

Installation Guide

LX-Series Controllers



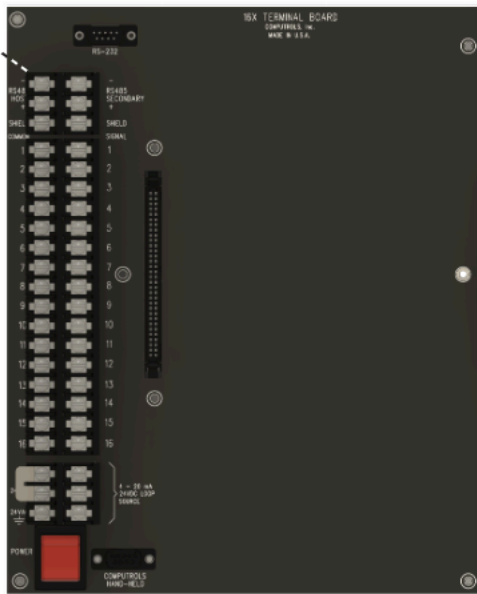
Introduction

The LX Line represents the most powerful, flexible and rugged Computrols controllers produced. Many of the LX features were designed to make installation fast and simple. Installation features include:

- Two-piece design that separates wire terminations from electronics
- Rigid aluminum standoffs
- Large and rugged screw terminals
- Easy-to-use rotary address dials

All LX controllers are designed with these two distinct pieces:

Large and rugged screw terminals.



16-LX Terminal Board

The “**terminal board**” is used for (almost) all wire terminations and has no onboard electronics.



16-LX Controller

The “**brain board**” houses all electronics, with the only wire termination being the single Ethernet connector.

Easy-to-use address dials for LX to LX BASnet RS-485 communication.

Separating these distinct pieces provides higher reliability and easy maintenance. During installation, you can perform wire terminations on the simple and rugged terminal board while keeping the more expensive controller board completely disconnected and out of site. For maintenance, the controller board can be quickly swapped if there is a failure. No need to re-terminate any wires on the simple and rugged terminal board.

For LX specifications, purchasing information and other sales engineering features, refer to our website at www.computrols.com. For communication, controls and other programming options, see the CBAS Manual.

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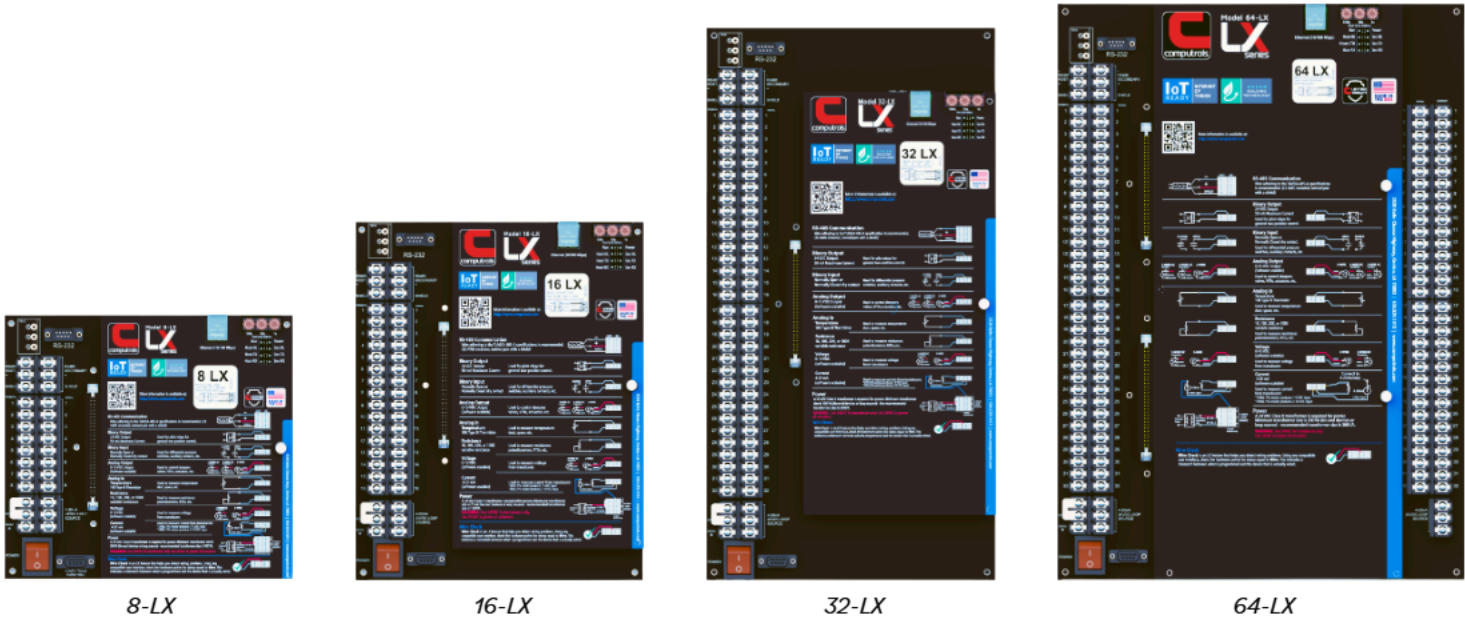
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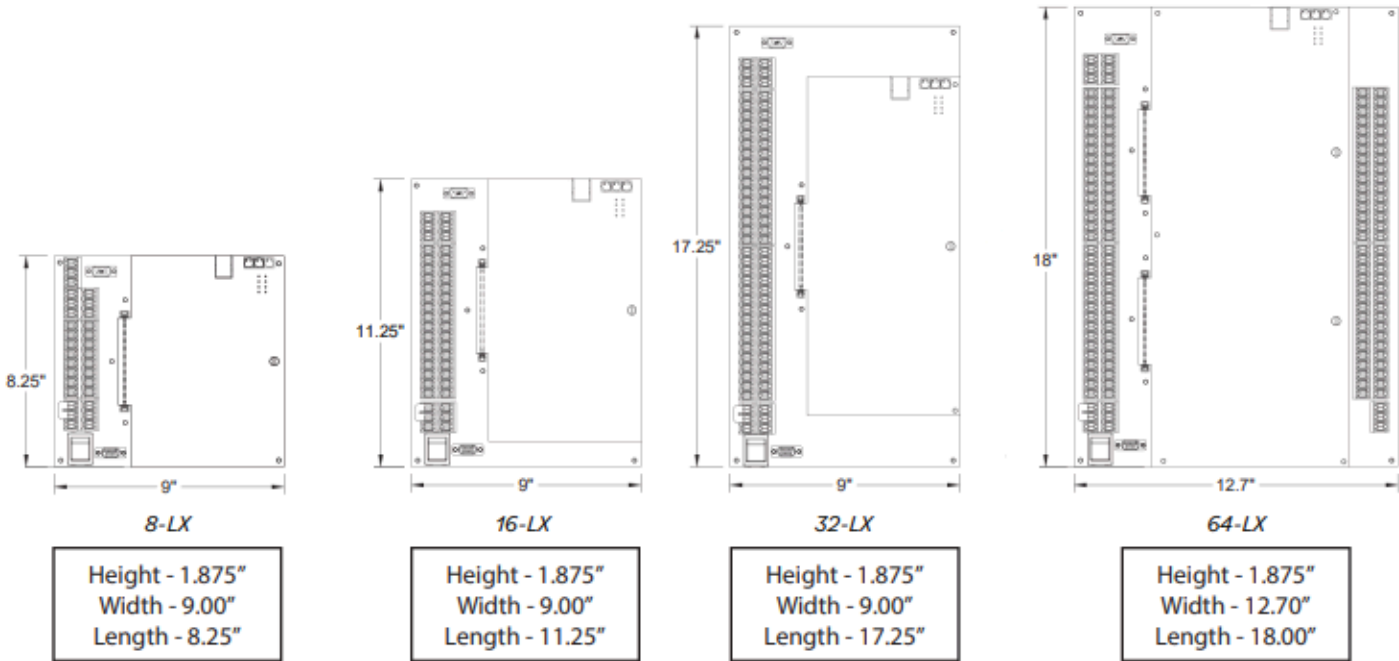
The LX Series includes four models which represent four different point capacities.

LX Models



Controller Dimensions

All terminal board dimensions are shown in inches.



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Install

Safety Considerations

- Computrols always recommends professional installation.
- Do not remove electronics cover or any electronic component. This should only be done at the factory.
- This installation guide demonstrates wiring 24VAC only. Line voltage installations beyond this document should always be performed by a qualified professional.
- Environment - 32°F to 167°F, 20% to 90% RH (Non-condensing)

Step 1

Remove the brain board from the terminal board first by loosening the thumb screw and then depressing the two locking clips until the brain board snaps loose. To replace the brain board, reverse the above procedure.

Step 2

Mount the terminal board in the desired location and position with the screws provided. All LX-series terminal boards can be mounted in either a vertical or horizontal orientation.

Included Parts

- ① #6 self drilling screws



For replacement self drilling screws, order Computrols Part Number 31035.
#6-20 x 1-1/4" Phillips Pan Head Self Drilling Screw Zinc #2

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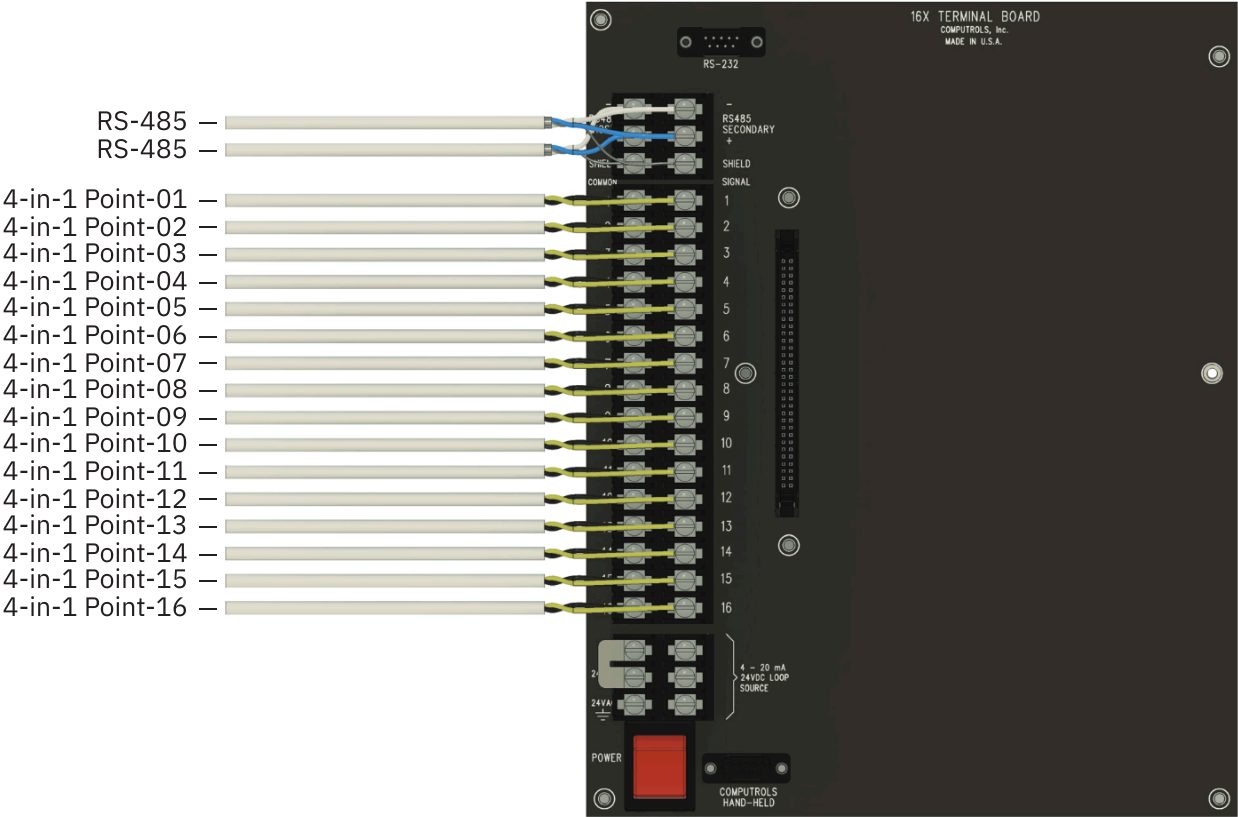
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Wire

Step 3

Install all of your field wiring and land each point's wiring to the appropriate terminals on the mounted terminal board.



16-LX Terminal Board

4-in-1 points can each be programmed in CBAS (Computrols Building Automation Software). Refer to the next page for more point-type details.

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Wire

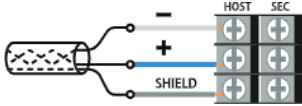
Below is a sample of each wiring configuration for the LX models.

Termination Type

RS-485 Communication

Wire adhering to the TIA/EIA-485-A specifications is recommended.
(22 AWG stranded, twisted pair with a shield)

Wiring Detail



Binary Output

24 VDC Output, 50mA Maximum Current
Used for pilot relays for general two-position control.



Binary Input

Normally Open or Normally Closed dry contact
Used for differential pressure switches, auxiliary contacts, etc.



Analog Output

0-10 VDC Output (Software scalable)
Used to control dampers, valves, VFDs, actuators, etc.



Analog Input

10K Type II or III Thermistor (default)
Used to measure temperature: duct, space, etc.



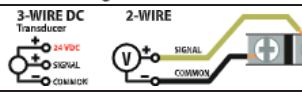
Resistance

0-32K Ohm resistive (scalable)
Used to measure resistance: potentiometers, RTDs, etc.



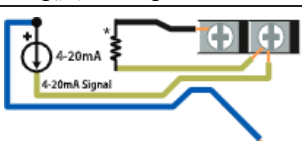
Voltage

0-10 VDC (software scalable) or 24VDC
Used to measure voltage from transducers



Current

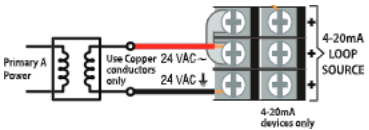
4-20mA (software scalable)
Used to measure current from transducers:
*249Ω 1% resistor produces 1-5 VDC input
*499Ω 1% resistor produces 2-10 VDC input



Power

A 24 VAC Class II transformer is required for power.
Minimum transformer size is (50,75,100,200) VA (No end devices or loop source)
Recommended transformer size is (100, 150, 250, 300) VA.

WARNING: Use 24 VDC for transducers only
Use a separate source to power all external 24VAC devices



Maximum Load 24 VDC power source provided for passive 4-20mA sensors
Controllers can accommodate each point being @ 20mA

8-LX	16-LX	32-LX	64-LX
8 inputs x 20ma = 160mA	16 inputs x 20ma = 320mA	32 inputs x 20ma = 640mA	64 inputs x 20ma = 1.28A

Wire Check

Wire Check is an LX feature that helps you detect wiring problems. Using any compatible user interface, check the hardware points for status equal to **Wire**. This indicates a mismatch between what is programmed and the device that is actually wired.



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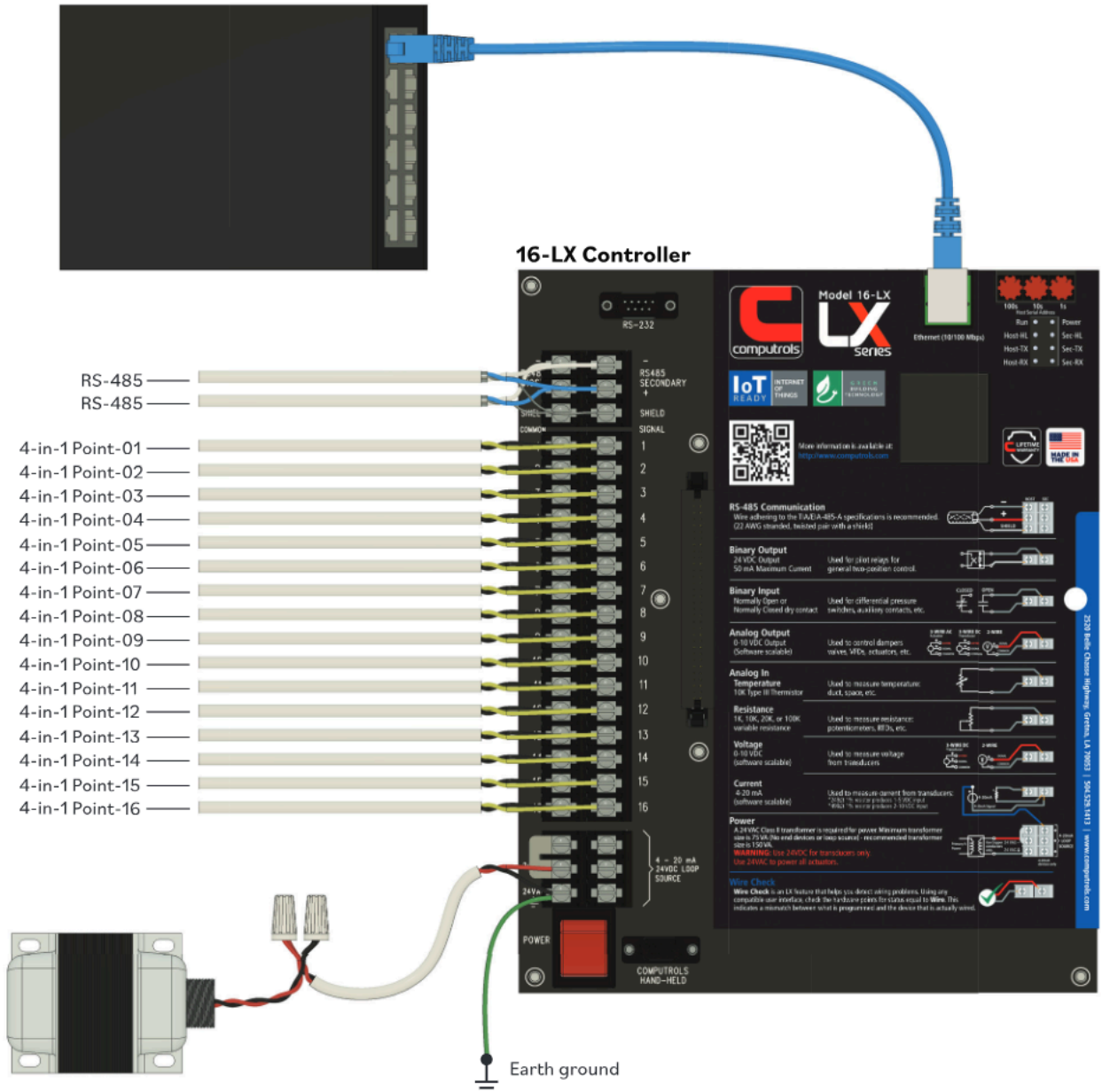
Wire

Step 5

Terminate 24VAC power, communication and all field wiring.

Network Switch

Network switch and RJ45 jack connected via CAT6 ethernet cable for CBAS communication



Transformer

24VAC (+/- 20%) 50/60Hz transformer

Power Requirements:

8-LX : 50VA Minimum, 100VA Recommended

16-LX : 75VA Minimum, 150VA Recommended

32-LX : 100VA Minimum, 250VA Recommended

64-LX : 200VA Minimum, 300VA Recommended

-Minimum power requirements requires no end devices or loop source

-Provide Earth ground on secondary