50 VA to 10 kVA

Applications

- A comprehensive line of transformers for low voltage applications.
- Economical for stepping voltages up or down
- Solve over/under voltage problems efficiently
- Low voltage lighting applications
- International voltage adaptation

Specifications

- Encapsulated with electrical grade resin
- 60 Hz standard
- Single-phase encapsulated isotransformer / autotransformer
  - 120 x 240V— 12/24V
  - 120 x 240V— 16/32V
  - 120 x 240V— 24/48V
- Three phase autotransformer configurations, using multiple single phase units
- 135ºC temperature rise
- 180ºC insulation class
- NEMA3R-rated enclosures
- Heat-cured ASA-61 gray powder coat finish
- Cores of high quality electrical steel

Features, Functions, Benefits

- Slotted mounting holes for quick and easy installation
- Convenient wall mount design with lifting hooks for units 5 kVA and above
- **NOTE: Buck-Boost transformers do not compensate for fluctuating line voltages**

Standards

- Built in accordance with NEMA, ANSI, UL and CSA standards

Options and Accessories

- Other sizes, voltages available
- 50/60 Hz options
- Copper windings
- CE Marked units available as custom

Approvals

Buck-Boost transformers are low voltage isolation transformers that can be connected in an autotransformer arrangement to provide a convenient and economical way to raise or lower single and three-phase voltages from 5-20%. The autotransformer arrangement allows smaller and less expensive Buck-Boost transformers to supply large power loads.

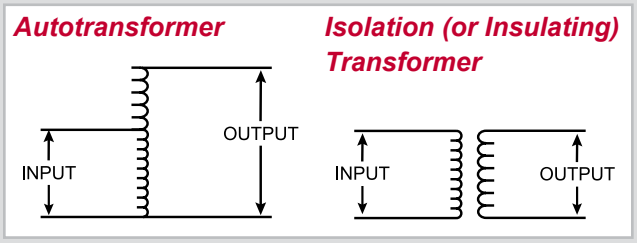
Solve over/under line voltage problems efficiently and economically.

Electrical equipment is manufactured to operate most efficiently when the line voltage is close to the nameplate rating of the equipment. A motor operated at a voltage substantially under its nameplate rating may run constantly on the starting windings, resulting in overheating and possible burn-out. The same motor operated at a voltage substantially over its nameplate rating is subject to excessive heat rise, often higher than the insulation temperature limits, which may eventually cause the motor to burn out.

The difference between an autotransformer and an isolation transformer.

In an autotransformer, the input (or primary) and the output (or secondary) are electrically connected. In an isolation transformer they are completely separated, as shown to the right.

Only a portion of the electrical energy is changed in an autotransformer, the remainder flows directly between the primary and secondary. In an isolation transformer, all the energy is transformed. For these reasons, an autotransformer is smaller, lighter and less costly than a comparable isolation transformer.



Caution: Buck-Boost transformers will not compensate for fluctuating line voltages. They should only be used when line voltage is relatively constant.

Model Numbers Defined

416-YYXX-ABC

Buck-Boost Models

Primary	Secondary	
120x240	12/24	11
120x240	16/32	12
240x480	24/48	14
120x240	12/24	21
120x240	16/32	22
240x480	24/48	24

kVA Rating

YY = 11, 12, 14

Digit XX	kVA
00	0.05
01	0.10
11	0.15
21	0.25
31	0.50
41	0.75
51	1.00
61	1.50
71	2.00
81	3.00
91	5.00

YY = 21, 22, 24

Digit XX	kVA
01	7.50
11	10.00

Wiring

Default	0
Copper	8

Temperature Rise

135°C	0
115°C	1

Shield

No shield	0
Shield	5

How to Use the Buck-Boost Rapid Selector Charts

You will need the following information:

Line voltage:

This can be determined by measuring the supply line voltage with a voltmeter.

Load voltage:

The voltage at which your equipment was designed to operate. Usually listed on the equipment nameplate.

Load kVA or load amps:

One of these will usually be listed on the nameplate. You do not need both.

Supply line and equipment frequencies:

This will be either 50 or 60 Hertz. The supply line frequency must be the same as the frequency of the equipment to be operated.

Supply line and equipment phase:

Either single-phase or three-phase. The line phase must be the same as the equipment.

The type of electrical configuration:

Delta or Wye.

Follow These Five Easy Steps:

1. Find the appropriate single-phase, three-phase delta or three-phase wye table.
2. Read down the voltage column and find the nearest ratio of required load voltage to line voltage for the application desired. (High and low voltage may be either input or output voltage depending on the circumstances.)
3. Reading horizontally across the line beginning with your application voltage ratio, locate in one of the kVA columns a kVA capacity equal to or larger than your load requirement.
4. Note the two digit number at the top of the kVA column listing the kVA capacity you require.
5. In the catalog number column, add these two digits to the catalog number next to the voltage ratio you found in step one.

Example:

Assume the following information

1. A reasonably constant line voltage of 440 volts.
2. A required equipment voltage of 480 volts.
3. 26.0 kVA load capacity needed.
4. Single-phase line and equipment.

In the voltage column, 437 is closest to our line voltage of 440. The 480 high voltage meets our requirements exactly.

Reading horizontally across this line, find 30.0 kVA, the closest larger kVA to our required 26.0.

Going to the very top of this column, take the two digit number, 81, and add it on the end of the catalog number on the same line as our high/low voltage. The catalog number 416-14, with 81 added on the end, is 416-1481.