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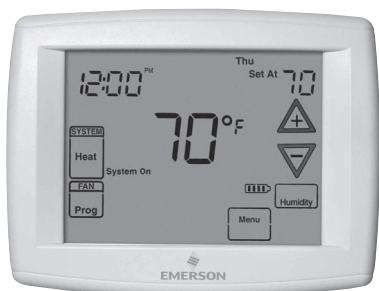
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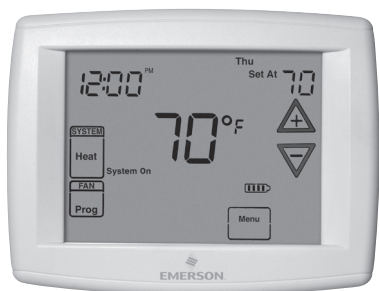
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EMERSON BIG BLUE 12" TOUCHSCREEN THERMOSTATS

White
Rodgers.



1F95-1291



1F95-1277



**F145-1328
Indoor Remote Sensor**



**F145-1378
Outdoor Remote Sensor**



BIG BLUE 12" TOUCHSCREEN - UNIVERSAL AND SINGLE STAGE MODELS - 12 SQ. IN. DISPLAY

Big Blue Models Offer the Ultimate in Comfort Convenience, 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 4⁹/₁₆ H x 5¹³/₁₆ W x 1¹³/₁₆ D

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

- F145-1328 — Indoor remote sensor
- F145-1378 — Outdoor remote sensor
- F61-2600 — Wallplate 8¹/₈" W x 5³/₈" H
- F61-2634 — Wallplate 6¹/₂" 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 24-25 for quick selection options

UNIVERSAL STAGING/HEAT PUMP THERMOSTATS – EMERSON BLUE 12" 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	Economizer	Humidity Control (H)-Humidity / (D)-Dehumidify	Auto Changeover	Programmable Fan	Energy Mgt. Recovery	Dual Fuel Heat Pump Control (L)-Logic / (O)-Outdoor Sensor	Keypad Lockout (T)-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
1/1	2/2	4/2	7, 5+1+1, Ø	4, 2, Ø	1F95-1291 Humidity Control	✓	✓	✓		H, D	B, H, PA	✓	✓	✓	L, O†	T, P	✓	1+1	1▼	12.0	✓***	✓	P	RC, RH, C, G, Y, Y2, W/E, W2, O/B, L, +, S, -, 6, DHM, HM
1/1	2/2	4/2	7, 5+1+1, Ø	2, Ø	1F95-1280 Commercial	✓	✓	✓	✓		B, H, PA	✓	✓	✓	L, O†	T, P	✓	1+1	1▼	12.0	✓***	✓	P	RC, RH, C, G, Y, Y2, W/E, W2, O/B, L, +, S, -, 6, A1
1/1	2/2	3/2■	7, 5+1+1, Ø	4, 2, Ø	1F95-1277 Universal	✓	✓	✓			B, H	✓	✓	✓	O‡	T, P	✓	1+1	1▼	12.0	✓***	✓	P	RC, RH, C, W/E, W2, Y, Y2, G, O, B, 6, L, +, S, -

SINGLE STAGE THERMOSTAT – EMERSON BLUE 12" 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	Economizer	Humidity Control (H)-Humidity / (D)-Dehumidify	Auto Changeover	Programmable Fan	Energy Mgt. Recovery	Dual Fuel Heat Pump Control (L)-Logic / (O)-Outdoor Sensor	Keypad Lockout (T)-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
1/1		1/1	7, 5+1+1, Ø	4, 2, Ø	1F97-1277	✓	✓	✓			B, H	✓	✓	✓		T, P	✓	1+1	1▼	12.0	✓***	✓	P	RC, RH, C, W, Y, G, O, B, L, 6, +, S, -

* H = Hardwired (Requires Common)
B, H = Battery Powered or Hardwired
B = Battery Powered
PA = Power Saving Battery Assist

† If F145-1378 outdoor remote sensor is not used, install manufacturers fossil fuel kit for Dual Fuel applications
*** Optional Continuous Display Light w/ Hardwire connection
▼ Only one (1) remote sensor may be used – either Indoor or Outdoor
■ 4/2 on Dual Fuel using Outdoor Remote Sensor

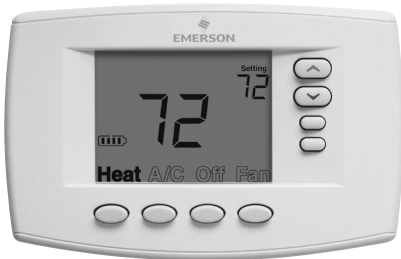


TECHNICAL HELP

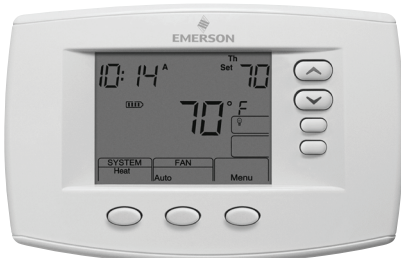
- 1F97-1277 Wiring Diagrams/Configuration See pages 126-127
- 1F95-1280 / 1F95-1291 . Wiring Diagrams/Configuration See pages 128-131
- 1F95-1277 Wiring Diagrams/Configuration See pages 132-133

EMERSON BLUE 6" THERMOSTATS

White
Rodgers.



1F95EZ-0671



1F95-0671



1F95-0680



**F145-1328
Indoor Remote Sensor**



**F145-1378
Outdoor Remote Sensor**



BLUE 6" - UNIVERSAL AND SINGLE STAGE MODELS - 6 SQ. IN. DISPLAY

Blue 6" Models Offer More Premium Features than Higher Priced Competitive Touchscreen Models.

FEATURES

- Universal models quickly configure for single stage, multi-stage or heat pump and heat pump dual fuel systems - programmable or non-programmable
- **Easy Reader model is easy to read and easy to use.**
- **Commercial** offers occupied damper or economizer control and locking cover and subbase
- **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. 1F97-0671 not pictured.
- 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 on select Universal models for outdoor temperature reading and dual fuel balance point or outdoor thermostat function (select models)
- 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, Universal Models: Fast Slow

Heat(Single Stage/Multi-Stage) 0.6°F 1.2°F

Cool (Single Stage/Multi-Stage) 1.2°F 1.7°F

Pump 1.2°F 1.7°F

Emer. Heat 1.2°F 1.7°F

Rated Differentials - Single Stage Models: Fast Slow

Heat 0.6°F 1.2°F

Cool 1.2°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 4³/₁₆" H x 6¹/₂" W x 1⁵/₈" D
(1⁷/₈" D - Commercial model)

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

- F145-1328 — Indoor Remote Sensor
- F145-1378 — Outdoor Remote Sensor
- F61-2600 — Wallplate 8¹/₈" W X 5³/₈" H
- F61-2634 — Wallplate 6¹/₂" 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 24-25 for quick selection options

UNIVERSAL STAGING/HEAT PUMP THERMOSTATS – EMERSON BLUE 6" 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	Dual Fuel Heat Pump Control (L)-Logic / (O)-Outdoor Sensor	Keypad Lockout (T)-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
1/1	2/2	4/2	7, 5+1+1, Ø	4, 2, Ø	1F95-0680 Universal Commercial	✓	✓	✓		B, H, PA	✓	✓	✓	O [‡]	T, P	✓	1 + 1	1▼	6.0	✓***	✓	P	RC, RH, C, G, Y, Y2, W/E, W2, O/B, L, +, S, -, 6, A1
1/1	2/2	4/2	7, 5+1+1, Ø	4, 2, Ø	1F95-0671 Universal	✓	✓	✓		B, H, PA	✓	✓	✓	O [‡]	T, P	✓	1 + 1	1▼	6.0	✓***	✓	P	RC, RH, C, G, Y, Y2, W/E, W2, O/B, L, 6, +, S, -
1/1	2/2	4/2	Ø, 7	2, 4	1F95EZ-0671 Easy Reader	✓	✓	✓		B, H, PA	✓	✓	✓	L		✓			6.0	✓***	✓	P	RC, RH, C, G, Y, Y2, W/E, W2, O/B, L

SINGLE STAGE THERMOSTAT – EMERSON BLUE 6" THERMOSTAT

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	Dual Fuel Heat Pump Control (L)-Logic / (O)-Outdoor Sensor	Keypad Lockout (T)-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
1/1		1/1	7, 5+1+1, Ø	4, 2, Ø	1F97-0671	✓	✓	✓		B, H, PA	✓	✓	✓		T, P	✓	1 + 1	1▼	6.0	✓***	✓	P	RC, RH, C, W, Y, G, O, B, L, 6, +, S, -

* H = Hardwired (Requires Common)
 B, H = Battery Powered or Hardwired
 B = Battery Powered
 PA = Power Saving Battery Assist

‡ If F145-1378 outdoor remote sensor is not used, install manufacturers fossil fuel kit for Dual Fuel applications
 *** Optional Continuous Display Light w/ Hardwire connection
 ▼ Only one (1) remote sensor may be used – either Indoor or Outdoor

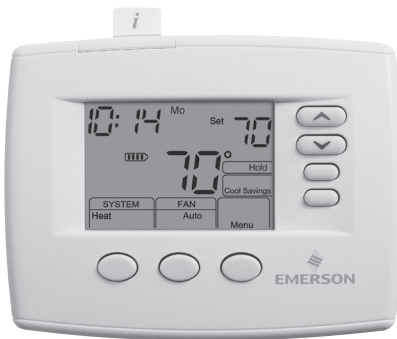


TECHNICAL HELP

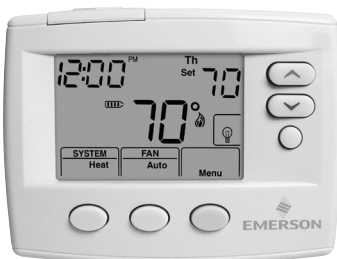
1F97-0671	Wiring Diagrams/Configuration	See pages 134-135
1F95EZ-0671	Wiring Diagrams/Configuration	See pages 136-137
1F95-0671	Wiring Diagrams/Configuration	See pages 138-140
1F95-0680	Wiring Diagrams/Configuration	See pages 141-143

EMERSON BLUE 4" THERMOSTATS

White
Rodgers.



1F85-0422



1F80-0471



BLUE 4" RESIDENTIAL AND LIGHT COMMERCIAL THERMOSTATS - 4 SQ. IN. DISPLAY

Premium Features with Staging or Single Stage Choices for Perfect System Control.

FEATURES

- Available in Universal (Single Stage, Multi-Stage, Heat pump) or Single Stage Models.
- Programmable 7- Day, 5/1/1 Day, 5/2 Day, 0-Day or Non-Programmable.
- Gas, Oil, Electric, mV and 2 or 3-Wire Zone compatible.
- Automatic Heat/Cool changeover option.
- Keypad lockout and setpoint temperature limit options.
- Dual power - hardwired and/or battery powered.
- Fits vertical or horizontal junction box.
- Air filter change indicator option.
- Spanish language display models available.

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, Universal Models:	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

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

Dimensions 3⁷/₁₆" H x 4⁷/₁₆" W x 1¹/₄" D
3⁷/₈" H x 5¹/₈" W x 1¹/₄" D – (Universal models)

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

- F61-2634 — Wallplate 6¹/₂" W X 5" H, for use with or without horizontal junction box (included with thermostat)
- F61-2648 — Wallplate (6 pack of F61-2634 above)
- Thermostat Guards — see pages 24-25 for quick selection

UNIVERSAL STAGING/HEAT PUMP THERMOSTATS – EMERSON BLUE 4" 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	Keypad Lockout (T)-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
1/1	2/2	3/2	7, 5+1+1, 5+2, Ø	4, Ø	1F85-0477 Universal	✓	✓	✓		B, H	✓		✓	T	✓		4.0	✓***	✓	P	RC, RH, C, G, W/E, W2, Y, Y2, O/B, 6, L
1/1	2/2	2/2	5+1+1, 5+2, Ø	4, Ø	1F85-0422 Universal	✓	✓	✓		B, H	✓		✓	T	✓		4.0	✓***	✓	P	RC, RH, C, G, W/E, W2, Y, Y2, O/B, 6, L
1/1	2/2	2/2	5+1+1, 5+2, Ø	4, Ø	1F85ST-0422 Universal**	✓	✓	✓		B, H	✓		✓	T	✓		4.0	✓***	✓	P	RC, RH, C, G, W/E, W2, Y, Y2, O/B, 6, L
1/1	2/2	3/2	Ø	Ø	1F83-0471 Universal	✓	✓	✓		B, H	✓			T	✓		4.0	✓***	✓	P	RC, RH, C, G, W/E, W2, Y, Y2, O/B, 6, L
1/1	2/2	2/2	Ø	Ø	1F83-0422 Universal	✓	✓	✓		B, H	✓			T	✓		4.0	✓***	✓	P	RC, RH, C, G, W/E, W2, Y, Y2, O/B, 6, L

** ST model is Spanish language display

SINGLE STAGE THERMOSTATS – EMERSON BLUE 4" 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	Keypad Lockout (T)-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
1/1		1/1	5+1+1, 5+2, Ø	4, Ø	1F80-0471	✓	✓	✓		B, H	✓		✓		✓		4.0	✓***	✓	P	RC, RH, C, W, Y, G, O/B
1/1		1/1	5+1+1, 5+2, Ø	4, Ø	1F80ST-0471**	✓	✓	✓		B, H	✓		✓				4.0	✓***	✓	P	RC, RH, C, W, Y, G, O/B
1/1		1/1	Ø	Ø	1F86-0471	✓	✓	✓		B, H	✓			✓			4.0	✓***	✓	P	RC, RH, C, W, Y, G, O/B
1/1		1/1	Ø	Ø	1F86ST-0471**	✓	✓	✓		B, H	✓						4.0	✓***	✓	P	RC, RH, C, W, Y, G, O/B

* H = Hardwired (Requires Common)
B, H = Battery Powered or Hardwired
B = Battery Powered

** ST models are Spanish language display
*** Optional Continuous Display Light w/ Hardwire connection

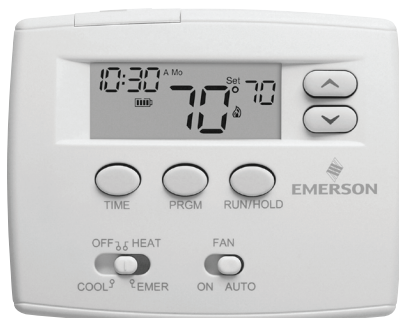


TECHNICAL HELP

- 1F80-0471 / 1F86-0471 . Wiring Diagrams/Configuration See page 144
- 1F83-0471 / 1F85-0471 . Wiring Diagrams/Configuration See pages 145-147
- 1F83-0471 / 1F85-0471 /
- 1F83-0422 / 1F85-0422 . Wiring Diagrams/Configuration See pages 147-149
- 1F85-0477 Wiring Diagrams/Configuration See pages 150-152

EMERSON BLUE 2" THERMOSTATS

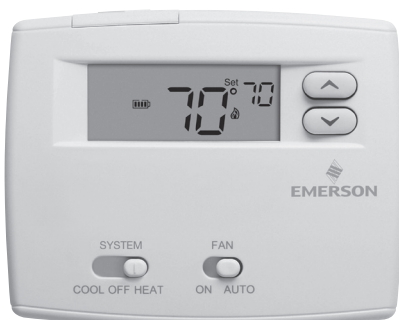
White
Rodgers



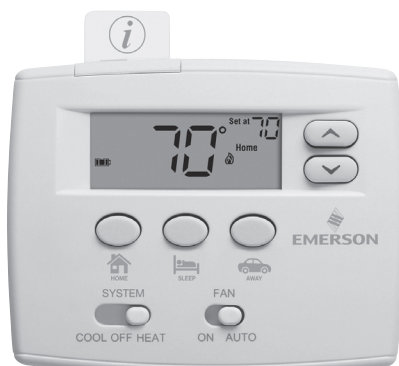
1F82-0261



1F89EZ-0251
(coming soon)



1F86-0244



1F86EZ-0251
(coming soon)

BLUE 2" THERMOSTATS - 2 SQ. IN. DISPLAY

Heat Pump or Single Stage Models, easy to see Display Characters Offering a Step up from 70 Series.

FEATURES

- Heat Pump or Single Stage models.
- Programmable, 5/1/1 Day, 24 Hour, 0-Day or Non-Programmable.
- Gas, Oil, Electric, mV.
- Cool Savings™ saves energy during peak A/C demand periods.
- Lighted display for easier low light viewing.
- Dual power - hardwired and/or battery powered.
- Fits horizontal junction box.
- Air filter change indicator option.

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	1.0 A per terminal, 1.5 A maximum all terminals combined

Setpoint Range..... 45 to 90°F (7 to 32°C)

Rated Differentials, Universal Models:	Fast	Med.	Slow
Heat (Single Stage)	0.8°F		1.2°F
Cool (Single Stage)	1.2°F		1.7°F
Heat Pump	1.2°F		1.7°F
Aux./Emer Heat	0.8°F		1.2°F

Rated Differentials, Single Stage Models:	Fast	Med.	Slow
Heat	0.6°F	0.8°F	1.2°F
Cool	1.2°F		1.7°F
Heat Pump	0.8°F		1.2°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..... 3³/₄" H x 4³/₄" W x 1¹/₂" D

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

- F61-2634 — Wallplate 6¹/₂" W X 5" H, for use with or without horizontal junction box
- F61-2648 — Wallplate (6 pack of F61-2634 above)
- Thermostat Guards — see pages 24-25 for quick selection



HEAT PUMP THERMOSTATS – EMERSON BLUE 2" THERMOSTATS

Single Stage	Multi-Stage	Heat Pump	Programs		Model	Applications				Thermostat Power Source*	Selectable Performance Features						Comfort and Convenience Features			Terminals	
			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	Keypad Lockout (T)-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
		2/1	5+1+1	4	1F82-0261	✓		✓		B, H			✓					2.0	✓***	P	R, C, Y, W2, G, O/B, L
**		2/1	Non-Programmable – Home-Sleep-Away		1F89EZ-0251	✓		✓		B, H								2.0	✓***	P	R, C, Y, W2, G, O/B, L
		2/1	∅	∅	1F89-0211	✓		✓		B, H								2.0	✓***	P	R, C, Y, W2, G, O/B, L

SINGLE STAGE THERMOSTATS – EMERSON BLUE 2" THERMOSTATS

Single Stage	Multi-Stage	Heat Pump	Programs		Model	Applications				Thermostat Power Source*	Selectable Performance Features						Comfort and Convenience Features			Terminals	
			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	Keypad Lockout (T)-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
1/1		1/1	5+1+1	4	1F80-0261	✓		✓		B, H			✓					2.0	✓***	P	R, C, Y, W, G, O/B
1/1		1/1	24 Hours	4	1F80-0224	✓		✓		B, H			✓					2.0	✓***	P	R, C, W, Y, G, O/B
**	1/1	1/1	Non-Programmable – Home-Sleep-Away		1F86EZ-0251	✓		✓		B, H								2.0	✓***	P	R, C, Y, W, G, O/B
1/1		1/1	∅	∅	1F86-0244	✓		✓		B, H								2.0	✓***	P	R, C, Y, W, G, O/B

* H = Hardwired (Requires Common)
B, H = Battery Powered or Hardwired
B = Battery Powered

** Coming Soon
*** Optional Continuous Display Light w/ Hardwire connection



TECHNICAL HELP

1F80-0224 / 1F80-0261 /
1F86-0422 / 1F87-0261 . Wiring Diagrams/Configuration See pages 153-154
1F82-0261 / 1F89-0211 . Wiring Diagrams/Configuration See pages 155-156

WHITE-RODGERS CLASSIC 80 SERIES THERMOSTATS

White
Rodgers.



1F85-277



1F80-361



1F86-344



CLASSIC 80 SERIES UNIVERSAL / STAGING - SINGLE STAGE THERMOSTATS

Residential and Light Commercial – Single Stage, Multi-Stage and Heat Pump Applications. Classic 80 Series Thermostats are Packed with Premium Features. No Other Thermostat Series Offers More Value for the Money.

FEATURES

- Choice of battery powered, dual power or hardwired models.
- Fossil fuel or electric heat compatible.
- Large LCD with backlight.
- Permanent program retention during power loss.
- Configuration menu allows keypad selection of options.
- Selectable Celsius or Fahrenheit temperature display.
- Selectable Energy Management Recovery (1F85-277 / 1F80-361 / 1F87-361 / 1F82-261).

SPECIFICATIONS

Electrical Rating Single Stage:

Dual Power or Battery Power Model mV to 30 VAC, NEC Class II, 50 / 60 Hz or DC
Input-Hardwire Model 20 to 30 VAC

Electrical Rating Staging 20 to 30 VAC, NEC Class II

Terminal Load 1.0 A per terminal,
1.5A maximum all terminals combined

Setpoint Range 45 to 90°F (7 to 32°C)

Rated Differential (Single Stage) Heat 0.6° or 1.5°F
Cool 1.2°F

Rated Differential (Multi-Stage) Heat 0.6° or 1.5°F
Cool 1.2°F

Rated Differential (Heat Pump) Heat & Cool 0.75° or 1.2°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)

Dimensions Thermostat 3⁷/₈" H x 6" W x 1³/₁₆" D

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

- F61-2500 — Wallplate 4⁵/₈" H x 7⁵/₈" W for all 1F80's (except Blue)
Includes adapter plate for mounting to horizontal or vertical junction box
- Thermostat Guards — see pages 24-25

UNIVERSAL STAGING/HEAT PUMP THERMOSTATS – WHITE-RODGERS CLASSIC 80 SERIES 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	Keypad Lockout (T)-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
1/1	2/2	3/2	7, 5+1+1, Ø	4, 2, Ø	1F85-277 Universal	✓		✓		B, H	✓		✓	T	✓			2.2	✓***		P	R, C, G, E/W1, W2, Y1, Y2, O, B, L
		2/1	5+1+1	4	1F82-261 Heat Pump	◆				H			✓					1.8	✓***		P	R, C, Y, W2, G, O/B, L, E
		2/1	Ø	Ø	1F89-211 Heat Pump	◆				H								1.8	✓***		P	R, C, Y, W2, G, O/B, L, E

SINGLE STAGE THERMOSTATS – WHITE-RODGERS CLASSIC 80 SERIES 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	Keypad Lockout (T)-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
1/1		1/1	7-day	4	1F87-361	✓		✓		B, H			✓					2.2	✓		P	RC, RH, C, W, Y, G, O, B
1/1		1/1	5+1+1	4	1F80-361	✓		✓		B, H			✓					2.2	✓		P	RC, RH, C, W, Y, G, O, B
1/1		1/1	Ø	Ø	1F86-344	✓		✓		B, H								2.2	✓		P	RC, RH, C, W, Y, G, O, B

* H = Hardwired (Requires Common)
B, H = Battery Powered or Hardwired
B = Battery Powered

◆ Heat Pump for Stage 1, and Gas / Oil / Electric for 2nd Stage / Emergency
*** Optional Continuous Display Light w/ Hardwire connection



TECHNICAL HELP

1F80-224, -240, -241, -361 /
1F86-241, -344 / 1F87-361.. Wiring Diagrams/Configuration See page 157
1F82-261 / 1F89-211 Wiring Diagrams/Configuration See page 158
1F83-277 /
1F85-275 / 1F85-277 Wiring Diagrams/Configuration See page 159

WHITE-RODGERS 70 SERIES THERMOSTATS

White
Rodgers.



1F72-151



1F78-151



1E78-151



1E78-144

70 SERIES HEAT PUMP - SINGLE STAGE THERMOSTATS

Residential Single Stage and Heat Pump Applications.

70 Series are the Perfect Upgrade from Mechanical Thermostats.

Covers Wall Marks Left by Most Mechanical Thermostats Without the Need for an Extra Wall Plate.

FEATURES

- Fossil fuel or electric heat compatible.
- Large LCD with backlight.
- Selectable Celsius or Fahrenheit temperature display.
- Includes B/O terminals.
- Electronic accuracy.

SPECIFICATIONS

Electrical Rating:

Hardwire	20-30 VAC, NEC Class II 50/60Hz
Battery Power	20 to 30 VAC, NEC Class II,
Terminal Load	1.0 A per terminal, 1.5 A maximum all terminals combined

Setpoint Range 45 to 90°F (7 to 32°C)

Rated Differentials - Single Stage Models:	Fast	Slow
Heat (Single Stage)	0.8°F	1.5°F
Cool (Single Stage) Fixed	1.2°F	
Heat Pump	1.2°F	1.5°F
Aux./Emer. Heat	0.8°F	1.2°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)

Dimensions 3¹³/₁₆" H x 5¹/₈" W x 1¹/₈" D – (1F78)
5⁵/₁₆" H x 3³/₁₆" W x 1¹/₈" D – (1E78)

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

- F61-2510 — Wallplate for 1F models with adaptor for horizontal or vertical junction box 6¹/₂" W x 4¹/₂" H
- F61-2593 — Wallplate for 1D70, 1E70 models with adaptor for horizontal or vertical junction box 4¹/₂" W x 6¹⁹/₃₂" H
- Thermostat Guards — see pages 24-25



HEAT PUMP THERMOSTATS - WHITE-RODGERS 70 SERIES THERMOSTATS

Single Stage	Multi-Stage	Heat Pump	Programs		Model	Applications				Thermostat Power Source*	Selectable Performance Features						Comfort and Convenience Features			Terminals	
			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	Keypad Lockout (T)-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
		2/1	5+2	4	1F72-151	♦				H			✓					1.2	✓***	B	R, C, Y, W2, G, O/B, L, E
		2/1	∅	∅	1F79-111	♦				H								1.2	✓***	B	R, C, Y, W2, G, O/B, L, E

SINGLE STAGE THERMOSTATS - WHITE-RODGERS 70 SERIES THERMOSTATS

Single Stage	Multi-Stage	Heat Pump	Programs		Model	Applications				Thermostat Power Source*	Selectable Performance Features						Comfort and Convenience Features			Terminals	
			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	Keypad Lockout (T)-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
1/1		1/1	5+2	4	1F78-151*	✓		✓		B			✓					1.2	✓***	B	RC, RH, W, Y, G, O, B
1/1		1/1	∅	∅	1F78-144*	✓		✓		B								1.2	✓***	B	RC, RH, W, Y, G, O, B
1/1			∅	∅	1E78-140	✓		✓		B								1.2	✓***	B	RH, W

* H = Hardwired (Requires Common)
B = Battery Powered

♦ Heat Pump for Stage 1, and Gas/Oil/Electric for 2nd Stage/Emergency
x Available in vertical style order 1E78-144/151
*** Optional Continuous Display Light w/ Hardwire connection



TECHNICAL HELP

1E78-151	Wiring Diagrams/Configuration	See page 160
1F72-151 / 1F79-111	Wiring Diagrams/Configuration	See page 161
1F78-144 / 1F78-111	Wiring Diagrams/Configuration	See page 162



F145-1328
Indoor Remote Sensor



F145-1378
Outdoor Remote Sensor



REMOTE SENSORS FOR 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

Remote Sensor Wiring / Troubleshooting. See page 165-168

INDOOR SENSOR

Model Number	Color	Dimensions	Application
F145-1328	Classic White	2 ¹ / ₈ " x 3 ¹ / ₂ " x 3 ³ / ₄ "	Compatible with all Emerson / White-Rodgers Thermostats with Indoor Remote Sense.

OUTDOOR SENSOR

Model Number	Color	Dimensions	Application
F145-1378	Classic White	2 ¹ / ₈ " x 3 ¹ / ₂ " x 3 ³ / ₄ "	Compatible with all Emerson / White-Rodgers Thermostats with Outdoor Remote Sensing. 12 ft. sensor lead

CONNECTION CROSS REFERENCE – THERMOSTATS & REMOTE 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 165-168.

REMOTE TERMINAL DESIGNATIONS

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



1E30N-910



1F56N-444



✦ **1F56N-361**

MECHANICAL THERMOSTATS – MERCURY FREE

Replaces Hundreds of White-Rodgers and Competitive Models. Enclosed Snap Action Contacts for Reliable, Economical and Environmentally Friendly Control.

FEATURES

- Mercury free snap action contacts with dust cover.
- Resistant to vibration.
- Mounts to wall or junction box.
- Built in bimetal thermometer.
- Classic White color.
- Horizontal and Vertical models.
- 24 Volt, 750 mV and 3 - wire zone options.

SPECIFICATIONS

Electrical Rating	20-30 VAC, NEC Class II 50/60Hz
Heating	0.15 to 1.2 Amps
Cooling	0.15 to 1.2 Amps
Heat Anticipator	Adjustable from 0.15 to 1.2 Amps
Cool Anticipator	Fixed
Differential Heat	1°F
Differential Cool	1.5°F
Setpoint Range	50°F to 90°F (10°C to 32°C)
Operating Humidity Range	0-90% non-condensing
Dimensions	4 1/2" H x 2 3/4" W x 1 1/2" D – 1E (Vertical) 4 1/2" H x 3 1/4" W x 1 5/8" D – 1E with

Heat /

Cool Subbase
2 3/4" H 4 1/2" W x 1 1/2" D – 1F (Horizontal)
3 1/4" H x 4 1/2" W x 1 5/8" D – 1F with Heat /
Cool Subbase

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

- F61-2301 — Wallplate 5 5/8" W x 5 3/4" H with adapter plate to horizontal or vertical junction box.
- Thermostat Guards — see pages 24-25

TECHNICAL HELP

Configuration/Wiring See page 163



Model Number	Orientation Vertical, Horizontal	Applications								Options				Control Range	Terminals
		Heat Only	Cool Only	Heat-Cool	Conventional Gas / Oil / Electric	Electric Strip Heat	Heat Pump (No Aux.)	3-Wire Zone Valve	Millivolt Compatible	Includes Optional F92-0563 Kit for Temperature Locking or Limiting	Includes Switched Subbase Heat-Off-Cool & Fan Auto-On	Includes Switched Subbase Heat-Off	Includes Wallplate Heat Only (No System or Off Switch)		
1E30N-910	V	✓			✓							✓		50 to 90°F	R, W
1E50N-301	V	✓			✓				✓		✓	✓		50 to 90°F	R, W
1E56N-444	V	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	50 to 90°F	R, W
1F56N-444	H	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	50 to 90°F	RC, RH, W, Y, G, O, B, A
1E30N-311	V	✓			✓							✓		50 to 90°F / 10 to 32°C	R, W
1E50N-303	V	✓			✓				✓		✓	✓		50 to 90°F / 10 to 32°C	R, W
1E56N-361	V	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	50 to 90°F / 10 to 32°C	RC, RH, W, Y, G, O, B, A
1F56N-361	V	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	50 to 90°F / 10 to 32°C	RC, RH, W, Y, G, O, B, A

✦ Indicates Canadian Model Number: call 1-800-305-6953 to order


1C20-101

1C26-101


ECONOMY MECHANICAL THERMOSTATS

Reliable Performance in an Attractive Design

FEATURES

- Rugged snap-action contacts.
- Adjustable heat anticipator.
- Bi-Metal thermometer.
- Heat / Cool model includes switching subbase.
- Heat / Cool model compatible with Electric Heat systems.

SPECIFICATIONS

Anticipation Rating, Heating	Adjustable from 0.15 to 1.2 Amps
Anticipation Rating, Cooling	Fixed
Differential, Heating	2°F (1.1°C)
Differential, Cooling	4°F (2.2°C)
Dimensions	3 ³ / ₄ " H x 2 ⁷ / ₈ " W x 1 ¹ / ₂ " D
Dimensions, Switching Models . . .	3 ³ / ₄ " H x 3 ¹ / ₈ " W x 1 ⁵ / ₈ " D
Electrical Rating	mV to 30V, 50 / 60 Hz or DC

PARTS AND ACCESSORIES

See end of this section for parts and accessories

- Wallplate F61-2499 — 5¹/₈" H x 5" W
- Thermostat Guards — see pages 24-25

TECHNICAL HELP

Configuration / Wiring See page 163

Model Number	Typical Application	Stages Heat / Cool	System Switch	Fan Switch	Contacts	Anticipation Heat / Cool	Range	Shape	Terminals
1C20-101	Heat Only ③	1	None ①	None	Snap-Action	Adjustable	50-90°F (10-32°C)	Vertical	R, W
1C20-102	Heat Only	1	None	None	Snap-Action	Adjustable	50-90°F (10-32°C)	Vertical	R, W
1C21-101	Cool Only	1	None	None	Snap-Action	Fixed	50-90°F (10-32°C)	Vertical	R, Y
1C26-101	Heat / Cool ② ③	1 / 1	Heat-Off-Cool	Auto-On	Snap-Action	Adjustable / Fixed	50-90°F (10-32°C)	Vertical	RC, RH, W, Y, G, O, B, A

① Lowest temperature setting is "OFF" position

② Includes optional "A" terminal connection for Electric Heat systems that require the thermostat to energize the Blower (G terminal) on a call for heat

③ Includes F61-2499 wall mounting plate to cover marks left by previous thermostat



21D28-6

EVAPORATIVE COOLING THERMOSTAT & CONTROL BOX

Functions as a Switching Device for the Thermostat to Provide an Even Level of Cooling Plus a Choice of High and Low Speed Control of the Fan on Evaporative Coolers

FEATURES

- Grey plastic case is lightweight, weather-resistant and meets all code requirements.
- Fully automatic, system designed with a fan delay (approximately 60 seconds) to pre-wet the cooler pads before the fan starts.
- Separate fan and pump relays. High or low fan speed selection.
- Relay panel is removable from enclosure to facilitate field wiring.
- Integral transformer 120 / 240 VAC to 24 VAC 60 Hz.

SPECIFICATIONS

Dimensions 1F51N-619	3 ¹ / ₄ "H x 4 ¹ / ₂ "W x 1 ⁵ / ₈ "D
Dimensions 8A18Z-2	8"H x 6"W x 3"D
Electrical Rating 1F51N-619	24 VAC (30 VAC maximum) Fixed anticipator



TECHNICAL HELP

Wiring Diagram..... See page 169

Model Number	Package Consists of:
21D28-6	1F51N-619 / 8A18Z-2

Model Number	Color	Range	Differential	System Switch Positions	
				System	Fan
1F51N-619	Classic White	Scale 1-2-3-4-5 (55 to 95°F) ①	1°F	Off – Cool – Vent	Hi – Lo

① No thermometer

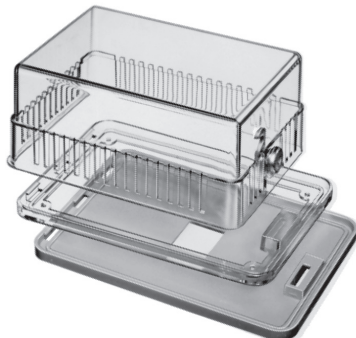
CONTACT RATINGS

Model Number	Input Voltage	Combined Relay Loads		Pump Relay		Fan Relay	
		Full Load	Locked Rotor	Full Load	Locked Rotor	Full Load	Locked Rotor
8A18Z-2 ①	120 VAC	16.0A	96.0A	10.0A	60.0A	12.0A	72.0A
	240 VAC	8.0A	48.0A	5.0A	30.0A	6.0A	36.0A

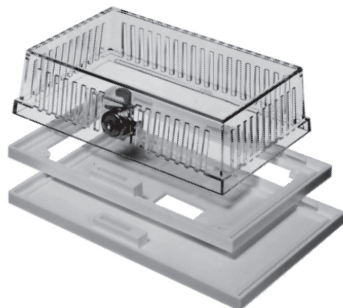
① U.L. listed



F29-0144



F29-0198



F29-0231

THERMOSTAT GUARDS – PLASTIC

These Durable Thermostat Guards are Designed for use in Offices, Churches, Restaurants and Other Public Areas to Prevent Adjustment of the Temperature by Unauthorized Personnel

FEATURES

- F29-0198 will accept ALL Emerson / White-Rodgers thermostat types.
- Each model furnished with one key and can be mounted vertically or horizontally.
- Clear plastic models for applications that need the thermostat visible.
- Opaque plastic models for applications that require the thermostat be kept hidden from view.
- Each model furnished with a ring and/or solid wall mounting plate.

PARTS AND ACCESSORIES

- F145-0999 – Replacement key (1)
- F145-1000 – Replacement lock and key

Model Number	Description	Horizontal (Ring) Inside Dimensions			Horizontal (Solid) Inside Dimensions			BEKO Number
		Length	Height	Depth	Length	Height	Depth	
F29-0143	Clear Plastic	6 ³ / ₈ "	3 ¹ / ₂ "	3 ¹ / ₄ "	6 ³ / ₈ "	3 ¹ / ₂ "	3"	BTG-RK
F29-0198	Clear Plastic	8 ¹ / ₈ "	4 ⁵ / ₈ "	3 ⁵ / ₈ "	8 ¹ / ₄ "	5 ³ / ₈ "	3 ¹ / ₂ "	BTG-UK2
F29-0225	Clear Plastic	Mounting Plate, No Ring			3 ⁷ / ₈ "	3 ¹ / ₂ "	2 ¹ / ₂ "	BTG-EK
F29-0227	Clear Plastic	5 ¹ / ₄ "	4 ⁵ / ₈ "	3 ¹ / ₄ "	5 ¹ / ₄ "	4 ⁵ / ₈ "	3"	BTG-K
F29-0231	Clear Plastic	7 ¹ / ₁₆ "	4 ¹ / ₈ "	2 ¹ / ₄ "	7 ⁵ / ₈ "	4 ¹ / ₄ "	2 ¹ / ₈ "	TG-DK
F29-0277 ①	Clear Plastic	7 ¹ / ₁₆ "	4 ¹ / ₄ "	2 ¹ / ₄ "	7 ⁵ / ₈ "	4 ¹ / ₄ "	2 ¹ / ₈ "	NA

① Access hole for temporary temperature override on horizontal 1F70, 1F80, 1F90 series thermostats (except Blue)

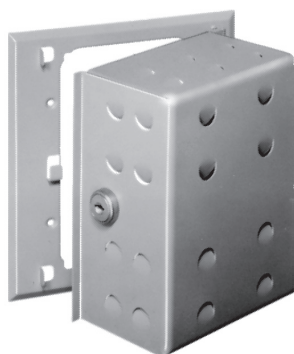


TECHNICAL HELP

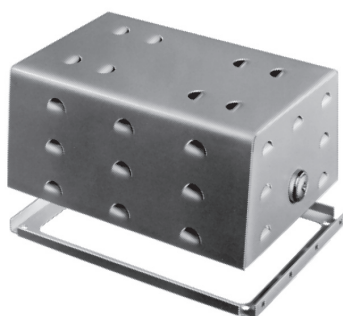
For a list of thermostat guard choices by thermostat model number . . . See chart below

Thermostat Guard Selection		Plastic										
		Clear Plastic		Clear Plastic		Clear Plastic	Clear Plastic		Clear Plastic		Clear Plastic	
Thermostat Guard Model Number		F29-0143		F29-0198		F29-0225	F29-0227		F29-0231		F29-0277*	
Base Style		Ring	Solid	Ring	Solid	Solid	Ring	Solid	Ring	Solid	Ring	Solid
MECHANICAL	1C20 Series	√	√	√	√	√	√	√	√	√	NO	NO
	1C30 Series	√	√	√	√	NO	√	√	√	√	NO	NO
	1D30 / 36 / 56 Series	√	√	√	√	NO	√	√	√	√	NO	NO
	1E30 / 31 / 35 / 56 Series	√	√	√	√	NO	√	√	√	√	NO	NO
	1F30 Series	√	√	√	√	NO	√	√	√	√	NO	NO
	1F51 / 56 / 57 Series	√	√	√	√	NO	√	√	√	√	NO	NO
	1F58-58 / 1F58-72	√	√	√	√	NO	NO	NO	√	√	NO	NO
1F58-77	√	√	√	√	NO	√	√	√	√	NO	NO	
DIGITAL	1E78 Series	NO	NO	√	√	NO	√	√	√	√	NO	NO
	1F70 Series	NO	NO	√	√	NO	√	√	√	√	√	√
	1F80 BLUE	√	√	√	√	NO	√	√	√	√	NO	NO
	1F80 Classic Series	NO	NO	√	√	NO	NO	NO	√	√	√	√
	1F90 BLUE Series	NO	NO	√	√	NO	NO	NO	NO	NO	NO	NO
1F90 Series (Obsolete)	NO	NO	√	√	NO	NO	NO	√	√	√	√	

* With Access Hole for Temporary Override on 70, 80 and 90 Series Thermostats (Except Blue).



F29-0193



F29-0222

THERMOSTAT GUARDS – METAL

These Durable Metal Guards are Designed for Government, Military, Industrial and Educational Applications to Prevent Adjustment of the Temperature by Unauthorized Personnel

FEATURES

- Model F29-0220 fits ALL Emerson / White-Rodgers Thermostats.
- Each model furnished with one key and can be mounted vertically or horizontally.
- Tamper-resistant design. 18 gauge cover, 22 gauge frame.
- Beige enamel finish over heavy-duty steel enclosure.
- Models available in a ring or solid base.

PARTS AND ACCESSORIES

- F145-0999 – Replacement key (1)
- F145-1000 – Replacement lock and key

Model Number	Description	Horizontal – Inside Dimensions			Comments	BEKO Number
		Length	Height	Depth		
F29-0192	Solid base	6 ¹ / ₄ "	4 ³ / ₄ "	3"	Hinged cover	BTG-54VL
F29-0193	Ring base	6"	3 ¹³ / ₁₆ "	3 ¹ / ₈ "	Hinged cover	BTG-54VLW
F29-0220	Solid base	7 ¹ / ₈ "	4 ⁵ / ₈ "	3 ¹ / ₄ "	–	BTG-UM
F29-0222	Ring base	6 ⁵ / ₈ "	4 ¹ / ₂ "	3 ³ / ₈ "	–	BTG-UWM



TECHNICAL HELP

For a list of thermostat guard choices by thermostat model number . . See chart below

Thermostat Guard Selection		Metal			
		Hinged Cover		No Hinge	
		F29-0192	F29-0193	F29-0220	F29-0222
Thermostat Guard Model Number		F29-0192	F29-0193	F29-0220	F29-0222
Base Style		Solid	Ring	Solid	Ring
MECHANICAL	1C20 Series	√	√	√	√
	1C30 Series	√	√	√	√
	1D30 / 36 / 56 Series	√	√	√	√
	1E30 / 31 / 35 / 56 Series	√	√	√	√
	1F30 Series	√	√	√	√
	1F51 / 56 / 57 Series	√	√	√	√
	1F58-58 / 1F58-72	√	√	√	√
	1F58-77	√	√	√	√
DIGITAL	1E78 Series	√	√	√	√
	1F70 Series	√	√	√	√
	1F80 BLUE	√	√	√	√
	1F80 Classic Series	NO	√	√	√
	1F90 BLUE Series	NO	NO	√	√
	1F90 Series (Obsolete)	NO	√	√	√

LINE VOLTAGE THERMOSTATS QUICK SELECTION GUIDE

White
Rodgers.

INSTANT EXPERT

	Range Max.	Range Min.	Differential Max.	Differential Min.	Model	Element	Capillary Length	Switch Action	Page Number
HEATING	80°F	40°F	2°F	2°F	1G65-641	Thermostat Snap Action		Open on Rise	28
	80°F	40°F	2°F	2°F	1G66-641	Thermostat Snap Action		Open on Rise	28
	85°F	40°F	1°F	1°F	1A65-641	Hydraulic Knob		Open on Rise	28
	85°F	40°F	1°F	1°F	1A65W-641	Hydraulic Knob		Open on Rise	28
	85°F	40°F	1°F	1°F	1A66-641	Hydraulic Knob		Open on Rise	28
	85°F	40°F	1°F	1°F	1A66W-641	Hydraulic Knob		Open on Rise	28
	85°F	55°F	2°F	2°F	152-9	Thermostat		Open on Rise	32
	90°F	40°F	3°F	3°F	2A20-2	Self Contained		Open on Rise	31
	95°F	55°F	2°F	2°F	152-10	Thermostat		Open on Rise	32
COOLING	90°F	20°F	20°F	3°F	201-8	Self Contained		Close on Rise	31
HEAT & COOL	90°F	36°F	1.5°F	1.5°F	1A10-651	Hydraulic Knob		SPDT	29
	90°F	36°F	1.5°F	1.5°F	1A11-2	Hydraulic Knob		SPDT	30
	90°F	36°F	1.5°F	1.5°F	1A16-51	Hydraulic Knob		SPDT	29
	95°F	55°F	3°F	3°F	179-1	Thermostat		SPDT	32

U.S. Models only



1E65-144

LINE VOLTAGE DIGITAL THERMOSTAT

Digital Non-Programmable Line Voltage Thermostat with up to 4000W for Electric Heating that Provides Ultimate Accuracy and Comfort. For Baseboard Heaters, Radiant Floors, Radiant Ceilings, Convectors, Fan-Forced Heaters.

FEATURES

- Large LCD with great contrast for greater viewing.
- 100% silent operation with optional proportional control feature
- Selectable anticipation for ultimate performance.
- Celsius or Fahrenheit compatible.
- White color.
- Does not contain mercury.

SPECIFICATIONS

Setpoint Range	45°F to 90°F (7°C to 32°C)
Display Range	32°F to 99°F (0°C to 37°C)
Display Resolution	1°F (0.1°C)
Shipping	4°F to 120°F (-20°C to 50°C)
Approval	C.S.A. approved

PARTS AND ACCESSORIES

- F61-2642 – Adapter plate for universal mounting.

TECHNICAL HELP

Configuration/Wiring Diagram See page 164



Model Number	Range	Switch Action	Load
1E65-144	45° to 90°F (7°C to 32°C)	Open on Rise	Min Load: 2A(resistive only) 500 W @ 240 VAC 250 W @ 120 VAC Max Load: 16.7 A (resistive only) 4000 W @ 240 VAC 2000 W @ 120 VAC

Features and Benefits	Honeywell RLV310	Aube TH109	CMAC IT3000	WR 1E65
Backlight				✓
Menu-Driven Options			✓	✓
Large Display				✓
Large Characters				✓
Power @ 240 VAC	3 KW	3 KW	3 KW	4 KW
Consumption Indicator	20%	20%	10%	10%
Selectable Anticipation				✓
Adjustable Temperature Display				±3°C
Temperature Resolution	0.5°C	0.5°C	1°C	0.1°C
Warranty (yrs)	3	3	1	5

LINE VOLTAGE THERMOSTATS

White
Rodgers.



1A65-641

LINE VOLTAGE WALL THERMOSTATS

Electric Heat Thermostats used for Controlling Baseboards, Cable Heat, Glass Panels, etc.

FEATURES

- 1A66 types are a double-pole disconnect model with "OFF" position which mechanically breaks both sides of line.
- Classic White or Beige color.

SPECIFICATIONS

Dimensions 4¹/₂"H x 2³/₄"W x 1¹/₄"D
Agency U.L. listed and C.S.A. certified

PARTS AND ACCESSORIES

- F75-0176 – for locking or limiting temperatures at 66°, 69°, 72° or 75°F
Temperature limit can also be set at 60° or 63°F
- Thermostat guards – see pages 24-25

Model Number	Range	Differential	Switch Action	Resistive (Non-Inductive)
1A65-641	40 to 85°F (4 to 29°C)	1.0°F	Open on Rise	22.0A, 120 VAC (2500W)
1A65W-641 ①				22.0A, 240 VAC (5000W) 18.0A, 277 VAC (5000W)
1A66-641	40 to 85°F (4 to 29°C)	1.0°F	Open on Rise	22.0A, 240 VAC (5000W)
1A66W-641 ①				18.0A, 277 VAC (5000W)

① W in model number denotes Classic White Color

REPLACES HONEYWELL T498A / B SERIES



1G66-641

LINE VOLTAGE BIMETAL WALL THERMOSTATS

Electric Heat Thermostats used for Controlling Baseboards, Cable Heat, Glass Panels, etc.

FEATURES

- 1G66 types are a double-pole disconnect model with "OFF" position which mechanically breaks both sides of line.
- Classic white.

SPECIFICATIONS

Dimensions 4¹³/₁₆"H x 3⁵/₁₆"W x 1⁷/₁₆"D
Agency U.L. listed and C.S.A. approved

PARTS AND ACCESSORIES

- Thermostat guards – see pages 24-25

Model Number	Range	Differential	Switch Action	Resistive (Non-Inductive)
1G65-641	40 to 80°F (4 to 26°C)	2.0°F	Open on Rise	22.0A, 120 VAC (2500W) 22.0A, 240 VAC (5000W) 18.0A, 277 VAC (5000W)
1G66-641	40 to 80°F (4 to 26°C)	2.0°F	Open on Rise	22.0A, 240 VAC (5000W) 18.0A, 277 VAC (5000W)



**1A10-651
with S29-21 subbase**

**1A10-651 LIGHT DUTY AND 1A16-51 HEAVY DUTY
LINE VOLTAGE THERMOSTATS**

For Direct Control of Fan Coils, Fans, Motor Starters, Circulator Motors, Contactors, Valves for Heating, Cooling & SPDT Applications

FEATURES

- Two dial stops for setting a maximum or minimum temperature. Minimum between 66 to 87°F. Maximum between 60 to 81°F.
- Thermostat mounts on 2" x 4" electrical box.
- Includes set point locking feature at 66°, 69°, 72°, 75°, 78° or 81°F
- Optional heating and cooling subbase S29-21 available.
- Beige color.
- Does not contain mercury.

SPECIFICATIONS

Dimensions without subbase, knob & case . . . 4 1/2" H x 2 7/8" W x 1 3/4" D (Vertical)
 Dimensions with subbase, knob & case 5 1/8" H x 2 7/8" W x 2 1/8" D (Vertical)
 Agency U.L. listed and C.S.A. certified

PARTS AND ACCESSORIES

- Thermostat guards – see pages 24-25

Model Number	Range	Differential	Switch Action	A.C. Electrical Ratings						
				Voltage	Heat		Cool		Pilot Duty	
					Full Load	Locked Rotor	Resistive (Non-inductive)	Full Load		Locked Rotor
1A10-651	36 to 90°F (2 to 32°C)	1.5°F	SPDT	120	8.0A	48.0A	8.0A	8.0A	48.0A	125 VA
				240 / 277	4.0A	24.0A	8.0A	4.0A	24.0A	125 VA
1A16-51	36 to 90°F (2 to 32°C)	1.5°F	SPDT	120	16.0A	96.0A	16.0A	8.0A	48.0A	125 VA
				240 / 277	8.0A	48.0A	16.0A	4.0A	24.0A	125 VA

SUBBASE FOR 1A10-651 AND 1A16-51

Model Number	System Switching	Thermostat Used	Thermostat Style
S29-21	Cool – OFF – Heat	1A10-651, 1A16-51	Vertical

LINE VOLTAGE THERMOSTATS

White
Rodgers.



1A11-2

1A11-2 LIGHT DUTY FAN COIL THERMOSTAT

For Direct Control of Line Voltage Valves and/or Blower Motors on Fan Coil Units Featuring Manual Changeover From Heat to Cool and a 3-Speed Fan Switch, Subbase Included

FEATURES

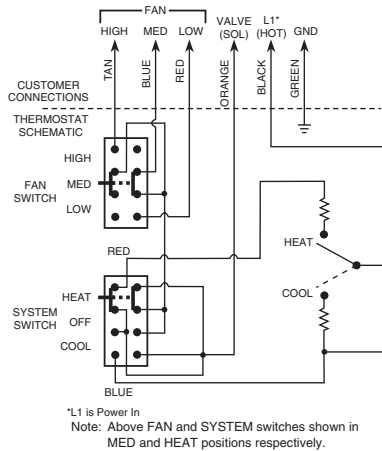
- Mounts to a standard vertical outlet box or on a two-gang outlet box. May also be mounted on a 4" x 4" junction box with an adapter (not provided).
- Wiring color coded for ease of installation.
- 3-speed manual fan switch: High – Medium – Low.
- System Switch: Heat – OFF – Cool. "OFF" breaks both valve and fan circuits.
- Beige color.

SPECIFICATIONS

Dimensions 4 1/2" H x 4 1/2" W x 2 1/4" D
Agency U.L. listed and C.S.A. approved

PARTS AND ACCESSORIES

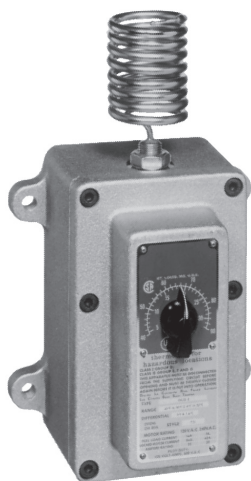
- Thermostat guards – see pages 24-25



1A11-2
5-wire with ground, for single valve,
manual heat/cool changeover

- Thermostat cycles both fan and valve
- Thermostat cycles fan only (if valve is not used tape orange lead)
- System "OFF" breaks both valve and fan circuits
- Thermostat cycles valve only with continuous fan (interchange valve and L1 leads)

Model Number	Range	Differential	Switch Action	Contact Ratings						Pilot Duty
				Motor Ratings (inductive) Full Load			Motor Ratings (inductive) Locked Rotor			120/240
				120 VAC	240 VAC	277 VAC	120 VAC	240 VAC	277 VAC	277 VAC
1A11-2	36 to 90°F (2 to 32°C)	1.5°F	SPDT	5.5A	2.75A	2.3A	33.0A	16.5A	13.8A	120A



2A20-2

HAZARDOUS LOCATION HEATING THERMOSTAT

For use in Hazardous Atmospheres (Oil Refineries, Grain Elevators, Munitions Plants, Flour Plants, Hospital Operating Rooms)

FEATURES

- Evenly calibrated dial and adjustment knob to simplify setting.
- High electrical rating allows operation of most equipment without use of relays or motor starter.
- Hydraulic action element — unaffected by motion — no leveling required.
- 1/2" female pipe connection for wiring.

SPECIFICATIONS

Dimensions 6 1/8" H x 5 3/8" W x 4" D + 5/8" Knob
(Add 2 7/8" for height of coil)
Agency U.L. listed Div. 1 (Class I Group D; Class II Groups E, F, & G) and C.S.A. certified

Model Number	Range	Differential	Switch Action	Full Electrical Rating	Bulb Size	Capillary Length	Motor Rating (Full Load)		Resistive (Non-Inductive)	
							120 VAC	240 VAC	120 VAC	240 VAC
2A20-2 ①	40 to 90°F (4 to 32°C)	Fixed 3°F (1.6°C)	Open on Rise	FG See page 416	—	—	14.0A	7.0A	25.0A	20.0A

① 2A20-2 has external knob to adjust setting without removing cover.



201-8

**HEAVY DUTY SPACE THERMOSTATS
FOR HEATING AND COOLING**

Designed for use in Garages, Factories, Warehouses and Similar Commercial and Industrial Installations

FEATURES

- Dust, moisture and vermin resistant heavy metal case.
- No leveling required – Mounts in any position.
- Quick response to temperature changes.
- Nickel plated element.
- Extra rugged switch mechanism.

SPECIFICATIONS

Dimensions 5 3/8" H + 2 1/2" coil x 2 5/16" W x 2 9/16" D
Finish Grey color
Agency U.L. listed and C.S.A. approved

Model Number	Range	Differential	Switch Action	Full Electrical Rating	Motor Rating (Full Load)		Valves and Relays		Resistive	
					120 VAC	240 VAC	120 VAC	240 VAC	120 VAC	240 VAC
201-8	20 to 90°F (-7 to +32°C)	Adj. 3 to 20°F (2 to 11°C)	Close on Rise	FGH See page 416	16.0A	8.0A	5.6A	2.8A	25.0A	22.0A

LINE VOLTAGE THERMOSTATS

White
Rodgers.



179-1

LINE VOLTAGE THERMOSTAT FOR HEATING / COOLING

Control Suitable for Fans or Water Solenoids on Heating / Cooling Convector or Any Similar Application that Requires a Heavy Duty Room Thermostat with Single Pole, Double Throw (SPDT) Switch Action

FEATURES

- Can handle many cooling installations without use of relay or motor starter.
- Heavy gauge steel case – Mounts on vertical 2" x 4" box or flush to wall.
- Hydraulic action element – Unaffected by motion – No leveling required.
- Dustproof case.

SPECIFICATIONS

Dimensions	6"H x 2 ³ / ₄ " W x 2 ¹ / ₂ " D
Finish	Grey color
Agency	U.L. listed and C.S.A. approved

PARTS AND ACCESSORIES

- Thermostat guards – see pages 24-25

Model Number	Range	Differential	Action	Full Electrical Rating	Motor Rating (Full Load)	
					120 VAC	240 VAC
179-1	55 to 95°F (13 to 35°C)	Fixed 3.0°F (1.6°C)	SPDT (Heat / Cool)	SPDT See page 416	7.4A	3.7



152-9

LINE VOLTAGE THERMOSTATS FOR HEATING

For Control of Most Line Voltage Heating Applications without use of Relays or Motor Starters

FEATURES

- "Summer" dial position (152-9 model)
- Heavy gauge steel case – Mounts on vertical 2" x 4" box or flush to wall.
- Hydraulic action element – Unaffected by motion – No leveling required.
- Dustproof case.

SPECIFICATIONS

Dimensions	6"H x 2 ³ / ₄ " W x 2 ¹ / ₂ " D
Finish	Grey color
Agency	U.L. listed and C.S.A. approved

PARTS AND ACCESSORIES






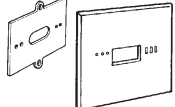
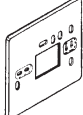
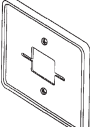
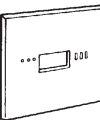


- Thermostat guards – see pages 24-25


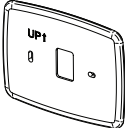
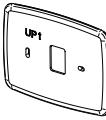
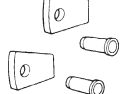
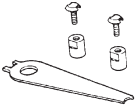


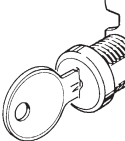



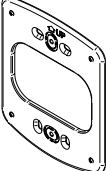
Model Number	Range	Differential	Action	Full Electrical Rating	Motor Rating (Full Load)		Resistive (Non-Inductive)		
					120 VAC	240 VAC	120 VAC	240 VAC	277 VAC
152-9*	55 to 85°F (13 to 29°C)	Fixed 2°F (1.0°C)	Open on Rise	FG See page 416	14.0A	7.0A	25.0A	22.0A	18.0A
152-10**	40 to 90°F (4 to 32°C)	Fixed 3°F (1.6°C)	Open on Rise	FG See page 416	14.0A	7.0A	25.0A	20.0A	–

* Summer fan position control only has two terminals. It thermostatically cycles (based on temperature) unless set to the summer fan position in which case the contacts are closed.

** Locked case, concealed dial.

ROOM THERMOSTATS — 100 SERIES

Item Number	Model Number	Description
	F4-1748	Terminal base for 1D78-140 & 1E78 thermostats.
	F16-7715	Cover for 1A65 / 1A66 (Beige) Thermostat.
	F16-7716	Cover for 1A65W / 1A66W (White) Thermostat.
	F16-8100	Cover assembly for 1F78-144 non-programmable.
	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.

Item Number	Model Number	Description
	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 Touch-screen thermostats, 8 1/8" W x 5 5/8" 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.
	F75-0176	Temperature knob locking or limiting kit for 1A65-641, 1A66W-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.
	F145-1000	Replacement lock and key for all thermostat guards, F29 series.
	F145-1328	90 Series Indoor Remote Sensor. Replaces all previous Indoor Remote Sensors.
	F145-1378	90 Series Outdoor Temperature Sensor, For Models with Outdoor Sensor Option.
	F61-2648	Same as F61-2634 except 6 pack.
	F61-2642	Universal adapter plate for 1E65-144