

Product application checklist

Please complete in BLOCK CAPITALS

HVAC: Building environment zone controls

Manufacturer/supplier name:

ETL licence number (if applicable):

Applicant's name:

Telephone number:

Product information

Product name:

Model number:

Please complete each section of this form based on your product's characteristics. Incomplete or incorrect data could affect the processing of your product application.

Each product application should be made on a separate form unless a product's design characteristics are common to all the products. In this instance a single application can be made for multiple products.

| 1. | Product certification | No | Yes |
|-----|---|----|-----|
| 1.1 | Does your product conform to the requirements of the EU EMC Directive 89/336/EEC (as amended), or its replacement EU EMC Directive 2004/108/EC, in respect of its design, manufacture and testing procedures? | | |
| 1.2 | Is the product CE Marked? | | |

| 2. | Product type | No | Yes |
|-----|--|----|-----|
| 2.1 | What type of Building environment zone control is your product? a) A standalone control unit b) A centralised control unit c) A packaged control product d) An 'Add-on' control module | | |

2.2 Does the product incorporate control strategies that are designed to control other types of equipment?

If so, please provide details below:

.....

.....

Please note

- Products that incorporate control strategies that are also designed to control equipment other than zone heating, ventilation or air conditioning (or associated centralised HVAC plant) are only eligible, if such control is based on zone occupation schedules or status.
- Products that are designed to control the operation of:
 - a) Artificial lighting equipment must comply with the relevant parts of the eligibility ECA criteria for Lighting Controls.

| 2. Product type (continued) | No | Yes |
|--|----|-----|
| <p><i>b) Automatic monitoring and targeting equipment must comply with the relevant parts of the ECA eligibility criteria for Component Based AMT Systems</i></p> <p><i>c) Commercial Refrigeration Equipment must comply with the relevant parts of the ECA eligibility criteria for Refrigeration Systems Controls</i></p> <p><i>d) Air compressors must comply with the relevant parts of the ECA eligibility criteria for Master Controllers</i></p> | | |
| <p>2.3 How is this BEZC equipment/plant controlled:</p> <p>a) Directly by means of an analogue or digital signal connection</p> <p>b) Indirectly by means of another control device (or devices)</p> <p><i>Products that incorporate any of the following types of equipment are not eligible:</i></p> <ul style="list-style-type: none"> • Any type of heating, cooling, ventilation or air conditioning equipment (except for the product protection purposes) • Motors, pumps or fans (except for product cooling purposes) • Variable speed drives or switched reluctance drives • Valves, dampers or actuators • Burner control systems | | |

| 3. Product features | No | Yes | | | | | | | | |
|--|--|-----|----------------|--|-----------|-------|----------------------|-------|----------|-------|
| <p>3.1 Does the product incorporate a microprocessor-based controller?</p> | | | | | | | | | | |
| <p>3.2 Is the product pre-programmed to:</p> <p>a) Automatically control the individual environmental conditions in one or more zones within a building, in an energy efficient manner that reflects the occupation status or the level of activity in each zone and/or predefined zone occupation schedules.</p> <p>b) EITHER automatically switch between pre-defined operating modes, in accordance with the predefined occupation schedule or occupation status of the zones being controlled, OR automatically modulate the amount of zone heating, cooling, ventilation and air-conditioning applied in a manner that reflects the level of activity in the zone.</p> <p><i>Products must automatically control one of the following environmental conditions within each zone to be eligible: temperature, ventilation rate, or air condition.</i></p> | | | | | | | | | | |
| <p>3.3 How many pre-programmed control strategies does the product include?</p> <p>.....</p> | | | | | | | | | | |
| <p>3.4 How many zones does the product control?</p> <p>.....</p> | | | | | | | | | | |
| <p>3.5 Does the product have at least two different zone operating modes, including 'normal' and either 'economy' or 'standby' modes</p> <p><i>Please list below the terms used in your product literature for these three modes and highlight any additional operating modes:</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #003366; color: white;">Operating mode</th> <th style="background-color: #003366; color: white;">How described in your product literature</th> </tr> </thead> <tbody> <tr> <td>a) Normal</td> <td>.....</td> </tr> <tr> <td>b) Economy / Standby</td> <td>.....</td> </tr> <tr> <td>c) Other</td> <td>.....</td> </tr> </tbody> </table> | | | Operating mode | How described in your product literature | a) Normal | | b) Economy / Standby | | c) Other | |
| Operating mode | How described in your product literature | | | | | | | | | |
| a) Normal | | | | | | | | | | |
| b) Economy / Standby | | | | | | | | | | |
| c) Other | | | | | | | | | | |
| <p>3.6 Does the product incorporate an anti-tampering mechanism that prevents the product's control strategy and configuration settings from being modified, and automatic control from being disabled, except during commissioning, maintenance or testing?</p> | | | | | | | | | | |

| 4. Product features relating to the control of zone temperature | No | Yes |
|---|----|-----|
|---|----|-----|

Proceed to section 5 if the product does not control zone temperature.

4.1 Is the product designed to directly measure zone temperature by means of a temperature sensor, and automatically adjust heat flow into, or out of, the zone to maintain temperature within the predefined temperature limits for the operating mode?

4.2 Does the product:

- a) Provide facilities that enable building managers to define the temperature set-points for each operating mode in each zone to within +/- 1 degree centigrade, including separate set-points for zone heating and cooling?
- b) Limit the ability of building users to adjust the temperature set-point within individual zones, so any adjustments are restricted in terms of duration?
- c) Incorporate a mechanism or mechanisms that prevent simultaneous zone heating and cooling, and frequent cycling of heating and cooling equipment on and off?
- d) Solely rely on an external thermostatic device (for example, a digital thermostat) to determine when additional heating or cooling is required within a zone?
- e) Automatically reset any temperature set-point adjustments made by building users either after a pre-defined time interval (that may be fixed, or defined by the building manager), or where zone control is based on occupation schedule, at the next scheduled switching time?
- f) Do products that are designed to control window shading equipment monitor the position of the sun by means of a solar tracking sensor, and automatically adjust the position of window blinds or orientation of louvres in a manner that minimises the entry of solar radiation without excessive reduction in natural light?

| 5. Product features relating to the control of zone ventilation rate or air condition | No | Yes |
|---|----|-----|
|---|----|-----|

Proceed to section 6 if the product does not control zone ventilation or air condition.

5.1 Is the product designed to monitor zone ventilation rate or air condition by means of a presence detector or activity sensor, and automatically adjust the airflow into, or out of, the zone to maintain zone ventilation rates or air condition within the predefined limits for the operating mode?

5.2 Does the product:

- a) Incorporate a mechanism that automatically minimises ventilation rates in unoccupied zones, and in zones operating in economy or standby modes?
- b) Solely rely on an electronic or mechanical 'timing out' mechanism (for example, a spring loaded button) to determine when a zone is unoccupied?
- c) Allow building users to adjust ventilation rate set-points?
- d) Have a "night cooling mode" that makes use of natural ventilation to remove excess heat and cool the building fabric when the zone is unoccupied

Products must not allow building users to adjust ventilation rate set-points, but may allow building users to temporarily override ventilation rates for a limited period.

| 6. Product features relating to control based on zone occupation status | No | Yes |
|---|----|-----|
|---|----|-----|

Proceed to section 7 if zone control is not based on zone occupation status or level of activity..

6.1 Is the product able to monitor zone occupation status by means of presence detector or activity sensor (including CO2 level sensors), and automatically adjust zone-operating mode to maintain environmental conditions within the predefined limits for the zone occupation status?

Please note that manually operated devices (for example, push buttons or electronic touch buttons) are not considered to be presence detectors or sensors.

| 6. Product features relating to control based on zone occupation status (continued) | No | Yes |
|--|----|-----|
| <p>6.2 Does the product:</p> <ul style="list-style-type: none"> a) Provide facilities that enable building managers or users to manually switch the zone into economy or standby mode, without disabling automatic zone controls? b) Monitor the level of activity in the zone by means of presence detector or activity sensor, and automatically modulate the amount of heating, cooling, ventilation and air-conditioning applied in a manner that reflects the level of activity in the zone? c) Control kitchen ventilation, monitor the level of fumes resulting from the cooking activity, and automatically reduce the rate of extraction to the minimum necessary to maintain air condition within predefined limits? d) Monitor zone occupation status by means of one or more presence detectors, or activity sensors, which may include for example, CO2 level monitors, heat or motion detectors, moisture sensors etc. e) Not included manually operated devices (for example, electrical switches, electronic touch buttons or entry detection devices) as presence detectors unless they automatically reset to a “no presence detected state” after a pre-set period of time. f) Use a key card activated master control switch as an alternative to a presence detector which, when the key card is removed, is designed to switch the zone controller into economy or standby mode and to switch off all lighting and electrical appliances being controlled. g) Monitor the usage of lighting and electrical appliances by measuring energy, provided that they are also designed to use a presence detector or activity sensor to detect that the zone is unoccupied, and then to automatically switch such equipment off. h) Monitor the operation of plant and machinery within a zone and raise an alarm when a fault or fire is detected, or when unauthorised occupation is detected. In this context, a fault may include the local override of control settings or automatic control. i) Share the use of presence detectors and activity sensors with other types of management and control systems (e.g. building management systems). | | |
| 7. Product features relating to control based on zone occupation schedules | No | Yes |
| <p><i>Proceed to section 8 if zone control is not based on zone occupation schedules.</i></p> <p><i>Please note that products that control any type of centralised BEZC plant (including wet heating) must control zone environmental conditions based on occupation schedules</i></p> | | |
| <p>7.1 Does the product:</p> <ul style="list-style-type: none"> a) Automatically switch zones between operating modes, in accordance with the predefined and individual weekly occupation schedule for each zone controlled? b) Provide facilities that enable building managers to define the normal occupation times in each zone (in intervals of five minutes or less) for each day of the week, including at least two periods of occupation per day (i.e. at least 14 different occupation periods a week)? c) Provide facilities that enable building users to temporarily override the predefined schedules and/or to cancel the remaining portion of a pre-defined occupation period? d) Provide facilities that enable building managers to define future dates (e.g. holidays) when zone heating, cooling, ventilation and air-conditioning should be completely switched off, or operated at frost, fabric or equipment protection levels | | |
| <p>7.2 Does the product control zone heating or cooling?</p> <p>If no, proceed to 7.4.</p> | | |
| <p>7.3 Does the product:</p> <ul style="list-style-type: none"> a) Incorporate a zone ‘optimum start’ mechanism that monitors external and/or internal temperatures, and calculates when heating or cooling needs to begin in the zone in order to reach the pre-set temperature by the start of the next occupancy period? b) Provide facilities that enable building managers to define different temperature set-points for each scheduled period of normal occupation throughout the day and week? c) Provide facilities that enable building users to temporarily override the predefined schedules and/or to cancel the remaining portion of a pre-defined occupation period? | | |
| <p>7.4 Does the product control domestic hot water (DHW) systems?</p> <p>If no, proceed to 7.6.</p> | | |

| 7. | Product features relating to control based on zone occupation schedules (continued) | No | Yes |
|--|---|----|-----|
| 7.5 | Does the product provide facilities that enable building managers to define a separate operating schedule for the operation of DHW systems? | | |
| 7.6 | Does the product automatically reset overrides, either after a pre-defined time interval or at the next scheduled switching time? | | |
| 8. | Product features relating to the control of wet heating systems | No | Yes |
| <i>Proceed to section 9 if the product is not designed to control wet heating systems.</i> | | | |
| 8.1 | Does the product: | | |
| | a) Incorporate a 'self-adaptive weather compensation' mechanism that automatically saves energy during milder weather conditions, by reducing the temperature set-point of the boiler water circuit as the external temperature rises, and also the temperature of, or the heat flow through, the individual heating circuits for each zone controlled? | | |
| | <i>Please note: The mechanism must be able to 'learn' the thermal characteristics of the zone(s) and to automatically optimise the amount of weather compensation applied to each zone.</i> | | |
| | b) Incorporate a 'frost protection' mechanism that monitors external and/or internal temperatures (or pipework temperatures), and switches on boilers and heating circuits as required to prevent equipment and pipework from 'freezing up'? | | |
| | c) Provide facilities for building managers to 'temporarily override' or manually adjust the degree (or amount) of weather compensation applied to each zone controlled? | | |
| <i>If you have completed section 8, please ensure that you have also completed section 9.</i> | | | |
| 9. | Product features relating to the control of centralised HVAC plant | No | Yes |
| <i>Proceed to section 10 if the product is not designed to control centralized HVAC plant.</i> | | | |
| 9.1 | Does the product incorporate a mechanism that enables the building's HVAC systems to be easily switched into economy or standby mode, for example, when a scheduled activity finishes early? | | |
| 9.2 | Does the product control at least two zones? | | |
| 9.3 | Does the product control central heating or cooling systems? | | |
| | If no, proceed to section 10. | | |
| 9.4 | Monitor internal temperatures and automatically switch zone heating circuits on or cooling circuits off, to stop condensation occurring and to protect building fabric? | | |
| 9.5 | Incorporate an overall 'optimum start' mechanism that monitors external or internal temperatures, and calculates when the heating or cooling system needs to be switched on in order to reach pre-set temperatures by the start of the next occupancy period, after taking account of the requirements of each zone? | | |

10. Summary of documents to be included**No****Yes**

Please send **ONE** copy of each of the following documents:

If the relevant information in support of the questions above is contained within a larger document, please indicate the location of the relevant information. Note that all documentation submitted must directly refer to the model numbers for which you are making this application. Documentation should be added to your online application at <https://etl.decc.gov.uk>

- a. A technical sales brochure or leaflet for the product clearly summarising:
- i) The key features of the product (ideally including photographs of the product's exterior).
 - ii) The product's operation (i.e. in-built functionality) and intended applications (i.e. usage).
 - iii) Any product selection options (including optional extras, alternative configurations etc.).

This documentation should contain sufficient detail to enable the assessor to confirm that the proposed entry on the energy Technology Product List (ETPL) is correct, and uniquely represents a single product of fixed design (as defined by the rules of the ECA Scheme). If the model names contain any 'wildcards' in respect of cosmetic variations please check with ECA Questions that this is permitted before submitting your application.

- b. A technical specification for the product, including:
- i) Details of the model numbers covered (including individual features of each model).
 - ii) The product's design ratings (electrical, mechanical, thermal, flow rates, energy use etc.).
 - iii) A description of how to install the product including connection/wiring diagrams. Where the product must be assembled, configured and/or commissioned on site before use, please include instructions.

This documentation should contain sufficient detail to enable the assessor to confirm that each product entry on the Energy Technology Product List (ETPL) has the design features specified in the eligibility criteria for that category of product. Please indicate on the checklist where information on specific design features is located in the documentation.

- c. Please ensure that this documentation includes details of:
- i) The product's control input/output signals, and requirements for sensors or control valves.
 - ii) The product's automatic control strategies, mechanisms, and configuration settings.
 - iii) The anti-tampering mechanism used to prevent automatic control from being disabled.
 - iv) An explanation of how the product works and saves energy, and copies of any independently audited test reports that confirm the typical level of energy and carbon savings realised.
- d. A Declaration of Conformity with EU Directives on product safety, including one of the following:
- i) CE Marking Directives.
 - ii) EMC Directive 89/336/EEC (as amended) or 2004/108/EC.
- e. Evidence that a quality assurance system/procedures is/are in place to:
- i) Control the specification, design, manufacturing and testing of the products.
- f. Signed application checklist.

Please note that all product documentation provided must be written in, or translated into, English.

11. Declaration

I confirm that the information given above is correct to the best of my knowledge and that I have read and agree to the terms and conditions governing the management of the Enhanced Capital Allowance Energy Technology List (ETL).
A copy of the terms and conditions can be found at <https://www.gov.uk/guidance/energy-technology-list>

Signature: _____ Date: _____

For more information:

Web:
<https://www.gov.uk/guidance/energy-technology-list>

Phone:
0300 3300657

Email:
ECAQuestions@carbontrust.co.uk

Post:
Energy TL Coordinator,
ICF,
6th floor,
Watling House,
33 Cannon Street,
London, EC4M 5SB

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