

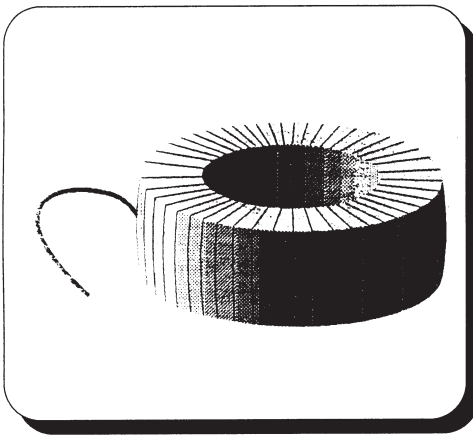
## Linear Coupler Products

1000 amperes to 5 volts

### Application

**BLC-867** (internal) and **HLC-977** (external) are rugged, dry type, linear coupler suitable for fitting around bushings of power transformers, circuit breakers or potheads. **BLC-867** or **HLC-977** is a unique way to add LC capability to the previously installed or in-service main apparatus when monitoring of current flow through high voltage bushings is desired. This external retrofit technique of adding monitoring to apparatus offers a large savings over opening equipment to add internal devices. **BLC-867** or **HLC-977** linear couplers may be supplied in a wide range of physical configurations and sizes depending on location requirements.

A typical application is differential protection where the linear coupler is connected in a voltage-differential circuit. Under normal load conditions, the sum of the voltages induced in the differential relay secondary circuit seen by the relay is essentially zero.



### Fabrication

Wound cores of high stability are used to optimize performance and physical size of the linear coupler. High

grade insulation is used to insulate between the winding layers. When the linear coupler is to be encapsulated it provides an excellent mechanical protective body and long term dielectric performance. The external unit has 1/4-20 secondary stud connections in a terminal box with two conduit openings (1" NPT) and a cover-plate for ease of electrical connection.

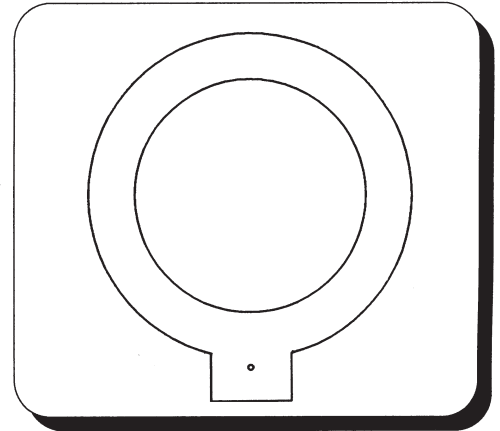
### Accuracy

**BLC-867** or **HLC-977** is available as a dedicated performance product. High impedance voltage equipment to insure that accurate output accuracy readings are achieved.

### Testing

Every LC is tested in accordance with IEEE STD C57.13 (Latest rev.) and for accuracy at various stages of manufacture.

NIST traceable standards are used to validate accuracy performance for all LCs. Accuracy for this product is  $\pm 1\%$  of 5 volts at 1000 amperes primary current.



### Ground Shield

If specified, a ground shield will be on top of the external style slip-over and fitted with a ground tab. The **HLC-977** will register (or ignore) a bushing flash-over to the ground shield when it's grounding lead is routed inside (or outside) of it's window. Consult factory when desiring to monitor a flash-over.

### Specification Requirements

To specify either linear coupler you need to have:

1. Minimum ID.
2. Maximum OD.
3. Maximum Height.
4. Mounting details.
5. Lead length. (Internal units only.)
6. Ground shield selection. (External units only.)

**600-21**

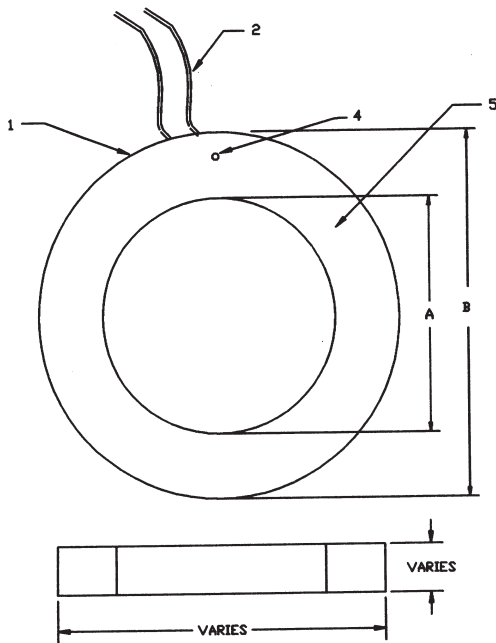
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**See Appendix A for Typical Curves**

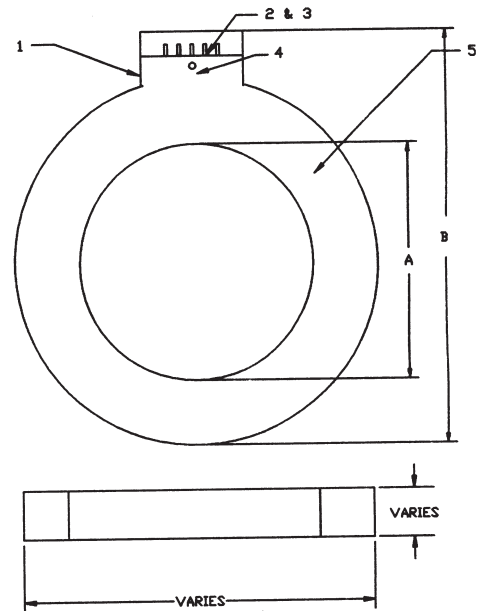
Sizes ID

Available

8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34 +



**BLC-867**



**HLC-977**

**Note** - When linear couplers are used inside of apparatus it is important to specify if it is to be installed in air or in oil. On external devices when a ground shield is desired on top of the LC to protect the secondary circuit from high voltage bushing flash-overs it must be specified at time of the order. Ground shield and mounting hardware are optional extras and must be ordered at same time as slip-over. Contact factory for additional details.

**Clearances** - This retrofit product is best selected by careful inspection of the apparatus and its related bushing drawings to insure mechanical and electrical clearances in keeping with the users normal operating practices.

This information is subject to change without notice. Not responsible for typographical errors.

**Description**

- |                        |                       |
|------------------------|-----------------------|
| 1. Nameplate.          | 4. Polarity mark.     |
| 2. Secondary terminals | 5. Winding assembly.. |
| 3. Terminal box.       |                       |

**600-22** More sizes are available. Contact factory for latest information.

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