

Summary

Single-phase buck-boost transformer. Steps up 100V to 120V at 20.83 amps continuous output. 2.5 kVA capacity. NEMA 3R enclosed, cETLus listed, wall mount.

Product Description

This unit corrects a 100V building supply to 120V at the point of use, permanently, without modifying the building's electrical service. Designed for equipment rated 120V that is installed on a 100V system.

Wired as an autotransformer, the unit handles only the difference between input and output and not the full load. This is why a 20.83-amp buck-boost transformer is significantly smaller and lighter than a 20.83-amp isolation transformer. The encapsulated core construction eliminates audible hum and provides stable thermal performance under continuous duty.

Features a removable wiring compartment door, removable knockout plate, and six NPT knockouts for flexible conduit entry. Surface mounting bracket for easy wall mount installations.



TX-BB-100V-120V-21A — NEMA 3R Encapsulated, cETLus Listed

Specifications

Phase	Single Phase (1-PH), AC	Transformer Type	Buck/Boost
Capacity	2.5 kVA	Configuration	Encapsulated Autotransformer
Primary Voltage	100V	Primary Termination	Lead Wires & Terminal Lugs
Primary Amperage	25.00A	Secondary Termination	Lead Wires & Terminal Lugs
Secondary Voltage	120V	Termination Access	(6) ½" NPT Hubs
Secondary Amperage	20.83A	Winding Material	Aluminum
Maximum Primary OCP	40A	Enclosure Material	Steel
Frequency	50/60 Hz	Finish Color	ANSI 70 Light Grey
Insulation	180°C	Weight	17 lbs
Temperature Rise	115°C	Dimensions	4.65"-W x 3.86"-D x 9.25"-H

Ratings & Certifications

- Listed for United States
- NEMA 3R Indoor/Outdoor Enclosure
- Built to UL-50 Standards
- CE Certified
- Listed for Canada
- Epoxy Resin Encapsulated
- RoHS Compliant



Common Applications

- HVAC & Minisplit
- Loads CNC Machines
- Pump Stations
- Packaging Machines
- Commercial Kitchen Equipment
- Motor Loads
- EV Chargers
- Server Racks & IT Equipment
- Refrigeration & Walk-in
- Coolers Fans & Blowers
- Conveyor Systems
- Overhead Doors

Important: Buck-boost transformers applied as autotransformers do not provide circuit isolation and do not create a neutral. Contact us if your application requires isolation or neutral creation.



Technical drawing of the Bottom (Underside) Plate, showing three views: Top, Front, and Bottom.

Top View:

- Overall dimensions: 4.77" (width) x 5.32" (height) and 4.65" (width) x 9.25" (height).
- Top features: Two 1/2" NPT knockouts, 3.15" apart, with 1.97" spacing between centers. 0.82" offset from the top edge.
- Bottom features: Ground hole (Ø 0.2"), 3.01" from the left edge and 1.18" from the bottom edge. Mounting bracket with 0.08" offset and 1.63" width. 0.86" offset from the bottom edge.
- Other dimensions: 1.95" (width of bottom feature), 4.65" (total width).

Front View:

- Overall dimensions: 10.97" (width) x 3.94" (height) and 9.25" (width) x 3.86" (height).
- Side feature: (1) 1/2" NPT Knockout Per Side, 1.89" from the left edge and 1.57" from the bottom edge.
- Other dimensions: 4.17" (width of top feature), 0.39" (width of bottom feature), 0.08" (width of bottom feature), 2.05" (width of bottom feature), 3.86" (total width).

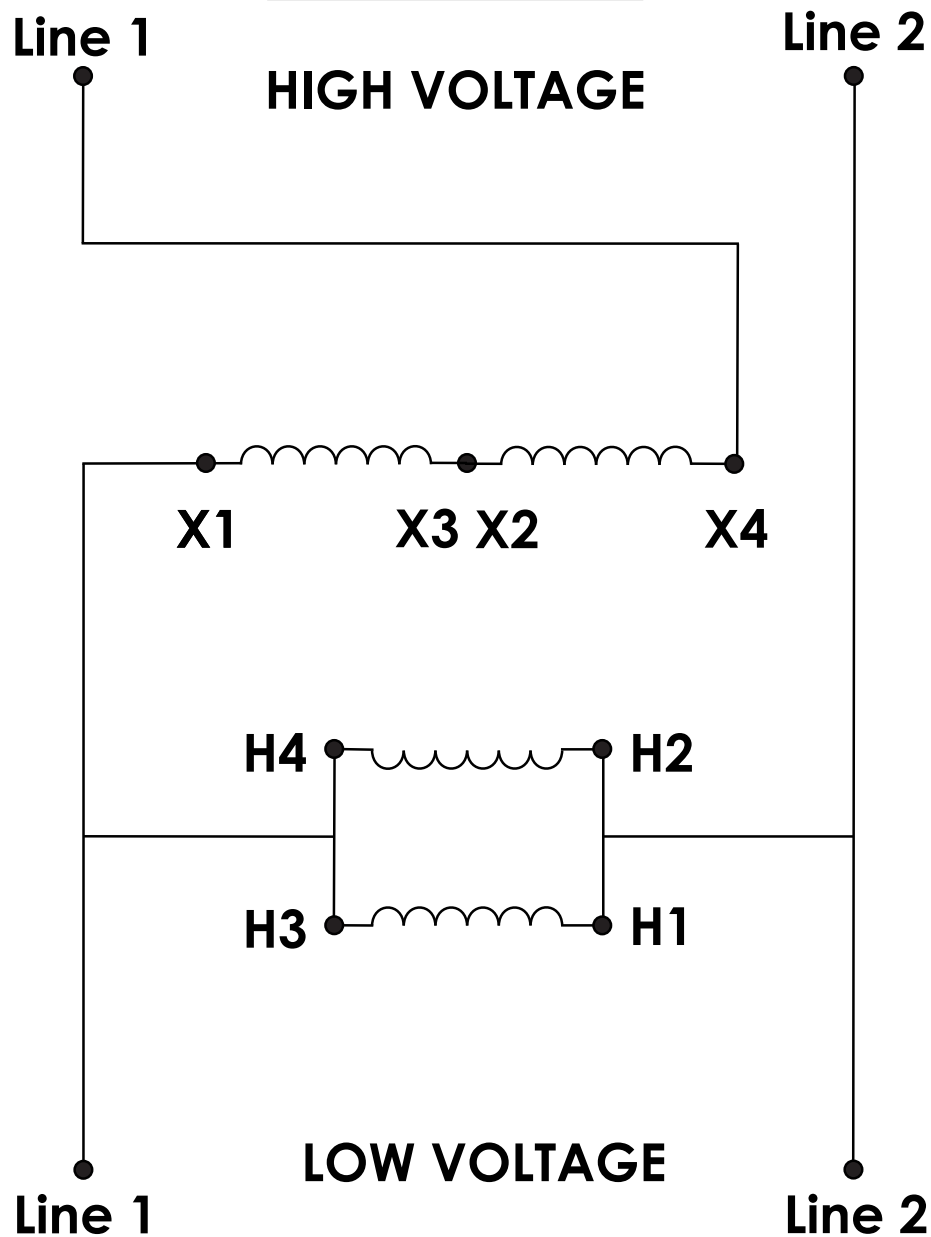
Bottom View:

- Overall dimensions: 4.65" (width) x 3.86" (height) and 2.09" (width) x 0.98" (height).
- Features: (4) 1/2" NPT knockouts, 2.32" apart, with 1.16" offset from the left edge.
- Other dimensions: 2.09" (width), 0.98" (height).

Connection Guide

1. Connect **X2** and **X3** together
2. Connect High Voltage **L1** to **X4**
3. Connect Low Voltage **L1** to **X1**, **H4**, **H3**
4. Connect High & Low Voltage **L2** to **H1** and **H2**

DIAGRAM B2





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Base Knockouts — (4) ¾" NPT



Side View



Rear View — Surface Mount Bracket



Wiring Compartment — Terminal Leads



Interior — Epoxy Resin Encapsulated Core