

# ENERVEX® EBC 31 MODULATING PRESSURE CONTROLLER

020.3060.0521 05.21

Product Information

## Use

The EBC 31 is a multi-use, bi-directional draft or pressure controller with integrated webserver and remote access used with fans and dampers to monitor and maintain a constant draft or pressure by varying the speed of a fan(s) or the position of an actuator. It can be used with models RSV, IPVB, TDF, BEF and MDF.

Typical applications are:

- Maintain a constant draft by modulating a power venter in a mechanical draft system serving boilers and water heaters
- Maintain a constant draft by modulating position of an over-draft damper serving boilers and water heaters
- Maintain a constant duct pressure in a dryer venting system or a ventilation system
- Control the supply of combustion air to a mechanical room or directly to a boiler(s)
- Control and maintain room pressure

## Description

The EBC 31 features "Plug-n-Play" to automatically monitor all terminals and register components attached to the control during initial start-up. The control can provide a 0-10V signal to a Variable Frequency Drive (VFD) or actuator. An optional triac board can supply 0-120VAC power directly to the mechanical draft fan or air supply ventilator. An optional damper PCB can provide the ability to control an exhaust fan, an intake fan and a draft damper simultaneously. It can interlock with up to 6 heating appliances, and an unlimited number of additional heating appliances can be handled by using one or more ES12, Relay Box.

The control has an integrated safety system to assure the heating appliance will shut down in case of fan failure or control failure. A unique priority operation function will probe the operating conditions and allow as many appliances as possible to operate without fan assistance, provided the operation is considered safe by the integrated safety system.

The EBC 31 can be set up for intermittent operation so it pre-purges the stack prior to the boiler(s) start and post-purges up to 30 minutes after boiler stop. Alternatively, it can be set up for continuous operation where the fan runs continuously but modulates and runs at idle speed, if no appliances are operating.



The EBC31 can be configured either by using the LCD dot display and buttons, or by using the integrated webserver, which also allows remote monitoring and firmware upgrades. Two RS485 ports can be used for and BACnet communication, and one expansion board can be used for future hardware upgrades.

A bearing cycle activation rotates the fan motor(s) once every 24 hours if the fan(s) has not operated within the last 24 hours.

## Material

The enclosure is made in steel and is NEMA 1 rated.

## Standard Equipment

- Control box
- XTP Sensor
- 6' Silicone tubing
- Stack probe

## Listings

The EBC 31 is ETL Listed in the U.S. and Canada under file no. 101223937ATL:

- UL 60947 Standard for Industrial Control Equipment
- UL 378 Standard for Draft Equipment
- CSA C22.2 No. 14-95 Standard for Industrial Control Equipment

## Warranty

2-Year Factory Warranty. Complete warranty conditions are available from ENERVEX Inc.



**Intertek**

ETL File 101223937ATL

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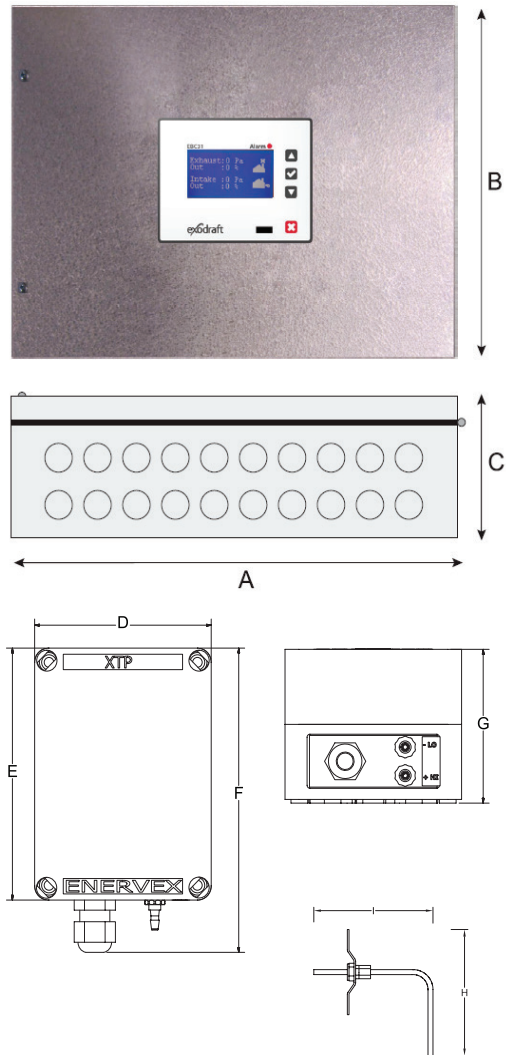
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## Specifications

| Model                                  |           | EBC31 Control               |
|--|-----------|-----------------------------|
| Power Supply                           | VAC       | 1x120                       |
| Max. Amperage with/without Triac Board | A         | 1.6 / 7.9                   |
| Operating Temperature                  | °C / °F   | -20 to 50 / -4 to 122       |
| Range of Operation                     | inWC/Pa   | -4.0 to +4.0 / -996 to +996 |
| Tolerance                              | inWC/Pa   | 0.01 / 3 +/-10%             |
| Control Signal                         | mA        | max. 10                     |
| Control Relay                          |           | Max. 250 VAC / 8A           |
| Output with Triac Board                | VAC       | 10-120                      |
| Output to VFD                          | VDC       | 0-10                        |
| EMC Standard                           | Emission  | EN 50 081-1                 |
|  | Immunity  | EN 50 082-2                 |
| Dimensions                             | A in / mm | 14.7 / 372                  |
|  | B in / mm | 11.0 / 280                  |
|  | C in / mm | 4.2 / 107                   |
| Weight                                 | lbs/Kg    | 8.9 / 4.0                   |
| XTP Sensor                             |           |                             |
| Power Supply                           | VDC       | 12-36                       |
| Amperage                               | mA        | 6                           |
| Operating Temperature                  | °C / °F   | -17 to 70 / -0 to 160       |
| Range of Operation                     | inWC/Pa   | -1.0 to +1.0 / -250 to +250 |
| Accuracy                               | inWC/Pa   | +/-0.08%                    |
| Dimensions                             | D in / mm | 3.7 / 94                    |
|  | E in / mm | 5.1 / 130                   |
|  | F in / mm | 6.2 / 157                   |
| Weight                                 | lbs/Kg    | .6 / .3                     |
| Stack Probe                            |           |                             |
| Dimensions                             | H in / mm | 4.3 / 108                   |
|  | I in / mm | 3.5 / 89                    |



Specifications are subject to change without notice.

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