

APPLICATIONS:

Specified Comfort is suitable for renovation, upgrade and new construction projects.

- Commercial Offices
- Educational Facilities
- Worship Facilities
- Research Facilities
- Retail Locations
- Hospitality & Restaurants

FEATURES:

- Remote monitoring and control of lighting, HVAC, fans, networked PCs and plug devices
- Metering and demand response
- Optional connectivity to Modbus and BACnet
- Easy to install and configure: simply mount, connect, power and go!
- Secure wireless 2.4GHz ZigBee communications with other network devices
- Data storage retains all system events for over one year; event data can be analyzed to optimize energy use and savings
- Scalable to manage a single building or an entire campus
- Graphical view of real-time and historical energy use provides comprehensive and actionable information to users
- Specified Comfort products operate independently or as an integrated solution
- Made in the USA (ARRA Compliant)



DESCRIPTION:

The Specified Comfort SC-EMS-TM Energy Manager is a rugged, industrial control processor that is the heart of innovative integrated energy management systems powered by Specified Comfort software. The Energy Manager coordinates all energy management functions utilizing Specified Comfort wireless network.

The compact Specified Comfort SC-EMS-TM Energy Manager receives input from environmental sensors, local controls and metering devices throughout a facility. Based upon sensor input, schedule, local input, curtailment, and event information, adjustments to lighting, HVAC, fans, networked PCs and plug devices are implemented in real time to minimize energy waste.

Communication with other Specified Comfort Meters, the Specified Comfort Energy Manager running metering software and other Specified Comfort devices (such as lighting and HVAC controls) is via a reliable wireless mesh network.

SPECIFICATIONS:

APPLIANCE

Mounting: Wall bracket or table-top

Storage: SATA 2.5" hard drive

Endpoint Capacity: ~300, upgradable to 1000

Operating System: Secure Linux-based variant

POWER SUPPLY

Voltage: 120VAC input/ 12VDC output

Power: 20 watts max

I/O SUPPORT

LAN: 1x10/ 100/ 1000 Ethernet, TCP/ IP v4

UDP ports: 49657, 54261, 59370, 59371

Serial: 2 - 1 dedicated internal, 1 open

USB: 2 USB 2.0 host interfaces

PROTOCOLS

Serial: Modbus, RS-485, MS/ TP

Wireless: 802.15.4 with mesh networking

Ethernet: HTTP/ HTTPS

Security: Internal firewall, isolated wireless and internal processors

RADIO NETWORK

IEEE 802.15.4-2003 2.4GHz ISM (ZigBee)

Range: Approx. 1000' LOS transmit/ receive

REGULATORY APPROVALS

UL 60950

FCC (V8NZRB1000141) & IC (7737A-ZRB1000141),
Certified Class B

Digital Device, FCC Part 15

ENVIRONMENTAL

Operating Temperature: 50° to 104°F

Storage Temperature: -13° to 149°F

PHYSICAL

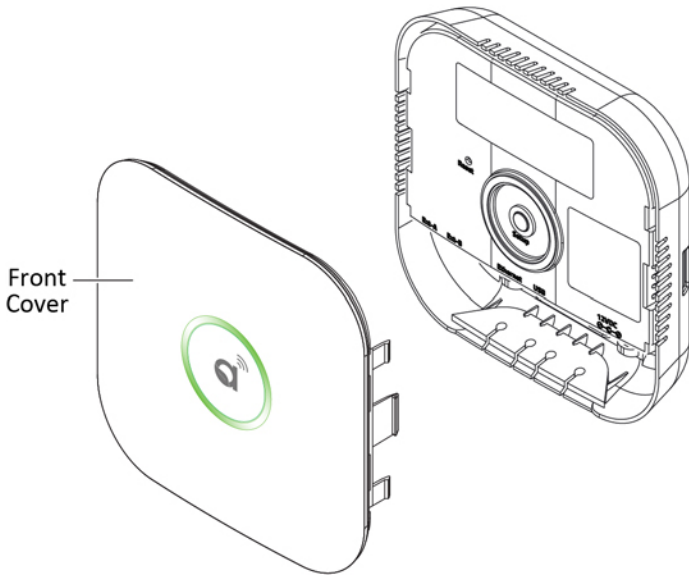
Dimensions (HxWxD): 10.75 x 9.94 x 2.5in (27.31 x
25.25 x 6.35cm)

Color: Blue

Weight: 5.0lbs (2.68kg)

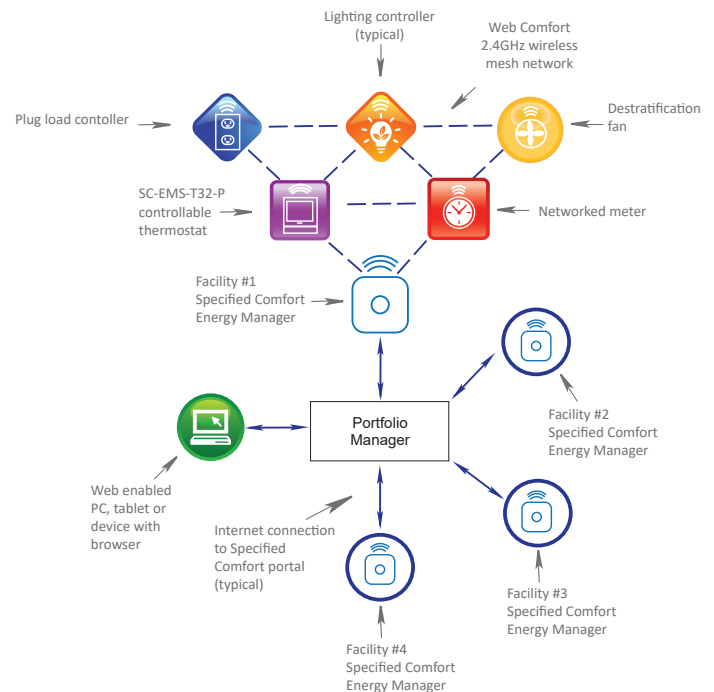
ORDERING INFORMATION:

SKU	Description
	Appliances as shown include wall-mounted Specified Comfort Manager with Specified Comfort Software, which includes thermostat, lighting, metering, and fan software. Specified Comfort Manager includes Ethernet and Specified Comfort wireless interfaces.
SC-EMS-TM	Specified Comfort Energy Manager with Specified Comfort Software (For up to 100 Devices)
SC-EMS-TM-PLUS	Specified Comfort Energy Manager with Specified Comfort Software (For up to 400 Devices)



MULTI-SITE CONNECTIVITY:

Specified Comfort's Portfolio Manager is a hosted software solution for managing the temperature, lighting and energy consumption of multi-site facilities. Using a secure, web-based interface that connects two or more Specified Comfort systems, Portfolio Manager directs schedules, alerts and demand response events across multiple premises.

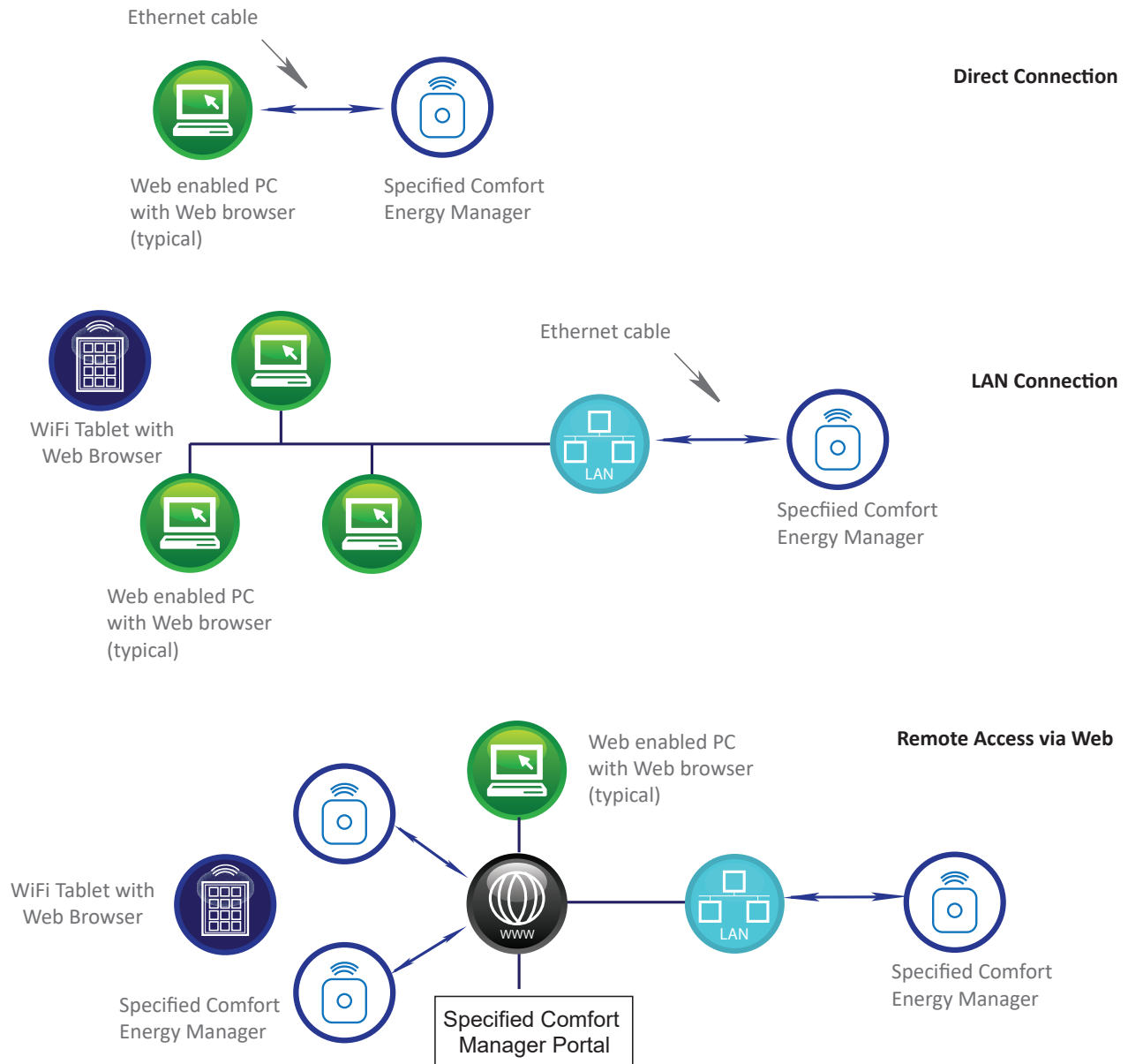


THE SPECIFIED COMFORT FAMILY ENERGY MANAGEMENT DONE RIGHT

The Specified Comfort product line integrates lighting, climate control, fans, metering, and plug loads to provide a powerful integrated energy management solution. The lighting, thermostat, fan control and metering software share the Specified Comfort Energy Manager and operate as an integrated application.

Specified Comfort software communicates via the Specified Comfort Energy Manager to lighting controllers, motion sensors, thermostats, fans, meters and plugs using a secure wireless 2.4GHz ZigBee communications network.

SPECIFIED COMFORT SC-EMS-TM MANAGER CONNECTIVITY:



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FEATURES:

- Integrated Modbus transceiver with factory wiring harness included
- Easy front panel access for transceiver diagnostics
- Universal applications
- Easy to install and configure: simply mount, connect, power and go!
- Secure wireless 2.4GHz ZigBee communications with other network devices
- Scalable to manage a single building or an entire campus
- Graphical view of real-time and historical energy use provides comprehensive and actionable information to users
- Specified Comfort products operate independently or as an integrated solution
- Made in the USA (ARRA Compliant)

DESCRIPTION:

The Specified Comfort SC-EMS-T32-P Thermostat is a rugged, industrial control that communicates with the Specified Comfort Energy Manager. This universal thermostat features an integrated Modbus transceiver that connects to the Specified Comfort Energy Manager through a secure Zigbee mesh network. This design allows each thermostat to communicate with other thermostats, extending the range and ensuring a strong and reliable signal.

The integrated transceiver with factory wiring harness reduces installation time and eliminates miss-wiring. Additionally, it provides easy access for transceiver diagnostics without having to remove the thermostat sub base.

SPECIFICATIONS:

ELECTRICAL

Input Voltage: 24VAC 50/60 Hz +/- 15%

Relay Rating: 24VAC @ 1 amp max. per relay

WIRELESS COMMUNICATION

Zigbee

PROTOCOL

Modbus

APPROVALS

FCC Part 15 C-tick

ENVIRONMENTAL

Operating Temperature: 32° to 122°F

Operating RH: 0 - 95% (non-condensing)

BACKLIGHT

Blue EL (Electro Luminescent)

PHYSICAL

Dimensions (HxWxD): 5.50 x 4.375 x 1 in

Color: White

Weight/ Shipping Weight: <10 oz/ <1lb

TERMINAL DESIGNATIONS

W2 – Second Stage Heating or Auxiliary Heat

Y2 – Second Stage Compressor

W1-O/B – First Stage Heating or Reversing Valve

Y1 – First Stage Compressor

G – Fan Relay

R – 24 Volt Hot (jumpered to '24')

24 – 24 Volt Hot (jumpered to 'R')

24C – 24 Volt Common

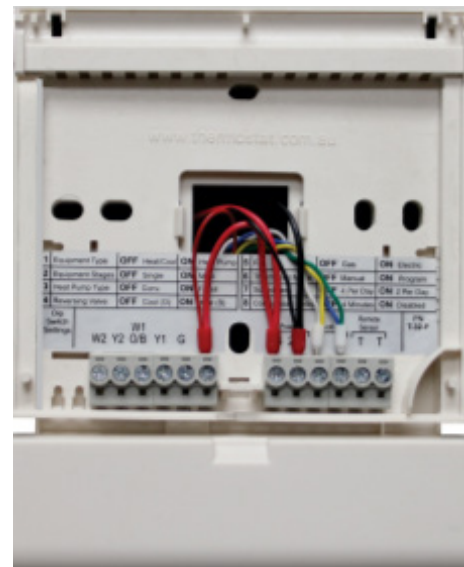
B – Modbus Communications

A – Modbus Communications

T – Remote Sensor

ORDERING INFORMATION:

SKU	Description
SC-EMS-T32-P	Specified Comfort Wireless Communicat- ing Thermostat
Optional Accessories:	
SC-EMS-DAS	Specified Comfort Wireless Duct Air Sensor



Tranceiver Front Access

DIP SWITCH FUNTIONS:

SWITCH #	OFF	ON
1 Not used	Leave OFF	—
2 Equipment	Heat/Cool	Heat Pump
3 Equipment Mode	Single Stage	Multi-Stage
4 Fan Mode or Reversing Valve	Gas "O"	Electric "B"

SWITCH #	OFF	ON
5 Short Cycle Timer	4 Minutes	Disabled
6 Thermostat Operations	Leave OFF	—
7 Minutes Run Time	Leave OFF	—
8 Setpoints	—	Leave ON

APPLICATIONS:

Wireless Duct Temperature Sensors are suitable for renovation, upgrade, and new construction projects where individual fixture control and/or monitoring is desired.

- Private & Open Offices
- Corridors & Hallways
- Classrooms & Gymnasiums
- Warehouse Spaces & Manufacturing Areas
- Patient Care Rooms
- Transportation Terminals
- Retail & Grocery Stores

FEATURES:

- Compact temperature probe with wireless connectivity
- High accuracy and interchangeability over a wide temperature range
- No control wiring required! Specified Comfort's secure wireless 2.4GHz communications with Specified Comfort Manager and other network devices
- High resistance relative to Platinum RTDs creates a larger signal with the same measuring current, negating most lead wire resistance problems and eliminating the need for signal conditioners.
- Double-encapsulated sensing element to avoid sensor failures caused by moisture infiltration
- Designed & Made in the USA



DESCRIPTION:

The Specified Comfort Wireless Duct Temperature Sensor is a 24V, in-duct temperature probe featuring an integrated wireless transceiver—eliminating the need for control wiring. The sensor monitors supply and return air temperatures. It can also be used to sense temperature from ambient air.

A thermistor type sensor, the Wireless Duct Temperature Sensor provides a predictable output over a specified temperature range to meet each manufacturer's required input values.

The Wireless Duct Temperature Sensor uses the Specified Comfort's wireless mesh network to communicate with other Specified Comfort devices to trigger changes in HVAC.

SPECIFICATIONS:

SENSOR OUTPUT

Messages for Specified Comfort

ENVIRONMENTAL

Operating Temperature: 0° to 60°C

Operating Humidity: 0 to 90% RH noncondensing

ACCURACY (0 TO 70°C)

+/- 0.2oC (+/-0.36oF)

STABILITY

+/- 0.13oC (0.23oF)

POWER DISSIPATION CONSTANT

3 mW / oC

INTERCHANGEABILITY

+/- 0.2oC (+/-0.36oF)

RADIO NETWORK

IEEE 802.15.4-2003 2.4GHz ISM

Range: Approx. 10o0' LOS transmit/ receive
from any line powered Specified Comfort device

REGULATORY APPROVALS

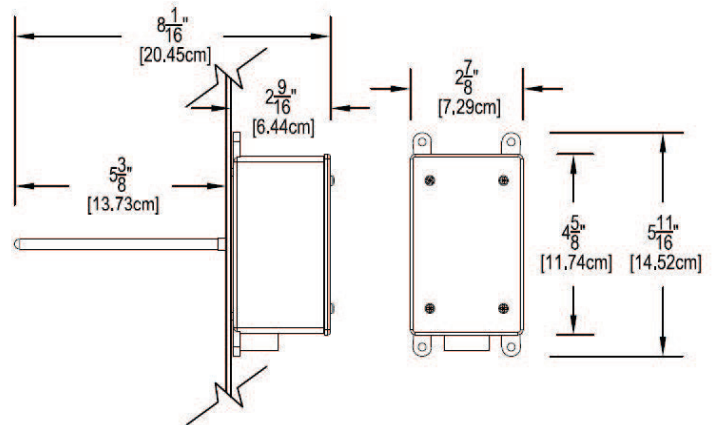
FCC (V8NZRB1000141)

IC (7737A-ZRB1000141)

ORDERING INFORMATION:

SKU	Description
SC-EMS-DAS	Specified Comfort Wireless Duct Temperature Sensor

DIMENSIONS:



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FEATURES:

- Discreet, attractive, low-profile design
- High performance, compact normally open relay with wireless connectivity
- No control wiring required! Specified Comfort secure wireless 2.4GHz ZigBee communications with Specified Comfort Manager and other network devices
- Multiple sensors can be located in the same room to optimize HVAC, lighting, load and plug load control
- Low voltage, line powered device requires no batteries
- Quick and easy to install
- Specified Comfort products operate independently or as an integrated solution
- FCC Certified
- **Made in the USA** (ARRA Compliant)



DESCRIPTION:

The Specified Comfort Relay is an easy to install, compact, high performance switching relay with an integrated wireless transceiver that uses the Specified Comfort wireless mesh network to connect to a Specified Comfort Energy Manager and other Specified Comfort devices.

The low voltage Relay provides a method to switch a 24VAC load on or off.

SPECIFICATIONS:

ELECTRICAL

Input Voltage: 12 to 24VDC, 24VAC
 Relay Switching Current: 1 amp
 Relay Switching Voltage: 24VAC

I/O PORTS

Normally open relay

RADIO NETWORK (SPECIFIED COMFORT)

IEEE 802.15.4-2003 2.4GHz ISM (ZigBee)
 Range: Approx. 1000' LOS transmit/ receive

REGULATORY APPROVALS

FCC (V8NZRB1000141)
 IC (7737A-ZRB1000141)

ENVIRONMENTAL

Test condition of all ratings 77°F
 Operating Temperature: 32° to 158°F
 Storage Temperature: -13° to 176°F

PHYSICAL

Dimensions (HxWxD): 3.35 x 1.07 x 0.71in
 Color: White
 Weight/ Shipping Weight: <10 oz/ <1lb

WIRING:

Black – 24VAC common
 Red – 24VAC hot
 Blue – Load normally open
 Black – Load common

ORDERING INFORMATION:

SKU	Description
WEB-Relay	Specified Comfort Relay

DIMENSIONS:

