

# Fisher and Paykel Healthcare

## An ECOsystems Case Study

How a large warehouse / office building in Auckland met the challenge of energy efficient lighting control



SAVING ENERGY AND THE ENVIRONMENT

ECOsystems was established in 1995 to save energy and the environment. Since then, we have won six National awards for our energy efficiency projects, including an award for our projects with McDonald's.

Our vision is to provide our business partners with intelligent environments that simply respond, from wherever they choose, to minimise energy use, save the environment and maximise comfort and security.

*Reduce Energy Costs*

*Simply control your lighting, heating, cooling, appliances and hot water from a web browser*

*Reduce harmful greenhouse gases*

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Fisher and Paykel Healthcare Auckland

### BACKGROUND

The Fisher and Paykel project began in early 2006 and was completed by November 2006.

Fisher and Paykel were familiar with Clipsal's C-Bus as the original Fisher and Paykel building had a Clipsal C-Bus lighting control system installed as part of its original construction.

Because of this they chose to install the system in their new warehouse at East Tamaki, Auckland to meet their need for energy savings, combined with flexibility, expandability, integration capabilities and user-friendly operation.

The new building was designed to allow for 20% annual growth of the company which exports 98% of its output.

This vast building, which is 200m x 100m, is only a little smaller than three football fields. The total area of the entire complex is now more than 50,000m<sup>2</sup>.

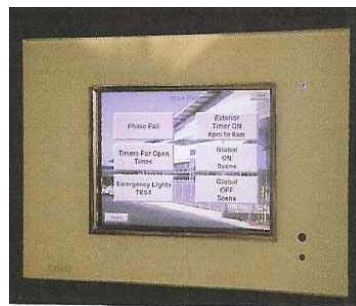
ECOsystems provided project management of the lighting control installation, including on-site commissioning and full as-built documentation.

### THE PROJECT

Working with Electrix Ltd and Stephenson & Turner Auckland, the ECOsystems team designed and installed an automated lighting system into a large-scale building incorporating the need for energy efficiency and the full control and monitoring of the system via an onsite PC.

The facility was divided into operational zones which work independently of each other but within a facility 'Mode' structure.

The 'Mode' structure is driven from a PC via the C-Bus 'Schedule Plus' software, providing a simple user interface for time-clock functions and graphical feedback from the Stage Three lighting system.



Clipsal C-Bus Colour Touch Screen

A Clipsal C-Bus colour Touch Screen provides a user interface with varying stages of access for each function via on-screen access codes.

The touch screen provides a master control function for areas not locally controllable, overrides for zoned areas, testing functions and graphical status feedback.

The lighting system is operated on time-based control for on and off functions for start of day / end of day and PIR (passive infra-red occupancy) sensors operate after hours and in areas of variable use.

*The largest C-Bus industrial installation in the Asia / Pacific region*

*- only a little smaller than three football fields!*



One of the challenges was the exceptionally high ceilings in many areas which created a challenge for the positioning of the occupancy sensors.

**Read on to discover how ECOsystems were involved with one of the largest Commercial Clipsal C-Bus installations in New Zealand...**



## Interested in energy efficient and green, sustainable buildings?

Check out our latest newsletter featuring an article on the new Department of Conservation headquarters in Wellington...the first five-star green-rated building in New Zealand

All ECO newsletters are available on our website

### OUR BUSINESS PARTNERS

Clipsal Industries (NZ) Ltd

Electrix Ltd

Mainzeal Construction

Stephenson and Turner



Switchboard

### ELECTRICAL

*The electrical installation includes 8km of C-Bus cable, 3km of 11kV cable, four 1000 kVa transformers, seven main switchboards, 70 distribution boards and more than 100km of mains and sub mains cabling.*



Lighting

### SIMPLE CONTROL

**ECOsystems' aim is to make controlling energy use in the building as simple as possible.**

The C-Bus system consists of 12 networks with full control from a conveniently located colour touch screen enabling easy control of all lighting throughout the entire building as required.

### ENERGY EFFICIENCY

**A key factor in the new lighting control at Fisher and Paykel Healthcare Warehouse was energy efficiency.**

The false ceiling area contains a large amount of plant, and effective lighting control was needed to ensure energy efficiency as well as a safe working environment.

Localised timer controls at each entry point ensure a safe environment, and strategically located PIRs throughout the catwalk area provides a high degree of energy efficiency.

Each glass office module of 40-60 people opens out into an internal street the length of the building which functions as an insulating buffer keeping out the suns heat and reducing the air-conditioning requirements.

The stormwater from the huge 20,000m2 roof is directed into a man-made lake which is maintained as an attractive landscaping feature.

*Further energy savings were realised through the use of efficient fluorescent lighting controlled by PIR detectors in the warehouse and loading bay areas.*



Warehouse

If you would like further information on how ECOsystems can improve the energy efficiency of your building please contact us on +64 4 566 3666 or view our website [www.eco.co.nz](http://www.eco.co.nz)

Did you know...  
ECOsystems are members of the  
New Zealand  
Green Building  
Council

