AHU COMMUNICATING THERMOSTAT SINGLE AND MULTISTAGE, PROGRAMMABLE AND NON-PROGRAMMABLE (BACNET, LON, ZIGBEE, ZIGBEE PRO)

SE7600 COMMUNICATING

DESCRIPTION

The **Schneider Electric SE7600 Communicating Thermostat**s are digital display, single or multistage, seven-day programmable or nonprogrammable PI thermostats (°F or °C) for use with AHU controls and heat pumps for both heating and cooling applications. The **SE7600** has both system and fan switching with internal sensor or remote sensor capabilities. Five buttons control a simplified menu for over 20 configurable parameters. A communication card is added for multiple protocols, including BACnet and LON. Other control features are listed below.

SE7600B5045B

FEATURES

ALL MODELS
- *1H/1C, 2H/2C (3H/2C heat pump)*
- *Fan switching (on/auto/smart)*
- *System switching (O/A/C/H)*
- *Two line 8 digit backlit LCD Display*
- *Three status LEDs (Fan, Clg, Htg)*
- *Five control keys*
- *Remote and OSA sensor*
- *Adjustable deadband*
- *PIR cover available*
- *Permanent program retention*
- *Two configurable DI inputs*
- *Two line LCD display (°F or °C)*
- *Proportional + Integral control*

ECONOMIZER MODELS
- *Mixed-air (0-10V) control outputs*
- *Mixed-air sensor input*
- *Mixed-air setpoint (SP)*
- *Economizer changeover S.P.*
- *OSA damper min. position in %*

PROGRAMMABLE MODELS
- *Two or four configurable events/day*
- *Progressive recovery or none*
- *12 or 24 hour clock*
- *Six hour clock retention*
- *Occ/Unocc auxiliary contact out*

COMMUNICATION MODELS
- *BACnet*
- *LON*
- *Zigbee/Wireless*

SPECIFICATIONS

Supply Voltage	20-30 VAC @ 2 VA, 50/60 Hz
Display	Two-line backlit LCD
Controls	Five menu-driven push buttons – up, down, menu, no, yes/scroll
Thermostat Type	Seven-day programmable models, non-programmable models
Optimal Start	Progressive recovery (enable/disable)
Heat Pump High/Low Stages	OSA lockout (emer heating/comp. heating) (Dependent upon model) 1H/1C, 2H/2C, (3H/2C heat pump) 2H/2C + proportional mixed-air economizer
Memory (schedule)	Permanent EEPROM
Clock (12 or 24 hour)	Six-hour power fail retention
System Switching	Off/Auto/Cool/Heat
Fan Switching	On-continuous Auto-on demand Smart-on/occupied, off/unoccupied
Control Accuracy	±0.9°F, (±0.5°C) @ 70°F (21°C)
Setpoint Range	
Heating	40° to 90°F (4.5° to 32°C)
Cooling	54° to 100°F (12° to 37.5°C)
Setpoint High/Low Limits	Individually adjustable, H/C
Remote Sensor	
Room Sensor	Room Sensor input auto-detected 10K Type 2 thermistors
Outside Air	Outside air input auto-detected 10K Type 2 thermistors
Mixed Air	Mixed air input auto-detected (economizer model only) 10K Type 2 thermistors
Auxiliary Inputs	Two dry contact digital inputs
Four Types	Service/status reminders Filter alarm Central night setback clock Remote occupied override timer
Control Output	1A relays 30 VAC, 3A surge maximum
Auxillary Contact Output	1A relay 30 VAC, N.O./N.C. follows occupied schedule
Mixed Air Output	Proportional 0-10V DC, 2 kΩ minimum (economizer model)
Control Type	Proportional plus integral
Deadband	Adjustable 2° to 4°F (1° to 2°C)
OSA Lockout Limits	
Heating	15° to 120°F (26° to 49°C), 5°F increments
Cooling	-40° to 95°F (-40° to 35°C), 5°F increments
Low Limit Protection	Enable/disable, heating @ 47°F (5.5°C)
Power Up Delay	10 to 120 seconds
Keypad Lockout	Three levels (full, none, partial)
Cycles Per Hour	Adjustable, heating 3-8 CPH, cooling 3-4 CPH
Display Offset	Adjustable ±5°F (2.5°C), 1°F increments
LED Indicators	Three green on (fan, cooling, heating)
Wiring	18 AWG to 22 AWG
Operating Temperature	32° to 122°F (0° to 50°C)
Operating Humidity	0% to 95% RH (non-condensing)
Color	White
Mounting	Standard vertical 2" x 4" box
Enclosure Rating	NEMA 1, ULFR1 flame-retardant plastic
Dimensions	4.94"H x 3.38"W x 1.13"D (12.5 x 8.6 x 2.9 cm)
Weight	0.75 lb (0.34 Kg)
Approvals	UL, File #E234137, CE, RoHs, BACnet, Lonmark
Warranty	1 year

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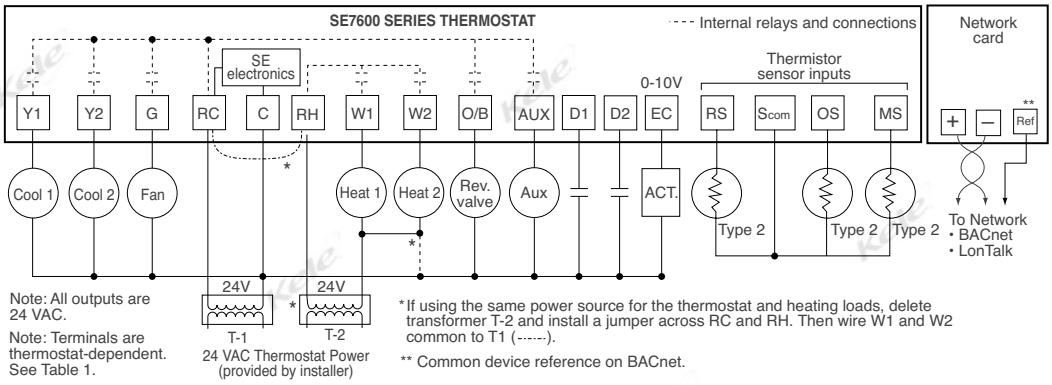
WIRING

TABLE 1. TERMINAL DESIGNATION BY THERMOSTAT MODEL

THERMOSTAT MODEL SE7600						Note: Terminals and functions are not present on every thermostat	
SE7600B-E SE7600B-B	SE7605B-E	SE7600H-E SE7600H-B	SE7652B-E SE7652B-B	SE7656B-E SE7656B-B	SE7652H-E SE7652H-B	TERMINALS	Function (BACNET & LON Terminals Shown Below)
•	•	•	•	•	•	**Y1**	Energizes on a call for first stage cooling (first stage heating HP)
•	•	•	•	•	•	**Y2**	Energizes on a call for second stage cooling (second stage heating HP)
•	•	•	•	•	•	**G**	Energizes fan in accordance with the selected fan mode
•	•	•	•	•	•	**RC**	24 VAC from equipment transformer
•	•	•	•	•	•	**C**	24 VAC (common) from equipment transformer
•	•	•	•	•	•	**RH**	RH24 VAC for heating stages (jumper to RC for single power systems)
•	•	•	•	•	•	**W1**	W1Energizes on a call for first stage heating (third stage heating HP)
•	•		•	•		**W2**	W2Energizes on a call for second stage heating
		•			•	**O/B**	O/BHP reversing valve configurable (O = on or B = on)
			•	•	•	**AUX**	AUXConfigurable auxiliary output (follows schedule)
•	•	•	•	•	•	**** D1**	D1Configurable digital input
•	•	•	•	•	•	**** D2**	D2Configurable digital input
	•			•		**EC**	EC0 - 10 VDC economizer actuator output
•	•	•	•	•	•	**RS**	RSRemote room sensor
•	•	•	•	•	•	**Scom**	ScomSensor common
•	•	•	•	•	•	**** OS**	OSOutdoor air sensor
	•			•		**** MS**	MSMixed air sensor



Note: All outputs are 24 VAC.

Note: Terminals are thermostat-dependent. See Table 1.

*If using the same power source for the thermostat and heating loads, delete transformer T-2 and install a jumper across RC and RH. Then wire W1 and W2 common to T1 (------).

** Common device reference on BACnet.

ORDERING INFORMATION

MODEL	THERMOSTAT TYPE
SE7600	RTU controller, no local schedule
SE7605	RTU + economizer controller, no local schedule
SE7606	RTU + IAQ + economizer controller, no local schedule
SE7607	RTU + humidity controller, no local schedule
SE7652	RTU controller, local schedule
SE7656	RTU + economizer controller, local schedule
SE7657	RTU + humidity controller, local schedule

OUTPUTS	
B	2H/2C (Not available on SE7606 or SE7607)
E	2H/2C + IAQ + economizer controller (SE7606 and SE7656 only)
F	2C + Analog heat controller (SE7600 and SE7652 only)
H	3H/3C Heatpump controller (SE7600 and SE7652 only)
W	2H/2C + humidity +watersource heatpump controller (SE7600 and SE7652 only)

COVER	
5045	Schneider logo
5545	PIR cover with Schneider logo

COMMUNICATION PROTOCOL	
E	Echelon / LonWorks
B	BACnet
P	Wireless / ZigBee PRO (Only available with A, B, & H Output Types)

SE7605 | **B** | **5545** | **P** ***Example:*** **SE7605B5545P** RTU + economizer with 2 heat/2 cool, PIR cover with Schneider logo, wireless Zigbee Pro

ACCESSORIES

TG511A1000	Thermostat guard- clear-medium size
COV-PIR-HPUMP-5031	PIR cover for HP thermostat
COV-PIR-RTU-5032	PIR cover for RTU thermostat