

Summary

Single-phase buck-boost transformer. Steps up 90V to 110V at 20 amps continuous output. 2.2 kVA capacity. NEMA 3R enclosed, cETLus listed, wall mount.

Product Description

This unit corrects a 90V building supply to 110V at the point of use, permanently, without modifying the building's electrical service. Designed for equipment rated 110V that is installed on a 90V 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-amp buck-boost transformer is significantly smaller and lighter than a 20-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-90V-110V-20A — NEMA 3R Encapsulated, cETLus Listed

Specifications

Phase	Single Phase (1-PH), AC	Transformer Type	Buck/Boost
Capacity	2.2 kVA	Configuration	Encapsulated Autotransformer
Primary Voltage	90V	Primary Termination	Lead Wires & Terminal Lugs
Primary Amperage	24.40A	Secondary Termination	Lead Wires & Terminal Lugs
Secondary Voltage	110V	Termination Access	(6) ½" NPT Hubs
Secondary Amperage	20A	Winding Material	Aluminum
Maximum Primary OCP	30A	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 Dimensions:

- Overall Width: 4.77"
- Overall Height: 5.32"
- Knockout Diameter: 0.82"
- Knockout Spacing: 1.97"
- Ground Hole Diameter: $\varnothing 0.2$ "
- Ground Hole Position: 3.01" from the left edge, 1.18" from the bottom edge.
- Bottom Flange Width: 0.08"
- Bottom Flange Height: 1.63"
- Bottom Flange Spacing: 1.95"
- Bottom Flange Width: 0.86"
- Overall Width: 4.65"

Front View Dimensions:

- Overall Height: 10.97"
- Overall Width: 3.86"
- Knockout Diameter: 1.57"
- Knockout Position: 1.89" from the left edge, 4.17" from the bottom edge.
- Knockout Label: (1) 1/2" NPT Knockout Per Side
- Mounting Hole Diameter: 0.39"
- Mounting Hole Spacing: 2.05"
- Mounting Hole Position: 0.08" from the bottom edge.
- Mounting Hole Label: M3

Bottom View Dimensions:

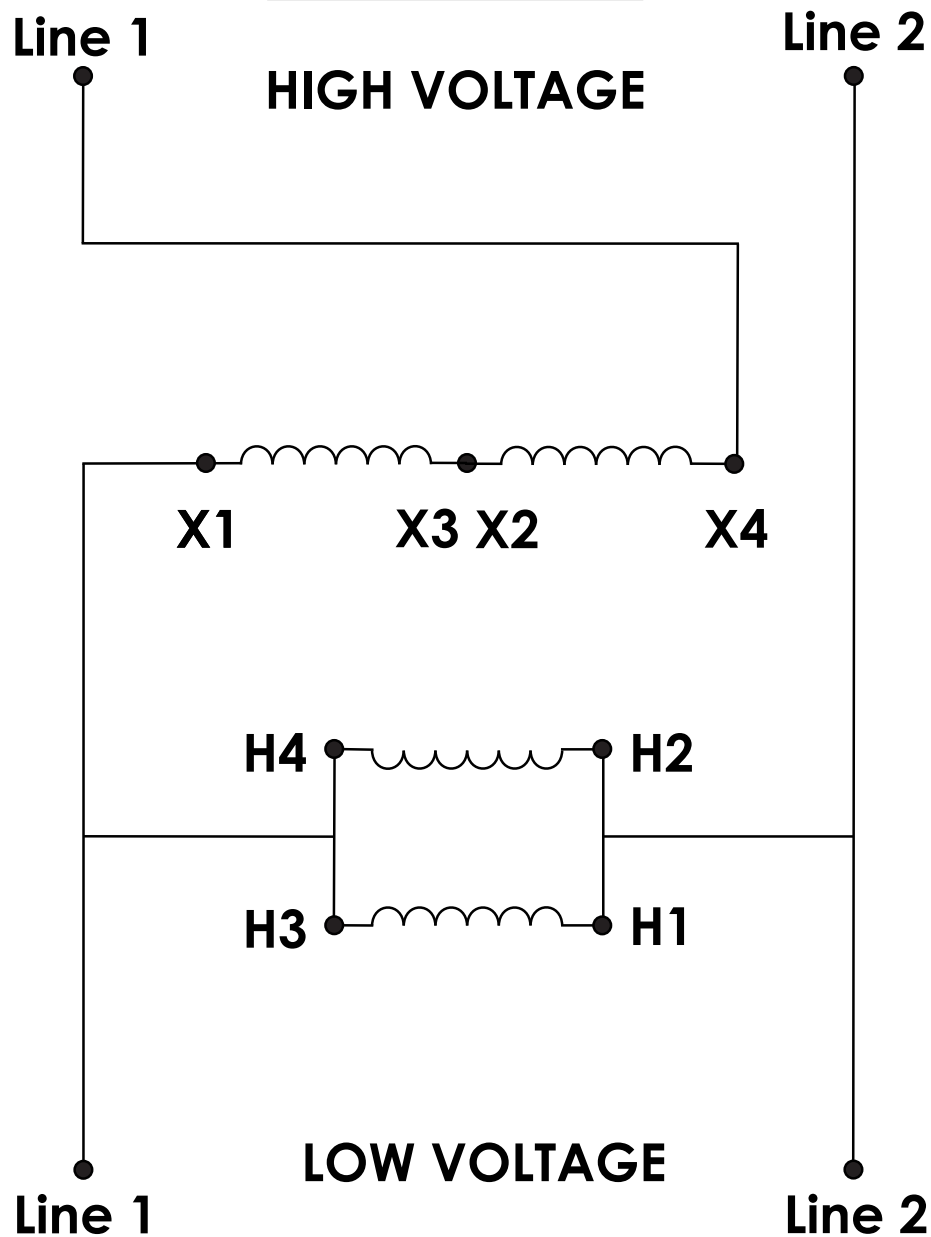
- Overall Width: 4.65"
- Overall Height: 3.86"
- Knockout Diameter: 1.16"
- Knockout Spacing: 2.32"
- Knockout Label: (4) 1/2" NPT
- Knockout Position: 2.09" from the left edge, 0.98" from the bottom edge.

Bottom (Underside) Plate

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