Larson Electronics LLC
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MT-BBT-490Y-460Y-3P-257A

3-Phase Wye Buck/Boost Step-Down Transformer - 490V Primary - 460V Secondary - 257 Amps - 50/60Hz

Product ID: 320936

Please see last page for supporting documentation for this product (certificates, CAD files & drawings, IES files, wiring diagrams, etc).

Image: MT-BBT-490Y-460Y-3P-257A

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

MT-BBT-490Y-460Y-3P-257A Buck and Boost Step-Down Transformer

Transformer Type: Buck/Boost Step-Down Autotransformer
Phase: Three Phase
Frequency: 50/60 Hz
Input Voltage: 490 V Wye
Primary Amps: 241.27 A @ 490 V Wye
Primary Configuration: Wye
kVA: 204.76
Output Voltage: 460 V Wye
Secondary Amps: 257 A @ 460 V Wye
Voltage Difference: 92%
Winding Material: Aluminum
Knockouts: Side and Rear
Primary Termination: Front Access Copper Tabs or Lead Wires
Secondary Termination: Front Access Copper Tabs or Lead Wires
Cooling: Air / Dry Type
Insulation: 180°C
Temperature Rise: 115°C
Sound Level: 36 dB
Enclosure Rating: NEMA 3R
Encapsulation: Silica Sand & Resin Compounds

Ratings

NRTL Listed for United States and Canada
NEMA 3R Indoor/Outdoor Enclosure
Meets or Exceeds NEMA ST-20 Standards
Buck and Boost Step-Down Transformer

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Enclosure Material: Steel
Finish: ANSI 61 Grey Finish
Mounting: Wall Mount Via Mounting Tabs
Dimensions: 17.25"-H x 20.00"-W x 7.75"-D
Weight: 210 lb

Special Orders - Special Requirements
Contact us for special requirements
Toll Free: 1-800-369-6671
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E-mail: sales@larsonelectronics.com

The MT-BBT-490Y-460Y-3P-257A Three Phase Step-Down Buck and Boost Transformer from Larson Electronics is powerful, reliable and designed with the environment in mind. Suitable for both indoor and outdoor applications, the MT-BBT-490Y-460Y-3P-257A provides increased reliability, higher efficiency, protection against critical equipment failures and an extra level of protection by isolating the power source from the connected device. The lower operating costs, lower heat emissions and lower cost of ownership make this transformer ideal for a wide range of applications and businesses.

PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS*

Transformer Features: The MT-BBT-490Y-460Y-3P-257A buck and boost transformer is a three phase unit with a 204.76 kVA rating and a primary voltage of 490 V Wye using a maximum of 241.27 amps on the primary side. This step-down transformer has a secondary voltage of 460 V Wye and provides up to 257 amps available on the secondary side. Featuring robust construction, this unit's cores are manufactured with non-aging, cold-rolled silicon steel laminations using state of the art technology.

This unit boasts a low cost of ownership and is highly energy efficient. Lower heat emissions mean less cooling is needed as well. The NEMA 3R painted steel enclosure makes the unit suitable for both indoor and outdoor applications, and this step-down transformer can be wall mounted. The MT-BBT-490Y-460Y-3P-257A features a 180°C insulation with a 115°C temperature rise.

Construction: The aluminum winding in the MT-BBT-490Y-460Y-3P-257A are formed from high quality aluminum wire help to improve performance. The close tolerances used during manufacturing also eliminates burrs which hinder performance. Each core is specially coated to prevent the ingress of moisture and are electrically balanced to minimize axial forces during short circuit situations. Buck and boost transformers are designed to maximize the performance and life of electrical equipment. The MT-BBT-490Y-460Y-3P-257A is encapsulated in silica sand and resin, and cased in a NEMA 3R steel enclosure. NEMA 4, NEMA 4X, and NEMA 12 enclosures are available upon request.

Click Image to Enlarge

Benefits: The MT-BBT-490Y-460Y-3P-257A buck/boost step-down transformer offers many

benefits to the consumer. Buck/boost transformers pass the majority of the load voltage directly through the transformer, only transforming a small percentage of the load. Due to this technology, a smaller and quieter step-down transformer is manufactured and uses less materials. This provides owners with significant energy savings as well as offering environmental benefits.

Higher efficiency not only extends the life of the transformer, but also turn into cost savings for owners in the form of lower energy bills and decreased cost of ownership. Installation and maintenance costs are reduced due to the smaller form factor, and less overall space requirements are decreased. In addition, these step-down transformers operate quieter than a standard autotransformer of the same capacity.

Mounting: Integrated wall mounting brackets make installation fast and easy. Because of the smaller overall footprint, heavy machinery is rarely needed for mounting and installation.

Installation: Installation is simple. Connect the primary leads and secondary leads to the step-down transformer per the provided wiring diagram. Knockout hubs on either side and the bottom of the transformer allow for easy line-in and line-out wiring.

Applications: Air conditioners, lighting systems, heating elements, motor applications and other applications that that require the ability to power loads that differ from the available line voltage.

Limitations: While there are many benefits to a buck/boost transformer, there are some limitations to consider. This transformer will only transformer voltage, it will not convert phases, it will not create even legs between line 1 and line 2 (L1 and L2 WILL be UNEVEN), has no circuit isolation, and does not create a neutral for applications where a neutral is not already present. If any of these limitations apply to you, you will need a standard transformer. Please see below link for our standard line of industrial transformers or our line of phase converters.

Note on Voltage Generation: Buck/boost transformers, like this unit, do NOT generate even legs of voltage on the secondary side. The generate voltage legs will always be unbalanced. This is acceptable for some situations, but other situations call for even legs on the secondary side. This simply cannot be achieved with a buck/boost transformer.

If your specific situation requires even legs of voltage on the secondary side, you will have to consider either a split phase buck/boost transformer or a standard industrial transformer. Larson Electronics has a wide range of both available for purchase:

Split Phase Buck/Boost Transformers

Standard Industrial Transformers

Note on Phases: This buck/boost transformer is a three phase step-down transformer. For single phase transformers or for three phase transformers, click on the following links:

Single Phase Delta Buck/Boost Transformers

Three Phase Wye Buck/Boost Transformers

Larson Electronics is a manufacturer and as such can build stationary and portable transformer systems to your specifications. Although we carry several models of power distribution transformer systems, we can deliver custom ordered units almost as quickly as our prebuilt units. If this model does not meet your needs, please contact us at 1-800-369-6671 or sales@larsonelectronics.com to discuss your specific requirements.

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Frequently Asked Questions (FAQ)

There are no Faqs

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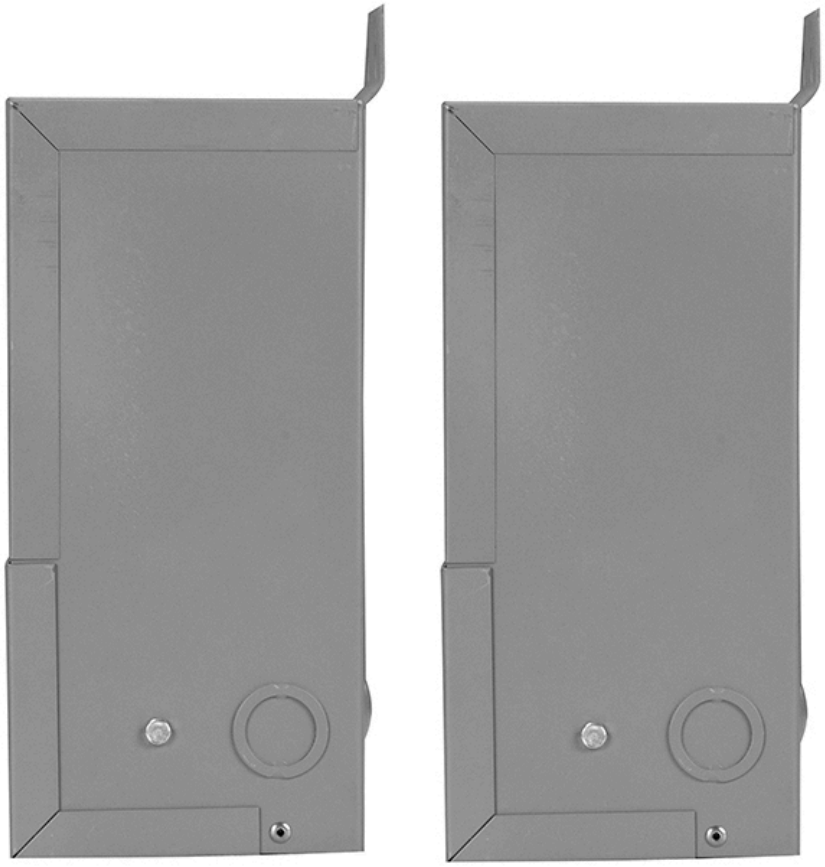

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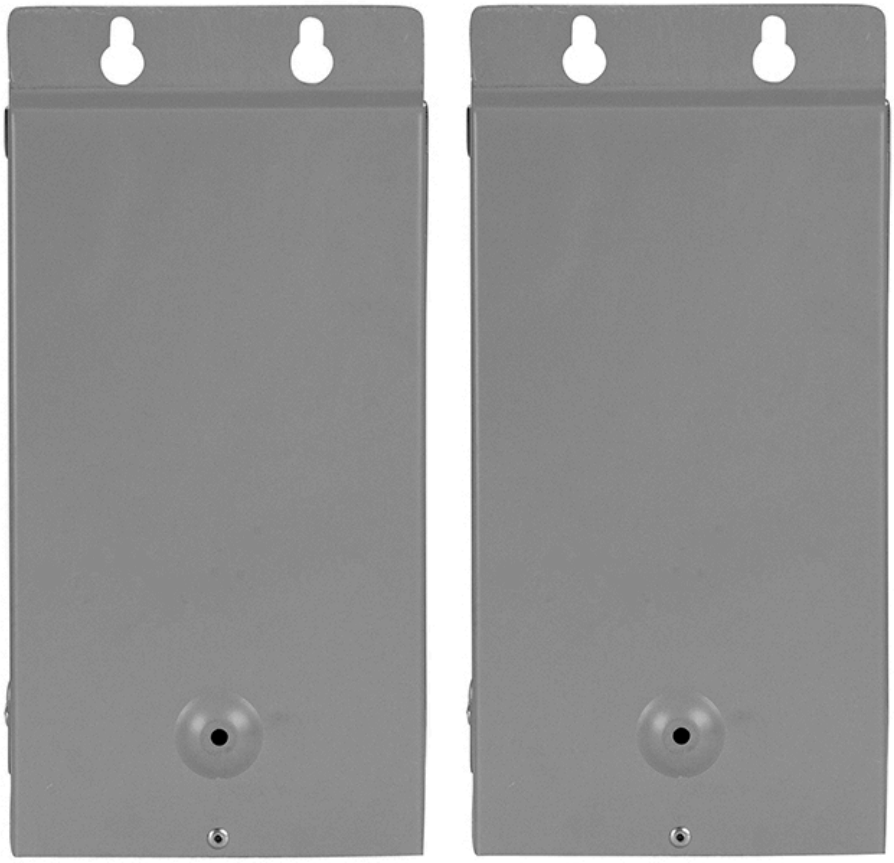

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- **HigResPic2**(https://www.larsonelectronics.com/images/product/HigResPic2/320936.JPG)
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