

Summary

Single-phase buck-boost transformer. Steps up 102V 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 102V 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 102V 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-102V-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	102V	Primary Termination	Lead Wires & Terminal Lugs
Primary Amperage	24.51A	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	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: Front, Side, and Top.

Front View:

- Overall Width: 4.77"
- Overall Height: 9.25"
- Top Section Width: 3.15"
- Top Section Height: 0.82"
- Central Section Width: 1.97"
- Bottom Section Width: 4.65"
- Bottom Section Height: 3.01"
- Ground Hole Diameter: $\varnothing 0.2$ "
- Bottom Section Height (to center): 1.18"
- Bottom Section Height (to bottom): 0.08"
- Bottom Section Width (to center): 1.63"
- Bottom Section Width (to edge): 1.95"
- Bottom Section Height (to edge): 0.86"

Side View:

- Overall Width: 10.97"
- Overall Height: 9.25"
- Top Section Width: 3.94"
- Top Section Height: 4.17"
- Bottom Section Width: 3.86"
- Bottom Section Height: 1.89"
- Ground Hole Diameter: $\varnothing 0.2$ "
- Bottom Section Height (to center): 1.57"
- Bottom Section Height (to bottom): 0.08"
- Bottom Section Width (to center): 2.05"
- Bottom Section Width (to edge): 0.39"
- Bottom Section Height (to edge): 0.08"

Top View:

- Overall Width: 4.65"
- Overall Height: 3.86"
- Top Section Width: 2.32"
- Top Section Height: 1.16"
- Bottom Section Width: 2.09"
- Bottom Section Height: 0.98"
- Ground Hole Diameter: $\varnothing 0.2$ "
- Bottom Section Height (to center): 1.18"
- Bottom Section Height (to bottom): 0.08"
- Bottom Section Width (to center): 1.63"
- Bottom Section Width (to edge): 1.95"
- Bottom Section Height (to edge): 0.86"

Labels:

- (1) 1/2" NPT Knockout
- M3
- Ground hole
- (4) 1/2" NPT

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