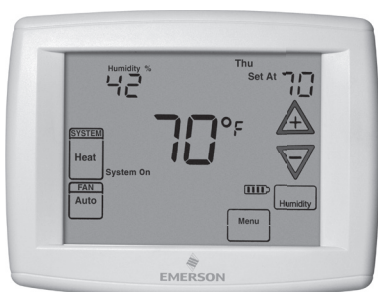# BLUE 12″ TOUCHSCREEN THERMOSTATS

White-Rodgers

24 VOLT

1F95-1291

1F95-1277

**F145-1328
Indoor Remote Sensor**

**F145-1378
Outdoor Remote Sensor**

BLUE 12″ TOUCHSCREEN - UNIVERSAL AND SINGLE STAGE THERMOSTATS - 12 SQ. IN. DISPLAY

Blue Models Offer the Ultimate in Comfort, Features, Performance and Visibility

FEATURES

- Universal models quickly configure for single stage, multi-stage or heat pump and heat pump dual fuel systems - programmable or non-programmable.
- **Humidity control** offers humidification/dehumidification.
- **Commercial** offers occupied damper or economizer control.
- **Staging** control for nearly all conventional and heat pump systems.
- **Single stage** model compatible with all single stage systems low voltage, 750 mV and 3-wire zone systems.
- Heat Pump dual fuel option eliminates the need for a fossil fuel kit.
- Automatic changeover option.
- Program fan options.
- Keypad lockout and setpoint temperature limit options.
- Indoor remote sensor for averaging option.
- Outdoor remote sensor option. Add to Universal models for outdoor temp reading or, on select models, dual fuel balance point and outdoor thermostat functions.
- Dual power – hardwire and/or battery or Tripower – hardwire and/or battery with system assist.

SPECIFICATIONS

Electrical Rating:
Hardwire . . . . 20-30 VAC, NEC Class II 50/60Hz
Battery Power . . . . mV to 30 VAC, NEC Class II, 50/60 Hz or DC
Terminal Load . . . . 1.5 A per terminal,
2.5 A maximum all terminals combined
Setpoint Range . . . . 45 to 99°F (7 to 37°C)

Rated Differentials:	Fast	Med.	Slow
Heat (Single Stage/Multi-Stage)	0.4°F	0.6°F	1.7°F
Cool (Single Stage/Multi-Stage)	0.9°F	1.2°F	1.7°F
Heat Pump	0.9°F	1.2°F	1.7°F
Emer. Heat	0.6°F		1.7°F

Operating Ambient . . . . 32 to +105°F (0 to +41°C)
Operating Humidity . . . . 90% non-condensing max.
Shipping Temperature Range . . . . -4 to +150°F (-20 to 65°C)
Dimension . . . . 4^9/$_{16}$″H x 5^{13}/$_{16}$″W x 1^{13}/$_{16}$″D

PARTS AND ACCESSORIES See end of thermostats section for additional parts and accessories

- F145-1328 — Indoor remote sensor. See page 33
- F145-1378 — Outdoor remote sensor. See page 33
- F61-2600 — Wallplate 8^1/$_8$″W x 5^3/$_8$″H
- F61-2634 — Wallplate 6^1/$_2$″W x 5″H (or order F61-2648 – 6 pack of F61-2634)
- F29-0198 — Locking Thermostat Guard - Clear Plastic
- F29-0220 — Locking Thermostat Guard - Metal, Solid Base
- Additional Thermostat Guards — see pages 34–35 for quick selection options

F145-1328
Indoor Remote Sensor

F145-1378
Outdoor Remote Sensor

WIRED REMOTE SENSORS FOR 24V THERMOSTATS
Indoor and Outdoor Sensors for Emerson Blue Digital Thermostats

FEATURES

• Digital signal output provides superior temperature control, even over long wire runs.
• No temperature variance caused by wire resistance.
• Perfect for securing the thermostat in one area or room while sensing temperature in the conditioned space.

SPECIFICATIONS

Operating Range (based on thermostat range)
Indoor Models. . . . . 40 to 99°F
Outdoor Models . . . . -40 to 140°F
Operating Humidity Range . . . . 0 to 90% RH (non-condensing)
Maximum Distance from Thermostat . . 300′
Recommended Wire. . . . . 20 gauge, 3-conductor cable

TECHNICAL HELP See end of thermostats section for additional parts and accessories

Remote Sensor Wiring / Troubleshooting . . . .   See page 167–170

TECH
?
PAGES
167–170

INDOOR SENSOR

Model Number	Color	Dimensions	Application
F145-1328	Classic White	2¹/₈″ x 3¹/₂″ x ³/₄″	Compatible with all Emerson Emerson / White-Rodgers Thermostats with Indoor Remote Sensor

OUTDOOR SENSOR

Model Number	Color	Dimensions	Application
F145-1378	Classic White	2¹/₈″ x 3¹/₂″ x ³/₄″	Compatible with all Emerson Emerson / White-Rodgers Thermostats with Outdoor Remote Sensing. 12 ft. sensor lead

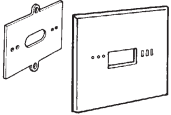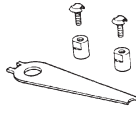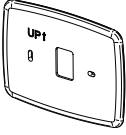### CONNECTION CROSS REFERENCE - THERMOSTATS & SENSORS
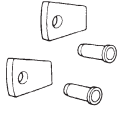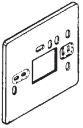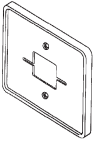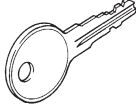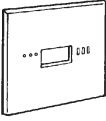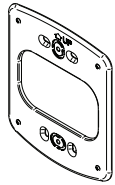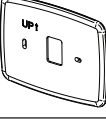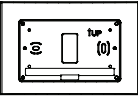
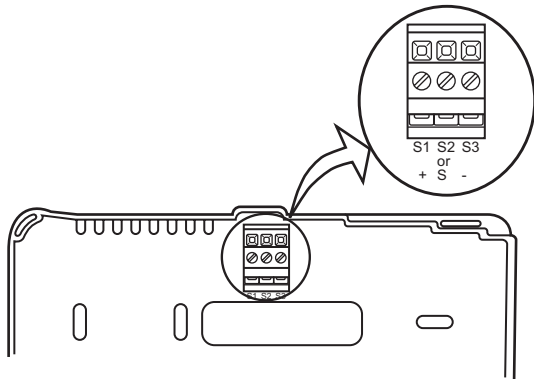| Old Terminal (Thermostat or Remote)	New Terminal (Thermostat or Remote)
S1	+
S2	S
S3	-

CONTRACTOR TIP: REMOTE SENSOR TROUBLESHOOTING, WIRING AND AVERAGING INFORMATION IS ON PAGES 167–170.

REMOTE TERMINAL DESIGNATIONS

Model Number	Terminal Designation Cross Reference		
F145-1328 , F145-1378	+	S	–
	Sensor Positive	Sensor Return Signal	Sensor Negative

PARTS AND ACCESSORIES

White-Rodgers

THERMOSTATS

THERMOSTAT ACCESSORIES

Item Number	Model Number	Description
	F16-8101	Cover assembly for 1F78-151 programmable.
	F61-2301	Wallplate for low voltage standard thermostats ($5^5/8''$H x $5^3/4''$W). Beige. Includes adapter for mounting to vertical junction box. Same as F61-2068 except white.
	F61-2300	Wallplate for all 1F90 series thermostats (except Blue models), ($7^1/4''$W x $5^1/2''$H), Classic White color, includes adapter plate for mounting to horizontal or vertical junction box.
	F61-2499	Wallplate for 1C20-xxx/1C26-xxx ($5^5/8''$H x $5''$W)
	F61-2500	Wallplate for all 1F80 series thermostats (except Blue models), ($7^5/8''$W x $4^3/4''$H), Classic White color, includes adapter plate for mounting to horizontal or vertical junction box.
	F61-2510	Wallplate for all 1F70 series thermostats, $6^1/2''$W x $4^1/2''$H, Classic White color, Includes adapter plate for mounting to horizontal or vertical junction box.
	F61-2550	Wallplate for all 1F70 series thermostats, $6^1/2''$W x $4^1/2''$H, Classic White color, does not Include adapter plate for mounting to horizontal or vertical junction box.
	F61-2593	Wallplate for 1D70 or 1E70 series thermostats, $4^1/2''$W x $6^{19}/32''$H, Classic White color.
	F61-2600	Wallplate for 90 series Blue Touchscreen thermostats, $8^1/8''$W x $5^3/8''$H, Classic White color, for use with or without horizontal junction box.
	F61-2634	Wallplate for 90 and 80 series Blue thermostats, $6^1/2''$W x $5''$H, Classic White color, for use with or without horizontal junction box.
	F61-2663	Wallplate for Sensi Wi-Fi Thermostat, white, $6^3/4''$W x $4^1/2''$H for use with or without horizontal junction box

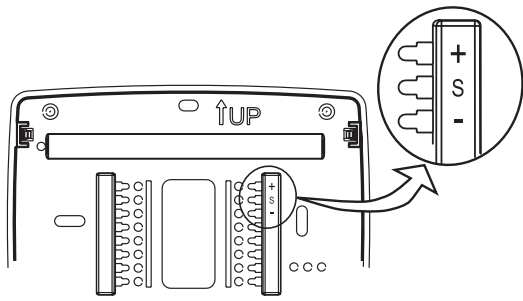| Item Number	Model Number	Description
	F75-0176	Temperature knob locking or limiting kit for 1A65-641, 1A65W-641, 1A66-641 and 1A66W-641.
	F92-0563	Temperature lever locking or temperature limiting kit for low voltage thermostats except 1C70, 1C20 and 1E26 series.
	F145-1082	Replacement door 1F90/1F97 (-51, -60, -71) 1F91-71, 1F92-71, 1F94-71, 1F95-71.
	F145-0999	Replacement key for all thermostat guards, F29 series.
	F145-1328	90 Series Wired Indoor Remote Sensor. Replaces all previous Indoor Remote Sensors.
	F145-1378	90 Series Wired Outdoor TemperatureSensor, For Models with Outdoor Sensor Option.
	F61-2648	Same as F61-2634 except 6 pack.
	F61-2642	Universal adapter plate for 1E65-144
	F145RF-1600	Wireless remote sensor for 1F98EZ-1621

www.white-rodgers.com

Note: When using shielded cable, connect shield of 18 or 20 gauge 3 connector cable to - or S3 on thermostat subbase.
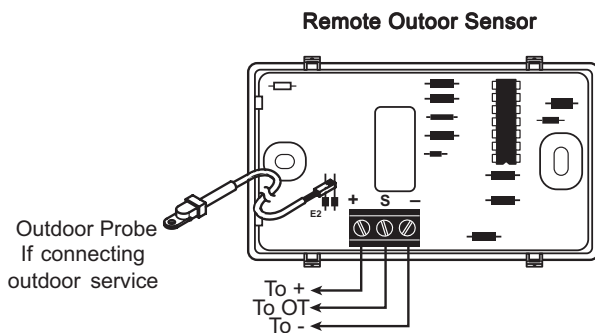
Remote Sensor

To + or S1
To S or S2
To - or S3

Thermostat Subbase

Single Stage Thermostat Remote Sensor Wiring (F145-1328)

Note: When using shielded cable, connect shield of 18 or 20 gauge 3 connector cable to - or S3 on thermostat subbase.

Remote Sensor

To + or S1
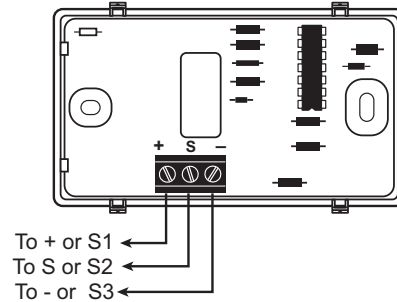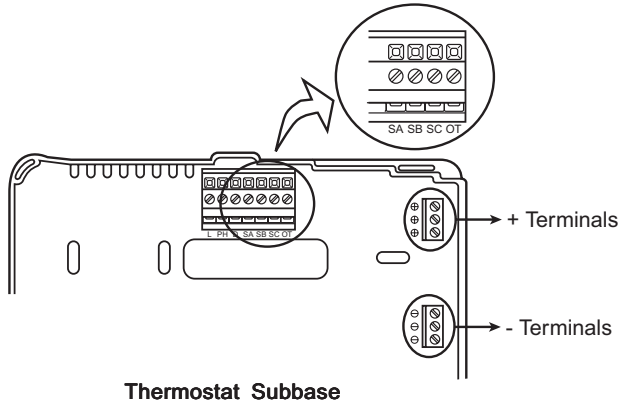To S or S2
To - or S3

Thermostat Subbase

Remote Outoor Sensor

Outdoor Probe
If connecting
outdoor service

To +
To OT
To -

Staging Multi-Stage or Heat Pump Touchscreen Thermostat (1F95-1277) Indoor/Outdoor Remote Sensor Wiring (F145-1328/F145-1378)

SA SB SC OT

Note: When using shielded cable, connect shield of 18 or 20 gauge 3 connector cable to - or S3 on thermostat subbase.
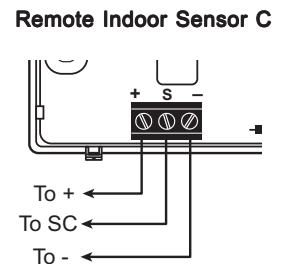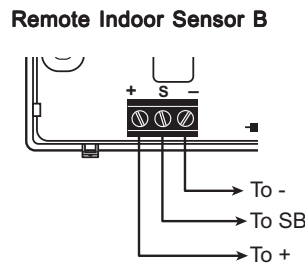
L PH SA SB SC OT

→ + Terminals

→ - Terminals

Thermostat Subbase

Remote Outdoor Sensor Base

E2   + S −

Outdoor Probe

To +
To OT
To -

Remote Indoor Sensor A

+ S −

To -
To SA
To +

Remote Indoor Sensor B

+ S −

To -
To SB
To +

Remote Indoor Sensor C

+ S −

To +
To SC
To -

Staging Thermostat Multi-Stage or Heat Pump Indoor/Outdoor Remote Sensor Wiring
(F145-1328/F145-1378)

+
S
−

↑UP

+
S

Thermostat Subbase

Note: When using shielded cable, connect shield of 18 or 20 gauge 3 connector cable to - or S3 on thermostat subbase.
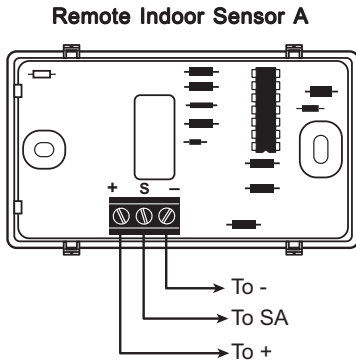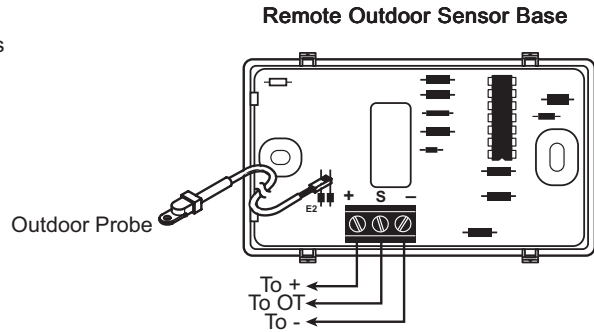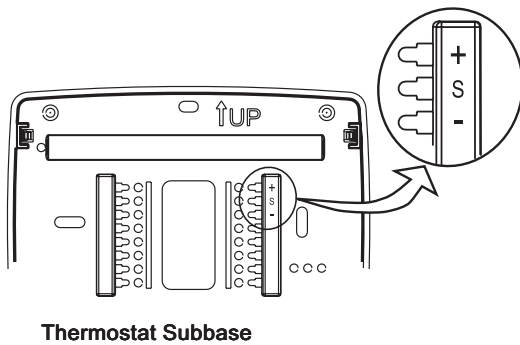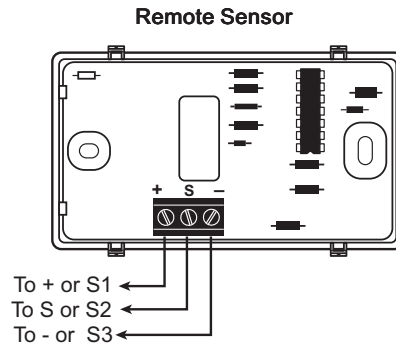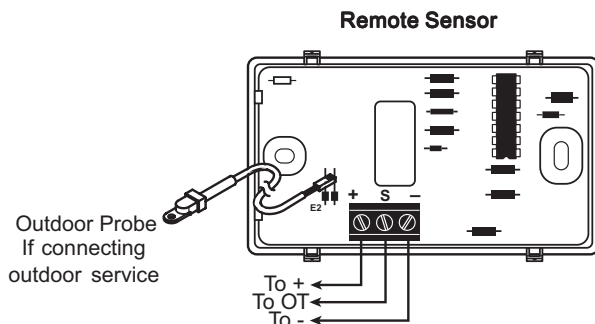
Remote Sensor

+ S −

To + or S1
To S or S2
To - or S3

Remote Sensor

E2   + S −

Outdoor Probe
If connecting
outdoor service

To +
To OT
To -

Single Stage (1F97-1277) TouchscreenThermostat Indoor/Outdoor Remote Sensor Wiring
(F145-1328/F145-1378)