

# WHITE-RODGERS 90 SERIES THERMOSTATS

White  
Rodgers



**1F97-1277**



**90 Series**



**F145-1328  
Indoor Remote Sensor**



**F145-1378  
Outdoor Remote Sensor**



## 90 SERIES/90 SERIES BLUE THERMOSTATS

Residential and Commercial – Single Stage, Multi-Stage and Heat Pump Applications. 90 Series Thermostats are the Ultimate for Comfort, Convenience and Performance. No Additional Subbases Required

### FEATURES

- Automatic heat/cool system changeover.
- Fossil fuel or electric heat compatible.
- Large Comfort-View™ luminescent display and the industry's first lighted keypad.
- Permanent program memory.
- Configuration menu allows keypad selection of options, no additional subbases required.
- Selectable Energy Management Recovery.
- Onboard system and thermostat diagnostics.
- 90 Series – Single stage models accept 1 remote indoor sensor, staging models accept up to 3 indoor sensors and offer temperature averaging or weighted average by sensor location and program time.
- 90 Series Blue – Only one sensor may be used, either indoor or outdoor.
- Meets Energy Star specifications (except 1F96-344 and 1F93-380).

### SPECIFICATIONS

Electrical Rating Single Stage	.....	mV to 30 VAC, NEC Class II, 50/60 Hz or DC
Electrical Rating Staging	.....	20 to 30 VAC, NEC Class II
Terminal Load	.....	1.5 A per terminal, 2.5 A maximum all terminals combined
Setpoint Range	.....	45 to 99°F (7 to 37°C)
Anticipation, Heating	.....	Adjustable
Anticipation, Cooling	.....	Adjustable
Rated Differential Single Stage	.....	Heat 0.5 to 1.5°F Cool 0.8 to 2.2°F
Rated Differential Staging	.....	Heat 0.5 to 1.5°F Cool 0.5 to 2.2°F
Operating Ambient	.....	32 to +110°F (0 to +43°C)
Operating Humidity	.....	90% non-condensing max.
Shipping Temperature Range	.....	-4 to 150°F (-20 to 65°C)
Dimensions	.....	4 <sup>1</sup> / <sub>8</sub> " H x 6 <sup>7</sup> / <sub>8</sub> " W x 1 <sup>3</sup> / <sub>8</sub> " D – 90 Series 4 <sup>9</sup> / <sub>16</sub> " H x 5 <sup>13</sup> / <sub>16</sub> " W x 1 <sup>3</sup> / <sub>16</sub> " D – 90 Series Blue

### PARTS AND ACCESSORIES

 See end of this section for additional parts and accessories

- F145-1328 — Indoor remote sensor
- F145-1378 — Outdoor remote sensor
- F61-2300 — Wallplate with adapter for vertical j-box for all 1F90s (except Blue) 7<sup>1</sup>/<sub>2</sub>" W x 5<sup>1</sup>/<sub>2</sub>" H
- F61-2600 — Wallplate 8<sup>1</sup>/<sub>8</sub>" W x 5<sup>3</sup>/<sub>8</sub>" H, for 90 Series Blue models
- F61-2634 — Wallplate 6<sup>1</sup>/<sub>2</sub>" W x 5" H, for 90 Series Blue models
- Thermostat Guards — see pages 28-29

### TECHNICAL HELP

Single Stage Models	
1F90/1F96/1F97 Wiring	..... See page 156
1F90/1F97 Configuration Options	..... See page 157
1F96 Configuration	..... See page 158
1F97-1271 Blue Wiring and Configuration	..... See page 169
Remote Sensor Wiring and Troubleshooting	..... See page 172-175

Staging Models	
Configuration	..... See pages 166-167
1F92/1F95-371 Wiring	..... See page 161
1F95-391 Wiring	..... See page 162-165
1F95-Blue Wiring and Configuration	..... See page 170-171
Wiring, Remote Sensor and Troubleshooting	..... See page 172-175

**WHITE-RODGERS 90 SERIES THERMOSTATS – STAGING THERMOSTATS**

	Single Stage	Multi-Stage	Heat Pump	Programs		Model	Applications				Thermostat Power Source*	Selectable Performance Features							Comfort and Convenience Features		Terminals				
				Stages Heat/Cool by System	Program Options		Periods Per Day Options	Model Number	Gas / Oil / Electric	3 Wire Zone Valve		Millivolt Compatible	Humidity Control (H)-Humidity / (D)-Dehumidify	Auto Changeover	Programmable Fan	Energy Mgt. Recovery	Energy Star	Dual Fuel Heat Pump Control (L)-Logic / (O)-Outdoor Sensor	Keypad Lockout (1)-Total / (P)-Partial	Set-Point Temperature Limits Adjustable Max/Min		Indoor Remote Sensors Max. Number + Thermostat Average and/or Weighted	Outdoor Remote Sensor	Display Size Square inches	Lighted Display
NEW!	1/1	2/2	3/2	7, 5+1+1, Ø	4, 2, Ø	1F95-1277 Touchscreen	✓	✓	✓		B, H	✓	✓	✓	✓	O	T, P	✓	1 + 1	1▼	12.0	✓***	P	RC, RH, C, W/E, W2, Y, Y2, G, O, B, L, +, S, -	
NEW!	1/1	2/2	3/2	7, 5+1+1, Ø	4, 2, Ø	1F95-1271 Touchscreen	✓		✓		B, H	✓		✓		T, P	✓				12.0	✓***	P	RC, RH, C, W/E, W2, Y, Y2, G, L, O, B	
	1/1	2/2	3/2	7-day	2	1F93-380 Commercial	✓				H	✓	✓	✓		L	T, P		3 + 1	1	2.3	✓	P	R, C, G, Y1, Y2, W1, W2, W3/A1, E2/P, E, O, B, L, PH, SA, SB, SC, OT	
		2/2	3/2	7-day	4	1F95-391	✓				H, D	H	✓	✓	✓		L, O	T, P		3 + 1	1	2.3	✓	P	R, C, G, Y1, Y2, E/W1, W2, O, B, L, SA, SB, SC, OT, DHM, HM
		3/2	3/2	7-day	4	1F95-377	✓				H	✓	✓	✓	✓	L	T, P		3 + 1	1	2.3	✓	P	R, C, G, Y1, Y2, W1, W2, W3, E2/P, E, O, B, L, PH, SA, SB, SC, OT	
		2/2	3/2	5+2	4	1F92-371	✓				H	✓	✓	✓	✓		T, P				2.3	✓	P	R, C, G, Y1, Y2, W1, W2, E2/P, E, O, B, L	
		3/2		7-day	4	1F95-371	✓				H	✓	✓	✓	✓		T, P		3 + 1	1	2.3	✓	P	R, C, G, Y1, Y2, W1, W2, W3, O, B, L, PH, SA, SB, SC, OT	
			3/2	7-day	4	1F94-371	①				H	✓	✓	✓	✓	L	T, P		3 + 1	1	2.3	✓	P	R, C, G, Y1, Y2, W1, W2, W3, E2/P, O, B, L, PH, SA, SB, SC, OT	

**SINGLE STAGE THERMOSTATS**

	Single Stage	Multi-Stage	Heat Pump	Programs		Model	Applications				Thermostat Power Source*	Selectable Performance Features							Comfort and Convenience Features		Terminals			
				Stages Heat/Cool by System	Program Options		Periods Per Day Options	Model Number	Gas / Oil / Electric	3 Wire Zone Valve		Millivolt Compatible	Humidity Control (H)-Humidity / (D)-Dehumidify	Auto Changeover	Programmable Fan	Energy Mgt. Recovery	Energy Star	Dual Fuel Heat Pump Control (L)-Logic / (O)-Outdoor Sensor	Keypad Lockout (1)-Total / (P)-Partial	Set-Point Temperature Limits Adjustable Max/Min		Indoor Remote Sensors Max. Number + Thermostat Average and/or Weighted	Outdoor Remote Sensor	Display Size Square inches
NEW!	1/1		1/1	7, 5+1+1, Ø	4, 2, Ø	1F97-1277 Touchscreen	✓	✓	✓		B, H	✓	✓	✓	✓		T, P	✓	1 + 1	1▼	12.0	✓***	P	RC, RH, C, W, Y, G, O, B, W/E, L, 6, +, S, -
NEW!	1/1		1/1	7, 5+1+1, Ø	4, 2, Ø	1F97-1271 Touchscreen	✓		✓		B, H	✓		✓		T, P	✓				12.0	✓***	P	RC, RH, C, W, Y, G, L, O, B
	1/1		1/1	7-day	4	1F97-391	✓	✓			H	PS	✓	✓	✓		T, P		1		2.3	✓	P	RC, RH, W, Y, G, 6, HM1, HM2, S1, S2, S3
	1/1		1/1	7-day	4	1F97-371	✓	✓	✓		PS	✓	✓	✓	✓		T, P		1		2.3	✓	P	RC, RH, W, Y, G, MV, O, B, +, S, -, 6
	1/1		1/1	5+1+1, 5+2	4	1F90-371	✓	✓	✓		PS	✓	✓	✓	✓		T, P		1		2.3	✓	P	RC, RH, W, Y, G, MV, O, B, +, S, -, 6
	1/1		1/1	Ø	Ø	1F96-344	✓	✓	✓		PS	✓	✓			T			1		2.3	✓	P	RC, RH, W, Y, G, MV, O, B, +, S, -, 6

\* H = Hardwired (Requires Common)  
 B, H = Battery Powered or Hardwired  
 B = Battery Powered  
 PS = Power Stealing with Battery Back-Up

① Heat Pump for Stage 1, and Gas/Oil/Electric for 2nd Stage/Emergency  
 ② System requires fossil fuel kit on dual fuel application if outdoor sensor is not used  
 \*\*\* Optional Continuous Display Light w/Hardwire connection  
 ▼ Only one (1) remote sensor may be used – either Indoor or Outdoor