



Power Line Carrier (PLC) Transceiver Owner's and Installer's Manual



Steffes Transceiver

Power Line Carrier (PLC)
Communication



Transceiver Configurations Available:

- 2-pole Outdoor ~1301000
- 2-pole with Umbilical Cord Outdoor ~1301004

Steffes Transceiver

with  **STEFFES
CONNECT**

Register your device at steffesconnect.com



Transceiver Configurations Available with Steffes Connect:

- 2-pole Indoor ~1301051
- 2-pole Outdoor ~1301050
- 2-pole with Umbilical Cord Outdoor ~1301053
- 5-pole Indoor ~1301054
- 3-phase Outdoor ~1301052



IMPORTANT

- The equipment described herein is intended for installation only by a qualified technician in accordance with applicable local, state, and national codes and requirements.
- This manual should be retained by the customer upon completion of the installation and made available to service personnel as required.
- Disclaimer:
 - In compiling this manual, Steffes has used its best judgment based upon information available; but, disclaims any responsibility or liability for any errors or miscalculations contained herein, or any revisions hereof, or which result, in whole or in part, from the use of this manual or any revisions hereof.
 - Conditions can occur that cause the transceiver to have difficulties communicating via power line carrier and/or WiFi; therefore, not operating properly. In no event shall Steffes be liable for any indirect, special, or consequential damages or lost profits.

**WARNING**

HAZARDOUS VOLTAGE: Risk of electric shock. Can cause injury or death. Equipment must be installed and serviced by a qualified technician.

FOR CUSTOMER USE

Please record the serial number of the transceiver below. This information is located inside the transceiver enclosure. Retain this information for future reference.

Model: _____
Serial Number: _____
Date Installed: _____
MAC Address ID: _____
MAC Verification Code: _____



RECOGNIZE THESE SYMBOLS AS SAFETY PRECAUTIONS



It is important, both for your personal safety and to avoid possible damage to the equipment and your property, that you observe the safety instructions given following these symbols.

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GENERAL OPERATION

The Steffes Power Line Carrier (PLC) Transceiver can be installed in a home or business to provide communication to, and control of, Steffes heating systems and other devices. The PLC Transceiver is used for communicating information through the local electric circuits and must be wired into the line voltage power serving the installation.

The transceiver can be installed as a transmitter OR a receiver.

In **transmit mode**, the transceiver can receive a signal from an external control device such as a power company's meter or a radio receiver. If using with Steffes Connect, the transceiver can receive a signal from the internet. The transceiver interprets the signal and sends the signal to any Steffes receivers installed on the same distribution transformer. The transceiver can also collect and transmit indoor and outdoor temperature data. Relays in the transceiver can be used to control other electric load devices (NOTE: This feature is not available in 3-phase transceivers).

In **receive mode**, the transceiver reads and translates the signal from the transmitting device. It uses the information received to control other electric load devices by turning power off and on to the device with its relays. Examples of other controlled-load devices include an electric water heater, electric baseboard heater, or an electric clothes dryer.

In transmit or receive mode, the transceiver can be connected to the Steffes Connect web application via a WiFi router or an Ethernet cable. Using Steffes Connect allows customers to use a utility set rate schedule or default external signal for peak control, manually set back the heater(s), and remotely view current indoor, outdoor, and forecasted temperatures for their device location.

NOTE: PLC and WiFi Communication are reliable in most applications, but can be affected by connection method used, electrical layout of the application, operation of other equipment in the same electric system, and dirty power. Steffes does not guarantee effective communication of the PLC or WiFi systems in all applications and is not responsible for communication issues.



UNIT IDENTIFICATION LABEL

The unit identification label shown is a sample. The actual unit identification label is located inside the transceiver.

STEFFES
Dickinson, ND

Model Enclosure
S/N
Option
Voltage Phase
Control Circuit Max Amps
Relay Circuit # Max Amps Resistive
Relay Circuit # Max Amps Resistive
Total Maximum Connected Amperage:
Surface Mount Flush Mount
Max HP Per Relay 120 V 208/240 V
CAUTION
*Use Copper Conductors rated 75°C minimum.
ENCLOSED ENERGY
MANAGEMENT EQUIPMENT
80GM
Label: 1200619 Rev 4

UL US
LISTED

Unit Identification Label



INSTALLATION

NOTE: *The transceiver can be installed as a transmitter OR a receiver. Install no more than four transmitting devices on one distribution transformer. There is no limit to the number of receivers in a system.*

MOUNTING AND LINE VOLTAGE WIRING

1. Remove the painted front cover and securely mount the transceiver for the application.
2. Power the circuit board as follows:
 - a. **2-POLE:** Route line voltage wiring to the transceiver and connect to the red and the black/white power wires coming from the circuit board. The 2-pole transceiver can be powered with 120 VAC or 208/240 VAC.
 - b. **5-POLE:** Power to the circuit board is fed through L1 and L2 on Circuit 1. Connect the red and black wires labeled Circuit1 to a breaker in the breaker panel. The 5-pole transceiver can be powered with 120 VAC or 208/240 VAC. If using 120 VAC, the tapping on the expansion board line voltage input terminal block must be changed. Reference the Component Location Diagram #17 for the 5-Pole Transceiver.

NOTE: *Any load connected to L1 and L2 on Circuit 1 of the terminal block will remain uncontrolled.*

- c. **3-PHASE:** The 3-Phase Transceiver circuit board MUST be powered with 120 VAC. Reference the 3-Phase Line Voltage Wiring Diagram for more information.

NOTE: *The 3-phase transceiver can be used in non-3-phase commercial applications. In these applications, Line 3 is not used.*

3. Ground the transceiver using the ground screws provided.

RELAY CONNECTIONS (2-POLE AND 5-POLE ONLY)

1. **2-POLE:** If the transceiver relay(s) are being used to control other loads, break one leg of the circuit going to the controlled load through the relay using the wires provided. If any transceiver relay(s) are NOT being used to control other loads, insulate the ends of the unused wires.
2. **5-POLE:** Connect the controlled loads to the T1 and L2 terminals for the desired circuit number (Figure 2). Locate the red and black wires at the bottom of the transceiver for that circuit # and route them to the service entrance panel. Connect these wires to an appropriate circuit breaker in the panel. Reference the Line Voltage Wiring Diagram (Page A.3) for more information.

NOTES: • *The relays in the 3-Phase Transceiver cannot be used to control other loads.*

- *Steffes heating systems with digital displays are not usually connected through these relays as they have built-in receivers to receive wireless communication from the transmitting device.*

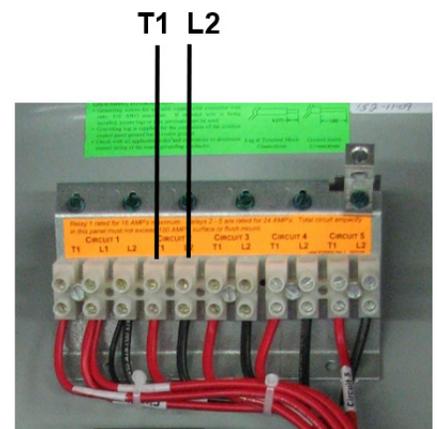


WARNING

HAZARDOUS VOLTAGE: Risk of electric shock. Can cause injury or death.

- Route line voltage conductors and make line voltage connections only in the line voltage connection area.
- Route low-voltage conductors only into the low-voltage connection area.
- System may be connected to more than one branch circuit. Disconnect power to all circuits before servicing.

FIGURE 2



LOW VOLTAGE CONNECTIONS

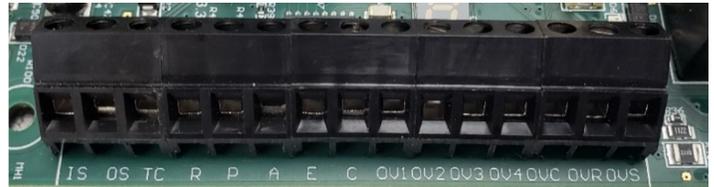
Low Voltage Terminal Block

| | | | |
|----|-----------------------------|-----|-----------------|
| IS | Indoor Sensor | OV1 | Override 1 |
| OS | Outdoor Sensor | OV2 | Override 2 |
| TC | Temperature (Sensor) Common | OV3 | Override 3 |
| R | Low Voltage Hot | OV4 | Override 4 |
| P | Peak Control | OVC | Override Common |
| A | Anticipated Peak Control | OVR | Override Hot |
| E | Room Temperature Setback | OVS | Override Switch |
| C | Low Voltage Common | | |

NOTE: Each terminal accepts 22-16 AWG wire.

1. Remove the applicable knockout(s) from the bottom of the enclosure in the low voltage connection area.
2. Indoor transceivers have a factory-installed indoor sensor. If installing an indoor transceiver, connect an outdoor sensor (Part #1302044) to the OS and TC terminals (Figure 3) on the low voltage terminal block.

FIGURE 3

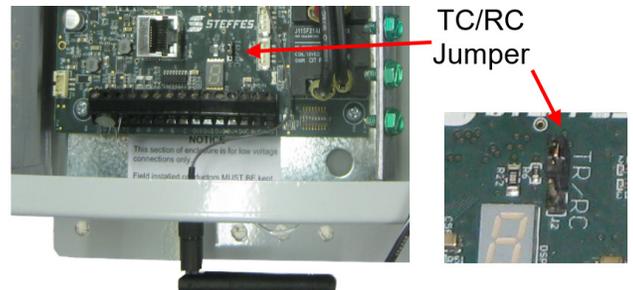


3. Outdoor transceivers have a factory-installed outdoor temperature sensor. If installing an outdoor transceiver, an indoor sensor (Part #1302024) can be connected to IS and TC (Figure 3) on the low voltage terminal block.
4. If the transceiver you are installing will be controlled by the power company's meter device (not controlled by Steffes Connect), wire the metering device to the R and P positions on the low voltage terminal block (Figure 3). If the transceiver is equipped with umbilical cord (flexible conduit), connect the metering device to the blue and blue/white wires.

TRANSMIT/RECEIVE SELECTION JUMPER (2-POLE AND 5-POLE ONLY)

1. As described in General Operation (Page 1), the transceiver can be used to transmit or receive. Position the TR/RC jumper (Figure 4) appropriately for the application.

FIGURE 4



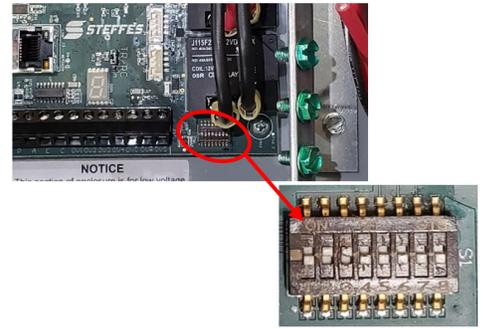
NOTE: The 3-Phase Transceiver can only be used in Transmit Mode.

- a. To use as a transmitter, place the selection jumper on the TR position covering the top and center pins.
- b. To use as a receiver, place the selection jumper to the RC position covering the bottom and center pins.

DIP SWITCH SETTINGS

Set the DIP switches (Figure 5) for the application. The DIP switches have different functions when using the transceiver as a transmitter versus a receiver.

FIGURE 5



Factory Default

| | | | |
|---|-----|---|-----|
| 1 | OFF | 5 | OFF |
| 2 | ON | 6 | OFF |
| 3 | ON | 7 | OFF |
| 4 | OFF | 8 | OFF |

TRANSMIT MODE

DIP Switch #1 - Invert Peak

In low voltage installations, the transceiver will look for an open or closed signal across the R and P terminals on the low voltage terminal block. The transceiver must be set to match the signaling device.

ON = Close to Charge (Off-peak), Open for Control (Peak)

OFF = Open for Charge (Off-peak), Close for Control (Peak), Steffes Connect for control.

DIP Switches #2, #3, #4, #5 - PLC Channel Selection

DIP switches #2, #3, #4, and #5 are used to select the PLC channel the transceiver will transmit on (send signal). There are 15 channels available. Only one transceiver is required per distribution transformer. If multiple transceivers in transmit mode are installed on a single distribution transformer, they must be set to different channels. Select a channel and set DIP switches #2-5 according to the chart below:

| Channel | DIP Switch 2 | Dip Switch 3 | Dip Switch 4 | DIP Switch 5 | Channel Speed | Transmit Option** |
|---------|--------------|--------------|--------------|--------------|---------------|-------------------|
| 1 | On | Off | Off | Off | Slow | Constant |
| 2 | Off | On | Off | Off | Slow | Intermittent |
| 3 | On | On | Off | Off | Fast | Constant |
| 4 | Off | Off | On | Off | Fast | Constant |
| 5 | On | Off | On | Off | Fast | Constant |
| 6 | Off | On | On | Off | Fast | Intermittent |
| 7 | On | On | On | Off | Fast | Constant |
| 8 | Off | Off | Off | On | Fast | Intermittent |
| 9 | On | Off | Off | On | Fast | Constant |
| 10 | Off | On | Off | On | Fast | Constant |
| 11 | On | On | Off | On | Fast | Constant |
| 12 | Off | Off | On | On | Slow | Intermittent |
| 13 | On | Off | On | On | Slow | Constant |
| 14 | Off | On | On | On | Slow | Constant |
| 15 | On | On | On | On | Slow | Constant |

* Steffes 1000 and 2000 series room heating systems receive only on slow speed channels. Slow channels can take 7-10 minutes for a receiver to receive. Fast channels usually take 2-3 minutes to receive.

** The Steffes transceiver transmits a signal over the power lines constantly unless set to one of the intermittent transmit channels. If the power company's control device is power line carrier (PLC), such as those manufactured by Cooper Power Systems and Cannon Technologies, the transceiver must transmit intermittently to allow the power company's control device to operate properly. When set to transmit intermittently, the Steffes heating system will display a lower-than-normal percentage of good packets received.

DIP Switch #6 - Service Override and Nova Scotia Power Shoulder Charge

DIP switch #6 has two functions: 1) a short-term peak override for checkout and service of the system, and 2) enabling a shoulder charge period (Nova Scotia Power only). To enable a 3-hour peak override, power up the transceiver, move DIP switch #6 from OFF to ON, and back to OFF.

Nova Scotia Power installs only: DIP switch #6 allows the shoulder charge period for devices controlled by relays 1, 3, and 5 on the transceiver. When in the ON position, the transceiver has a built-in timer that starts when it receives a peak signal from the power company's control device. It times for five (5) hours and then allows a shoulder charge period (anticipated peak) for four (4) hours. After four (4) hours of shoulder charge, the peak period resumes until a charge signal is received from the control device.

DIP Switch #7 - Negative Outdoor Temperature Calibration

Use DIP switch #7 to adjust the outdoor temperature reading being transmitted to the Steffes receivers by 5°F (2.78°C) lower than the actual outdoor temperature.

DIP Switch #8 - Positive Outdoor Temperature Calibration/Access Point (AP) Mode Enabled/Disabled

Use DIP switch #8 to adjust the outdoor temperature reading being transmitted to the Steffes receivers by 5°F (2.78°C) higher than the actual outdoor temperature.

You can also use DIP switch #8 to force the transceiver into or out of Access Point (AP) mode. When in AP mode, the network used by the device for Internet access can be modified. To change the AP mode status, toggle DIP switch #8 two (2) times in short succession (ON-OFF or OFF-ON).

RECEIVE MODE

DIP Switch #1 - Anticipated Peak (Pre-Peak) Operation Mode

DIP switch #1 determines how an anticipated peak (pre-peak) signal will affect the relays. For power companies desiring to control loads separately using separate signals, the DIP switch can be used to do peak control of devices on a separate rate strategy.

ON = Relays will be activated by an anticipated peak (pre-peak) signal.

OFF = Relays will not respond to an anticipated peak (pre-peak) signal.

DIP Switches #2, #3, #4, #5 - PLC Channel Selection

Use DIP switches #2, #3, #4, and #5 to select which PLC channel the receiver will receive. The receiver and the transmitting device *must* be set to the same channel for proper communication to occur. To select the desired channel, use the chart provided under the Transmit Mode Dip Switch Settings (Page 4).

DIP Switch #6 - Nova Scotia Power Shoulder Charge

Nova Scotia Power installs only: DIP switch #6 allows for the Nova Scotia Power shoulder charge period for devices controlled by relays 1, 3, and 5 on the transceiver. When in the ON position, the transceiver has a built-in timer that starts when it receives a peak signal from the transmitting device. It times for five (5) hours and then allows a shoulder charge period (anticipated peak) for four (4) hours. After four (4) hours of shoulder charge, the peak period resumes until a charge signal is received from the control device.

DIP Switch #7 - Default Relay Status

DIP switch #7 determines how the relays will respond when the power line carrier control system is first energized or if the receiver loses signal from the transmitting device.

ON = The relays will close until a signal is received from the transmitting device.

OFF = The relays will open until a signal is received from the transmitting device.

DIP Switch #8 - Access Point (AP) Mode Enabled/Disable

Use DIP switch #8 to force the transceiver into or out of Access Point (AP) mode. When in AP mode, the network used by the device for internet access can be modified. Toggle DIP switch #8 in short succession (on-off or off-on) to change the AP mode status.

STEFFES CONNECT INTERNET CONNECTION AND ANTENNA INSTALLATION

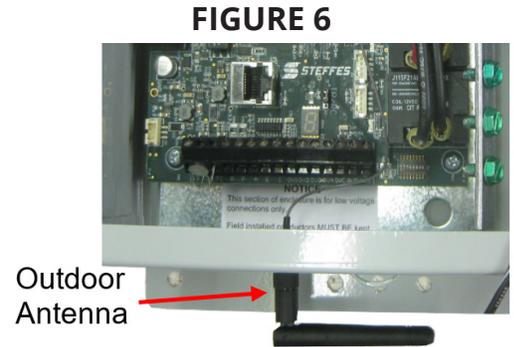
1. **Internet Connection:** Transceivers connect through 2.4 GHz WiFi networks. If a wireless network is not available, connect an Ethernet cable from the router to the Ethernet port.

NOTE: Always segregate low voltage wiring from line voltage wiring.

2. Antenna Installation:

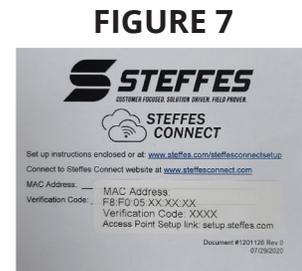
- a. **Indoor Transceiver:** An indoor antenna is preinstalled with the transceiver. Purchase an outdoor antenna kit (Part #1040272) if the application requires a stronger WiFi signal.
- b. **Outdoor Transceiver:** Remove the antenna from the packaging. Connect the antenna to the threaded cable port at the bottom of the transceiver enclosure as shown in Figure 6.

NOTE: Antenna should be hand tightened only to ensure no damage or cross threading.



3. Steffes Connect Set Up:

- a. A card with the transceiver's MAC address and verification code (Figure 7) is included so customers can set up their Steffes Connect account. The MAC address and verification code can also be found on the inside top panel of the transceiver.



7-SEGMENT DISPLAY

The 7-segment display illuminates when the transceiver is powered. A lowercase b flashes multiple times during the boot cycle. Once the boot cycle finishes, the display flashes the following in sequence:

8.8.8. - Indicates the start of the cycle of letters and numbers.

P, C, or A - Indicates Peak Control Status (P = Peak, C = Off-Peak/Charge, A = Anticipated Peak)

XX - Two-digit number is the channel selected using DIP switches #2, #3, #4, and #5

EXX - E followed by a two-digit number indicating the error code present

oXXXf - Lower case o followed by three (3) numbers and an F indicates outdoor temperature in Fahrenheit

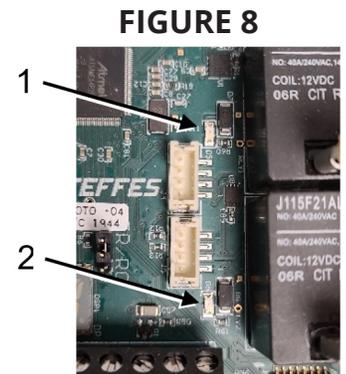
For example, a transceiver set to transmit mode, in off-peak, channel 3, no errors, 54° Fahrenheit outside, 70° Fahrenheit inside, would show the following: 8.8.8. C 0 3 E 0 0 o 0 5 4 F i 0 7 0 F

NOTES: • *In receive mode, the display will show a dash (-) for P/A/C and outdoor temperature until a signal is received.*

• *A period after 8.8.8. on the display indicates the transceiver is connected to the internet.*

LED FUNCTION

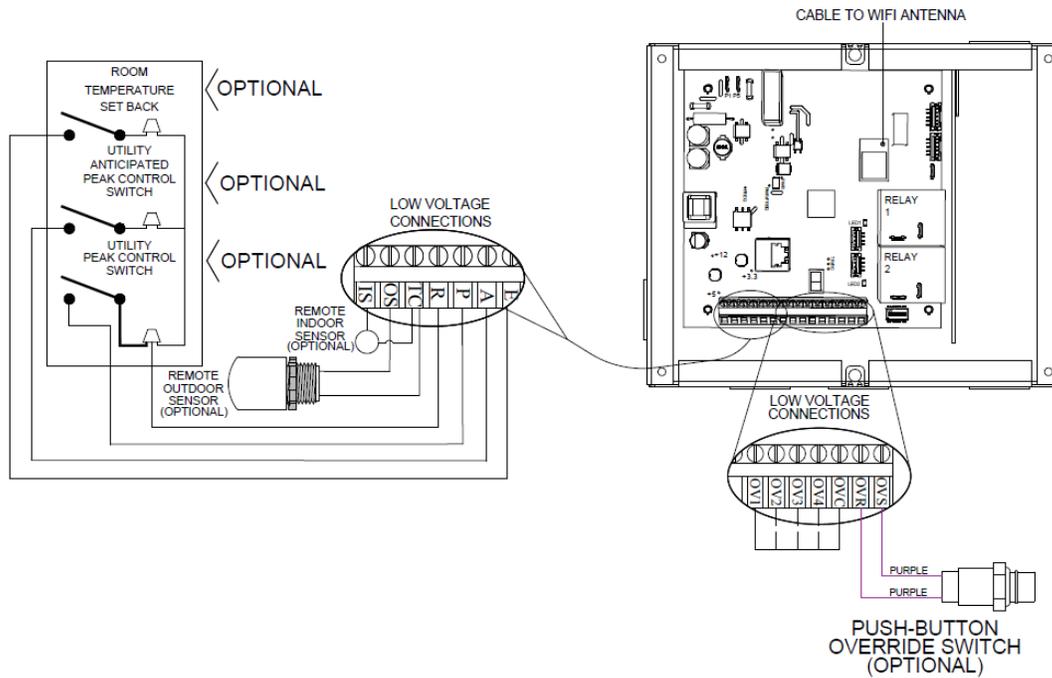
The transceiver has LEDs that correspond to the relays. When the corresponding LED is on, the relay is energized and should be closed. When the corresponding LED is off, the relay is not energized and should be open. Relays 1 and 2 are found on the transceiver board. Relays 3, 4, and 5 are available in the 5-pole transceiver only and are found on the Expansion Board. Reference the Component Location Diagram and Line Voltage Wiring Diagram for the relay locations.



APPENDIX

LOW VOLTAGE WIRING DIAGRAM FOR ALL MODELS

NOTE: 2-Pole transceiver model shown.



2-POLE SPECIFICATIONS

Control Circuit:

| | |
|---|--------------------|
| Input Voltage 2-pole | 120 or 240/208 VAC |
| Current | 0.2 amps |
| PLC Communication Channels | 15 |
| PLC Transmitter Frequency | 13.3-15.2 kHz |
| Low Voltage Input Switch Loading from R terminal to all other low voltage terminals | 1.2mA |

Load-Control Relays:

| | |
|--|-------------------|
| Switching Voltage (single-phase only) | 120, 208, 240 VAC |
| Maximum Load per Relay | 24 amps |
| Maximum Controlled Motor Load @ 120 VAC | 1 HP |
| Maximum Controlled Motor Load @ 208 or 240 VAC | 1.5 HP |

NOTE: When installing single-phase transceivers, the most effective input voltage is 240 or 208 VAC.

Enclosures Available:

| | |
|---------------|------------------------|
| Outdoor | Surface Mount |
| Indoor | Flush or Surface Mount |

Features:

| | |
|----------------------------|-----------------------------------|
| Knockout Size | 1/2" x 3/4" (22.23 mm & 28.17 mm) |
| Number of Knockouts: | 9 |

Security..... Power Company Seal/Lockout

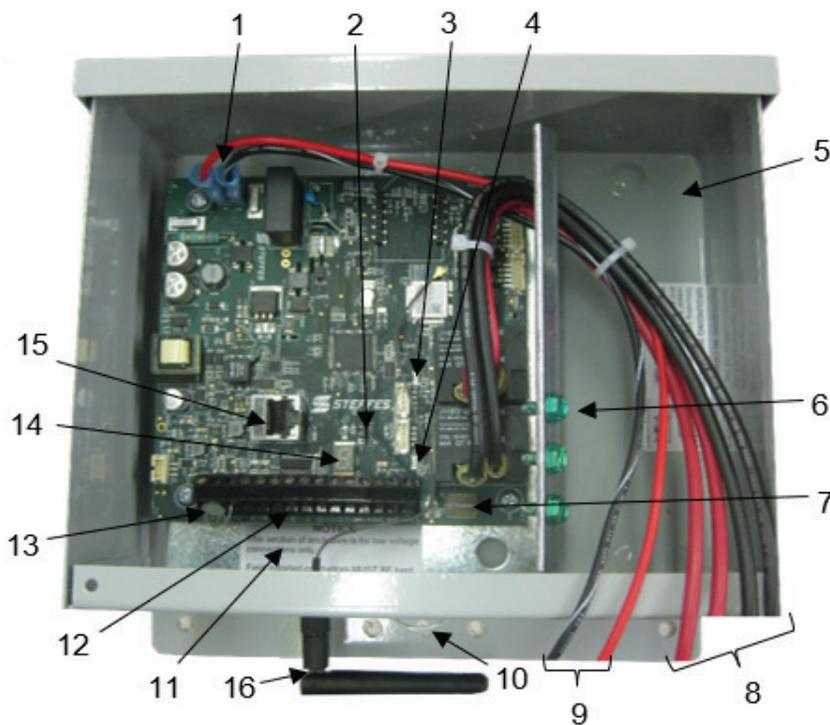
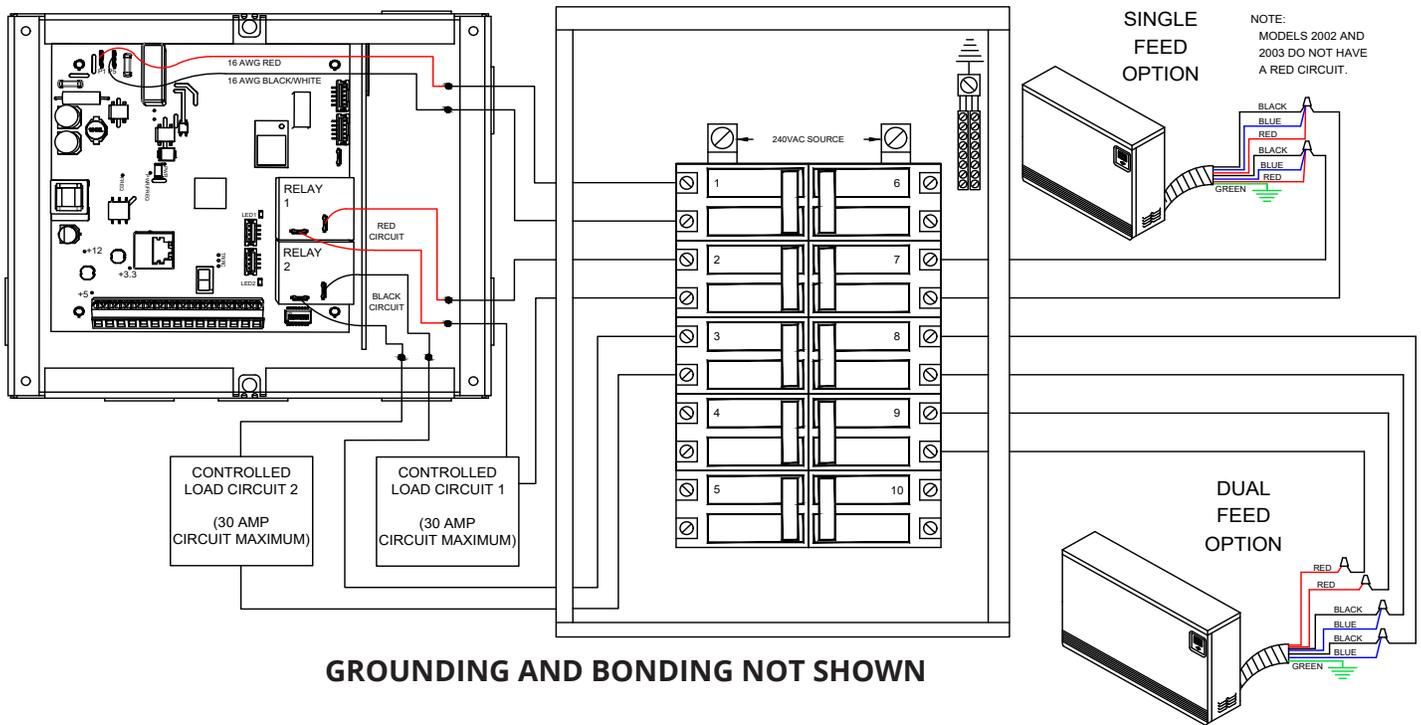
Outdoor:

| | |
|--------------|------------------|
| Width | 8.50" (215.9 mm) |
| Height | 9.00" (228.6 mm) |
| Depth | 3.74" (95 mm) |

Indoor:

| | |
|--------------|------------------|
| Width | 8.50" (215.9 mm) |
| Height | 7.00" (177.8 mm) |
| Depth | 3.50" (88.9 mm) |

NOTE: Use only copper conductors rated for 75°C minimum.



1. Circuit Board Line Voltage Input
2. Transmit/Receive Selection Jumper ("TR/RC")
3. Relay #1 LED
4. Relay #2 LED
5. Line Voltage Field Connection Area
6. Ground Screws
7. DIP Switches
8. Relay (Controlled Load) Field Connections
9. Circuit Board Line Voltage Field Connections
10. Utility Lockout/Seal
11. Low Voltage Connection Area
12. Low Voltage Terminal Block
13. Temperature Sensors (Indoor/Outdoor)
14. 7-Segment Display
15. Ethernet Connection Port
16. WiFi Antenna (Outdoor only)

5-POLE SPECIFICATIONS

Control Circuit:

| | |
|---|--------------------|
| Input Voltage 5-pole | 120 or 240/208 VAC |
| Current | 0.2 amps |
| PLC Communication Channels | 15 |
| PLC Transmitter Frequency | 13.3-15.2 kHz |
| Low Voltage Input Switch Loading from R terminal to all other low voltage terminals | 1.2mA |

Load-Control Relays:

| | |
|---|-------------------|
| Switching Voltage (single-phase only) | 120, 208, 240 VAC |
| Maximum Load per Relay | 24 amps |

NOTE: Circuit 1 on the 5-Pole transceiver is only rated for 16 amps

| | |
|--|--------|
| Maximum Controlled Motor Load @ 120 VAC | 1 HP |
| Maximum Controlled Motor Load @ 208 or 240 VAC | 1.5 HP |

NOTE: When installing single-phase transceivers, the most effective input voltage is 240 or 208 VAC.

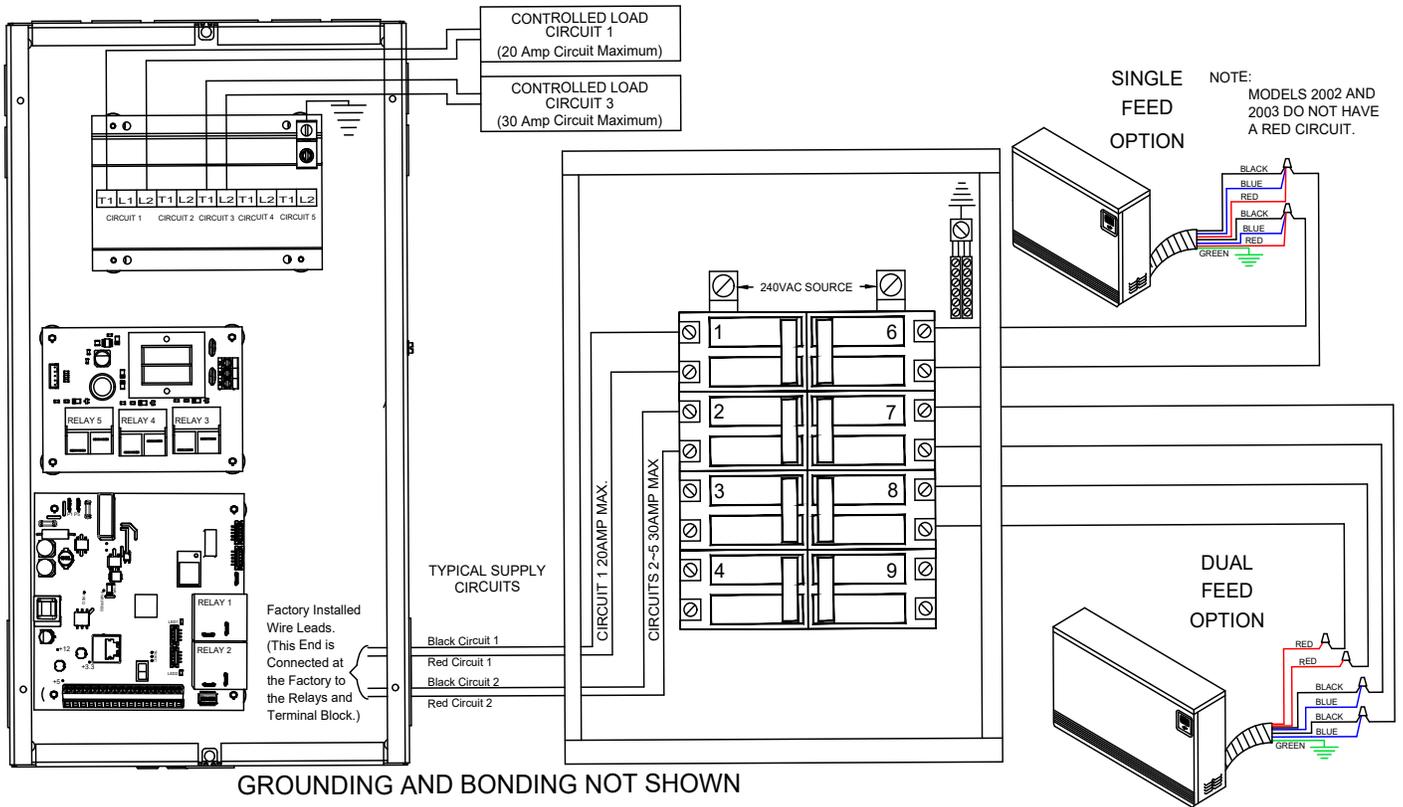
Enclosures Available:

| | |
|-------------------|------------------------|
| Indoor Only | Flush or Surface Mount |
|-------------------|------------------------|

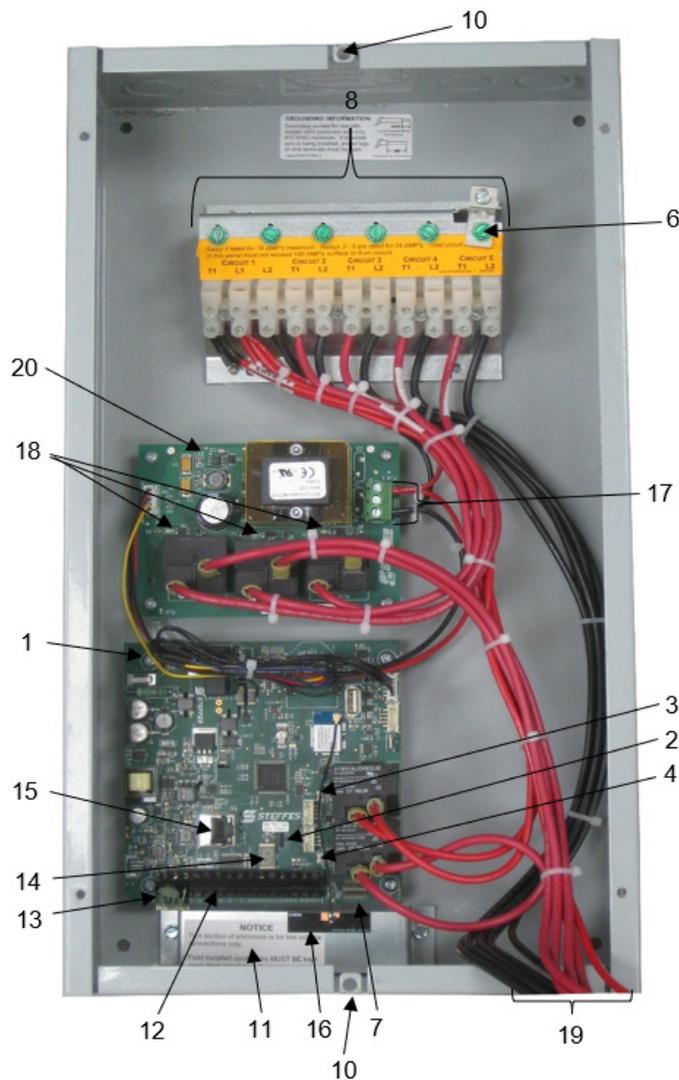
Features:

| | |
|---------------------------|-----------------------------------|
| Knockout Size | 1 1/2" & 2" (50.39 mm & 62.71 mm) |
| Number of Knockouts | 20 |
| Security | Power Company Seal/Lockout |
| Width | 10.00" (254 mm) |
| Height | 18.00" (457.2 mm) |
| Depth | 4.25" (108 mm) |

NOTE: Use only copper conductors rated for 75°C minimum.



GROUNDING AND BONDING NOT SHOWN



1. Circuit Board Line Voltage Input
2. Transmit/Receive Jumper ("TR/RC")
3. Relay #1 LED
4. Relay #2 LED
5. Line Voltage Field Connection Area
6. Ground Screws
7. DIP Switches
8. Relay (Controlled Load) Field Connections
9. Circuit Board Line Voltage Field Connections
10. Utility Lockout/Seal
11. Low Voltage Connection Area
12. Low Voltage Terminal Block
13. Temperature Sensors (Indoor/Outdoor)
14. 7-Segment Display
15. Ethernet Connection Port
16. WiFi Antenna
17. Expansion Board Line Voltage Input Terminal Block (5-Pole only)
18. Expansion Board Relay LEDs (5-Pole only)
19. Supply Conductors from Circuit Breaker Panel
20. Expansion Board

3-PHASE SPECIFICATIONS

Control Circuit:

| | |
|---|---------------|
| Input Voltage | 120 VAC |
| Current | 0.2 amps |
| PLC Communication Channels | 15 |
| PLC Transmitter Frequency | 13.3-15.2 kHz |
| Low Voltage Input Switch Loading from R terminal to all other low voltage terminals | 1.2mA |

Load-Control Relays:

| | |
|---|---------|
| Maximum Load per Relay | 24 amps |
| Maximum Controlled Motor Load @ 120 VAC | 1 HP |

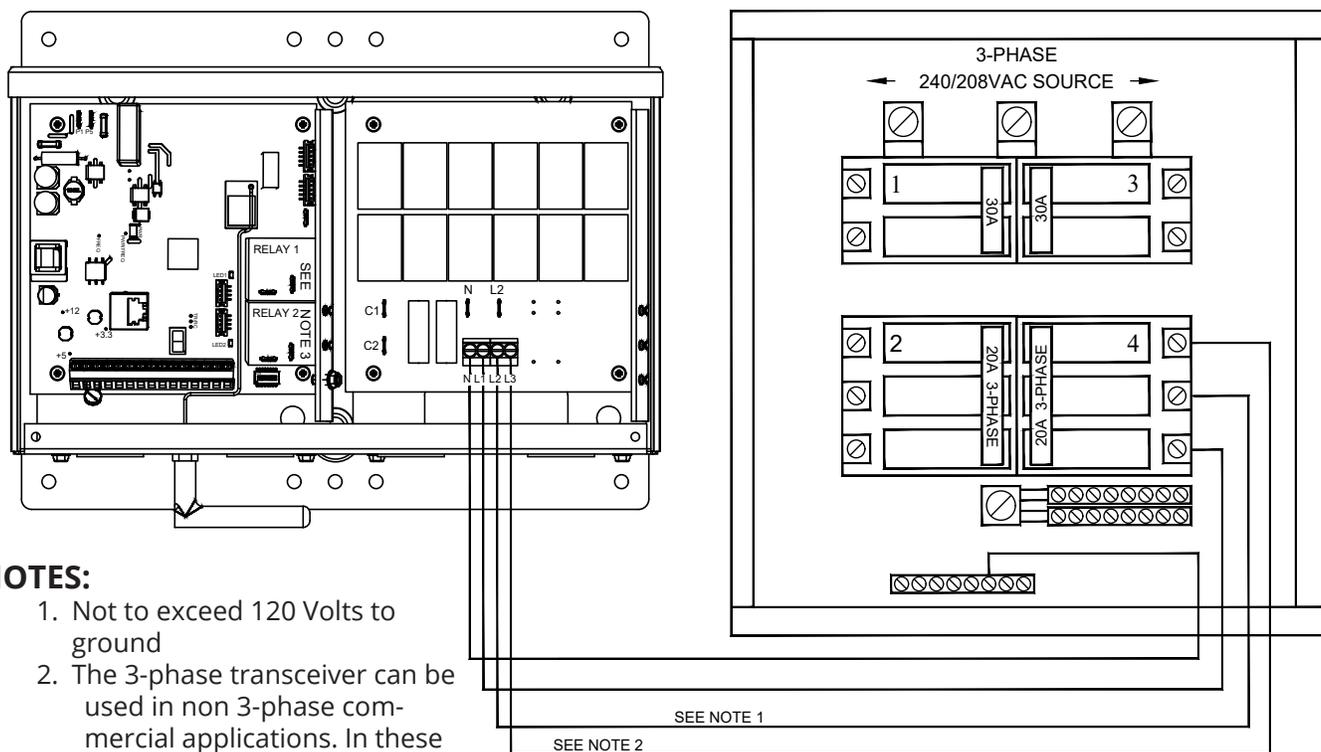
Enclosures Available:

| | |
|---------------|---------------|
| Outdoor | Surface Mount |
|---------------|---------------|

Features:

| | |
|---------------------------|-----------------------------------|
| Knockout Size | 1/2" x 3/4" (22.23 mm & 28.17 mm) |
| Number of Knockouts | 4 |
| Security | Power Company Seal/Lockout |
| Width | 12.00" (304.8 mm) |
| Height | 9.00" (228.6 mm) |
| Depth | 3.74" (95 mm) |

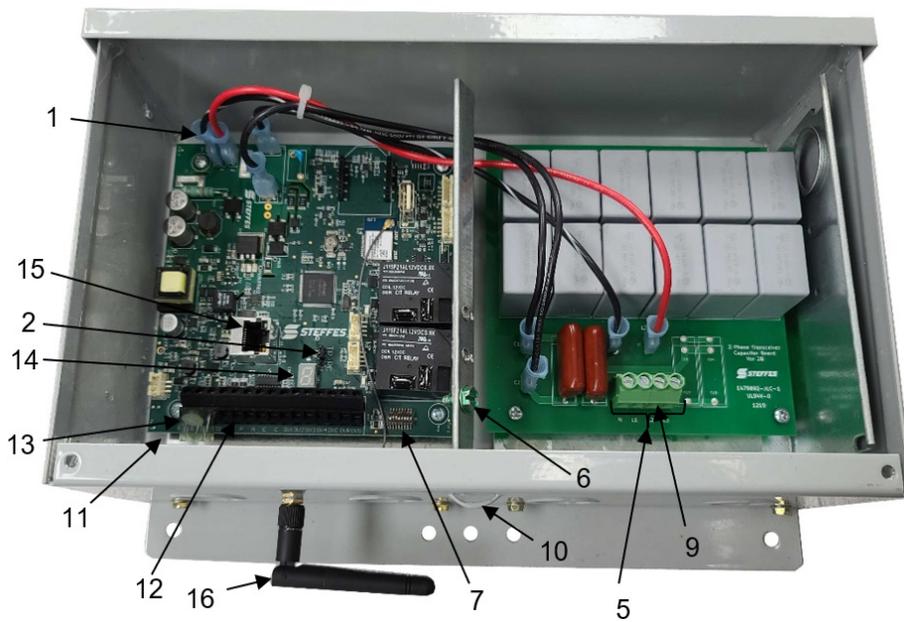
NOTE: Use only copper conductors rated for 75°C minimum.



NOTES:

1. Not to exceed 120 Volts to ground
2. The 3-phase transceiver can be used in non 3-phase commercial applications. In these applications, Line 3 (L3) is not used.

GROUNDING AND BONDING NOT SHOWN



NOTE: The relays on the 3-phase transceiver board cannot be used to control other loads.

1. Circuit Board Line Voltage Input
2. Transmit/Receive Selection Jumper ("TR/RC")
3. Relay #1 LED
4. Relay #2 LED
5. Line Voltage Field Connection Area
6. Ground Screws
7. DIP Switches
8. Relay (Controlled Load) Field Connections
9. Circuit Board Line Voltage Field Connections
10. Utility Lockout/Seal
11. Low Voltage Connection Area
12. Low Voltage Terminal Block
13. Temperature Sensors (Indoor/Outdoor)
14. 7-Segment Display
15. Ethernet Connection Port
16. WiFi Antenna

WARRANTY

Steffes warrants that the Steffes control is free from defects in materials and workmanship under normal use and service. Steffes' obligation under this Warranty is limited to the repair or replacement of the appliance or parts only which prove to be defective under normal use within three (3) years of the date of purchase, limited to five (5) years from the date of manufacture, and which Steffes' examination of the returned device or part(s) shall verify to Steffes' satisfaction that it is defective. The user shall be responsible for any labor costs associated with the repair or replacement of the device or part(s) including the cost of returning the defective appliance or part(s) to Steffes.

This Warranty is void if the device is moved from the premises in which it was originally installed. This Warranty shall not apply to a device or part which has been altered in any respect, or improperly installed, serviced or used, or has been subject to accident, negligence, abuse or misuse.

THE ABOVE WARRANTY BY STEFFES IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

The user assumes all risk and liability whatsoever resulting from the use of this device. In no event shall Steffes be liable for any indirect, special or consequential damages or lost profits.

This Limited Warranty contains the complete and exclusive statement of Steffes' obligations with respect to this device and any parts thereof. The provisions hereof may not be modified in any respect except in writing signed by a duly authorized officer of Steffes.



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