



*Instrument Transformers*

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# INSTRUCTION MANUAL IL-GIFD-R2

## CURRENT TRANSFORMER GIFD with or without Bar-Kit

### **1.0 General Description**

The GIFD current transformer is a dry-type, window-type unit for outdoor and indoor installations. The insulation structure utilizes a cycloaliphatic epoxy resin system, which provides excellent electrical and mechanical properties. Optionally, the unit can be provided with a primary bar assembly, which can be added in the field.

### **2.0 Design Details**

#### **2.1 Design**

The primary conductor is passed through the window opening to form the primary winding. Cores and secondary windings are encapsulated with epoxy resin in a single process under vacuum. All outside parts, like the terminal box and mounting plate, are made of corrosion proof materials. For dimensions see the applicable brochure or outline drawing.

#### **2.2 Outer Insulation**

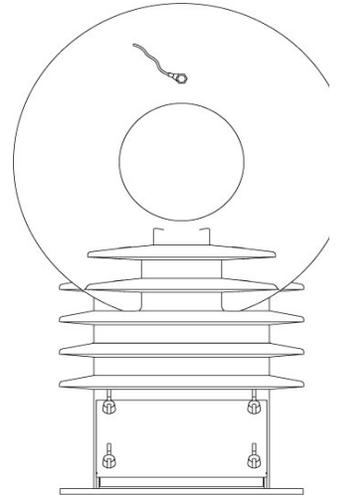
Consult the applicable brochure or outline drawing for creepage and strike distances.

#### **2.3 Secondary Terminal Box**

The weatherproof terminal box is made of cast, marine-grade aluminum construction. The box is detachable from the transformer body and has an industry standard hole-pattern. The box has ventilation holes to avoid condensation. These holes may be sealed in the field for horizontal or inverted mounting. One 1" NPT conduit opening is provided on each side of the terminal box and one 1" knockout is provided on the bottom of the box. The secondary terminals are bronze, clamp-type, with a large diameter hole. A bronze, pivoting short-circuit device is an integral part of the secondary terminal arrangement. A ground terminal is also provided. The proper torque value for secondary terminals is 4 foot-pounds.

#### **2.4 Nameplate**

The nameplate is made from marine-grade aluminum and is permanently fixed to the mounting plate.





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### **3.0 Installation**

#### **3.1 Transport and Lifting**

The transformer should be lifted by means of a fabric hoisting sling through the primary winding opening. Care should be taken not to damage the outer insulation when lifting.

#### **3.2 Inspection**

Before installation, the transformer should be inspected for physical damage that may have occurred during shipment and handling. All insulation surfaces should be considered the same as the surface of porcelain insulators, in regards to cleanliness.

#### **3.3 Mounting**

The transformer can be mounted vertically, horizontally, or inverted on a flat surface. Note that the cantilever strength of the unit is reduced when not mounted in the vertical position.

#### **3.4 Primary Connection**

The pig-tail voltage lead provided should be connected to the primary conductor to equalize voltage stress on the primary insulation and to prevent corona/RIV discharge. There was a design change in Mid-2007. On older units, connection points are provided on both sides of the unit, but only one point needs to be connected to the primary conductor. On later units, the voltage lead is permanently connected to the transformer. If the unit is supplied with an optional bar-kit, the potential connection should be connected to the primary bar.

#### **3.5 Secondary Connection**

Connect the secondary to a suitable burden (meter, relay, etc...). If a secondary winding is not used, ensure that it is short-circuited using the provided short-circuit device. If the secondary winding is a dual-ratio or multi-ratio design, ensure that the full winding is short-circuited.

**DANGER: NEVER OPERATE THE CURRENT TRANSFORMER WITH A SECONDARY WINDING OPEN-CIRCUITED, AS HIGH-VOLTAGES COULD BE INDUCED!**

#### **3.6 Ground Connection**

Ground the transformer using the one-hole ground pad provided on the mounting plate.



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#### **4.0 Maintenance**

The transformer is designed to be maintenance-free for the life of the unit. When the transformer is installed in a polluted environment, a regular surface cleaning and treatment is recommended. Acceptable cleaning detergents are acetone or benzene. The surface should then be treated by applying a thin layer of silicone compound (e.g. Dow Corning MS4 Silicone Compound).

#### **5.0 Testing**

##### **5.1 Accuracy Testing**

Current transformer cores can become magnetized when subjected to DC (e.g. resistance measurements, polarity checks, etc...). It is recommended that current transformers be demagnetized prior to installation, especially for metering applications. If needed, consult the factory for demagnetization instructions.

##### **5.2 Insulation Testing**

Per IEEE C57.13 section 8.8.2, field dielectric tests should not be in excess of 75% of the original factory test levels. Insulation power-factor tests (Doble tests) can be made on dry-type insulation systems, however, these tests are not necessarily indicative as to the state of the insulation system and there can be a wide variance in readings from unit-to-unit.