

### Summary

Single-phase buck-boost transformer. Steps down 231V to 220V at 54.55 amps continuous output. 12 kVA capacity. NEMA 3R enclosed, cETLus listed, wall mount.

### Product Description

This unit corrects a 231V building supply to 220V at the point of use, permanently, without modifying the building's electrical service. Designed for equipment rated 220V that is installed on a 231V 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 54.55-amp buck-boost transformer is significantly smaller and lighter than a 54.55-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-231V-220V-12KVA — NEMA 3R Encapsulated, cETLus Listed

### Specifications

|                     |                         |                       |                              |
|---------------------|-------------------------|-----------------------|------------------------------|
| Phase               | Single Phase (1-PH), AC | Transformer Type      | Buck/Boost                   |
| Capacity            | 12 kVA                  | Configuration         | Encapsulated Autotransformer |
| Primary Voltage     | 231V                    | Primary Termination   | Lead Wires & Terminal Lugs   |
| Primary Amperage    | 51.95A                  | Secondary Termination | Lead Wires & Terminal Lugs   |
| Secondary Voltage   | 220V                    | Termination Access    | (6) ¾" NPT Hubs              |
| Secondary Amperage  | 54.55A                  | Winding Material      | Aluminum                     |
| Maximum Primary OCP | 70A                     | Enclosure Material    | Steel                        |
| Frequency           | 50/60 Hz                | Finish Color          | ANSI 70 Light Grey           |
| Insulation          | 180°C                   | Weight                | 22 lbs                       |
| Temperature Rise    | 115°C                   | Dimensions            | 5.43"-W x 4.49"-D x 10.08"-H |

### Ratings & Certifications

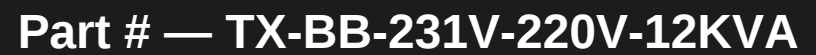
- Listed for United States
- NEMA 3R Indoor/Outdoor Enclosure
- Built to UL-50 Standards
- CE Certified
- Listed for Canada
- Epoxy Resin Encapsulated
- RoHS Compliant



### 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 View, Side View, and Top View.

**Front View Dimensions:**

- Overall Width: 5.43"
- Overall Height: 10.08"
- Top Mounting Holes: 3 holes, each with a diameter of 0.2".
- Ground Hole: 1 hole, diameter 0.2".
- Top Mounting Holes Spacing: 1.12" between holes, 1.23" from the left edge.
- Ground Hole Position: 1.18" from the right edge, 0.08" from the bottom edge.
- Bottom Mounting Holes: 2 holes, each with a diameter of 0.2".
- Bottom Mounting Holes Spacing: 1.95" between holes, 0.86" from the left edge.
- Bottom Mounting Holes Position: 1.63" from the right edge.

**Side View Dimensions:**

- Overall Height: 6.14"
- Overall Width: 12.21"
- Top Mounting Holes: 3 holes, each with a diameter of 0.2".
- Ground Hole: 1 hole, diameter 0.2".
- Top Mounting Holes Spacing: 1.12" between holes, 1.23" from the left edge.
- Ground Hole Position: 1.18" from the right edge, 0.08" from the bottom edge.
- Bottom Mounting Holes: 2 holes, each with a diameter of 0.2".
- Bottom Mounting Holes Spacing: 1.95" between holes, 0.86" from the left edge.
- Bottom Mounting Holes Position: 1.63" from the right edge.

**Top View Dimensions:**

- Overall Width: 5.43"
- Overall Height: 4.45"
- Top Mounting Holes: 2 holes, each with a diameter of 0.2".
- Ground Hole: 1 hole, diameter 0.2".
- Top Mounting Holes Spacing: 1.12" between holes, 1.23" from the left edge.
- Ground Hole Position: 1.18" from the right edge, 0.08" from the bottom edge.
- Bottom Mounting Holes: 2 holes, each with a diameter of 0.2".
- Bottom Mounting Holes Spacing: 1.95" between holes, 0.86" from the left edge.
- Bottom Mounting Holes Position: 1.63" from the right edge.

**Notes:**

- (1) 3/4" NPT Knockout Per Side
- (4) 3/4" NPT Knockouts

## Connection Guide

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

### DIAGRAM D2



**Part # — TX-BB-231V-220V-12KVA**

## Buck-Boost Transformer Specification Sheet

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*TX-BB-231V-220V-12KVA — NEMA 3R Encapsulated, cETLus Listed*



*Base Knockouts — (4) ¾" NPT*



*Side View*



*Rear View — Surface Mount Bracket*



*Wiring Compartment — Terminal Leads*



*Interior — Epoxy Resin Encapsulated Core*