air conditioning system that can be maintained at optimum efficiency with minimal tenant disturbance. A system that supplies heating and cooling is an essential part of the specification of this three-storey building.



Solution 1

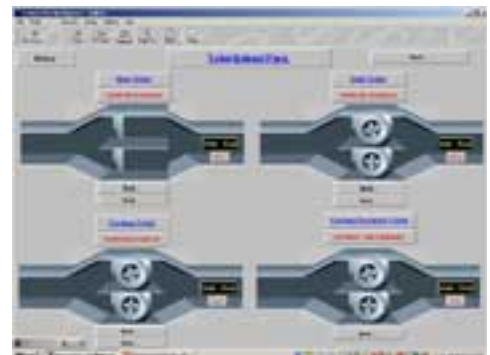
Toshiba's advanced Interactive Intelligence control system which integrates its VRF air conditioning systems with Building Management Systems fulfilled the application requirements. The installation was carried out by one of Toshiba's new accredited installers in Scotland.

22 Toshiba three-pipe VRF systems provide heating, cooling and an element of heat recovery. The air is supplied to the occupied space via ducted indoor units through suspended ceilings.

The Toshiba Interactive Intelligence system has an attractive Windows interface. The installation is designed to give full functionality - a remote PC can dial into the system to allow the maintenance team to perform online system analysis or fault diagnosis. All units can be displayed on screen at the same time. The functions and parameters of each unit are controllable from the Windows system. Two gateways cover the three floors with 37 indoor units on each gateway.

So sophisticated is the system that it acts as the front end for the building's Trend Building Management System which is managing air handling units, hot water provision, close-control unit metering and water levels within the building.

"More and more control is being demanded by end-users even on quite simple installations."



Application 2

Two speculative office blocks on a Scottish industrial estate use the new generation Toshiba Interactive Intelligence control system with a Windows interface, to the advantage of the blocks' owners and developers.



Solution 2

For the first time the level of control provided by the new system for Toshiba VRF installations is virtually equivalent to that expected on the most sophisticated water-based chiller systems. The user can control the operation of the system differently in all of the different occupied spaces.

Energy consumption and system usage can be monitored in this way and separate billing provided if the space is subdivided among different tenants. The Toshiba Windows-based system can interface with other proprietary BMS systems such as Trend to provide full functionality and the additional benefits of air conditioning system control. Specially drawn screens show the system's units actually working in real-time and allow operation adjustments to be made instantly. Units can be interrogated about a number of fault and function conditions.

These two three-storey buildings both have a separate Windows gateway per floor to enable complete area separation for letting and control purposes.



Controls at Hermiston Quays
Block A twinned with Block D

Application 3

The occupier of the latest high-tech building on the Hermiston Quays business park needed central control over the building's air conditioning system.

Hermiston Quays, to the south west of Edinburgh, is an extension to New Edinburgh Park, which is believed to be the largest business park in Western Europe.



The A1 building

Solution 3

Twenty-seven Toshiba Super Multi VRF air conditioning systems with more than a hundred indoor units of varying types provide the building's air conditioning. The controls system improves the efficiency of this already well-proven Toshiba technology and gives the building operator or owner precise centralised control. This is a huge improvement on conventional central control which meant one setting for all.

With Toshiba Interactive Intelligence, a Windows-based PC package interfaces with the air conditioning and other service systems. Here, a stand-alone customised graphics programme shows the premises manager or engineer all units on a single page and incorporates the exact floor plans of this building. Changes in temperature or other settings can be made for all units together in real-time, and will come into effect instantly or when timed. Alternatively, unit-by-unit changes are also possible to meet individual requirements or create zones.

The system has also been integrated with the building's fire alarm system to give the operator control over these settings in the same way as a conventional BMS system.



www.toshiba-aircon.co.uk
Telephone: 0870 843 0333
Email: general.enquiries@toshiba-ac.com