



***i-Window***Systems

Intelligent Modulating Window Control



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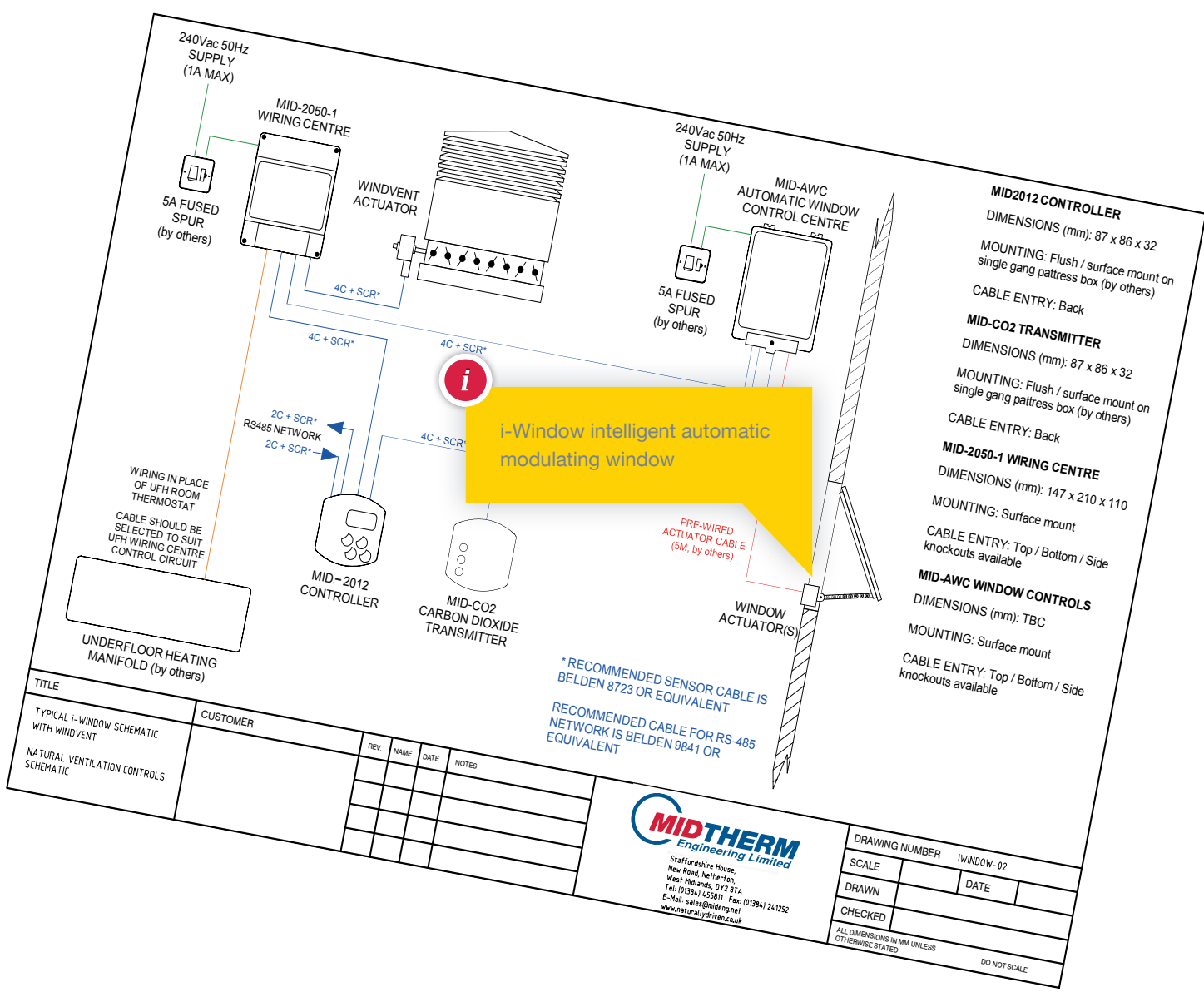


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# Introduction

The Midtherm i-Window System that regulates the control of a building's windows, allowing the effects of natural ventilation to be optimised.



## i-Window Zone Control

The i-Window controls systems are manufactured with pre-installed site specific software and have integrated 24vDC power supplies for safe operation.

These are connected as MODbus slave devices and can be controlled via MODbus from most capable BEMS systems. Alternatively the i-Window systems can be interfaced through our pre-configured MID-IMC Intelligent Master Controller with BACnet MSTP gateway capability.

- Intelligent modulating control of most commonly available 24vDC actuators.
- Time control feature to prevent windows being opened outside of working/occupied hours.
- Zone by zone enable/disable function.
- Night time cooling facility following warmer days to give a 'fresh' climate for the following day.
- Morning purge setting to open windows fully each morning if required and as security permits.
- Individual control with user override of each room (as required) via aesthetically pleasing MID-2012 climate control panel.
- Single 24vDC power supply to power all actuators in a single zone, minimising wiring requirements and capital expenditure.
- Low volt site wiring cables quick and cost-effective to install.
- Anti-finger trapping.
- MID-2012 controllers all have an occupant override facility as standard.
- All windows revert to Auto mode following specified room user override times.
- Intelligent MID-2012 room controllers can be linked to the 'Actual' external weather conditions and internal space requirements as opposed to simple traditional seasonal settings.
- Optional battery back-up failsafe open/closed facility per room linked to fire panel or fireman's switch.

## i-Window Controls

i-Window Controls are designed to function as a fully automated single sided room ventilation solution or as part of our Crossvent wall ventilators or in conjunction with our Passive ventilation roof terminals. Details of all our solutions are in our Natural Ventilation brochure.

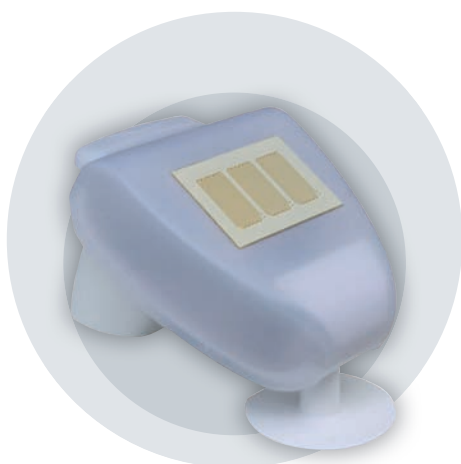


MID-2012 Room Climate Controller



MID-CO<sub>2</sub> Carbon Dioxide Sensor  
with Traffic Light Display

- Elevated Level 1250PPM
- Acceptable Level 750-1250PPM
- Optimal Level 750PPM



MID-WS485 Weather Station

## MID-IMC & MID-IMC(S) Intelligent Master Controllers

### MID-IM

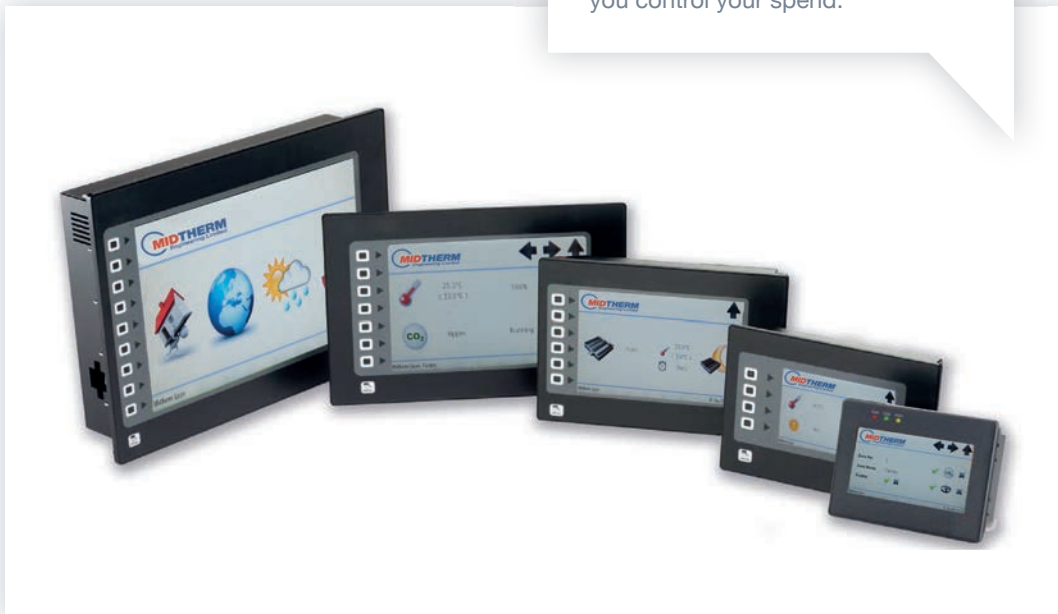
The MID-IMC is available as a preconfigured version that can be remotely accessed via the internet to make vital system changes and retrieve logged data files. This is compatible with most BEMS systems and offers the capability as a master or slave gateway option with connection via MODbus or BACnet MSTP.

### MID-IMC(S)

The MID-IMC(S) Intelligent Standalone (S) version is provided as a completely individual unit incorporating its own preconfigured natural ventilation software. Data logging of all system events provides optimal ventilation and heating temperatures on a per zone basis. Data retrieval and system configuration updates would require a physical site visit, as opposed to the remote option available with the full MID-IMC version.

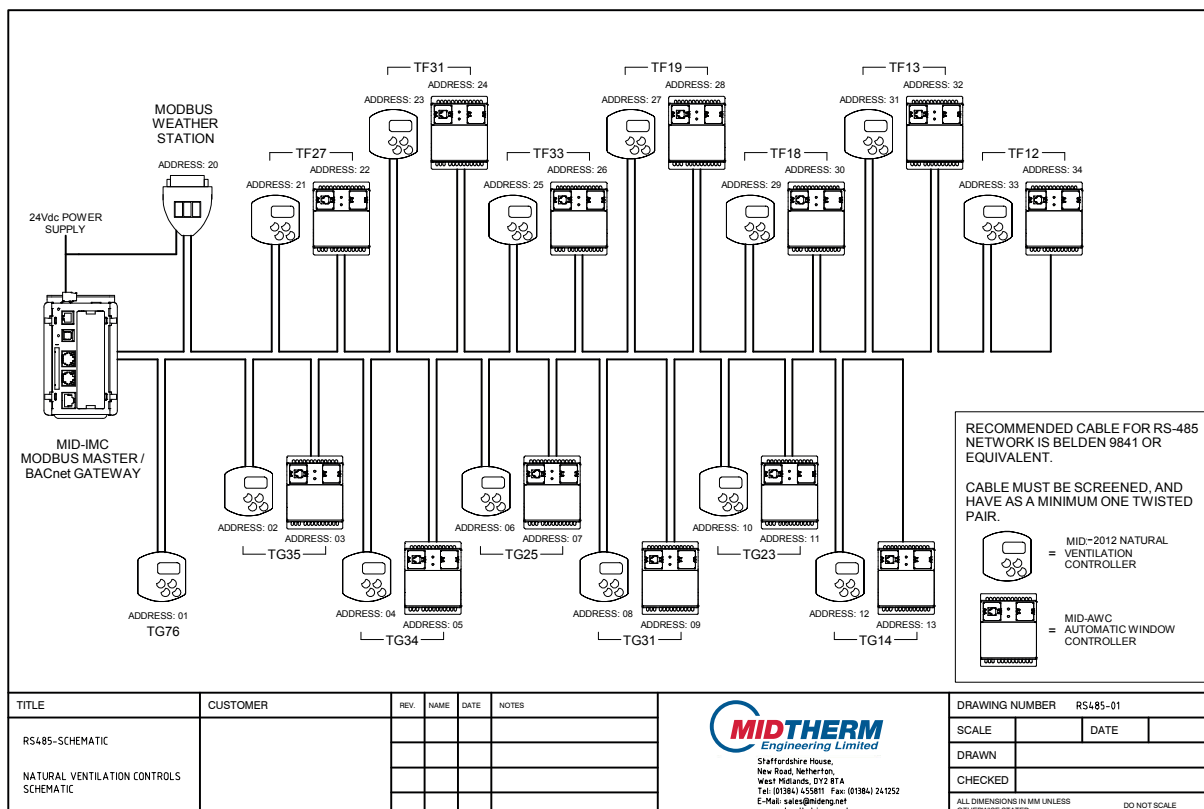
*i*

A range of Master Controls helping you control your spend.



## The particular features of the MID-IMC Intelligent Master Controller include:

- MID-IMC(S) modules are provided as simple stand alone versions with an interlink to heating and fire systems, but without a connection requirement to complicated BEMS systems. Internet or ethernet connection is also not available with this option, however data logging is possible.
- The MID-IMC full Gateway version allows master control from the site BEMS. It acts as a gateway slave with connection to a full BEMS.
- Can be provided as either a touch screen interface module or non-touch screen for mounting inside non-Midtherm control panels.
- Password protection available with all Master Control Modules as standard.
- Remote access capability for ongoing off-site service maintenance tracking and actioning.
- MID-IMC can be linked to the site BEMS via MODbus or BACnet Commercial, giving overall control of all temperature and ventilation parameters, or alternatively a simple on/off control signal.
- Wind speed, precipitation and external temperature are monitored via our MODbus intelligent weather station, which in turn modulates the windows and vents.
- Data logging of events includes: weather data, room usage, temperature and CO<sub>2</sub> levels, per zone or collectively.
- Holiday settings to control zones as and when required by usage. These can be set via the touch screen interface or internet/ethernet if connected.
- MID-2012 room climate controller provides full correlation between heating and ventilation system set points.

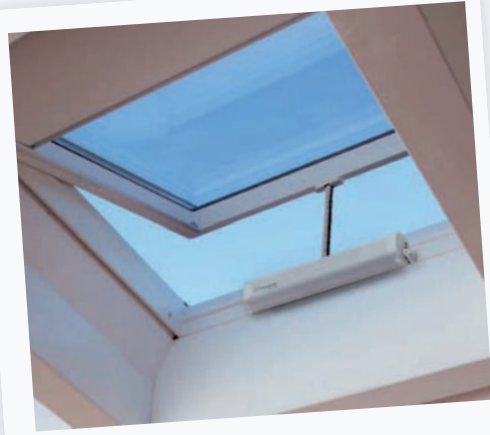


## i-Window Controls, provision and on-site installation

i-Window controls system components are supplied by Midtherm with 24vDC actuator with wiring terminations completed by the electrical contractor. Midtherm can offer final termination wiring service as an additional option. Full site wiring schematics and final controls commissioning of modulating windows and vents is normally provided by Midtherm Engineering.

## Client Instruction and Seasonal Site Maintenance

Midtherm Engineering provides an informative client instruction session on the use of i-Window intelligent controls systems once installed. This package is offered as a standard company practice when Midtherm supply and install the i-Window controls. We can also include for an annual on site inspection and maintenance option.



*Roof Light Actuator*



*Typical Window Actuator*

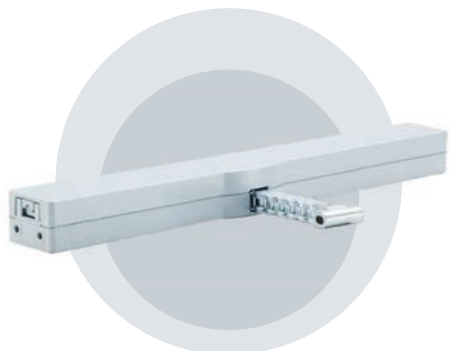


*i-Window and Windvent PS*



*Hidden Actuator option*

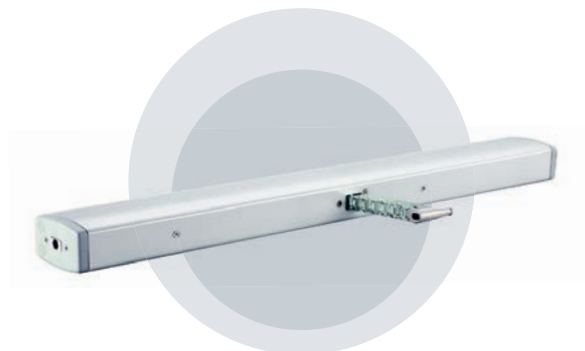




#### MID-A2C4 - Standard Single Chain Drive Window Actuator

##### Product Summary:

- Suitable for all types of windows
- Daily natural ventilation.
- Microprocessor controlled motor.
- Individually programmable.
- Anti-finger trapping.
- Innovative bracket solutions.
- Stroke length up to 350mm.
- Up to 200Nm force.
- Standard RAL colours available.

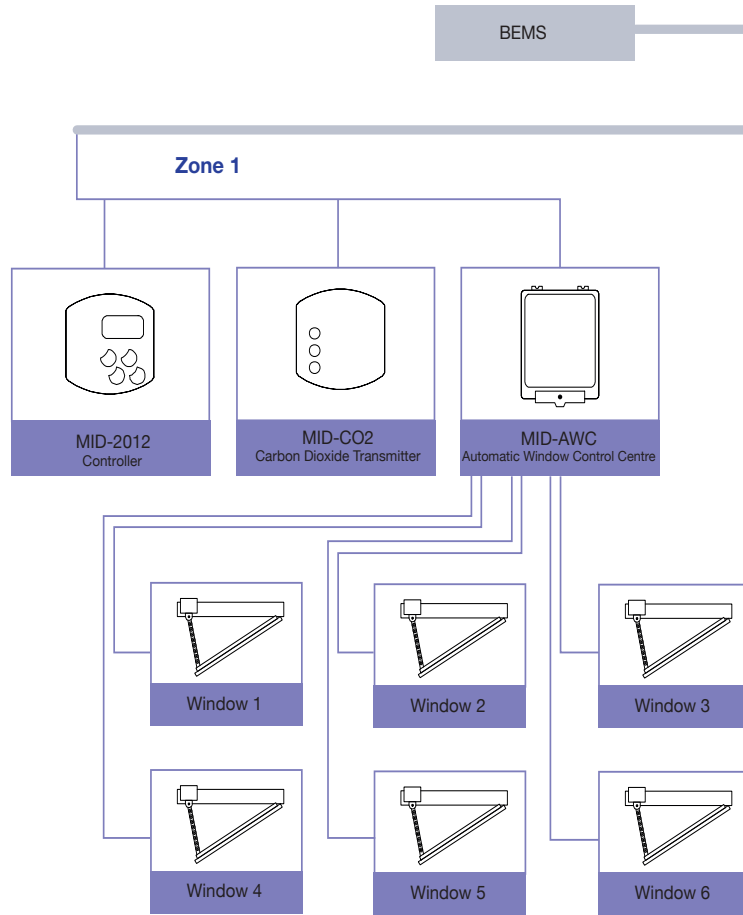


#### MID-A1S00 - Heavy Duty Single Chain Drive Window Actuator

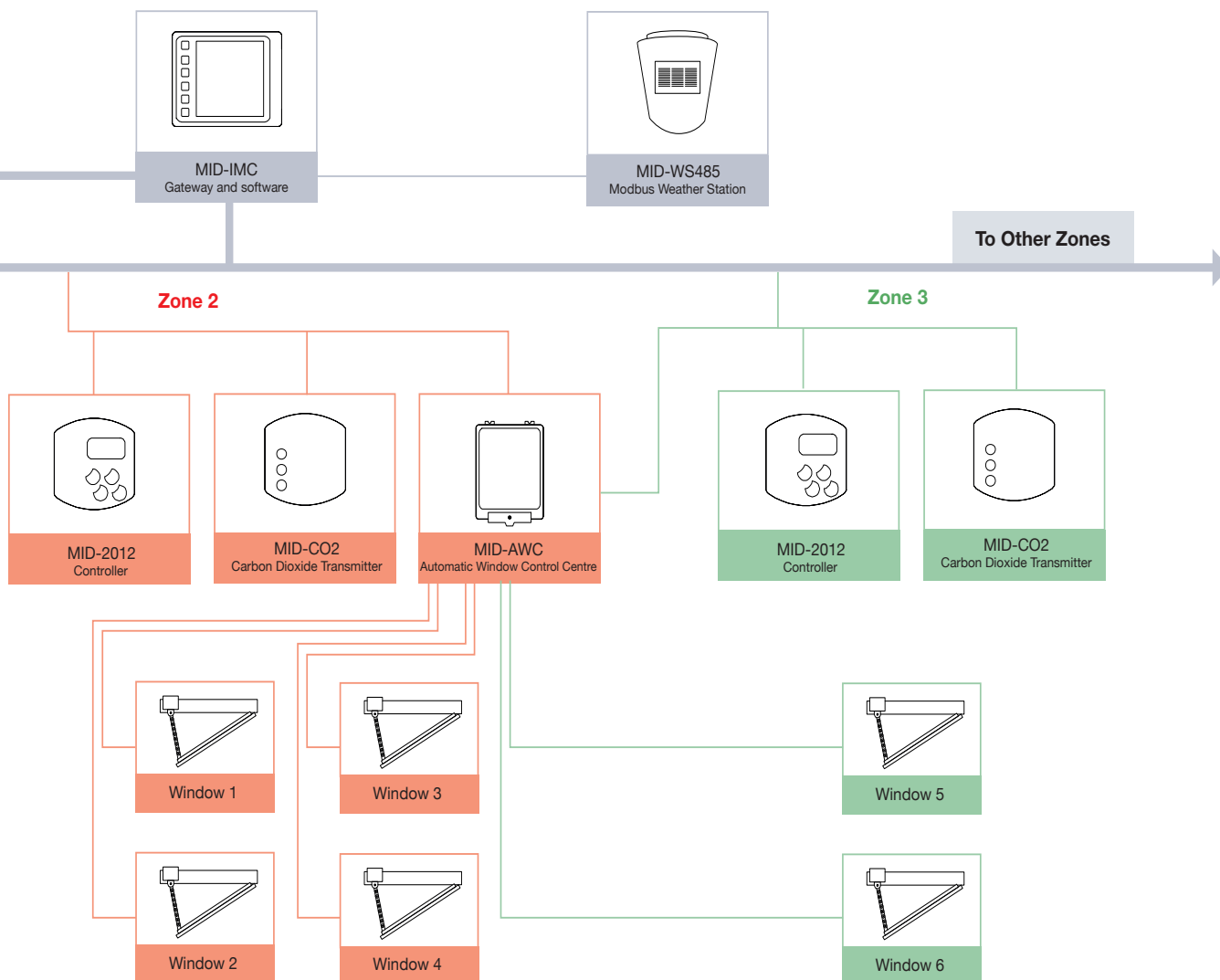
##### Product Summary:

- Suitable for heavier windows.
- Integrated synchronous control.
- Microprocessor controlled motor.
- Individually programmable.
- Applicable for smoke and natural ventilation.
- Up to 1500Nm.
- Stroke length up to 1500mm.
- Compact design.
- Standard RAL colours available.

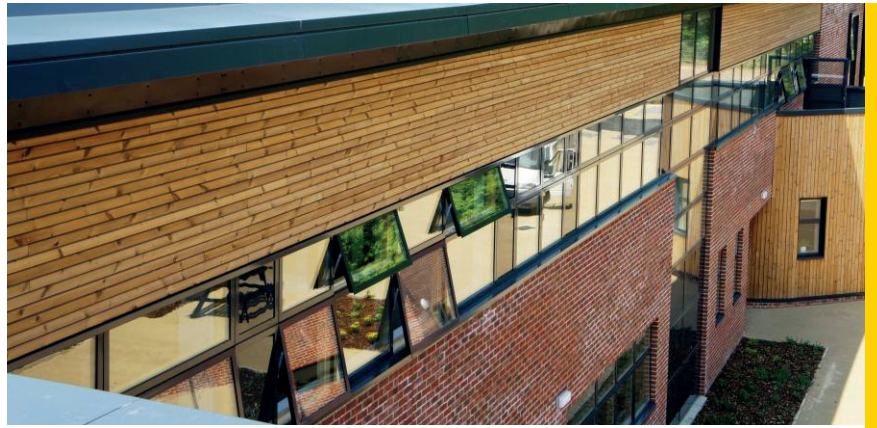
# Typical System Layout



i-Window Systems offer optimal control of automated windows over multiple zones



- Modulating control.
- Weather monitoring.
- BEMS interface.
- Anti-finger trapping (optional).
- Data logging (optional).
- Integration with heating.
- Trickle ventilation.
- Night cooling function.
- Security Override.
- Emergency Fire Interlock (optional).



## *i-Window*Systems

Other products available from Midtherm:

Flues Masts and  
Chimneys

Commercial  
Canopies

Industrial Fan  
Systems

Natural Ventilation  
Systems

X-Stream Systems

Intelligent  
Controls

