

# SERVICE AND APPLICATION NOTES

December 1, 2015

## Standby Mode for Outdoor Units with iComfort® Control

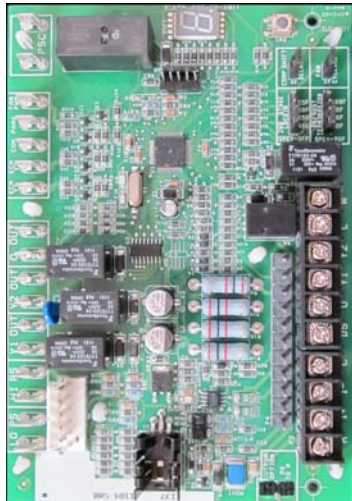
### AFFECTED MODELS

- XC17, XC21, XP17 and XP21 early production with iComfort® outdoor control part numbers 101796-xx, 101797-xx, 101798-xx and 101799-xx.
- XC17, XC21, XP17, XP17N, SL18XC, SL18XP, XP21 and XP21N with iComfort® outdoor control part numbers 103369-01 through -04.
- XC20, XP20, XC25 and XP25 variable capacity with iComfort® outdoor control part number 103686-xx.

### APPLICATION

Information in this note shows the proper interface wiring necessary to enter the affected models into standby mode. The standby mode can be used for utility load shedding control, to halt outdoor unit operation for extended periods of time or to control systems outfitted with generators with insufficient output for the outdoor unit requirements.

XC17, XP17, XP17N, SL18XC, SL18XP,  
XC21, XP21 and XP21N  
CURRENT PRODUCTION



103369-03 and later

XC20, XP20, XC25 AND XP25  
VARIABLE CAPACITY  
CURRENT PRODUCTION

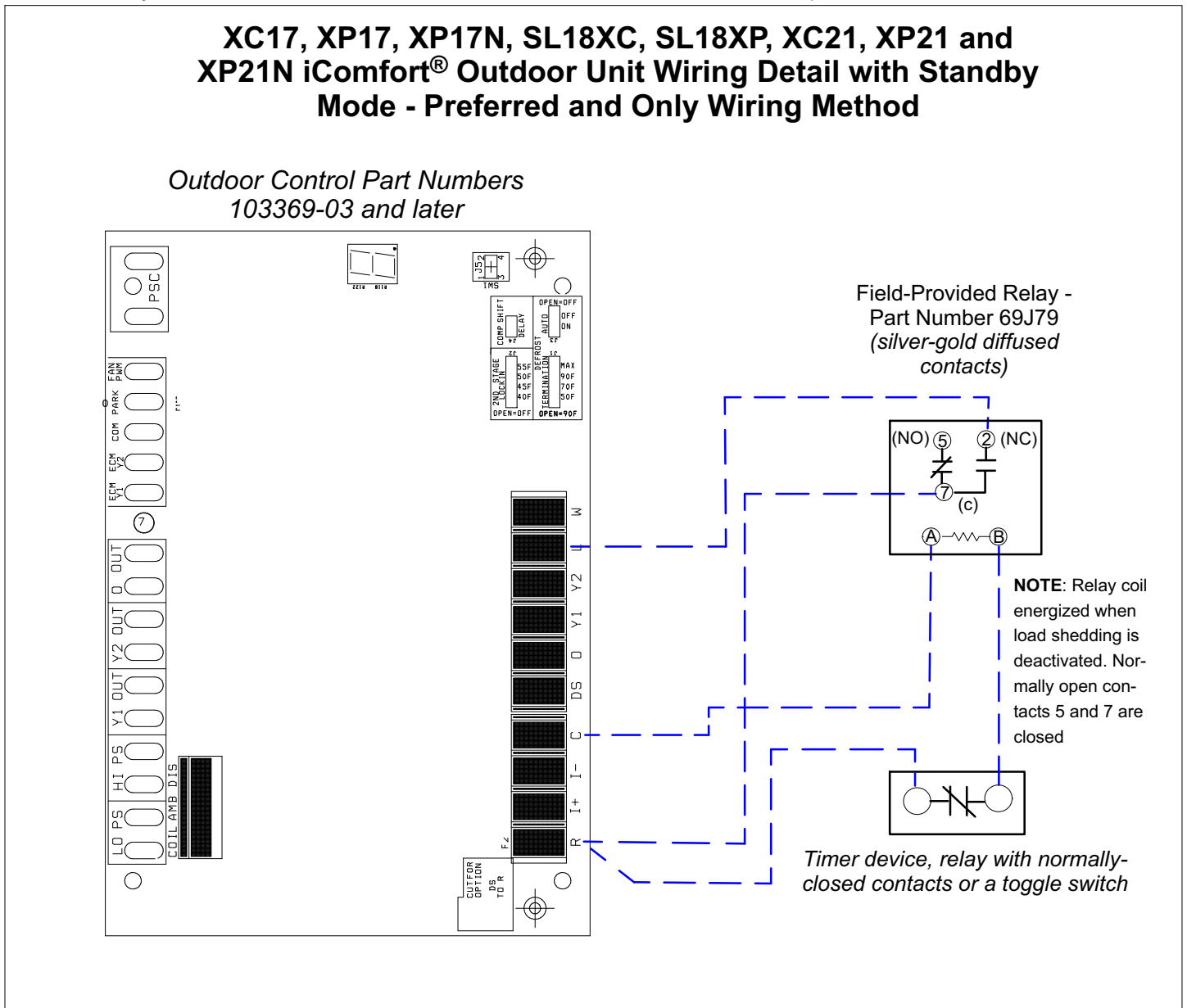


103686-xx

FIGURE 1

## Preferred Wiring Method for Standby Mode Wiring

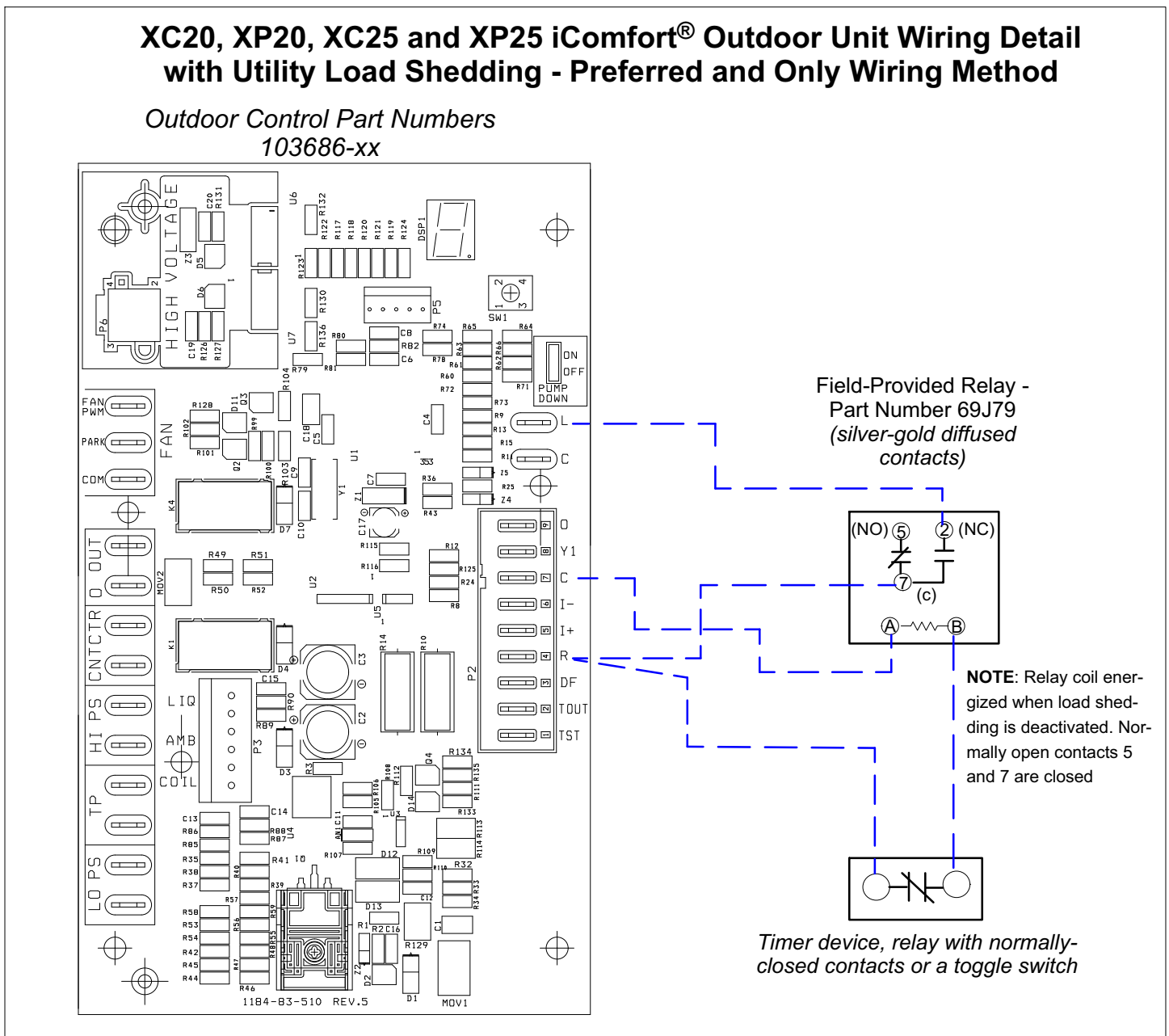
1. **Applicable Models:** XC17, XP17, XP17N, SL18XC1, SL18XP1, XC21, XP21 and XP21N with iComfort® controls 103369-03 and -04 with iComfort® room thermostat.
2. **Applicable Outdoor Control:**
  - iComfort® outdoor controls 103369-03 and later with iComfort® thermostat only
- A. **Standby Mode ACTIVATED (Unit Cycled OFF)** – The normally closed set of contacts in the control receiver **open**. This removes 24VAC from the coil of the field-provided relay (catalog # 69J79). The relay contacts close (terminal 7 to terminal 2), completing the circuit between terminals **R** and **L** on the outdoor control. This 24VAC input to terminal **L** activates the load shedding mode in the outdoor control and the outdoor unit will be cycled **OFF**. The 7-Segment display on the outdoor control will display a load shedding alert code **E600** and an alert will appear on the display of the iComfort® thermostat. When standby mode becomes activated, the customer will receive a notification email alert if they have selected this option in the iComfort® thermostat.
- B. **Standby Mode DEACTIVATED (Normal Equipment Operation)** – When not required, the contacts in the control receiver are closed. This provides 24VAC to the coil of the field provided relay (catalog # 69J79). The relay contacts **OPEN** (terminal 7 to terminal 2) removing 24VAC from the **L** terminal on the outdoor control. This deactivates the standby mode in the outdoor control. The outdoor unit will return to normal operation and alert code will clear.



**FIGURE 2**

3. **Applicable Models:** XC20, XP20, XC25 and XP25 (iComfort® outdoor control 103686-xx)

- A. **Standby or Load Shedding Mode ACTIVATED (Utility Cycled Unit OFF)** – The normally closed set of contacts in the load control receiver “open”. This removes 24VAC from the coil of the field-provided relay (catalog # 69J79). The relay contacts close (terminal 7 to terminal 2), completing the circuit between terminals **R** and **L** on the outdoor control. This 24VAC input to terminal **L** activates the standby or load shedding mode in the outdoor control and the outdoor unit will be cycled **OFF**. The 7-Segment display on the outdoor control will display a load shedding alert code **E600** and an alert will appear on the display of the iComfort® thermostat. When standby or load shedding mode becomes activated, the customer will receive a notification email alert if they have selected this option in the iComfort® thermostat.
- B. **Standby or Load Shedding Mode DEACTIVATED (Normal Equipment Operation)** – When standby or load shedding not required, the contacts in the load control receiver are closed. This provides 24VAC to the coil of the field provided relay (catalog # 69J79). The relay contacts **OPEN** (terminal 7 to terminal 2) removing 24VAC from the **L** terminal on the outdoor control. This deactivates the standby or load shedding mode in the outdoor control. The outdoor unit will return to normal operation and alert code will clear.



**FIGURE 3**

# Standby or Load Shedding Relay Kit (10M34), XC17, XP17, XP17N, SL18XC, SL18XP, XC21, XP21, XP21N using iComfort® Outdoor Control Part Number Series 103369-03 through -05 only and Connected to an iComfort® Thermostat

1. The standby or load shedding relay control receives 24VAC through **R** (24VAC) and **C** (COM) terminals from the outdoor control.
2. The standby or load shedding relay control has a relay which switches 24VAC between **L** and **NO** terminals.
  - The **L** terminal is a normally **closed** contact of the relay which is connected to **L** terminal of the outdoor control.
  - The **NO** terminal is a normally **open** contact of the relay which is left unused in this application.

**NOTE:** The **L** terminal on the outdoor control is the standby or load shedding control terminal which is different from earlier versions of the outdoor control (103369-01 and -02) where this was the LSOM terminal.

- During normal operation, the standby or load shedding relay control receives 24VAC to the **LS** terminal through the normally **closed** contacts of the field-provided switching device. The occurrence of a standby or load shedding event will result in the field-provided switching device **opening** its normally **closed** contact.
- The 24VAC power is removed from the **LS** terminal on the standby or load shedding relay control when the field-provided switching device contacts open. This switches the standby or load shedding relay from normally **open** contact (terminal **NO**) to normally **closed** contact (terminal **L**).
- A 24VAC signal will appear on the terminal **L** indicating to the outdoor control that a standby or load shedding event has occurred. The outdoor control will take the appropriate actions for a standby or load shedding event, for example turning OFF the compressors and outdoor fan and displaying the **E600** status code on the outdoor control and iComfort® thermostat.

iComfort Outdoor Control Part Number Series  
103369-01 and later

**IMPORTANT:** This load shedding relay kit will only work with the 103369-03 and later outdoor control.

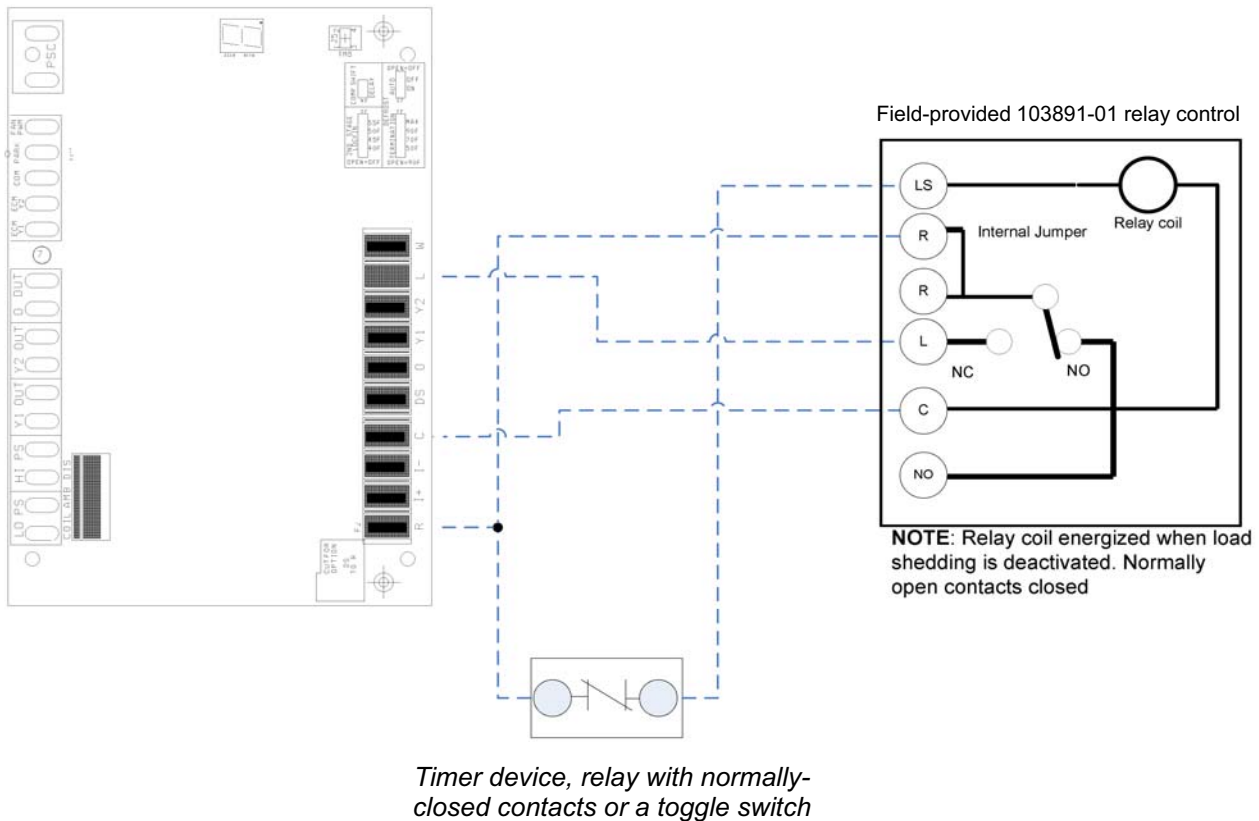
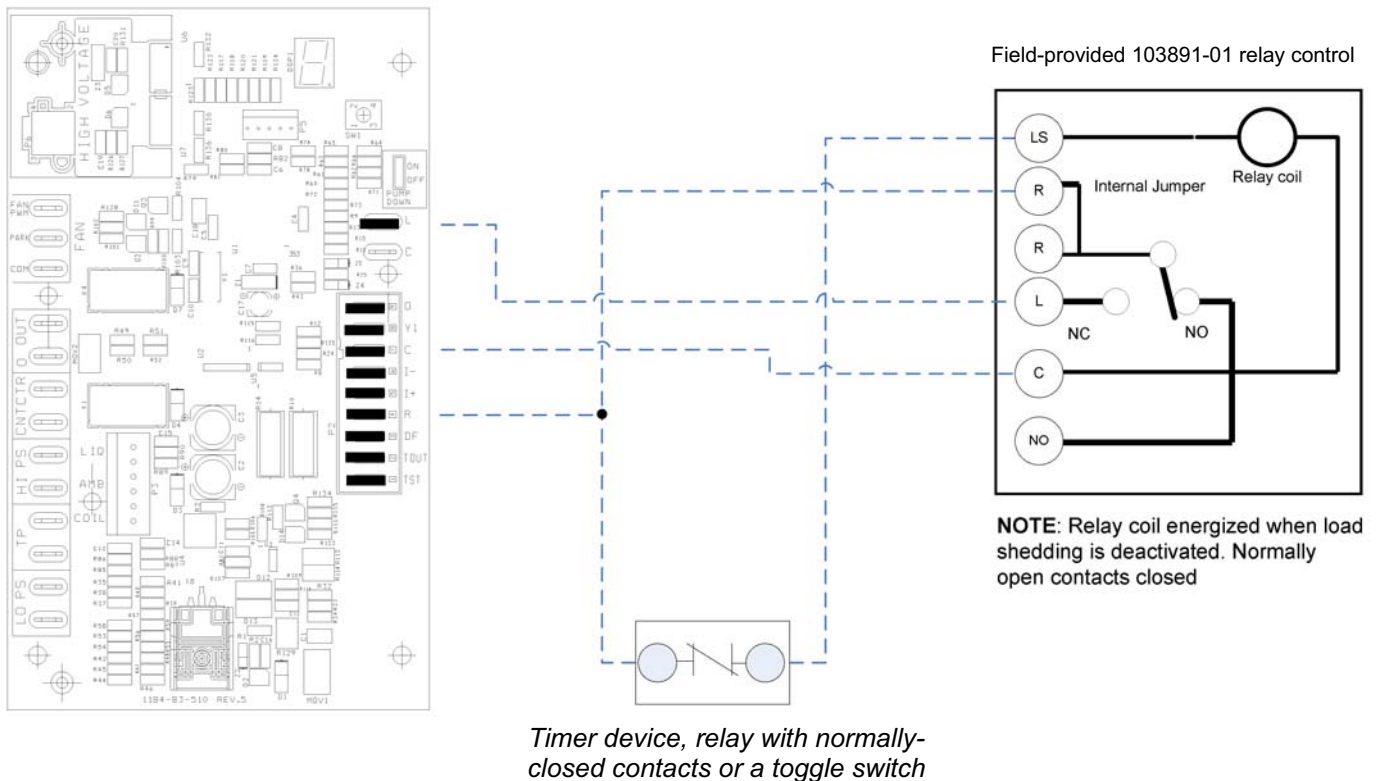


FIGURE 4

## Standby or Load Shedding Relay Kit (10M34), XC20, XP20, XC25 and XP25 using iComfort® Outdoor Control Part Number Series 103686 and Connected to an iComfort® Thermostat

1. The standby or load shedding relay control receives 24VAC through **R** (24VAC) and **C** (COM) terminals from the outdoor control.
2. The standby or load shedding relay control has a relay which switches 24VAC between **L** and **NO** terminals.
  - The **L** terminal is a normally **closed** contact of the relay which is connected to **L** terminal of the outdoor control.
  - The **NO** terminal is a normally **open** contact of the relay which is left unused in this application.
  - During normal operation, the standby or load shedding relay control receives 24VAC to the **LS** terminal through the normally **closed** contacts of the field-provided switching device. The occurrence of a standby or load shedding event will result in the **opening** of its normally **closed** contact.
  - The 24VAC power is removed from the **LS** terminal on the standby or load shedding relay control when the contacts open. This switches the standby or load shedding relay from normally **open** contact (terminal **NO**) to normally **closed** contact (terminal **L**).
  - A 24VAC signal will appear on the terminal **L** indicating to the outdoor control that a standby or load shedding event has occurred. The outdoor control will take the appropriate actions for a standby or load shedding event, for example turning OFF the compressors and outdoor fan and displaying the **E600** status code on the outdoor control and iComfort® thermostat.

iComfort Outdoor Control Part Number Series  
103686-xx



**FIGURE 5**