

Setra PEM

Pressurized Environment Monitor & Associated Bundles

- Supports 6 parameters per room
- 7" Projected capacitive touch screen
- BACnet MS/TP
- Flush mount to wall
- Mounts in standard electrical boxes
- Full touch response with medical gloves
- No programming required
- 4 Inputs & 2 outputs on-board
- Setra Model 264 Pressure Transducer included in all
- High accuracy 0.40% sensor standard
- Monitor pressure, temperature, humidity, air change rate, and 2 user-defined parameters
- 4 Customizable room profiles
- 2 Levels of password security
- User-defined on-screen text and icons
- Configuration options help reduce nuisance alarms
- 50mm Wall depth
- Cloning features reduces time required for multi-unit installation
- Remote duplicate display option shows parameters inside and outside of rooms

The Setra PEM provides a flexible pressurized environment monitoring solution in a simple-to-use package with multiple bundle options. An attractive flush-mount faceplate is complemented by an intuitive graphical display to meet any architectural requirement. The unit supports monitoring of 6 parameters for the pressurized space. The Setra Model 264 differential pressure sensor is included in all the bundles to be installed above the ceiling. Integration with building automation systems is made easy through BACnet MS/TP network protocol.

Modular design

A modular hardware design enables the PEM monitor to fit in various wall thickness found around the globe. Sufficient on-board I/O provides connectivity for most common equipment and sensor applications. A high accuracy 0.40% differential pressure transducer is included in all bundle options, with the option to select a 25 Pascal or a 50 Pascal range. A projected capacitive touch screen provides swipe functionality and allows for use with medical gloves. The faceplate is attached to the unit body, enabling both tamper resistant operation and easy opening for pressure calibration.

Feature Rich

PEM Bundles are designed to suit any application, with the ability to support monitoring and alarming on pressure, temperature, humidity, air changes per hour, and two additional user defined variables. Software for the PEM is pre-installed, with configuration and network integration done using simple setup screens. There is no programming required. When completed, configuration settings on one unit can be cloned to other devices using a standard USB thumb drive, thereby shortening commissioning time. Units can also be configured remotely over a BACnet network.



Specifications

Physical description

Dimensions	9.25" W x 6.3" H x 0.65"D (215.0mm x 160.0mm x 16.51mm)
Mounting	Triple-gang, double deep electrical box. RACO 697, Appleton M3-350, or equivalent
Case	Fire-retardant plastic UL94 V-0
Weight	2 lbs
Display	7" Projected Capacitive (PCAP) multi-touch. 800 x 480 pixels. Usable with medical gloves.
Display brightness	1-7
USB port	Micro-USB port for configuration cloning between units and software upgrades.
Audible alarm	Dual piezo

Communications

Protocols (BACnet objects can be found at setra.com) BTL- compliant

BACnet MS/TP up to 76.8 kbps, 3-conductor, twisted, shielded 16-24 AWG cable

Electrical

Power	24 VDC, 24 VAC (18-30 VAC operational), 50-60 HZ
Power draw	13 W max, 10 W typical
Wire	2 or 3-conductor (depending on application) stranded unshielded twisted pair, 16-24 AWG
Connections	Removable Terminal Blocks

Regulatory compliance

CSA, CE, RoHS, WEEE

Environmental data

Operating temp. °F (°C)	32 to 120 (0 to 50)
Storage temp. °F (°C)	-40 to 185 (-40 to 85)
Operating humidity	5 to 95% RH (non-condensing)
Ingress Protection (IP) rating	IP54

Chemical resistance

Exposed surfaces are chemically resistant to vaporized hydrogen peroxide (VHP), formaldehyde, chlorine dioxide (clidox), perchloric acid, sodium hypochlorite 3-6% (bleach), quaternary ammonium 7% in 1:128 tap water (ammonia).

Performance

Accuracy RSS	±0.40%
Non-linearity (BFSL)	±0.38%
Hysteresis	±0.10%
Zero/span shift % FS	± 0.033% FS
Overpressure	Up to 10 PSI
Pressure media	Air or non-conductive, non-explosive gases
Pressure fittings	3/16" barbed fittings
Altitude	6562 ft. (2000 m) max.
Position	Housing to be 90° in reference to level surface, ±5°

Specifications subject to change without notice.

Software features

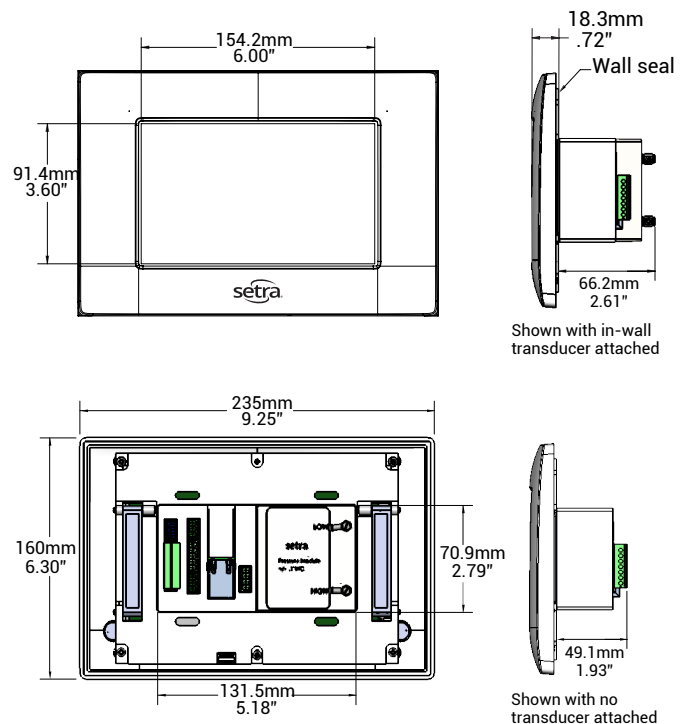
Home screen

Parameters per room (6)	Badges display pressure, temperature, humidity, air change rate, and 2 user-defined parameters. Each capable of monitor or control. All information available over BACnet.
Room profiles (4)	Define profiles for room environmental control and monitoring. User-defined text. Used for modes such as occupied, unoccupied, cleaning, or decontamination.
Pressure modes (3)	Positive, Negative, Neutral
Background colors (5)	Green, yellow, blue, red, orange for room condition.
Text (2)	User defined lines text that describe room condition.
Icons (32)	Choose from a palette of icons to represent room condition.

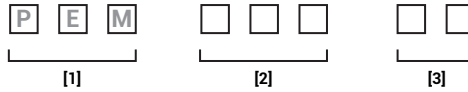
Alarming

Parameters per room (6)	Visual and audible alarms for pressure, temperature, humidity, air change rate, and 2 user-defined parameters.
Visual	Green = normal, Red = alarm, Yellow = warning
Audible	Dual buzzers
Disable	One-touch all alarms disable function.
Silence	Selectable 0 - ∞ seconds
Delay	Selectable 0 - 9999 seconds
Latch	Alarm option to hold alarm state until manually reset by operator.
Remote	Remote annunciation to dedicated unit (p/n SRAN)

Dimensions



Ordering information



[1]

Model	
PEM	Pressurized Environment Monitor

[2]

Bundle Type		P/N
PNN	Pressure Only	See Table 1
PTN	Pressure + Temp/RH	
PNV	Pressure + Velocity	
PTV	Pressure, Temp/RH, Velocity	

[3]

Pressure Range		P/N
25	25 Pascal 264 unit	2641025LB2DA1E
50	50 Pascal 264 unit	2641050LB2DA1E

Model 264, +/- 24 Pascal OR +/- 50 Pascal bidirectional pressure range, 0 to 5 VDC output, 1/2 in conduit enclosure, +/- 0.40% FS Accuracy

Table 1

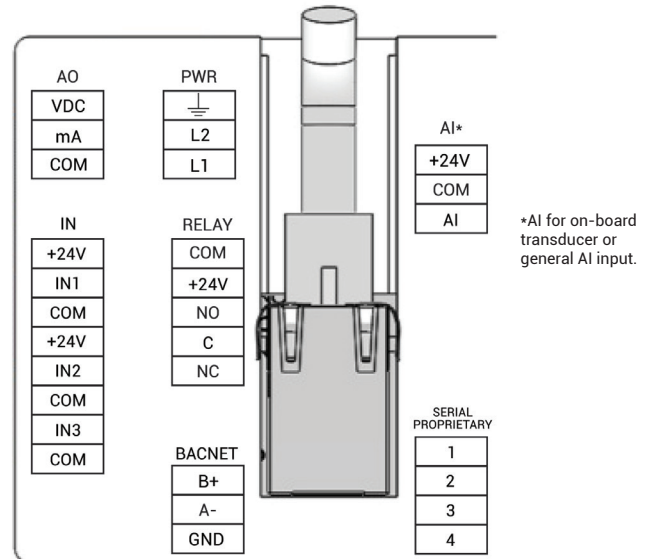
Included in Bundle--All Quantity 1:				
Part Number	Monitor	Pressure	Temp/RH	Velocity
PEMPNN	All bundles come with Setra's PEM for monitoring with 2 pressure snubbers	All bundles come with Setra's 264 Pressure transducer, select 25 or 50 Pascal range	None	None
PEMPTN			SRH13PW2CT5N	None
PEMPNV			None	SRVH2CVH20GN
PEMPTV			SRH13PW2CT5N	SRVH2CVH20GN

All bundles included Setra's PEM monitor with 2 pressure snubbers, one Model 264 transducer, and your choice of: Model SRH Temp/RH Sensor, 3% Accuracy, Wall Mount, 0 to 5 or 0 to 10 VDC, Temp Range -10 to 60°C, No Display Model SRVH Velocity Probe, 0-10V, 0-20 m/s range, 0.5 M cable length, No junction box

Inputs & Outputs

Universal inputs (3)	0-5 VDC, 0-10 VDC, or 4-20 mA input signal* Configurable for either Analog or Digital signals. Use external sensors for pressure, temperature, humidity, or any suitable application. Use as digital input for door, HVAC filter DP, or duct static DP pressure switch.
Analog input (1)	Dedicated for use as input for either on-board pressure transducer, or general AI input. Used only when no transducer is purchased on unit.
Analog output (1)	0-5 VDC, 0-10 VDC, or 4-20 mA output signal. Use as PI control loop to modulate reheat valves or other analog driven devices, pressure output signal, or mirror an input signal. Can be assigned to any room parameter.
Relay output (1)	24 VDC SPDT NO/NC Relay. Use as remote alarm annunciator or other NO/NC applications. Contact rating 2.0A @ 30 VDC
Wire	Stranded shielded twisted pair, 16-24 AWG .14-1.5 mm ² cross sectional area

*Installer provided 250Ω resistor required for 4-20mA signal



*AI for on-board transducer or general AI input.

