

Summary

Single-phase buck-boost transformer. Steps down 253V to 230V at 20 amps continuous output. 4.6 kVA capacity. NEMA 3R enclosed, cETLus listed, wall mount.

Product Description

This unit corrects a 253V building supply to 230V at the point of use, permanently, without modifying the building's electrical service. Designed for equipment rated 230V that is installed on a 253V system experiencing overvoltage.

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-253V-230V-20A — NEMA 3R Encapsulated, cETLus Listed

Specifications

Phase	Single Phase (1-PH), AC	Transformer Type	Buck/Boost
Capacity	4.6 kVA	Configuration	Encapsulated Autotransformer
Primary Voltage	253V	Primary Termination	Lead Wires & Terminal Lugs
Primary Amperage	18.20A	Secondary Termination	Lead Wires & Terminal Lugs
Secondary Voltage	230V	Termination Access	(6) ½" NPT Hubs
Secondary Amperage	20A	Winding Material	Aluminum
Maximum Primary OCP	25A	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).
- Two circular features (knockouts) at the top, each with a diameter of 0.82".
- Distance between the centers of the two top knockouts: 1.97".
- Ground hole with a diameter of $\varnothing 0.2$ ".
- Distance from the left edge to the center of the ground hole: 3.01".
- Distance from the bottom edge to the center of the ground hole: 1.18".
- Bottom edge features: 1.63" wide section with a 0.08" thick lip.
- Overall width at the bottom: 4.65".

Front View:

- Overall height: 10.97".
- Top flange height: 9.25".
- (1) 1/2" NPT Knockout on the right side, 1.89" from the top edge and 1.57" from the front edge.
- Bottom edge features: M3 screw hole, 0.39" from the front edge and 0.08" from the bottom edge.
- Overall width at the bottom: 3.86".

Bottom View:

- Overall dimensions: 4.65" (width) x 3.86" (height).
- Four circular features (knockouts) arranged in a 2x2 grid, each with a diameter of 0.98".
- Distance between the centers of the knockouts: 2.32" (horizontal) and 2.09" (vertical).
- Top flange width: 1.16".
- Bottom flange thickness: 0.98".

(4) 1/2" NPT Knockouts
Bottom (Underside) Plate

Connection Guide

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

DIAGRAM C2





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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