



accessories

# MATRIX

ultimate fan coil system

# The Rounded Package

Ability Projects can provide specialist control guidance from project conception and specification through to delivery. This document gives an idea of some of the peripheral devices that can bring extra features and extra benefits to any project.

Ability is a Delta Controls partner and the Matrix package relies upon a number of control items from the extensive Delta range. As an official partner, Ability is also able to draw on the wealth of experience within Delta's own development teams. They bring their expertise in efficient programming which in combination with Ability's understanding of fan coil systems provides the most robust hardware and software control solutions.

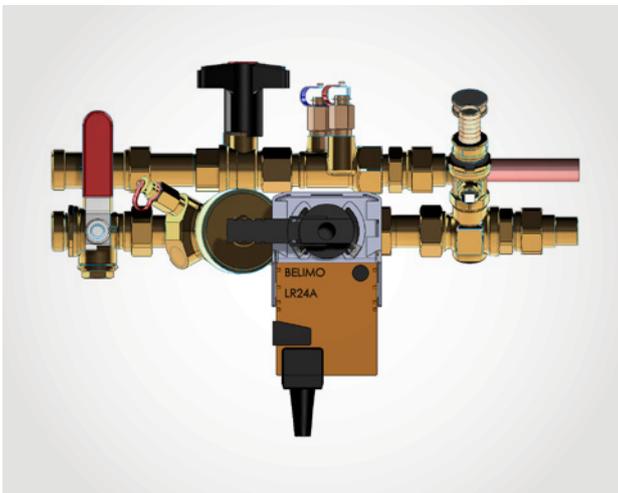
Ability 'Off the shelf' strategies already include 99.9% of the features you are likely to want or need. The standard integrated strategy was designed with most features already included and these are simply enabled or disabled as required. These features include unoccupied setbacks, variable fan speeds, time scheduling, logging capabilities and remote access functions.



## Ability's 'Frontline' Controller, the DAC-1146E

The DAC-1146 is a fully programmable, Native BACnet™ Advanced Application Controller that can communicate on an RS-485 or Ethernet LAN using the BACnet MS/TP protocol .

The DAC-1146(E) is designed for a wide-range of applications that have medium local I/O requirements. It also supports BACstats and other Delta LINKnet devices.



## Control Packages

Several options of control valves are available for supply and factory fitting.

Option 1. An integrated hydraulic assembly including a PICC valve, a flow measuring orifice component with test points, a flushing bypass valve, differential test points, a drain cock and isolating valves. This package as standard uses a 5Nm Belimo rotary actuator.

Option 2. A PICC control valve alone with optional differential test points. This package also uses the Belimo 5 Nm actuator.

Please contact Ability for Valve Assembly updates!



## RTS – Room Temperature Sensor

A wall mounted device to provide remote room temperature sensing. Often used when an additional return / room air sensor is needed because the accuracy of the standard unit mounted sensor is compromised by a 'influencing' fresh air input or similar.

## Delta 'BACstat' Products – Intelligent Wall Mounted Room Sensor

The DNS-24L is an intelligent room sensor with a custom LCD display and 4 push buttons for user control. Both the LCD display and the push buttons can be fully programmed via GCL+ over the LINKnet network.

The DNS-24L is used for applications that require one or more low cost, programmable temperature sensors with LCD display and push-button control.

BACstats are additionally available with other optional sensor types installed on board.

### Optional BACstat sensors



#### CO2 Sensing

This feature measures the level of CO2 which is generally occupancy dependant. One use therefore is to adjust the fresh air volume to the actual requirement rather than a pre-defined and set value.

The CO2 level can also be used as an alternative occupancy detector to activate any setback operating conditions that may be required.

#### PIR Motion Sensing

Occupancy sensing can be used to put any Matrix unit into an unoccupied setback state. Coupled with the Variable Air Volume strategies supplied as standard, this provides a unit which only 'wakes up' when someone enters the room and then only to a fan speed level appropriate to the load.



#### Humidity Sensing

This optional sensor measures humidity to permit, for example, an enthalpy calculation which can decide if a window or door has been opened. Under these circumstances the strategy might restrict the setpoint adjustment or even shut the fan coil down.

#### DSM-RTR BACnet router

The DSM-RTR is a fully programmable, Native BACnet building controller designed for BACnet routing applications. BACnet routers are devices that connect two or more networks to form a larger BACnet network.

The DSM-RTR is capable of connecting networks that communicate on 'Twisted Pair' Ethernet 10-BaseT using BACnet IP and BACnet over Ethernet, or on an RS-485 LAN using the BACnet MS/TP protocol and RS-232 using BACnet PTP protocol.



#### Commissioning Laptop and Software Package

Every Matrix contract should be purchased with the Ability laptop pre-loaded with the Matrix commissioning software. This allows communication with, and the adjustment of any Matrix feature or value, even if the BMS is not 'up and running'!

This laptop can be removed when the contract is complete or left with the facilities management team if appropriate.



## enteliTOUCH - 7" Touch Screen

The enteliTOUCH is a seven inch wide-screen LCD touch sensitive display unit used for interfacing with your Matrix units and any BACnet building automation system.

The enteliTOUCH uses BACnet over Ethernet to communicate with all the controllers on the local area network using real time information and a graphical, intuitive interface.

Fully configurable, this elegant screen can be used for simple activities such as set point adjustment through to performing as a mini BMS (Building Management System). The full colour screen is designed to act as a full BMS supervisor supporting routines such as scheduling and trend logging. While the possibilities for this unit are endless, below are three real life examples of its many uses.

### Application 1:-

Used in a hotel bedroom, the touch screen acts as a room controller able to, via the correct communication interfaces, control the lighting, blinds and of course the fan coil.

Further integration can allow promotional information to be displayed on the screen. This information can run alongside other displays showing useful information about the other facilities and events the hotel might have on offer. An integrated PIR means that the touch screens are only active when somebody is close by which saves further on the running cost.

The web server functions allow maintenance staff to access each device individually and assess any complaints instantly, further increasing owner and guest satisfaction.

### Application 2:-

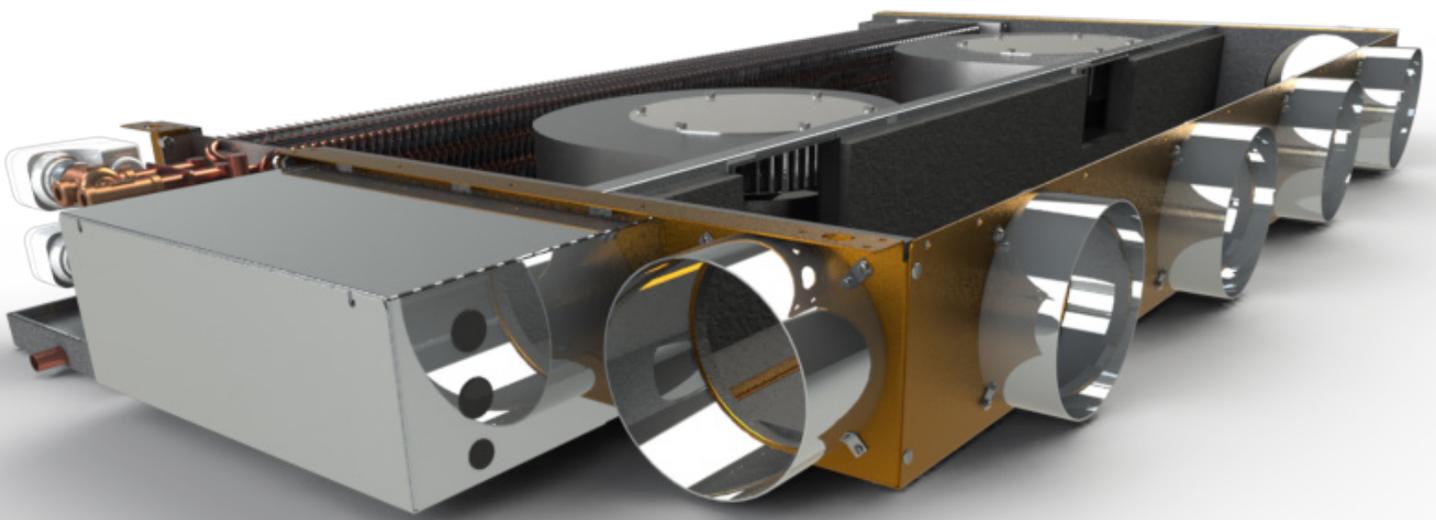
The Manager of a retail outlet wants to be able to globally adjust the set points and override the scheduling of the fan coils in his store. This is because he has to allow for extended opening hours during sales or stock takes. The touch screen and the graphics are set up to allow these adjustments intuitively and without any great technical understanding being necessary.

Additionally, the web server coupled to an internet connection allows remote access to check, make changes or collect information.

### Application 3:-

The staff in a highly rated restaurant with private dining areas want to be able to individually adjust the temperature in each of the dining suites to suit their clientele on the night.

To facilitate this, a touch screen can be located anywhere convenient to the staff and the temperature adjustments made via a full colour plan of the restaurant and its 'back of house' areas. No longer do the facilities management team need to be called as the restaurant staff can deal immediately with most eventualities themselves.





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