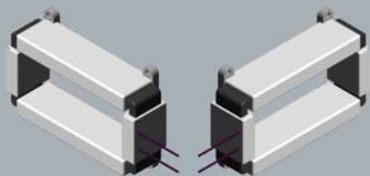


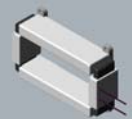
## 5600 Series Zero Sequence Current Transformers



5600 Series Zero Sequence Current Transformers are designed for use in ground leakage and ground fault protection applications. The phase and neutral bus or cables are passed through the CT window. Under fault conditions, the residual current (zero phase sequence current), flows through the CT secondary, which operates a relay.

Outer insulation of varnish dipped self amalgamating tape provides a moisture proof seal. Grain oriented silicon steel cores. Secondary windings are evenly distributed in order to maximize accuracy and minimize leakage. Clearly marked polarity indicators. #10 Tefzel Secondary Leads— Provided to customer specified length. Epoxy mounting feet affixed to core, allowing easy mounting.

Designs can be provided with any window dimension configuration required. Mounting feet can be provided on any mounting center arrangement required. Non Standard ratio configurations are available on request.



5600 Series  
5600 Series Zero Sequence Transformer  
200 : 5 Amp, C40  
12" x 28" Window

# Engineered Power Components, Ltd.



## 6100 & 6600 Series Current Transformers

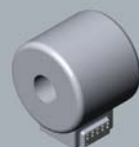


6100 & 6600 Series Current Transformers are designed for use in indoor or outdoor enclosed control, metering or relaying applications. Integrally cast inserts in the

base allow mounting in any orientation. Available in primary ratings from 200 to 3000 Amp. Side mounted secondary brass terminals. Silicon steel cores with evenly distributed secondary windings to maximize accuracy. Partial Discharge free at rated voltage. Custom copper terminations available to customer specifications. Non standard ratios are available upon request.



6600 Series  
6600 Series Bar Type Current Transformer - 5 kV, 60 kV BIL - Up to 3000 Amp Primary Available



6100 Series  
6100 Series Window Type Current Transformer - 5 kV, 60 kV BIL - Up to 3000 Amp Primary Available

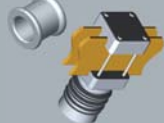
## Specialty Switchgear and Breaker Products Offered by EPC



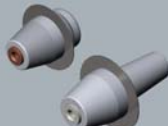
81-000-200 Series  
15 kV, 95 kV BIL, 1200 Amp Primary Disconnect Bushing Porcelain Replacement



1200 Series  
15.2 kV, 95 kV BIL, 600 Amp "Shedded" Apparatus Bushing Removable Stud, 14.5" Creep



Misc  
Custom Bus and Cable Supports



1200 Series  
38 kV, 150 kV BIL, 200 Amp 27 kV, 125 kV BIL, 600 Amp "Weldable Flange" Apparatus Bushing



1200 Series  
15.2 kV, 125 kV BIL, 200 Amp "Shedded" Bushing Well Removable Stud, 14.5" Creep



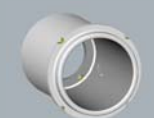
Misc  
Custom Drive Rods and Breaker Operating Parts for Mechanical Applications.



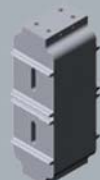
Misc  
Breaker Bushing Supports



Misc  
Breaker Replacement Bushings



Misc  
Disconnect Bottles for Porcelain Replacement



Misc  
Specialized Current Transformers For Custom Applications

## ENGINEERED POWER COMPONENTS

- Breaker Bushings
- Terminal Blocks
- Wall Bushings
- Roof Bushings
- Insulators
- Disconnect Bushings
- Connectors
- Isolated Phase Bus Duct
- Bus Supports
- Core Support Blocks



Products for the Switchgear & Breaker Industry



### H-J International, Inc.

3010 High Ridge Blvd High Ridge, Missouri USA 63049  
Tel: (636) 677-3421 Fax: (636) 376-1915  
www.h-jinternational.com



## Your Source For Innovative Engineering Solutions



Utilities, OEM's and Service Groups worldwide, our design and manufacturing team offers more than 50 years combined experience within the industry.

EPC Ltd. Provides total product development services, from conceptual design work through engineering and final product testing within one facility. Conveniently located in Winnipeg, Manitoba.

EPC Ltd. Specializes in custom product design and manufacturing. Utilizing state of the art design software and in-house tool and die design and manufacturing capabilities, we can provide quick turn-around for replacement components. We specialize in duplication or redesign of obsolete, damaged or hard-to-find components at reasonable cost.

## ENGINEERED POWER COMPONENTS

• In-house tool and die design and CNC manufacturing – minimizing lead times for fast turn-around on custom items.

• Mechanical Design Automation Software including 3-D Parametric Solid Modeling and Finite Element Analysis (FEA), providing the customer with immediate product design and analysis information.

• In-house test facilities for routine and prototype testing.

• Research and Development services for development of new materials and technologies.

## ENGINEERED POWER COMPONENTS

It is our mission at Engineered Power Components Ltd. To provide innovative engineering solutions in molded polymer insulated product design and manufacturing. Serving Electrical



## 200 & 300 Series Standoff Insulators



Cast epoxy is much lighter allowing easier handling, lower structural loading and consequently lower shipping costs. Cast epoxy material is homogenous throughout. Chips or scratches on the surface of the material will not lead to further degradation of the

insulation. Porcelain material relies on the integrity of the surface glaze to prevent degradation of the insulating material. Cast epoxy will withstand much higher impact forces than porcelain insulation. Less damage during assembly and transportation. Cast epoxies display excellent anti tracking and non-hydroscopic qualities. The epoxy material is self extinguishing and will not burn except under continuous arcing conditions or application of a sustained high heat source. Cast epoxies also display superior Partial Discharge Characteristics – The pressure gelation process allows casting of mounting inserts directly into the epoxy insulation. This

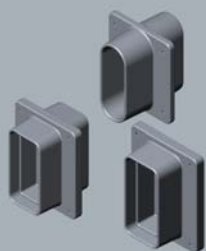
eliminates the need for mounting caps and adhesives most often associated with porcelain insulators. The adhesives are prone to breakdown over time leading to poor partial discharge characteristics.

**200 Series**  
A20 Strength Class, ANSI C29.1-1988  
4.8 kV, 60 kV BIL Thru 48.3 kV, 200 kV BIL  
4.75" - 29.5" Creep, 3.5" - 14" in Height

**300 Series**  
A30 Strength Class, ANSI C29.1-1988  
5.0 kV, 75 kV BIL Thru 48.3 kV, 200 kV BIL  
7.75" - 29.5" Creep, 4.5" - 14" in Height



## 700 Series Thru Wall Window bushings



Thru Wall Bushings generally replace old porcelain and GPO board combinations, where porcelain window bushings were sandwiched between two pieces of GPO panel. The assembly was then held in place with silicon. This bushing is a one piece, bolt on design, which eliminates the need

for porcelain / GPO assemblies. Quicker, less messy assembly requiring no adhesives, silicone packing etc. Can be used at higher voltages when mounted on other insulating panels. Excellent electrical and mechanical properties. Much more durable than equivalent porcelain bushings. Deep shed design allows maximum creep distances within a compact space. Windows are interchangeable, with many different bus configurations available for varied current carrying requirements.

**700 Series**  
15 kV, 95 kV BIL Through Wall Window Bushing, Various window sizes available for all bus configurations. Usable above 15 kV when used in conjunction with other insulating panels.

**700 Series**  
15 kV, 95 kV BIL Through Wall Window Bushing, Various window sizes available for all bus configurations. Usable above 15 kV when used in conjunction with other insulating panels.

**700 Series**  
15 kV, 95 kV BIL Through Wall Window Bushing, Various window sizes available for all bus configurations. Usable above 15 kV when used in conjunction with other insulating panels.



## 1500 & 1600 Series Circuit Breaker Bushings



1500 and 1600 Series Circuit Breaker Bushings are designed for use in new, replacement and retrofit Circuit Breaker applications.

The 1600 Series Secondary Bushings are constructed of tin or silver plated C110 electrolytic copper conductors for maximum conductivity. Insulation is

cast Cycloaliphatic Epoxy. The bushings at 15 kV and above contain an integrally cast in ground shield to control distribution of the electrical field. The design is a one piece assembly eliminating all interfaces, offering very stable power factor and exceptional partial discharge characteristics.

EPC Ltd. has a substantial library of assorted miscellaneous Circuit Breaker bushings that have been manufactured for numerous replacement and conversion applications for virtually all original equipment manufacturers. We specialize in the development of parts for any custom requirement. Consult factory for more information on available designs.



**1500 Series**  
15-015-400 and 15-015-401  
GE AM / AMH – Replacement Bushing  
AM 4.16-250, 1200 Amp



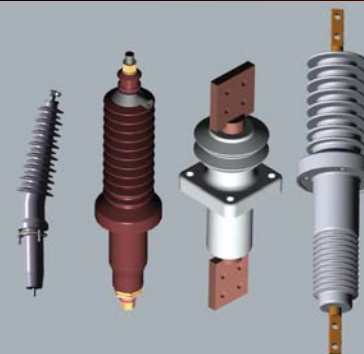
**1600 Series**  
6-001-000 and 16-001-100  
GE Magneblast Replacement Bushings  
Type AM-7.2 / 15 – 500 SH  
7.2 kV and 15 kV, 2000 Amp



**1600 Series**  
16-002-201  
GE AM – Replacement Bushing Type  
AM – 15 kV, 3000 Amp



## 2000 Series Apparatus Bushings



2000 Series Apparatus Bushings are designed for use Roof Entrance Bushings in Switchgear and Transformer applications. Insulating material is cycloaliphatic epoxy rated for full outdoor exposure. The bushings are capacitively

graded, with an integrally cast ground shield to control the electrostatic field. Bushing shank lengths below the flange are adjustable to accommodate any variation of the ground shield length. This is normally done to allow mounting of multiple CT's on the bushing shank. The epoxy insulation is a one piece casting, with no requirement for external conductive paints, mounting clamps or extra flanges. The flange holds the cast in mounting inserts, which provide the mounting to the structure as well as the connection to the internal ground shield. This style mounting eliminates the need for studs on the roof of the structure, and also the use of an external clamp, giving the whole assembly a much cleaner look. The

bushing comes with a gasket groove which controls gasket compression and prevents deformation of the gasket during mounting, providing superior sealing to a flat gasket arrangement.



**2000 Series**  
5 kV thru 46 kV class – Up to 3500 Amp  
Conductor Ratings Custom copper configurations available on request

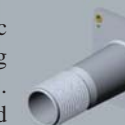


## 2200 & 8100 Series Primary Disconnect Bushings



The function of the primary disconnect bushing is to provide the interface between the conductor bushings and finger clusters of circuit breakers to the switchgear bus work. In most cases, these bushings are capacitively graded bushings at 15 kV and above, that is, they contain a ground shield to control the electrostatic field. Porcelain bushings of this style

must be used in conjunction with metallic flanges, which are fastened to the bushing body through the use of adhesives. Conductive paints are used for HV and Ground Shielding. These adhesives tend to breakdown over time causing partial discharge and power factor concerns. Placement of High Voltage and Ground Screens within the casting, allows for one step, clean manufacturing with no need for external glazes or additional flanges. There are no interfaces in the assembly, so partial discharge and power factor are not a concern. Access to Ground Shields and High Voltage Shields can be made through integrally cast inserts, eliminating the need for cumbersome external leads which can cause problems during BIL testing.



**2200 Series**  
15kV - 38 kV, 110 kV BIL - 200kV BIL, Primary Disconnect Bushing  
Condenser Type



**8100 Series**  
15kV - 38 kV, 110 kV BIL - 200kV BIL, 1200 Amp Primary Disconnect Bushing  
Condenser Type



**8100 Series**  
15kV - 38 kV, 110 kV BIL - 200kV BIL, 2000 Amp Primary Disconnect Bushing  
Non Condenser Type