



PENNBARRY™

*Moving Your Way*

**IPCM**

**Intelligent Pressure Control Module  
For Multi-story Supply/Exhaust  
Applications**



**INTRODUCTION**

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IPCM with Duct Sentry™ provides energy savings and peace of mind.

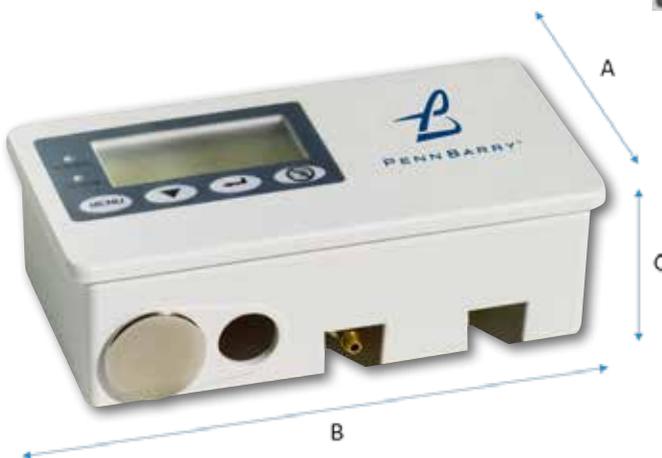
PennBarry's Intelligent Pressure Control Module (IPCM) with Duct Sentry™ integrates seamlessly with today's advanced motor technologies to provide substantial energy savings and peace of mind. Duct Sentry™ a proprietary, progressive-tune, closed loop, control, operates silently in the background, 24-7-365 to maximize energy savings while ensuring proper ventilation and duct pressure. IPCM is ideally suited for multi-story applications where it is common for central shafts to have numerous duct penetrations and where duct load pressure varies throughout the day depending on tenant use.

**Standard Features & Equipment**

- Duct Sentry™
  - Monitors duct pressure 24-7-365
  - Optimizes fan operation to maintain desired pressure
  - Sleep function turns system fan off when it is not needed
  - Visible and audible alarms alert you to event excursions
- 4 button membrane keypad for simple menu navigation
- Non-volatile memory saves settings through power cycles
- Password protected
- LCD displays operational status
- Multi-color backlight
- Compatible with all motor types that accept 0-10VDC input
- Interlocks for controlling up to two appliances
- Precise pressure control suitable for low pressure applications (-1.25 to +1.25 "wg)
- Duct Sentry™ Technology
- Silicone tubing (5') and static pressure probe
- NEMA 1 enclosure

**Warranty**

- Two year factory warranty.



**Dimensional References**

A	B	C
3"	5 5/8"	1 3/4"

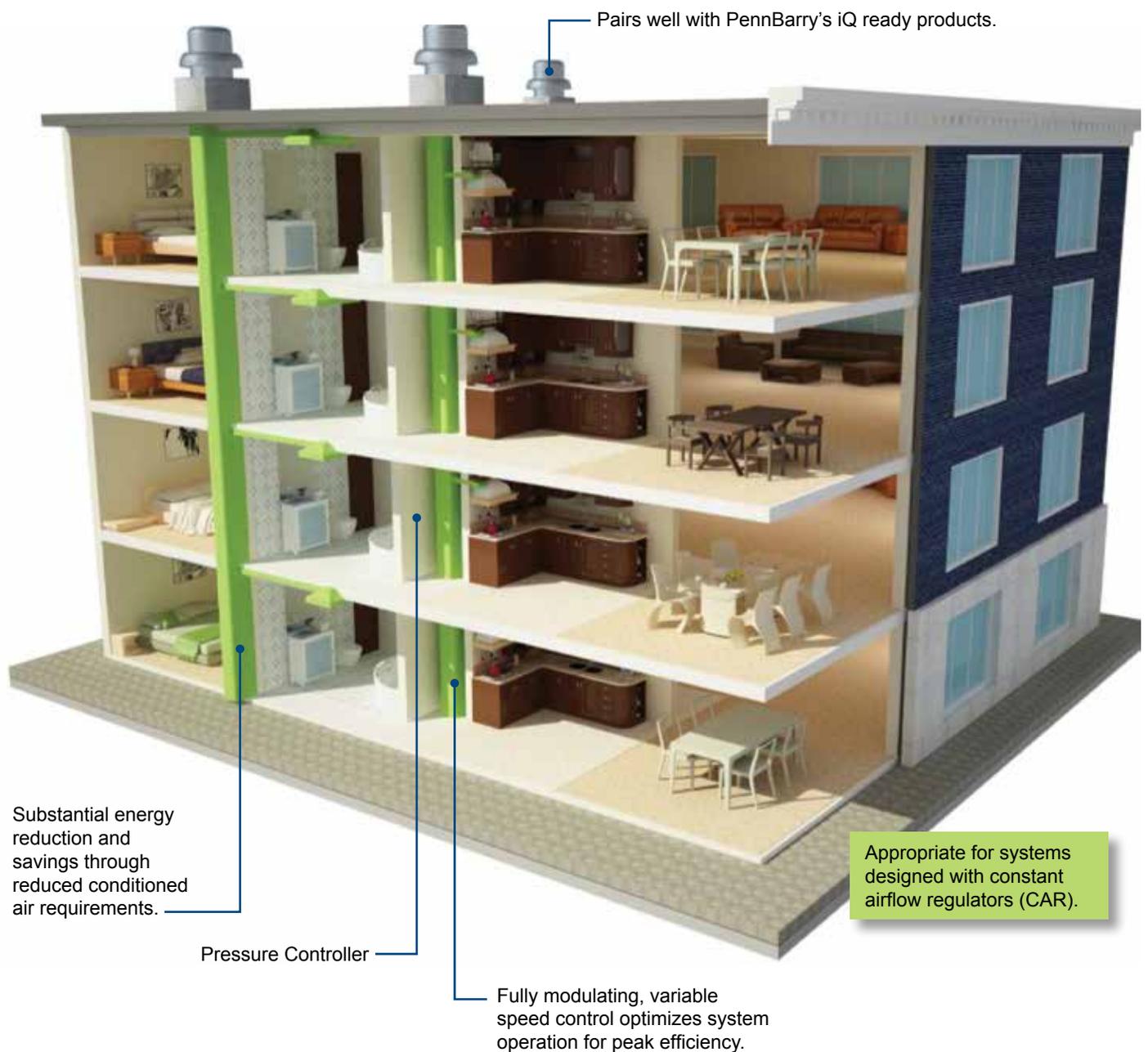
**Power Requirements & Usage**

Description	Voltage	Amps
Power Requirement	24VDC	1
Power Supply	24VDC	.150
Control Signal	0-10VDC	.1

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## APPLICATIONS

- PennBarry's IPCM intelligent pressure control module is ideal for multi-story, or high rise environment where maintaining specific duct pressure is desired, such as make up air, clothes dryers, kitchen hoods, and bathroom exhaust.
- For exhaust systems, the IPCM maintains constant pressure for increased efficiency and proper operation.
- For supply or make-up air applications, the IPCM maintains neutral room pressure to ensure safe appliance operation throughout operation cycle.
- Bi-directional pressure transducer for rapid response precision in rising and falling pressure conditions.



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## SEQUENCE OF OPERATION

At commissioning, the desired pressure set point is entered into the IPCM via the control module interface and stored in non-volatile memory. Neutral duct pressure and set point pressure is displayed simultaneously for rapid confirmation. The system is operating within defined parameters.

Once initial setup is complete, Duct Sentry™ takes over and tirelessly monitors duct/shaft pressure, automatically adjusting system fan motor operation (increasing or decreasing motor rpm) to maintain the desired set point, ultimately reducing energy consumption and saving you money. Should duct pressure drift outside the desired control range, PennBarry's IPCM with Duct Sentry™ is equipped with both visual and audible alarms. Built-in interlocks provide the means to control external devices and or notify a building automation system of pressure excursion events. When system pressure returns to normal operating conditions, Duct Sentry™ will automatically resets the system alarm.

For exhaust systems equipped with constant air flow regulators (CAR), IPCM's pressure set point is entered via the IPCM's interface and the sleep function is disabled. The IPCM is active at all times to deliver the minimum duct pressure to ensure full functionality of every CAR. The IPCM will adjust the exhaust fan's speed to accommodate any internal or external pressure changes.

## ENGINEERING SPECIFICATIONS

IPCM with Duct Sentry™ shall be manufactured by PennBarry. The Module shall be listed to UL 508, Standard for Industrial Control Equipment, and include a controller and pressure transducer. The contractor shall furnish and install 1/4" ID copper tubing between the pressure transducer and exhaust system. The pressure transducer shall reference the exhaust duct's pressure at the midpoint of the system. The controller shall maintain a user-selected constant pressure set point. The actual set point is determined at commissioning. The desired set point shall be set via the controller's interface, requiring no external manometers. The pressure is maintained by modulating the exhaust fan's motor speed directly or via a variable frequency drive for inverter-duty motors. The internal LCD panel shall provide actual duct pressure. For ECMs or inverter-duty motors, the module shall have a sleep function to disable the system fan when duct pressure falls within the desired range. The module's alarm function shall notify the building management system in case of a mechanical or electrical failure. The control module shall be supplied within an enclosure with an external visual and audible alarm.

PennBarry recommends all exhaust fans operated by the IPCM controller be listed for the application and be equipped with the correct motor.



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PennBarry is proud to be your preferred manufacturer of commercial and industrial fans and blowers. Learn how PennBarry products can assist you in your next application by contacting your PennBarry Representative or visiting us on the web at [www.pennbarry.com](http://www.pennbarry.com).

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