

SP155/SG155 SERIES BAS CONTROLS AND SENSORS



PECO AUTOMATION AND CONTROLS

SMART ENERGY MANAGEMENT



HIGHLIGHTS

- Original equipment design and manufacture
- Broad range of sensing and control applications
- Directly compatible with the UCM
- Available with and without logo
- In stock for immediate delivery
- Job-based pricing available

Support your installed base.

The number of UCM-based BAS systems is significant, representing one of the largest single installed bases in the industry.

Choose the PECO SP155/SG155 Series and support this base with a wide variety of BAS sensors and controls from the BAS sensor expert, PECO Automation and Controls.

Guaranteed OEM compatibility.

For more than 20 years PECO has been the exclusive supplier of sensors and controls designed specifically for the UCM application environment.

For each application, you can be assured of full compatibility using products designed and built by the OEM supplier. Put our experience to work for you today.



SP155/SG155 SERIES BAS CONTROLS AND SENSORS

Value, start to finish.

Value isn't just a good price, it's the quality, delivery, and support you need to get the job done.

From our professional Customer Service Team to expert applications engineering assistance, you can count on us to support you all the way.

MODEL SELECTION GUIDE

Model Number	PECO Part Number	Cross Reference Number
SG155-009	69297	X13510636010 BAYSENS006B
SP155-009	69306	
SG155-011	69298	435674920100 BAYSENS008B
SP155-011	69307	
SG155-017	69299	BAYSENS017B
SP155-017	69308	
SG155-023	69300	X13510609010 41901087
SP155-023	69309	
SG155-026	69301	X13510606010 41901094
SP155-026	69310	
SG155-027	69302	X13510606020 41901090
SP155-027	69311	
SG155-028	69303	X13510606030 41901088
SP155-028	69312	
SG155-035	69304	X13510611010 41901086
SP155-035	69313	
SG155-065	69305	X13510735010 BAYSENS014C
SP155-065	69314	



SG155-017
- No logo



SP155-017
- PECO logo



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Email: sales@pecomanufacturing.com
www.pecomanufacturing.com

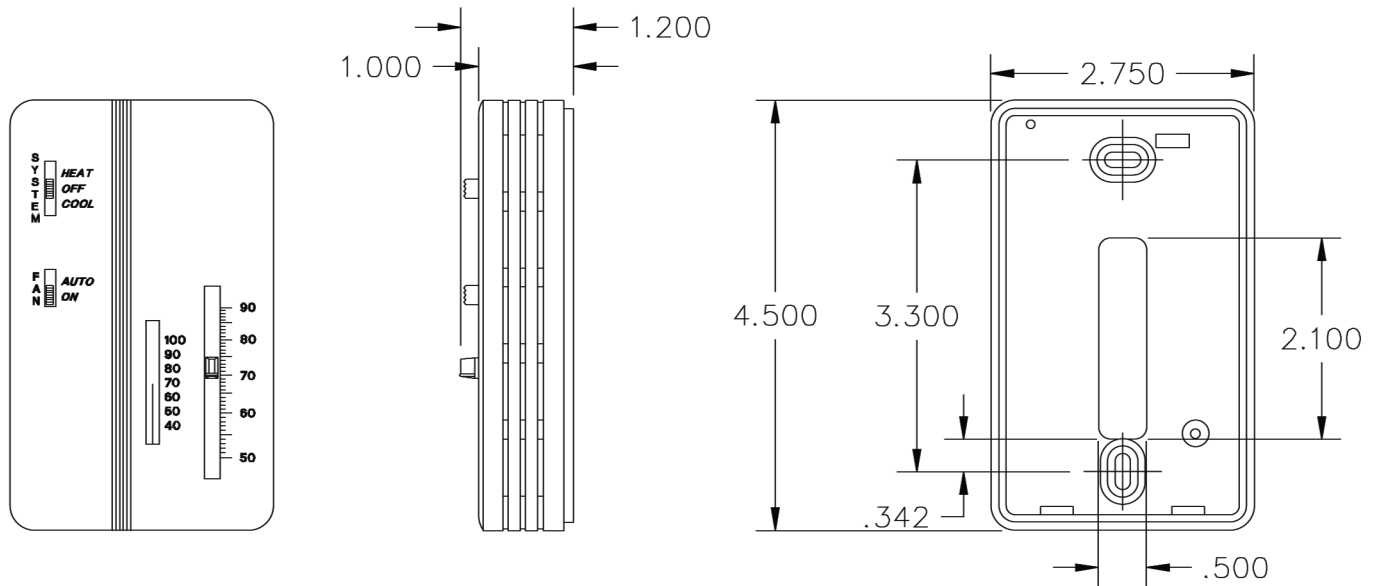


Installation Instructions

Models :

SP155-009/SG155-009

replaces X13510636010 BAYSENS006B



Description

This Zone Sensor Module provides the following features and system control functions:

- System control switch to select heating mode (HEAT), cooling mode (COOL), or to turn the system off (OFF).
- Fan control switch to select automatic fan operation while actively heating or cooling (AUTO), or continuous fan operation (ON).
- Temperature setpoint lever for setting desired temperatures.
- Thermometer to indicate temperature in the zone. (This indicator has been factory calibrated.)

Since the manufacturer has a policy of continuous product improvement, it reserves the right to change design and specifications without notice.

Application

- Cooling or Gas/Electric packaged rooftops (2 - 25ton).

Inspection

Check packaging and contents for damage. Check for concealed damage before storing. Report any damage immediately to the transportation company, and make any appropriate claims.

Inspection

Check packaging and contents for damage. Check for concealed damage before storing. Report any damage immediately to the transportation company, and make any appropriate claims.

Installation Steps

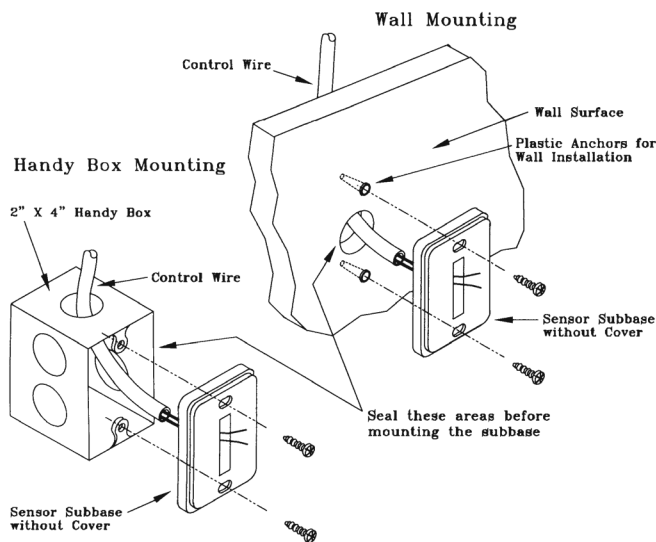
1. Mounting location. Choose a spot on an interior wall near the return air grille, about five feet above floor level, where air circulates freely and is of average temperature for the zone.

Avoid areas such as:

- behind doors;
- on outside walls, or any walls with unheated or uncooled areas behind the zone sensor;
- in direct sunlight, or any source of radiant heat that could affect the temperature measurements; or
- in line with the discharge air from the unit being controlled.

2. Mount subbase. Remove zone sensor cover from the subbase, and mount subbase on the wall or in a 2 x 4 handy box. Route the wires through the wire access hole in the subbase. (See Figure 1) Seal the hole in the wall behind the subbase.

Figure 1 - Zone Sensor Mounting (typical)



Wiring

⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

Note: Guidelines for wire sizes and lengths are shown in Table 1. The total resistance of these low voltage wires must not exceed 2.5 ohms per conductor. Any resistance greater than 2.5 ohms may cause the control to malfunction due to excessive voltage drop.

Note: Do Not run low-voltage control wiring in same conduit with high-voltage power wiring.

- 1. Run wires.** Run wires between the unit control panel and the zone sensor subbase. To determine the number of wires required, refer to Unit IOM for Wiring Connections.
- 2. Connect wires.** Connect the wiring to the appropriate terminals at the unit control panel and at the Zone Sensor subbase. In general, zone sensor connections to the unit use the convention of connecting Zone Sensor terminals to like numbered Unit terminals (1 to 1, 2 to 2, etc.). The connection detail is shown on the unit wiring diagrams which can be found in the unit service literature and on the unit.
- 3. Replace cover.** Place zone sensor cover back on the subbase, snap securely into place.

Table 1
Zone Sensor Maximum Lengths and Wire Size

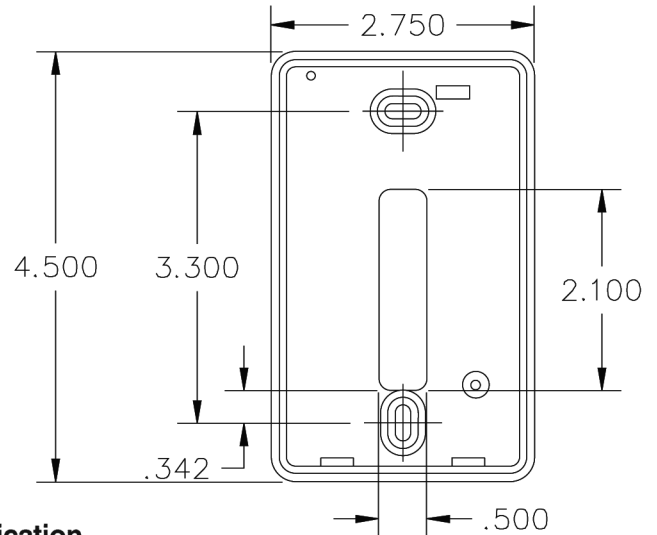
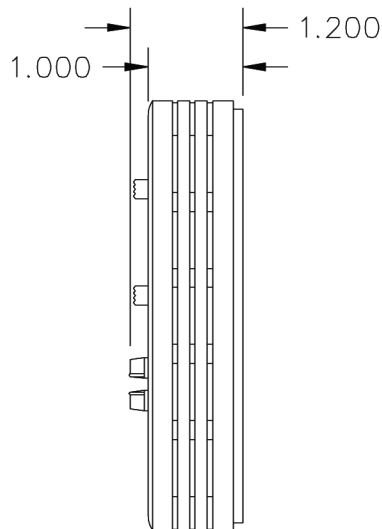
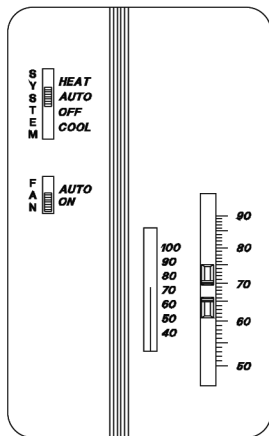
Distance from Unit to Control	Recommended Wire Size
000 - 150 feet	22 gauge
151 - 240 feet	20 gauge
241 - 385 feet	18 gauge
386 - 610 feet	16 gauge
611 - 970 feet	14 gauge

Installation Instructions

Models :

SP155-011/SG155-011 replaces
435674920100 BAYSENS008B

Zone Sensor Module for Heat/Cool Units Dual Setpoint, Auto C/O



Description

This Zone Sensor Module provides the following features and system control functions:

- System control switch to select heating mode (HEAT), cooling mode (COOL) automatic selection of heating or cooling as required (AUTO), or to turn the system off (OFF).
- Dual Temperature setpoint levers for setting desired temperature. The blue lever controls cooling, and the red lever controls heating.
- Thermometer to indicate temperature in the zone. (This indicator has been factory calibrated.)

Application

- Cooling, Gas/Electric, packaged rooftop units, (2- 25ton).
- Large Commercial Rooftop UCM units, (20 - 130 tons), with Constant Volume controls (5U56).
- Commercial Self-Contained units with Constant Volume Intellipak controls (SU29).

Inspection

Check packaging and contents for damage. Check for concealed damage before storing. Report any damage immediately to the transportation company, and make any appropriate claims.

Installation Steps

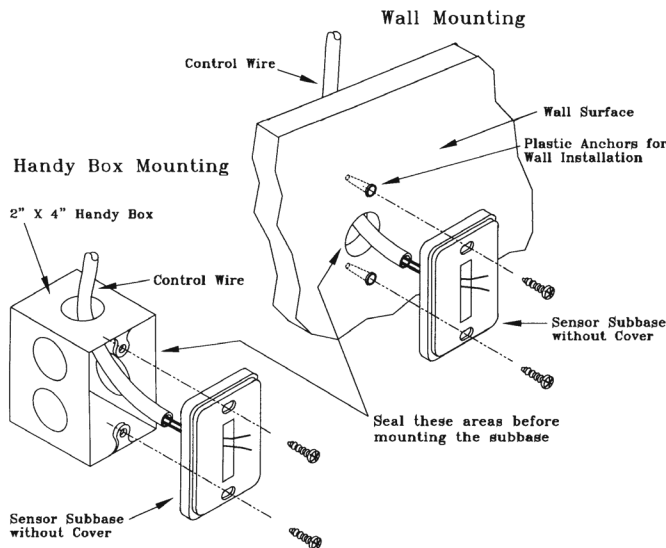
- 1. Mounting location.** Choose a spot on an interior wall near the return air grille, about five feet above floor level, where air circulates freely and is of average temperature for the zone.

Avoid areas such as:

- behind doors;
- on outside walls, or any walls with unheated or uncooled areas behind the zone sensor;
- in direct sunlight, or any source of radiant heat that could affect the temperature measurements; or
- in line with the discharge air from the unit being controlled.

- 2. Mount subbase.** Remove zone sensor cover from the subbase, and mount subbase on the wall or in a 2 x 4 handy box. Route the wires through the wire access hole in the subbase. (See Figure 1) Seal the hole in the wall behind the subbase.

Figure 1 - Zone Sensor Mounting (typical)



Wiring

⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

Note: Guidelines for wire sizes and lengths are shown in Table 1. The total resistance of these low voltage wires must not exceed 2.5 ohms per conductor. Any resistance greater than 2.5 ohms may cause the control to malfunction due to excessive voltage drop.

Note: Do Not run low-voltage control wiring in same conduit with high-voltage power wiring.

- 1. Run wires.** Run wires between the unit control panel and the zone sensor subbase. To determine the number of wires required, refer to Unit IOM for Wiring Connections.
- 2. Connect wires.** Connect the wiring to the appropriate terminals at the unit control panel and at the Zone Sensor subbase. In general, zone sensor connections to the unit use the convention of connecting Zone Sensor terminals to like numbered Unit terminals (1 to 1, 2 to 2, etc.). The connection detail is shown on the unit wiring diagrams which can be found in the unit service literature and on the unit.
- 3. Replace cover.** Place zone sensor cover back on the subbase, snap securely into place.

Table 1

Zone Sensor Maximum Lengths and Wire Size

Distance from Unit to Control	Recommended Wire Size
000 - 150 feet	22 gauge
151 - 240 feet	20 gauge
241 - 385 feet	18 gauge
386 - 610 feet	16 gauge
611 - 970 feet	14 gauge

Optional Remote Sensor (BAYSENS017)

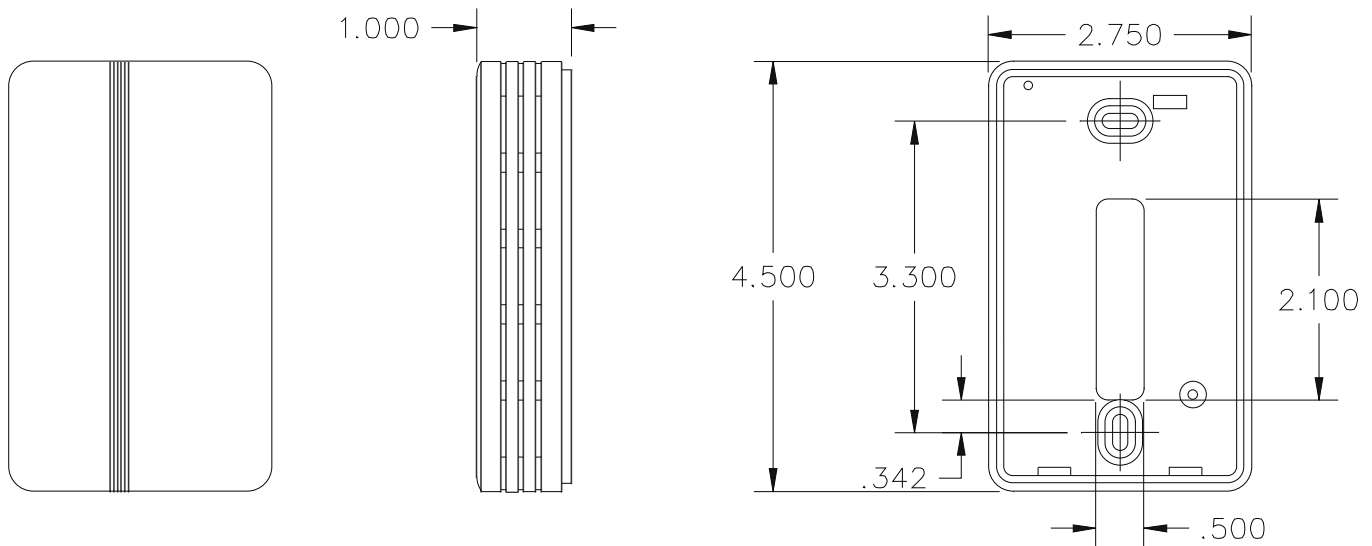
When using the optional remote sensor (BAYSENS017), mount it in the space that is to be controlled. Clip the thermistor (RT1) on the zone sensor module. Wire remote sensor to the zone sensor module according to the interconnecting wiring diagrams in the unit's IOM.

Installation Instructions

Models :

SP155-017/SG155-017
replaces BAYSENS017B

Remote Zone Sensor



Description

This Zone Sensor Module is for use with Cooling, Heating, and Heat Pump units. It provides the following features and system control functions:

- Remote temperature sensing in the zone

When used as a remote sensor for std zone sensor, the thermistor sensor must be disabled.

- Morning warm-up sensor(Large Commerical only)
- Zone sensor for ICS™ systems
- Zone temperature averaging

Application

- Cooling, Gas/Electric, or Heat Pump packaged rooftops (2-25 ton)
- Large Commercial Rooftop UCM units (20-130 tons) with Constant or Variable Air Volume controls 5U57, 5U61, 5U69, and 5RT16
- Commercial Self-Contained units with Intellipak controls 5U23, 5U26, 5U30 and 5RT5.

Inspection

Check packaging and contents for damage. Check for concealed damage before storing. Report any damage immediately to the transportation company, and make any appropriate claims.

Installation Steps

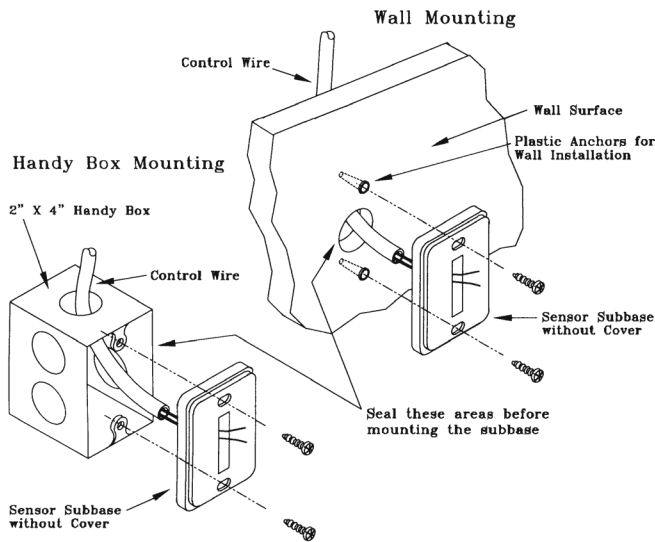
1. Mounting location. Choose a spot on an interior wall near the return air grille, about five feet above floor level, where air circulates freely and is of average temperature for the zone.

Avoid areas such as:

- behind doors;
- on outside walls, or any walls with unheated or uncooled areas behind the zone sensor;
- in direct sunlight, or any source of radiant heat that could affect the temperature measurements; or
- in line with the discharge air from the unit being controlled.

2. Mount subbase. Remove zone sensor cover from the subbase, and mount subbase on the wall or in a 2 x 4 handy box. Route the wires through the wire access hole in the subbase. (See Figure 1) Seal the hole in the wall behind the subbase.

Figure 1 - Zone Sensor Mounting (typical)



Wiring

⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

Note: Guidelines for wire sizes and lengths are shown in Table 1. The total resistance of these low voltage wires must not exceed 2.5 ohms per conductor. Any resistance greater than 2.5 ohms may cause the control to malfunction due to excessive voltage drop.

Note: Do Not run low-voltage control wiring in same conduit with high-voltage power wiring.

1. Run wires. Run wires between the unit control panel and the zone sensor subbase. To determine the number of wires required, refer to Unit IOM for Wiring Connections.

2. Connect wires. Connect the wiring to the appropriate terminals at the unit control panel and at the Zone Sensor subbase. In general, zone sensor connections to the unit use the convention of connecting Zone Sensor terminals to like numbered Unit terminals (1 to 1, 2 to 2, etc.). The connection detail is shown on the unit wiring diagrams which can be found in the unit service literature and on the unit.

3. Replace cover. Place zone sensor cover back on the subbase, snap securely into place.

Table 1
Zone Sensor Maximum Lengths and Wire Size

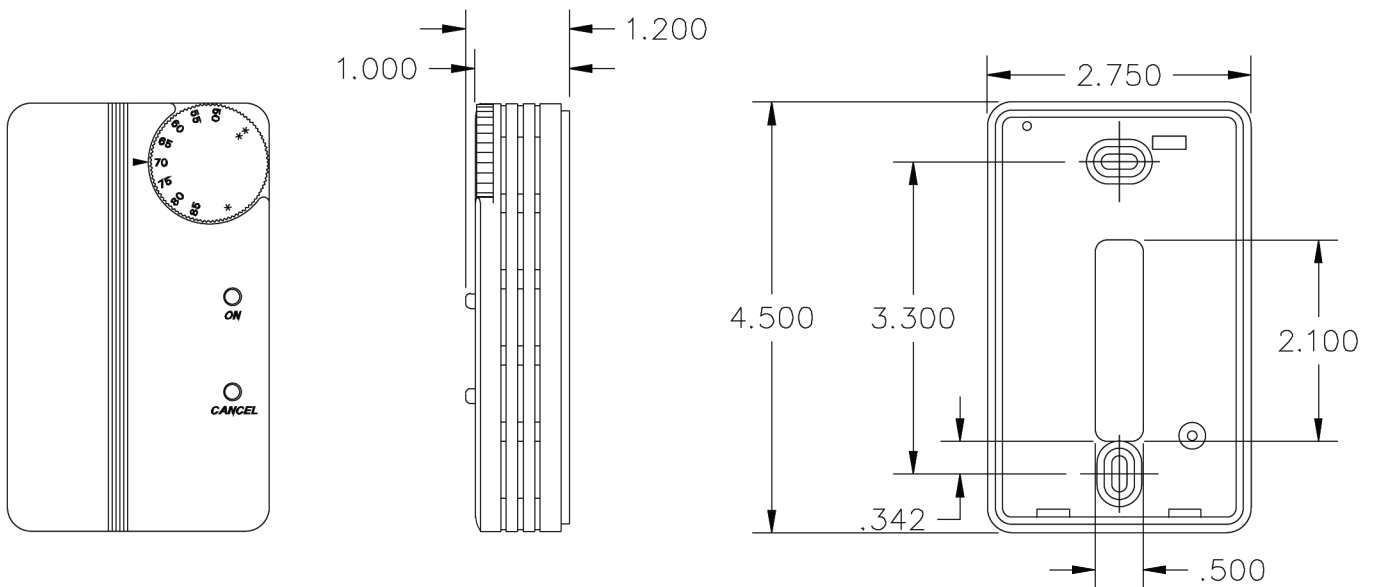
Distance from Unit to Control	Recommended Wire Size
000 - 150 feet	22 gauge
151 - 240 feet	20 gauge
241 - 385 feet	18 gauge
386 - 610 feet	16 gauge
611 - 970 feet	14 gauge

Installation Instructions

Models :

SP155-065/SG155-065 replaces
X13510735010 BAYSENS014C

Zone Sensor with Temperature Adjustment & Override



Description

This Zone Sensor Module is for use with Cooling, Heating, and Heat Pump units, and with ICS™ systems. It provides the following features and system control functions:

- Remote temperature sensing in the zone
- A timed override button to move an Integrated Comfort System (ICS™) or a building management system from its "Unoccupied" to "Occupied" mode.
- Thumbwheel for local setpoint adjustment
- An additional button on SP115-065 to cancel the "Unoccupied Override" command.

Application

- Cooling, Gas/Electric, or Heat Pump packaged rooftops (2-25 ton)
- Cooling, Gas/Electric Commercial rooftops with Constant Volume controls (27.5-50 tons)
- Large Commercial Rooftop UCM units (20-130 tons) with Constant or Variable Air Volume controls
- Commercial Self-Contained units with Intellipak controls (5U23).

Since the manufacturer has a policy of continuous product improvement, it reserves the right to change design and specifications without notice.

Inspection

Check packaging and contents for damage. Check for concealed damage before storing. Report any damage immediately to the transportation company, and make any appropriate claims.

Installation Steps

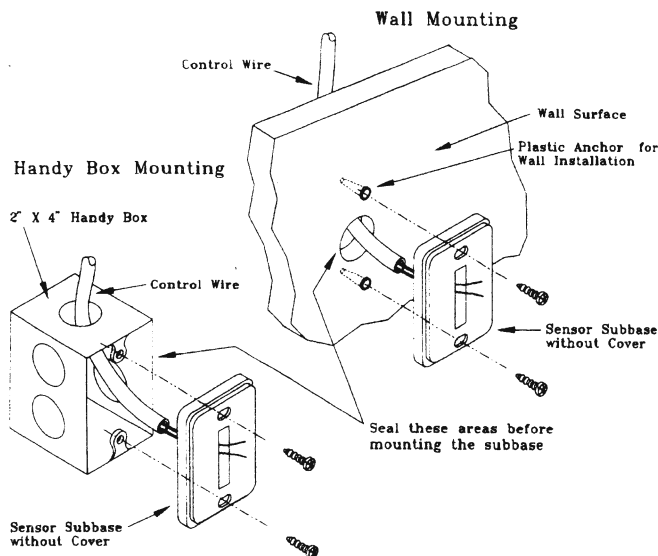
- 1. Mounting location.** Choose a spot on an interior wall near the return air grille, about five feet above floor level, where air circulates freely and is of average temperature for the zone.

Avoid areas such as:

- behind doors;
- on outside walls, or any walls with unheated or uncooled areas behind the zone sensor;
- in direct sunlight, or any source of radiant heat that could affect the temperature measurements; or
- in line with the discharge air from the unit being controlled.

- 2. Mount subbase.** Remove the adjustment knob and front cover from the subbase, and mount subbase on the wall or in a 2 x 4 handy box. (See Figure 1) Seal the hole in the wall behind the subbase.

Figure 1 - Zone Sensor Mounting (typical)



Wiring

⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

Note: Guidelines for wire sizes and lengths are shown in Table 1. The total resistance of these low voltage wires must not exceed 2.5 ohms per conductor. Any resistance greater than 2.5 ohms may cause the control to malfunction due to excessive voltage drop.

Note: Do Not run low-voltage control wiring in same conduit with high-voltage power wiring.

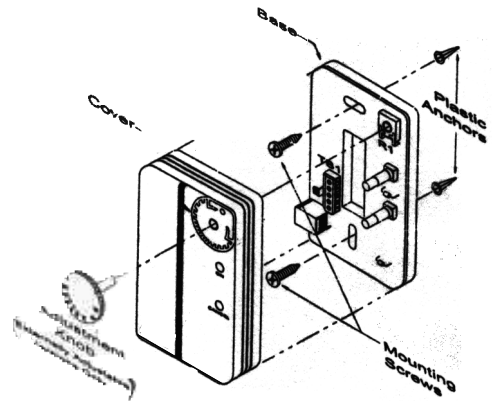
- 1. Run wires.** Run wires between the unit control panel and the zone sensor subbase. To determine the number of wires required, refer the Unit IOM for Wiring Connections.
- 2. Connect wires.** Connect the wiring to the appropriate terminals at the unit control panel and at the Zone Sensor subbase. In general, zone sensor connections to the unit use the convention of connecting Zone Sensor terminals to like numbered Unit terminals (1 to 1, 2 to 2, etc.). The connection detail is shown on the unit wiring diagrams which can be found in the unit service literature and on the unit.
- 3. Replace cover.** Place zone sensor cover back on the subbase, snap securely into place, then re-install the knob.

**Table 1
Zone Sensor Maximum Lengths and Wire Size**

Distance from Unit to Control	Recommended Wire Size
000 - 150 feet	22 gauge
151 - 240 feet	20 gauge
241 - 385 feet	18 gauge
386 - 610 feet	16 gauge
611 - 970 feet	14 gauge

Installation Instructions

Wall-Mounted Temperature Sensor Direct Digital Controls



Location

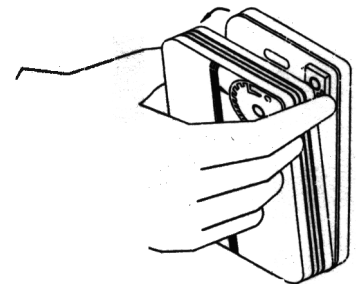
Proper location of the temperature sensor is crucial to maintain occupant comfort. Generally, the sensor should be placed in the most critical area of the zone where there is free circulation of air. It should be mounted on a flat interior surface, approximately 54" from the floor

Avoid locating the sensor:

- where direct sunlight may fall on or near it;
- in areas blanketed by air from diffusers;
- on surfaces having an uncooled or unheated area behind them, such as an outside wall or the wall of an unoccupied storeroom;
- near sources of heat, such as radiant heat from the sun, heat from appliances, or heat from concealed pipes or chimneys;
- in areas subject to drafts;
- in "dead" spots behind doors, draperies, or in corners.

Mounting

The temperature sensor consists of three basic parts: the base, the cover, and the adjustment knob (externally adjustable versions only). To remove the cover, first note the position of the adjustment knob (if present), then pull the knob out of the cover. The blade of a small screwdriver may be inserted behind the knob to gently pry it from the cover. Once the knob is removed, grasp the cover near the top and pull it away from the base (as illustrated at right).



To replace the cover, align the cover with the sides of the base and press the cover directly toward the wall until it snaps into place. To replace the adjustment knob, align the knob to the position noted prior to its removal and push the stem through the cover hole until the stem seats firmly in setpoint potentiometer VR3. Turn the knob to ensure that it rotates freely through the entire range of Temperature settings.

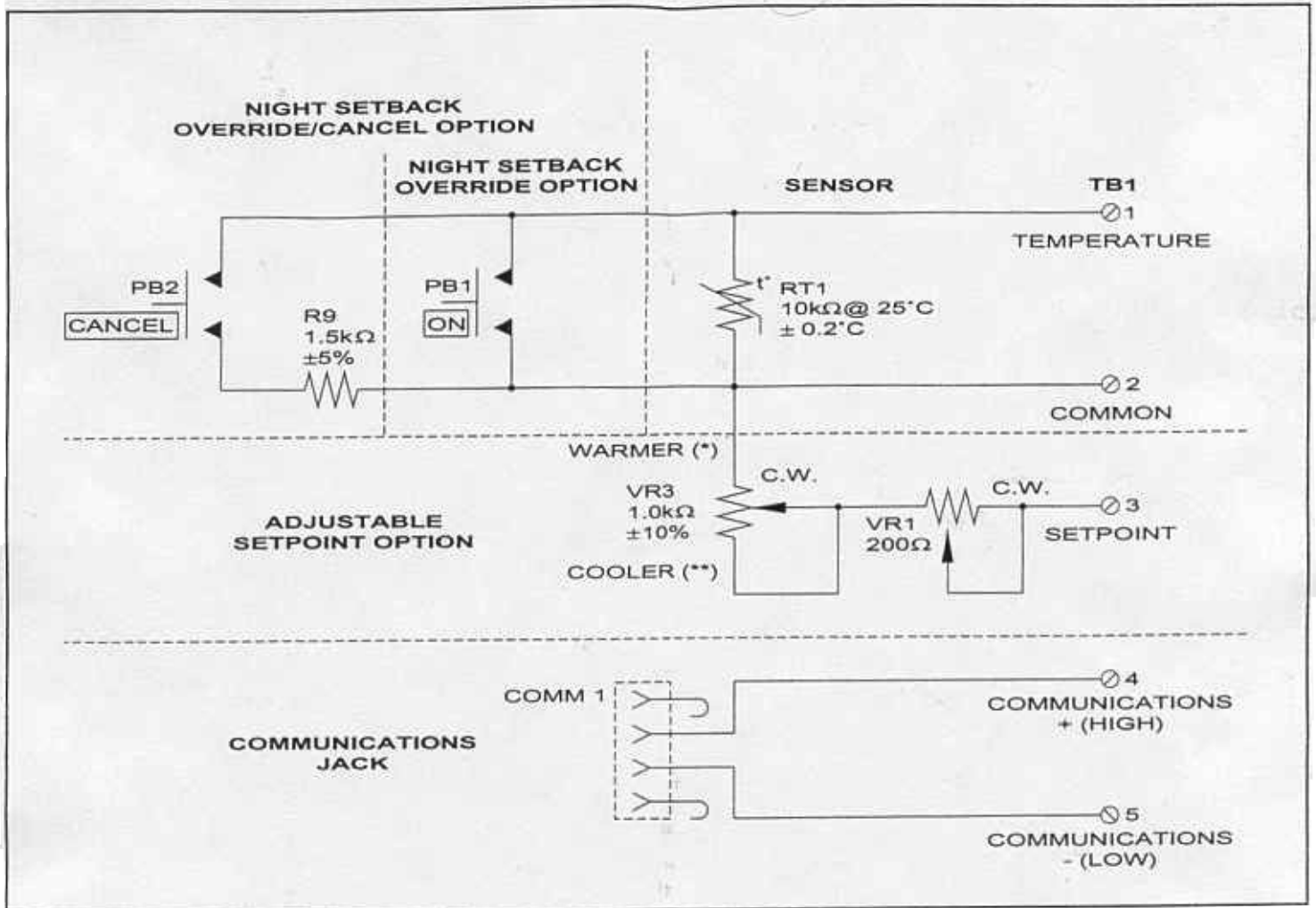
To Mount Directly to a Wall:

With the cover removed, feed the controller wires through the base's rectangular opening and position the back of the base over the wire entry in the wall. Ensure that the base is level. Mark the centers of the two oblong mounting holes, then lay the base aside. At each of the marked locations, drill a 3/16" diameter hole approximately 1" deep and insert the plastic anchors. Fully seat the anchors. Feed the controller wires through the base, then fasten the base to the wall with the supplied mounting screws. Connect the controller wires to TB1 on the temperature sensor per the equipment wiring diagram and replace the cover. For reference, a schematic of the temperature sensor is provided on the back of this installation sheet.

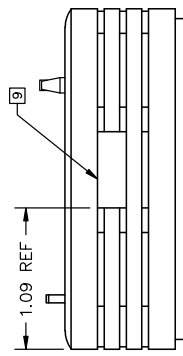
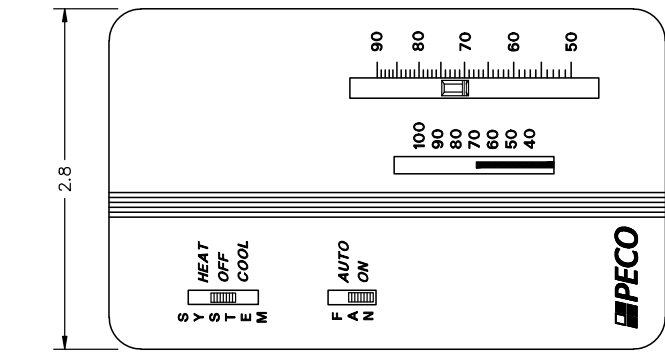
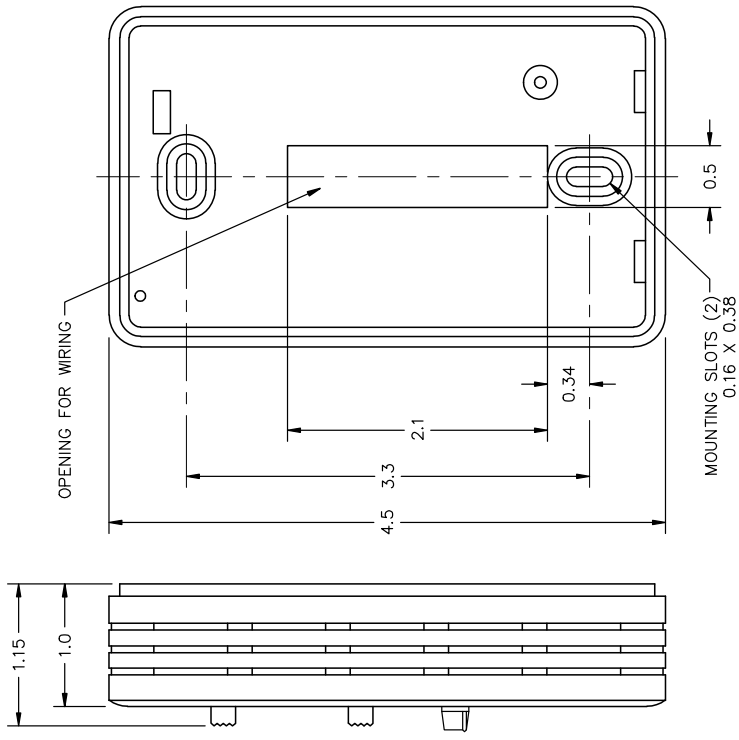
To Mount to a Junction Box:

To secure the temperature sensor directly to a vertical junction box, remove the sensors cover as described above. Feed the controller wires through the rectangular opening in the sensors base and then fasten the base to the the junction box's threaded mounting holes with two #6-32 screws. Connect the controller wires to TB1 on the temperature sensor per the equipment wiring diagram and replace the cover. For reference, a schematic of the temperature sensor is provided on the back of this installation sheet.

**Schematic of the Wall-Mounted
Temperature Sensor for Direct Digital Controls**



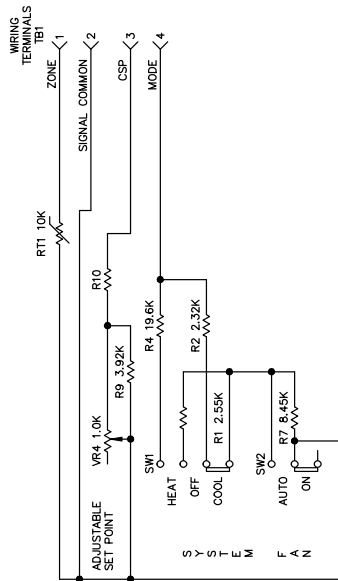
DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	INITIAL RELEASE	SEM	SR



- NOTES:
- CONFIGURATION: SENSOR WITH EXTERNALLY ADJUSTABLE 'F' SET POINT, 3 POSITION SYSTEM SWITCH, 2 POSITION FAN SWITCH, THERMOMETER. REMOVE RT1 FOR USE WITH REMOTE SENSOR.
 - SET POINT CONTROL:
 - 1.0K OHMS MAX REF.
 - CALIBRATED SUCH THAT 500 OHMS IS OBTAINED BETWEEN TERMINALS 2 AND 3 WHEN SET AT 70 F (21.1 C).
 - THERMISTOR:
 - THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ±1.0 C.
 - THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ±0.15 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
 - MATERIAL COLOR AND MARKINGS:
 - COVER, BASE, AND SLIDE SWITCH KNOBS: PANTONE COOL GRAY 2-C.
 - COVER MARKINGS: PANTONE 424-C.
 - COVER TYPE FONT: UNIVERS MEDIUM OR UNIVERS MEDIUM ITALICS.
 - SET POINT KNOB: BLUE PER T1.-485.
 - ELECTRICAL CONNECTIONS: TERMINAL BLOCK - PRESSURE CONNECTIONS.
 - IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSURE. INFORMATION TO INCLUDE: PECO, INC SP155-009 DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - PACKAGING:
 - INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE: PECO, INC SP155-009
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - SWITCH RESISTANCE: READINGS BETWEEN TERMINALS 2 AND 4 ARE WITHIN THE TOLERANCES LISTED BELOW:

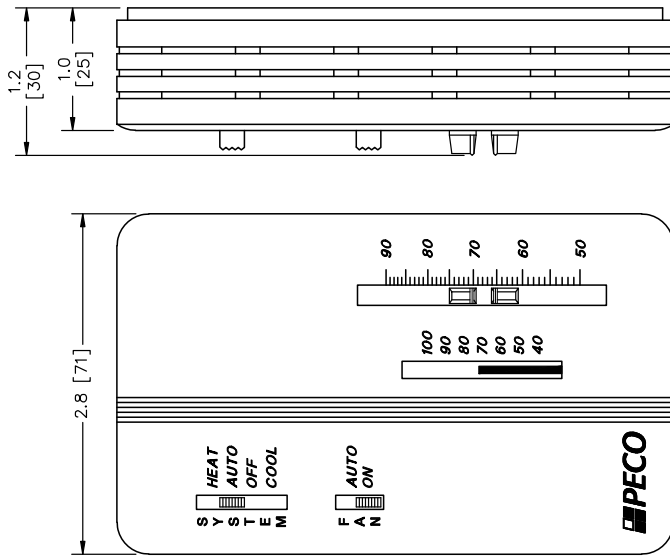
SWITCH POSITIONS	NOMINAL	HIGH	LOW
OFF/AUTO	2320	2343	2297
COOL/AUTO	4870	4919	4821
OFF/ON	10770	10878	10662
COOL/ON	13320	13453	13187
HEAT/AUTO	18600	19798	19404
HEAT/ON	28050	28551	27651

9 0.59" X 0.23" VENTILATION SLOT.



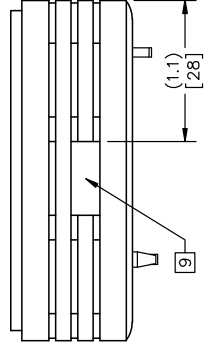
		PECO, INC. PORTLAND, OR, USA	
TOLERANCES EXCEPT AS NOTED	PART NUMBER	SCALE	TITLE
.X= .XX= .XXX=	69306	FULL	SENSOR ASSY, SP155-009
DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING		SIZE DRAWING NUMBER	
		B SP155-009	

DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	ECN 8008 NOTE 7: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR



OPENING FOR WIRING

2X MOUNTING SLOTS
0.16 X 0.38 [4.1 X 9.7]

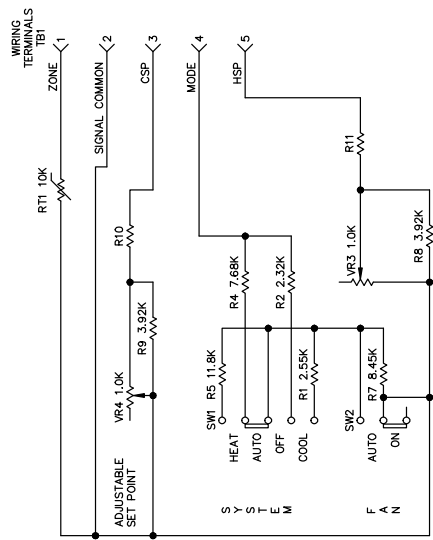


NOTES:

1. CONFIGURATION: SENSOR WITH EXTERNALLY ADJUSTABLE °F HEATING AND COOLING SET POINTS, 4 POSITION SYSTEM SWITCH, 2 POSITION FAN SWITCH, THERMOMETER. REMOVE RT1 FOR USE WITH REMOTE SENSOR.
2. SET POINT CONTROL:
 - A. COOLING SET POINT CALIBRATED SUCH THAT 500 OHMS IS OBTAINED BETWEEN TERMINALS 2 AND 3 WHEN SET AT 70 F (21.1 C)
 - B. HEATING SET POINT CALIBRATED SUCH THAT 539 OHMS IS OBTAINED BETWEEN TERMINALS 2 AND 5 WHEN SET AT 68 F (20.0 C)
3. THERMISTOR:
 - A. THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ±1.0 C
 - B. THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ±0.15 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
4. MATERIAL COLOR AND MARKINGS:
 - A. COVER, BASE AND SLIDE SWITCH HANDLES: PANTONE COOL GREY 2-C
 - B. COVER, THERMOMETER AND FAN SWITCH HANDLES: PANTONE MEDIUM ITALICS
 - C. COVER TYPE FONT: UNIVERS MEDIUM OR UNIVERS MEDIUM ITALICS
 - D. COOLING SET POINT KNOB: BLUE PER TI-485
 - E. HEATING SET POINT KNOB: RED PER TI-484
5. ELECTRICAL CONNECTIONS: TERMINAL BLOCK: PRESSURE CONNECTIONS.
6. IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSURE. INFORMATION TO INCLUDE:
 - A. DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
7. PACKAGING:
 - A. INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE: PECO, INC SP155-011
 - B. DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - C. EACH CARTON TO INCLUDE MOUNTING HARDWARE AND INSTRUCTION SHEET. 10 UNITS PER CASE CARTON, 4 CASES PER MASTER CARTON.
8. SWITCH RESISTANCE: READINGS BETWEEN TERMINALS 2 AND 4 ARE WITHIN THE TOLERANCES LISTED BELOW:

SWITCH POSITIONS	NOMINAL	HIGH	LOW
OFF/AUTO	2320	2343	2297
COOL/AUTO	4870	4919	4821
AUTO/AUTO	7680	7757	7603
OFF/ON	10770	10878	10662
COOL/ON	13320	13453	13187
AUTO/ON	16130	16291	15969
HEAT/AUTO	19480	19675	19285
HEAT/ON	27930	28209	27651

9 0.59" X 0.23" VENTILATION SLOT.



PECO, INC.
PORTLAND, OR, USA

TOLERANCES EXCEPT AS NOTED
INCH [METRIC] PART NUMBER SCALE
.XX± .XX± FULL
.XXX± .XXX±

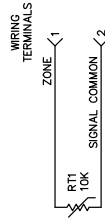
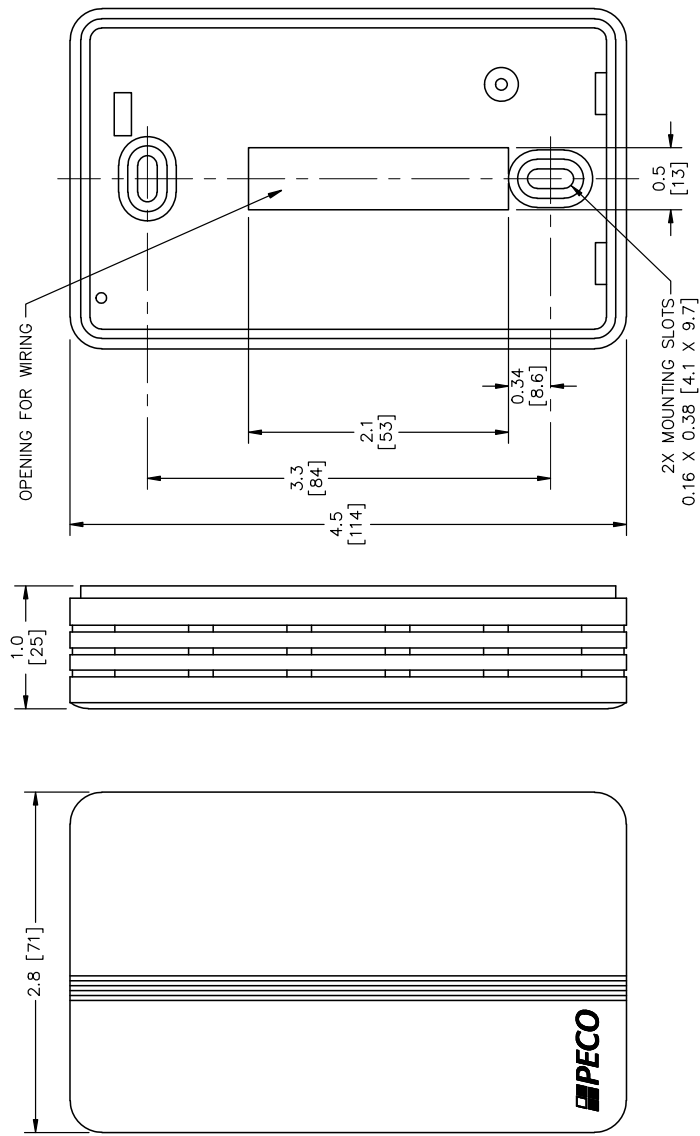
69307 TITLE
SENSOR ASSY, SP155-011

DO NOT SCALE DRAWING: SIZE B
DRAWING NUMBER SP155-011

DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	ECN 8008 NOTE 5: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR

NOTES:

1. THERMISTOR:
A. THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ±1.0 C
B. THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" +0.15 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
2. MATERIAL COLOR AND MARKINGS:
A. COVER AND BASE: PANTONE COOL GREY 2-C
B. COVER MARKING: PANTONE 424-C
3. ELECTRICAL CONNECTIONS: TERMINAL BLOCK - PRESSURE CONNECTIONS
4. IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF PECO, INC. INFORMATION TO INCLUDE:
SP155-017
DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
5. PACKAGING:
A. INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE:
PECO, INC.
SP155-017
DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
B. EACH CARTON TO INCLUDE MOUNTING HARDWARE AND INSTRUCTION SHEET.
10 UNITS PER CASE CARTON, 4 CASES PER MASTER CARTON.
6. CONFIGURATION: SENSOR ONLY



PECO, INC. PORTLAND, OR, USA	
TOLERANCES EXCEPT AS NOTED INCH [METRIC] .XX" .XXX" .XXX" ANGULAR °	PART NUMBER 69308 SCALE FULL TITLE SENSOR ASSY, SP155-017
DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING SIZE B DRAWING NUMBER SP155-017	

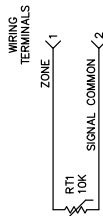
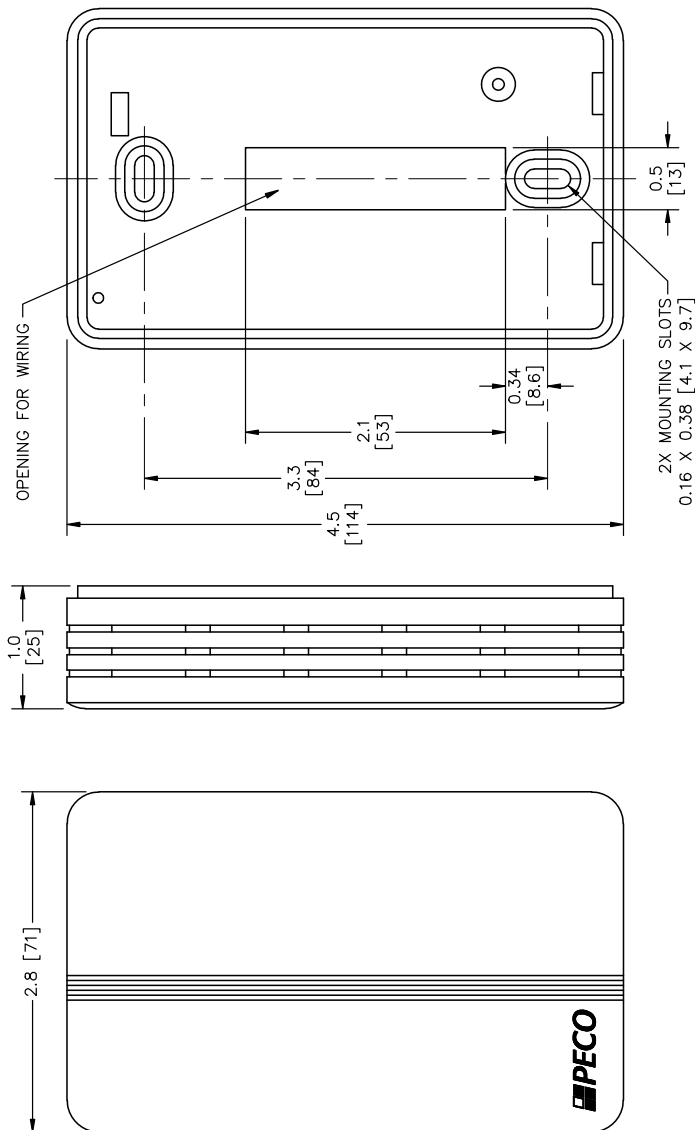
DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	ECN 8008 NOTE 6: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR

NOTES:

1. CONFIGURATION: SENSOR ONLY
2. THERMISTOR:
 - A. THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ± 0.2 C.
 - B. THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ± 0.015 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
3. MATERIAL COLOR AND MARKINGS:
 - A. COVER AND BASE: PANTONE COOL GRAY 2-C.
 - B. COVER MARKINGS: PANTONE 424-C.
 - C. COVER TYPE FONT: UNIVERS MEDIUM OR UNIVERS MEDIUM ITALICS.
4. ELECTRICAL CONNECTIONS: TERMINAL BLOCK - PRESSURE CONNECTIONS.
5. IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSURE. INFORMATION TO INCLUDE:
 - A. PART NUMBER: SP155-023
 - B. DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
6. PACKAGING:
 - A. INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE: PECO, INC SP155-023
 - B. DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).



- B. EACH CARTON TO INCLUDE MOUNTING HARDWARE AND INSTRUCTION SHEET. 10 UNITS PER CASE CARTON, 4 CASES PER MASTER CARTON.

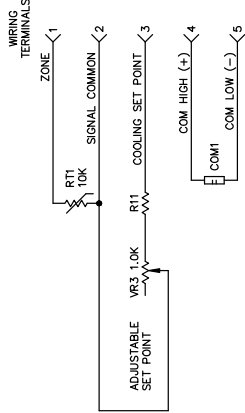
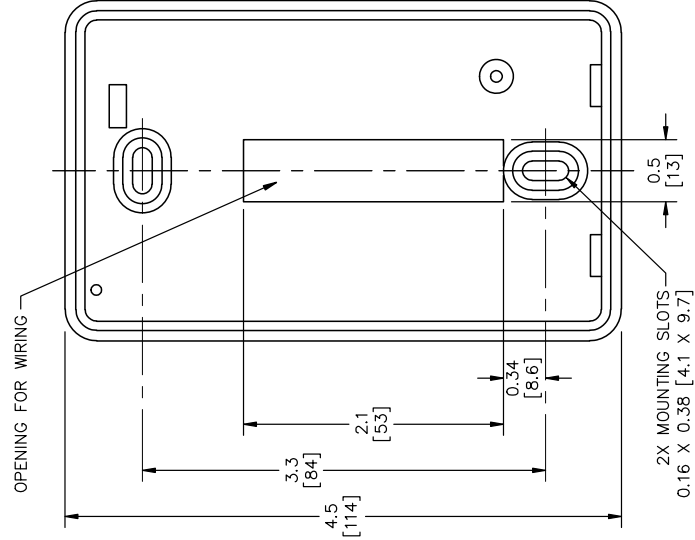
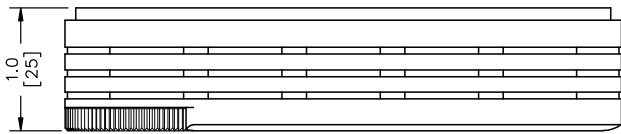
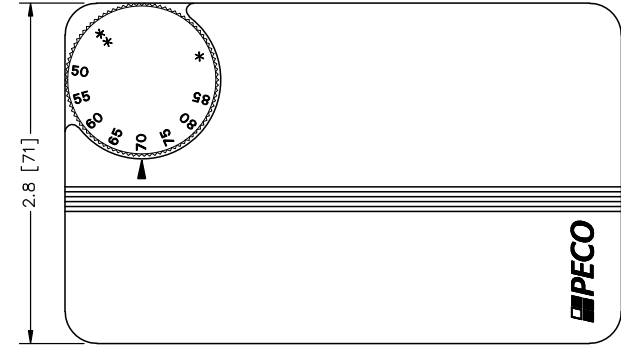


TOLEANCES EXCEPT AS NOTED		PECO, INC. PORTLAND, OR, USA	
INCH [METRIC]	PART NUMBER	SCALE	FULL
.XX±	69309		
.XXX±			
.XXX±			
ANGULAR		TITLE	
±		SENSOR ASSY, SP155-023	
DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING		SIZE	DRAWING NUMBER
		B	SP155-023

DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	ECN 8008 NOTE 7: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR

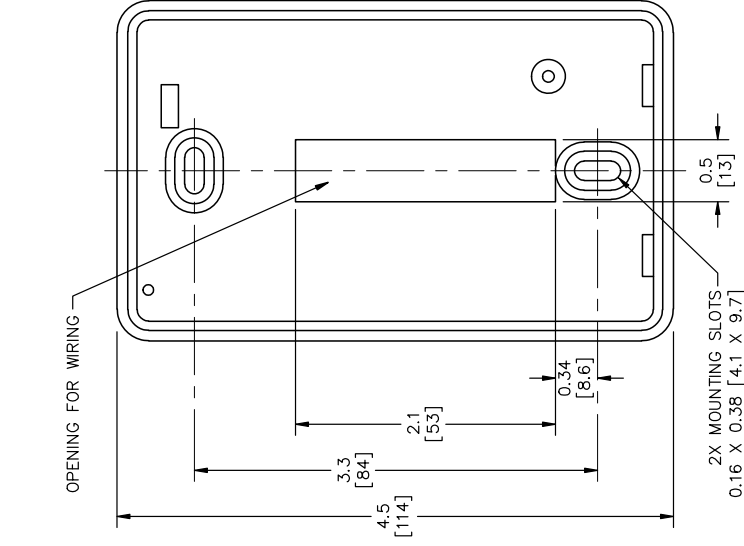
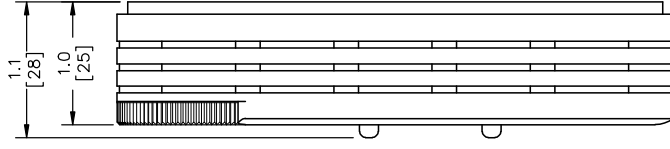
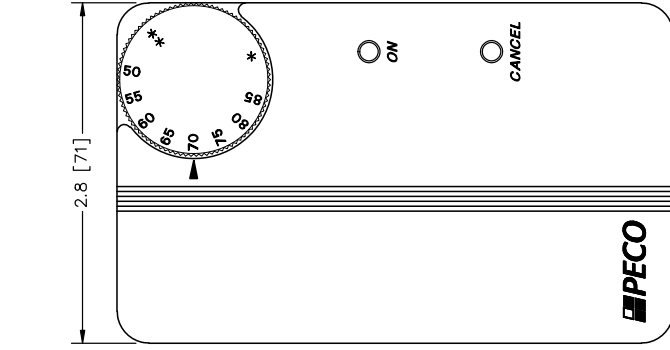
NOTES:

- CONFIGURATION: SENSOR WITH EXTERNALLY ADJUSTABLE SET POINT AND COMMUNICATIONS JACK.
- SET POINT CONTROL:
 - 1.0K OHMS MAX REF
 - CALIBRATED SUCH THAT 500 OHMS IS OBTAINED BETWEEN TERMINALS 2 AND 3 WHEN SET AT 70 F (21.1 C).
- THERMISTOR:
 - THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ± 0.2 C
 - THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ± 0.015 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
- MATERIAL COLOR AND MARKINGS:
 - COVER, BASE, AND KNOB: PANTONE COOL GREY 2-C
 - COVER & ROTARY KNOB MARKINGS: PANTONE 424-C
 - ROTARY KNOB TYPE FONT: UNIVERS MEDIUM
- ELECTRICAL CONNECTIONS:
 - TERMINAL BLOCK: PRESSURE CONNECTIONS
 - COMMUNICATIONS JACK: WESTERN ELECTRIC TYPE 616 OR EQUIVALENT
- IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSEURE. INFORMATION TO INCLUDE:
 - PECO, INC
 - SP155-026
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
- PACKAGING:
 - INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE:
 - PECO, INC
 - SP155-026
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - EACH CARTON TO INCLUDE MOUNTING HARDWARE AND INSTRUCTION SHEET.
 - 10 UNITS PER CASE CARTON, 4 CASES PER MASTER CARTON.

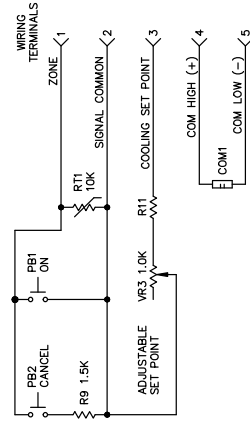


PECO		PECO, INC. PORTLAND, OR, USA	
TOLERANCES EXCEPT AS NOTED	PART NUMBER	SCALE	TITLE
.X=	69310	FULL	SENSOR ASSY, SP155-026
.XX=			
.XXX=			
.0001=			
DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING		SIZE	DRAWING NUMBER
		B	SP155-026

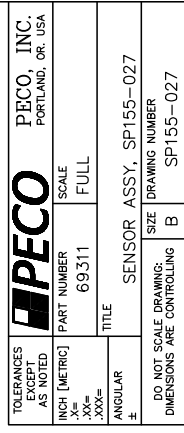
DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	ECN 8008 NOTE 7: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR



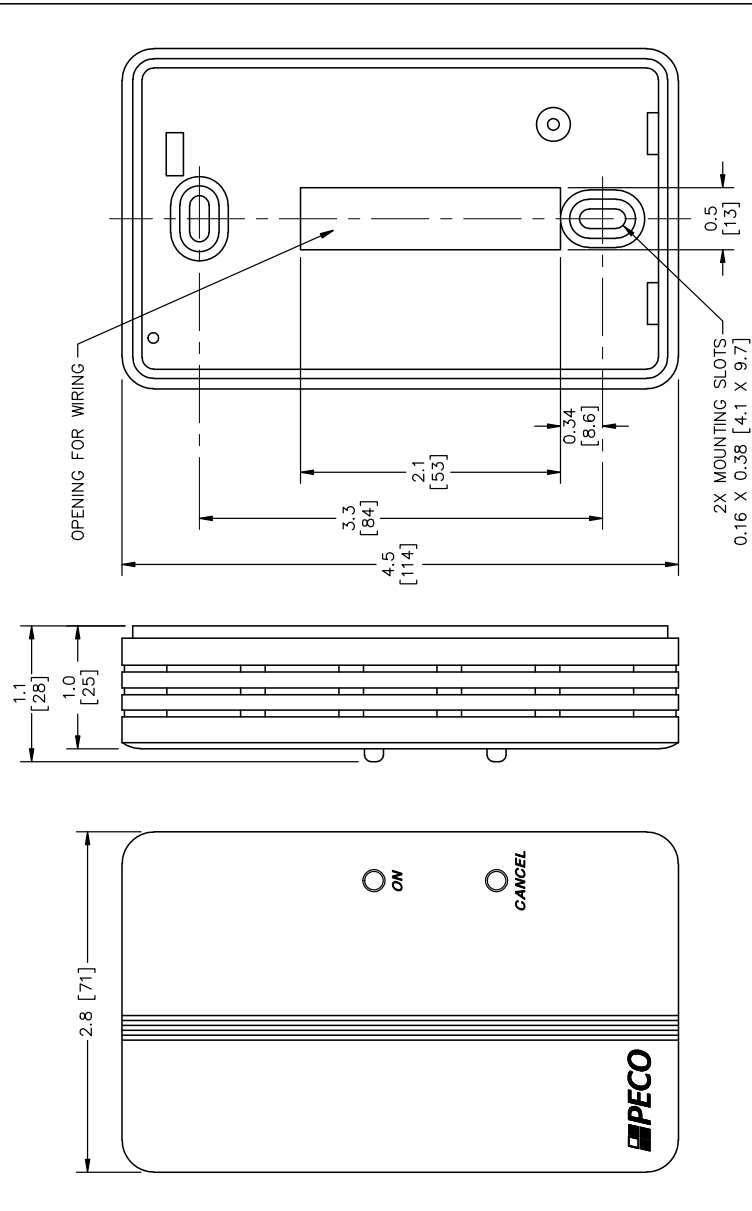
- NOTES:
- CONFIGURATION: SENSOR WITH EXTERNALLY ADJUSTABLE SET POINT, ON/CANCEL PUSH BUTTONS, AND COMMUNICATIONS JACK.
 - SET POINT CONTROL:
 - 1.0K OHMS MAX REF
 - CALIBRATED SUCH THAT 500 OHMS IS OBTAINED BETWEEN TERMINALS 2 AND 3 WHEN SET AT 70 F (21.1 C).
 - THERMISTOR:
 - THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ± 0.2 C
 - THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ± 0.015 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
 - MATERIAL COLOR AND MARKINGS:
 - COVER, BASE, AND KNOBS: PANTONE COOL GREY 2-C
 - COVER & ROTARY KNOB MARKINGS: PANTONE 424-C
 - COVER TYPE FONT: UNIVERS MEDIUM ITALICS
 - ROTARY KNOB TYPE FONT: UNIVERS MEDIUM
 - ELECTRICAL CONNECTIONS:
 - TERMINAL BLOCK: PRESSURE CONNECTIONS
 - COMMUNICATIONS JACK: WESTERN ELECTRIC TYPE 616 OR EQUIVALENT
 - IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSURE. INFORMATION TO INCLUDE:
 - PECO, INC
 - SP155-027
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - PACKAGING:
 - INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE: PECO, INC
 - SP155-027
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).



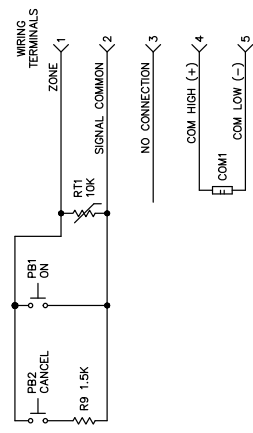
TOLERANCES EXCEPT AS NOTED		SCALE	
INCH [METRIC]	PART NUMBER	SCALE	FULL
.X=	69311		
.XX=			
.XXX=			
.XXX=			
ANGULAR		TITLE	
E		SENSOR ASSY, SP155-027	
DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING		SIZE	DRAWING NUMBER
		B	SP155-027



DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	NOTE 6: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR

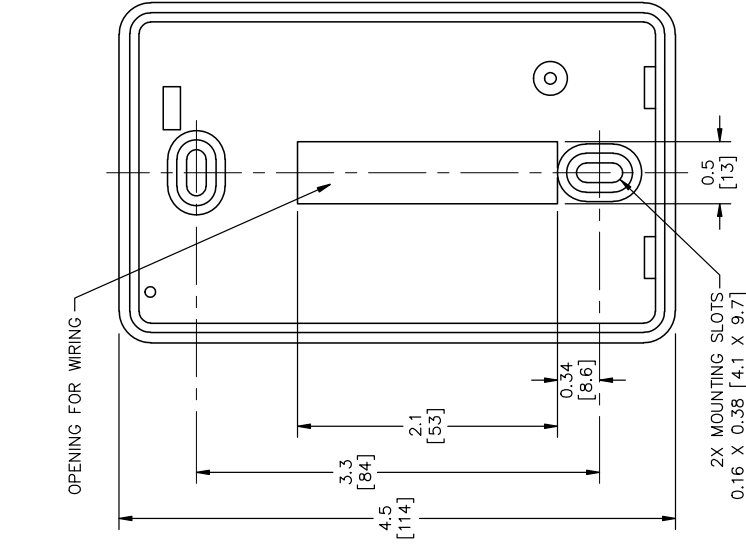
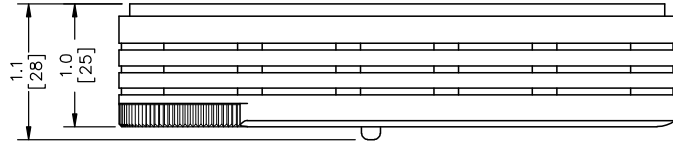
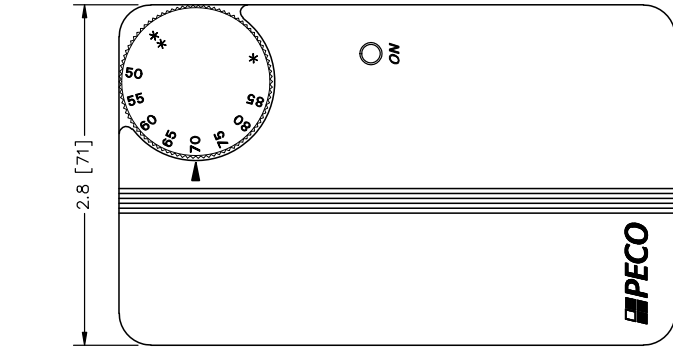


- NOTES:
- PRODUCT PERFORMANCE AND OPERATION PER PECO, INC. SPECIFICATION NO. ES3210-001B.
 - THERMISTOR:
 - TERMINATOR RESISTANCE: 10,000 OHMS AT 25 C ±0.2 C
 - THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ±0.015 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
 - MATERIAL COLOR AND MARKINGS:
 - COVER BASE AND KNOBS: PANTONE COOL GREY 2-C
 - COVER MARKINGS: PANTONE 424-C
 - COVER TYPE FONT: UNIVERS MEDIUM ITALICS
 - ELECTRICAL CONNECTIONS:
 - TERMINAL BLOCK: PRESSURE CONNECTIONS
 - COMMUNICATIONS JACK: WESTERN ELECTRIC TYPE 616 OR EQUIVALENT
 - IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSURE. INFORMATION TO INCLUDE:
 - PECO, INC
 - SP155-028
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - PACKAGING:
 - INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE: PECO, INC
 - SP155-028
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
- B. EACH CARTON TO INCLUDE MOUNTING HARDWARE AND INSTRUCTION SHEET. TO UNITS PER CASE CARTON, 4 CASES PER MASTER CARTON.



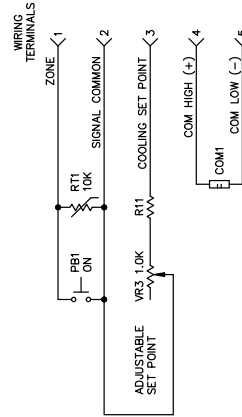
PECO		PECO, INC.	
TOLERANCES EXCEPT AS NOTED		PORTLAND, OR, USA	
INCH [METRIC]	PART NUMBER	SCALE	FULL
.XX" = .XXmm	69312		
.XXX" = .XXXmm			
ANGULAR		TITLE	
E		SENSOR ASSY, SP155-028	
DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING		SIZE	DRAWING NUMBER
		B	SP155-028

DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	ECN 8008 NOTE 7: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR



NOTES:

- CONFIGURATION: SENSOR WITH EXTERNALLY ADJUSTABLE SET POINT, NIGHT SETBACK PUSH BUTTON, AND COMMUNICATIONS JACK.
- SET POINT CONTROL:
 - 1.0K OHMS MAX. REF.
 - CALIBRATED SUCH THAT 500 OHMS IS OBTAINED BETWEEN TERMINALS 2 AND 3 WHEN SET AT 70 F (21.1 C).
- THERMISTOR:
 - THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ± 0.2 C
 - THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ± 0.15 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
- MATERIAL COLOR AND MARKINGS:
 - COVER, BASE, AND KNOBS: PANTONE COOL GRAY 2-C
 - COVER & ROTARY KNOB MARKINGS: PANTONE 424-C
 - COVER TYPE FONT: UNIVER'S MEDIUM ITALICS
 - ROTARY KNOB TYPE FONT: UNIVER'S MEDIUM
- ELECTRICAL CONNECTIONS:
 - TERMINAL BLOCK: PRESSURE CONNECTIONS
 - COMMUNICATIONS JACK: WESTERN ELECTRIC TYPE 616 OR EQUIVALENT
- IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSURE. INFORMATION TO INCLUDE: PECO, INC. SP155-035 DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
- PACKAGING:
 - INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE: PECO, INC. SP155-035 DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - EACH CARTON TO INCLUDE MOUNTING HARDWARE AND INSTRUCTION SHEET. 10 UNITS PER CASE CARTON, 4 CASES PER MASTER CARTON.

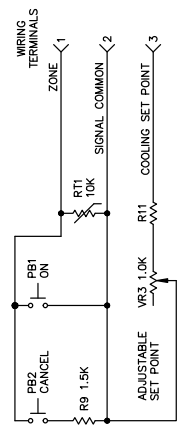
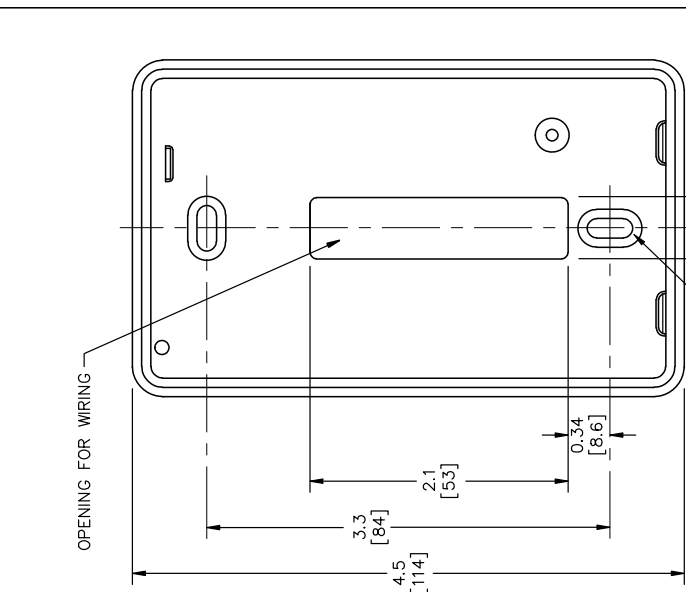
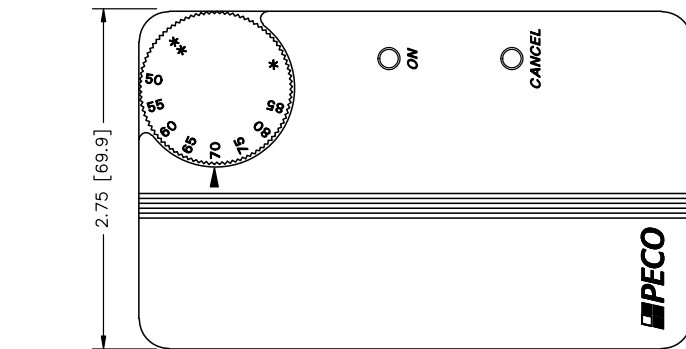


TOLERANCES EXCEPT AS NOTED		PECO, INC. PORTLAND, OR, USA	
INCH [METRIC]	PART NUMBER	SCALE	FULL
.XX" = .XXmm	69313		
.XXX" = .XXXmm			
ANGULAR	TITLE	SENSOR ASSY, SP155-035	
E		DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING	SIZE B
			DRAWING NUMBER SP155-035

DATE	REV	DESCRIPTION	DR.	CK.
5/8/08	0	ECN 7984 RELEASE	SEM	SR
7/22/08	1	ECN 8008 NOTE 8: 10 UNITS/CASE, 4 CASES/MASTER CARTON	SEM	SR

NOTES:

- CONFIGURATION: SENSOR WITH EXTERNALLY ADJUSTABLE SET POINT, ON/CANCEL PUSH BUTTONS.
- SET POINT CONTROL:
 - 1.0K OHMS MAX REF
 - CALIBRATED SUCH THAT 500 OHMS IS OBTAINED BETWEEN TERMINALS 1 AND 2 WHEN SET AT 70 F (21.1 C).
- THERMISTOR:
 - THERMISTOR RESISTANCE: 10,000 OHMS AT 25 C ±1.0 C
 - THE BOTTOM SURFACE OF THE THERMISTOR BODY TO BE SPACED 0.175" ±0.15 -0.00 ABOVE THE TOP SURFACE OF THE PCB.
- PUSH BUTTON SWITCHES: N.O. MOMENTARY ACTION.
- MATERIAL COLOR AND MARKINGS:
 - COVER, BASE, AND KNOBS: PANTONE COOL GREY 2-C
 - COVER & ROTARY KNOB MARKINGS: PANTONE 424-C
 - COVER & ROTARY KNOB MARKINGS: UNIVERS MEDIUM BLUE
 - ROTARY KNOB TYPE FONT: UNIVERS MEDIUM
- ELECTRICAL CONNECTIONS: TERMINAL BLOCK: PRESSURE CONNECTIONS
- IDENTIFICATION: ASSEMBLIES TO BE PERMANENTLY MARKED ON BACK OF ENCLOSURE. INFORMATION TO INCLUDE:
 - PECO, INC
 - SP155-065
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
- PACKAGING:
 - INDIVIDUAL AND MASTER CARTON LABELS TO INCLUDE:
 - PECO, INC
 - SP155-065
 - DATE OF MANUFACTURE (YEAR, WEEK - FOR EXAMPLE: 0821).
 - EACH CARTON TO INCLUDE MOUNTING HARDWARE AND INSTRUCTION SHEET.
 - 10 UNITS PER CASE CARTON, 4 CASES PER MASTER CARTON.



PECO		PECO, INC.	
PORTLAND, OR, USA		PORTLAND, OR, USA	
TOLERANCES EXCEPT AS NOTED	PART NUMBER	SCALE	TITLE
.X=	69314	FULL	
.XX=			
.XXX=			
.XXX=			
ANGULAR	SENSOR ASSY, SP155-065		
E	DO NOT SCALE DRAWING: DIMENSIONS ARE CONTROLLING	SIZE	DRAWING NUMBER
		B	SP155-065



