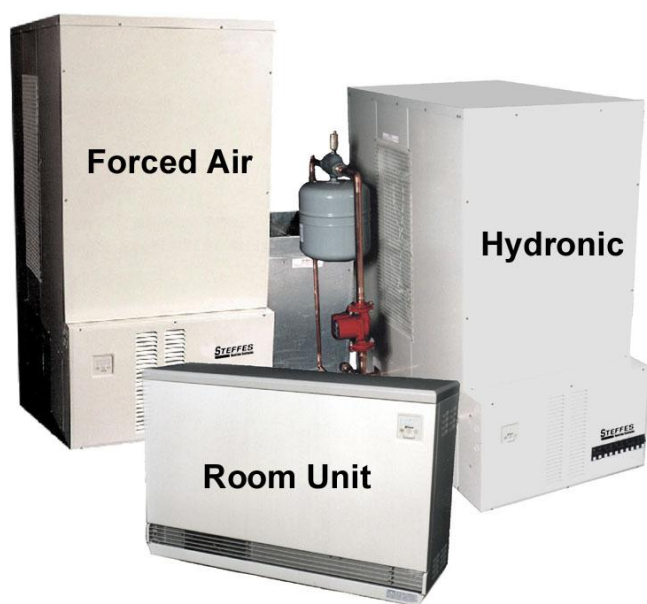


STEFFES

Heating Systems

"Manufactured in North America"

Installer's Configuration Guide for 2100, 3100, 4100 and 5100 Series



Microprocessor Configuration Locations

**Applicable to Software Version
2.02 to 2.10**

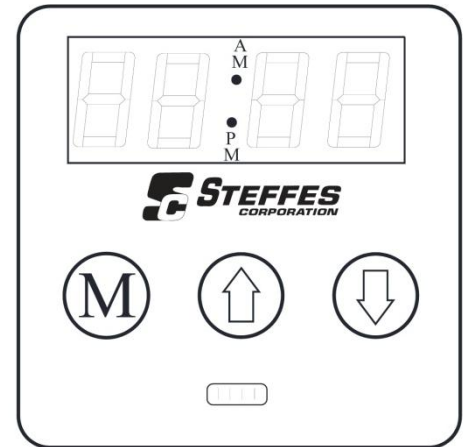
For Use by the Power Company or Installer ONLY

Guide prepared for: _____
(Power Company Name)

Configuration Menu Access

Steffes heating systems have a Configuration Menu which allows them to be customized to the power company and consumer's needs. This menu can be accessed on start up and allows configuration settings to be easily adjusted.

NOTE: Upon power up of the heater, entry into the Configuration Menu is automatically provided for the first two (2) minutes of operation. After this time, entry into the Configuration Menu is denied, unless the heater is powered off and then back on again. For detailed information on location settings refer to the Supplemental Installer's Guide.



STEP 1 Energize the heater.

STEP 2 Enter the Configuration Menu by pressing and releasing the **M** button until the faceplate displays "CONF".

STEP 3 Press the up arrow once and the faceplate will display "C000". The display will flash between "C000" and the corresponding configuration value.

STEP 4 If necessary, edit the configuration by pressing and holding the **M** button while using the up or the down arrow button to change the value.

STEP 5 Once the value is correct, release the buttons and press the up arrow to go to the next configuration (C001, C002, etc.).

STEP 6 Repeat steps 4 through 5 until all configuration settings have been adjusted to the desired values.

STEP 7 Once configured, use the down arrow to leave the Configuration Menu.

NOTE: If access to Configuration Menu is lost, heater must be powered off and back on to re-enter the menu.

2100 Series Configurations

2100 Series

Method of Peak Control										
Configuration Number	Power Line Carrier (PLC) Peak Control *	Low Voltage Direct Wired Peak Control				Time Clock Module Peak Control		Line Voltage Peak Control		Special Application
		Peak Switch Closed for Charging		Peak Switch Open for Charging						
C000	5	Outdoor Sensor	Outdoor Sensor	No Outdoor Sensor	Outdoor Sensor	Outdoor Sensor	No Outdoor Sensor	Outdoor Sensor	Outdoor Sensor	
C001	60°F	5	6	6	5	6	60°F	5	6	
C002	20°F	60°F				60°F		60°F		
C003	Match to the Channel Selected at PLC	20°F				20°F		20°F		
C004	154	0				0		0		
C005	0	155	154	155	154	159	158	155	154	
C006	6	1		0		0		0		
C007	30	6				6		6		
C008	5°F	30				30		30		
C009	5°F	5°F				5°F		5°F		
C010	90°F	5°F				5°F		5°F		
C011	70°F	90°F				90°F		90°F		
C012	60°F	70°F				70°F		70°F		
C013 - C021	N/A	60°F				60°F		60°F		
		N/A				Refer to the Time Clock Installation Instructions		N/A		

*Factory Default is Power Line Carrier (PLC) Peak Control using Channel 3

3100/4100 Series Configurations

3100/4100 Series

Method of Peak Control											
Configuration Number	Power Line Carrier (PLC) Peak Control	Low Voltage Direct Wire Peak Control				Time Clock Module Peak Control		Line Voltage Peak Control		Special Application	
		Peak Switch Closed for Charging	Peak Switch Open for Charging								
C000	5	Outdoor Sensor *	No Outdoor Sensor	Outdoor Sensor	No Outdoor Sensor	Outdoor Sensor	Outdoor Sensor	Outdoor Sensor	Outdoor Sensor		
C001	50°F	5	6	5	6	50°F		5	6		
C002	10°F	10°F				10°F		10°F			
C003	Match to the Channel Selected at PLC	0				0		0			
C004	8	9	8	9	8	13	12	9	8		
C005	0	1		0		0		0			
C006	3100 Series = 2	3100 Series = 2				3100 Series = 2		3100 Series = 2			
	4100 Series = 3	4100 Series = 3				4100 Series = 3		4100 Series = 3			
C007	30	30				30		30			
C008	5°F	5°F				5°F		5°F			
C009	5°F	5°F				5°F		5°F			
C010	90°F	90°F				90°F		90°F			
C011	70°F	70°F				70°F		70°F			
C012	60°F	60°F				60°F		60°F			
C013 - C021	N/A	N/A				Refer to the Time Clock Installation Instructions		N/A			

* Factory Default is Low Voltage Direct Wire Peak Control Closed for Charging with Outdoor Sensor.

5100 Series Configurations

5100 Series

Method of Peak Control											
Configuration Number	Power Line Carrier (PLC) Peak Control	Low Voltage Direct Wire Peak Control			Time Clock Module Peak Control			Line Voltage Peak Control		Special Application	
		Peak Switch Closed for Charging	Peak Switch Open for Charging								
C000	5	5	6	5	6	5	6	5	6		
C001	50°F	50°F				50°F			50°F		
C002	10°F	10°F				10°F			10°F		
C003	Match to the Channel Selected at PLC	0				0			0		
C004	8	9	8	9	8	13	12	9	8		
C005	0	1		0		0			0		
C006	2	2				2			2		
C007	30	30				30			30		
C008	5°F	5°F				5°F			5°F		
C009	5°F	5°F				5°F			5°F		
C010	90°F	90°F				90°F			90°F		
C011	APPLICATION DEPENDENT *										
C012	APPLICATION DEPENDENT *										
C013 - C021	N/A	N/A			Refer to the Time Clock Installation Instructions			N/A			

* Risk of high temperature water. Can cause property damage. Improper water temperature settings can result in damage to the floor covering. Make sure the maximum and minimum water temperatures (C011 and C012) are appropriate for the application.

** Factory Default is Low Voltage Direct Wire Peak Control Closed for Charging with Outdoor Sensor.

Methods of Peak Control

Steffes ETS heating equipment is generally controlled by the Power Company via a peak control signal. This signal can be sent to the heater using the Steffes Power Line Carrier system, low voltage wiring, a Steffes Time Clock Module, or line voltage wiring. In applications utilizing automatic charge control, outdoor temperature information is required and can be received via an outdoor sensor or power line carrier control.

1 **POWER LINE CARRIER (PLC) PEAK CONTROL**

The optional Steffes Power Line Carrier (PLC) control system has the ability to communicate with the heater through the existing electrical circuits in the structure. With the power line carrier option, hard wired low voltage connections from the power company's peak signaling switch connect directly to the transmitting device. The switch signals peak control times to the transmitter, the transmitter sends the signal to an unlimited number of 2100 series heaters, which receive this information and respond accordingly.

In addition to providing peak control signals, the transmitting device also provides outdoor temperature information, room temperature set back, and anticipated peak utility control signals (if applicable).

As the PLC system is optional, it must be specified at the time of ordering. If utilizing a PLC system, refer to the Owner's and Installer's manual accompanying the transmitting device for information on the installation and operation of the power line carrier control system.



PLC Communication is very reliable in most applications but can be affected and hindered by connection method used, electrical layout of the application, operation of other equipment in the same electric system, dirty power, etc. Steffes Corporation does not guarantee effective communication of the PLC system in all applications and is not responsible for any communication issues outside normal operating malfunctions.

2 **LOW VOLTAGE DIRECT WIRED PEAK CONTROL**

If using the low voltage control option, the heater is direct wired to the power company's peak control switch. Field connections from the switch are made to the system's low voltage wiring harness or terminal block. Refer to the Owner's and Installer's manual or the Quick Reference Installation Guide for detailed information.

3 **TIME CLOCK MODULE PEAK CONTROL**

The Steffes Time Clock Module is another option for providing a peak control signal to the Steffes Heating System. The optional time clock module mounts inside the line voltage electrical compartment and interfaces with the relay board via an interface cable. Peak control times **MUST** be programmed into the system once the module is installed to enable the time clock feature. Refer to the instructions provided with the time clock module for more information on the installation and operation of this device.

4 **LINE VOLTAGE PEAK CONTROL**

Line voltage control is also an option, but is not the preferred method of control as it is usually more complex and expensive. If line voltage control is utilized, the controls circuit must be powered with an uninterrupted circuit. An external switching device, such as a relay panel, is necessary to directly control the heating element charging circuits. If relying on this method of control, the display on the system must continuously display a brick core operating mode of "C" (charge) regardless of whether it is an off-peak or on-peak period.