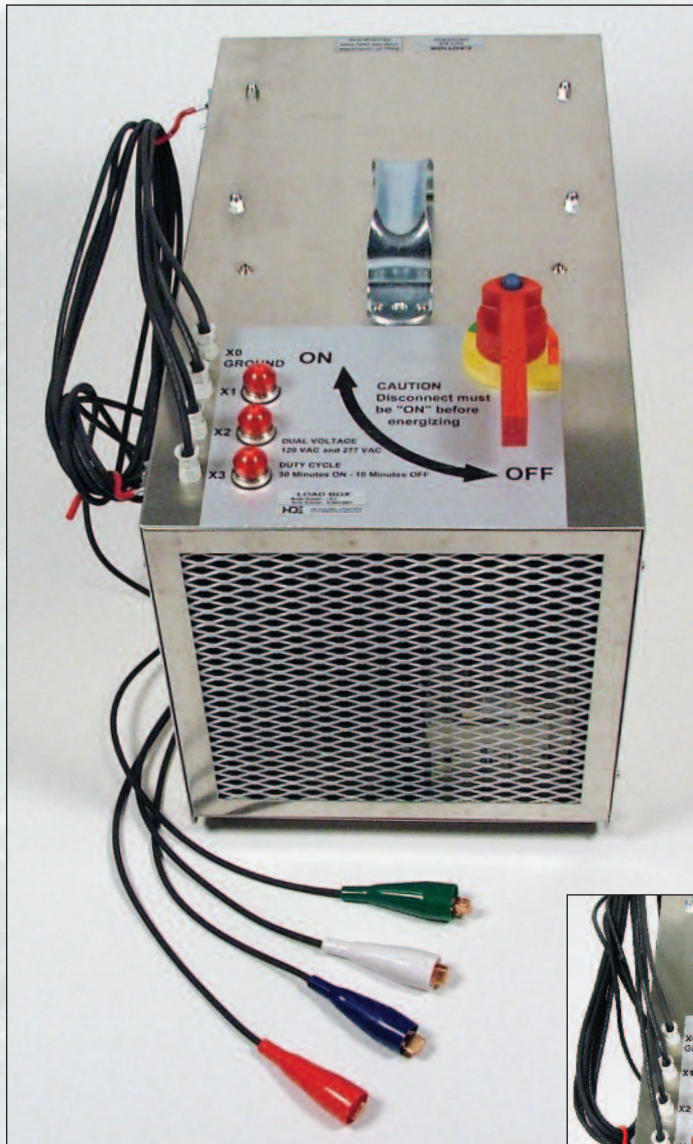


Load Box

LOAD BOX



Description

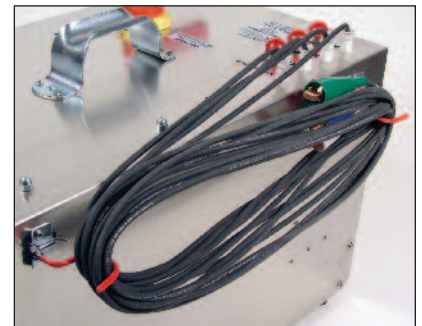
The LB-5 Load Box helps to prevent the damaging effects of ferroresonance found on lightly or unloaded 3-phase power systems. This situation typically occurs on medium voltage distribution transformers and power cables during single phase switching. As the electric power industry moves towards more efficient transformer design, this condition is becoming more common. If such conditions exist, overvoltage can lead to the breakdown of insulation resulting in damage to the transformer, lightning arresters and other equipment. When using the LB-5 to connect and apply a resistive load on the transformer secondaries, damage to distribution equipment due to ferroresonance can be prevented.

Features & Benefits

- Helps prevent ferroresonance during single phase switching
- Portable, one person design
- Dual voltage, auto voltage selection
- Powered by transformer secondaries 120/277VAC
- 5,000 watt per phase loading
- Resistive load up to 3 phases
- 40A fused disconnect switch
- Blown fuse indicator lamp
- Auto-ranging voltage input – no switching required
- Operating frequency of 50/60Hz



Indicator Lights and Switch



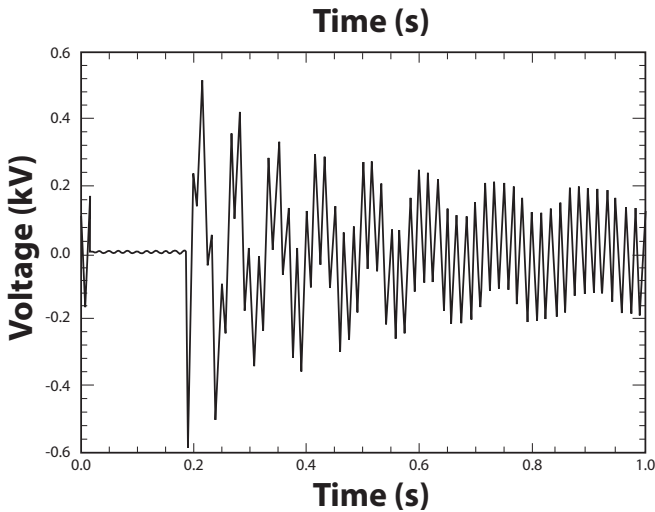
Cord Storage

HDE HD ELECTRIC COMPANY

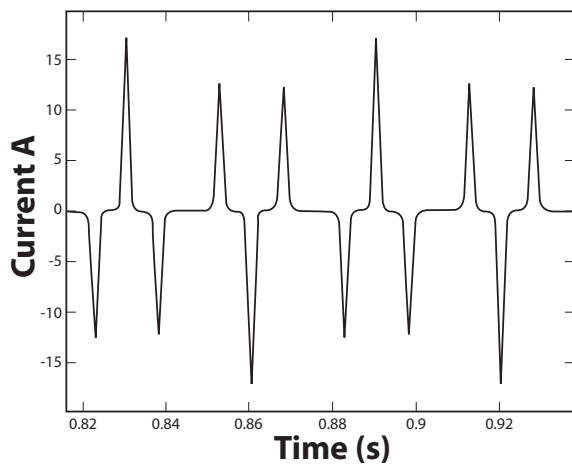
1475 Lakeside Drive • Waukegan, Illinois 60085 U.S.A. • 847.473.4980
fax 847.473.4981 • website: www.HDElectricCompany.com

Application

Proper application of the Load Box helps prevent ferroresonance on power distribution circuits. Ferroresonance can cause overvoltages and overcurrents in an electrical power system that can damage circuit components such as transformers, capacitors and lightning arresters and endanger personnel.



The sustained overvoltages caused by ferroresonance damage lightning arresters by overheating and blow fuses in nearby capacitor banks. These overvoltages also drive transformer cores into saturation resulting in current surges through the distribution circuit and when sustained, can cause permanent damage to transformers.



Specifications

Dimensions: 28" x 14-1/2" x 18"
(71 cm x 37 cm x 46 cm)

Weight: 55 lbs. (24.9 kg)

Ferroresonance most often occurs when an unloaded three phase transformer is connected or disconnected one phase at a time. This typically occurs when line personnel are manually operating cutouts, overhead single phase switches or underground loadbreak elbows to energize or deenergize transformers. If the transformer has little or no resistive load during switching, ferroresonance can occur. If the remaining phases are not quickly interrupted and the phenomenon continues, overvoltage can lead to the breakdown of connected components resulting in their failure.

Ferroresonance is most easily avoided by applying a portable resistive load of at least 5% of the full load rating of the transformer. This load is always applied to all three phases of the transformer secondary and need be applied only during switching, between the time the first phase and the last phase are connected or disconnected.

The HD Electric Load Box provides a three phase resistive load of 5kW per phase and 15kW total for all three phases. The Load Box is always connected before switching occurs. When disconnecting an energized transformer, the Load Box is connected to the live secondary connections. Operating the three phase switch on the Load Box energizes the resistive load in all three phases and makes the transformer ready for disconnection.

When energizing a transformer, the Load Box is connected to the deenergized secondary connections. As the transformer is energized one phase at a time, the Load Box starts up and adds the required load to each successive phase.

The Load Box is rated for secondary voltages of 120/208 and 277/480 and will automatically switch the load for the applied voltage. It can be used on Y or Δ connected transformers. It is fan cooled and fuse protected. The Load Box resistors are connected in a Y configuration and the center of the Y is connected to the ground lead. Load Box model LB-5-1 includes an additional switch to disconnect the center of this Y connected load from the ground lead. This is required for corner grounded delta transformer connections.

ORDERING INFORMATION

| | |
|---------------|--|
| LB-5 | Dual Voltage Load Box, 240/120V and 480/277V. |
| LB-5-1 | Dual Voltage Load Box, 240/120V and 480/277V; Includes a Switch to Unground the Load. Required for Use with Corner Grounded Delta Transformer Connections. |

All sales are subject to the terms and conditions of the Limited Warranty and Limitation of Liability set forth in the product Instruction Manual and at www.HDElectricCompany.com.

Users must read and agree to the Limitation terms, as stated, before using the product.

HD Electric Company is committed to ongoing review and improvement of its product lines, and thus reserves the right to modify product design and specifications without notice.

HD Electric Company is ISO 9001:2015 certified

HD Electric Company® products are available through HDE® sales representatives worldwide.
Printed in U.S.A. © HD Electric Company 2019 • Bulletin No. LOADBOX-100f