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What are the advantages of using a Current Transformer?

Recent years have seen significant advancements in technology that have resulted in current transformers that are both more efficient and more compact in design, making them simpler to transport, store, and set up. It is essential to make the right decision when selecting a current transformer to ensure that the protection or metering system functions appropriately. It is important that you are aware of the benefits of utilising current transformers before selecting the appropriate product for your needs.

Advantages:

- Measures high currents:

The major objective of the current transformer is to generate, from the primary current, a proportional secondary current that can either be easily monitored or utilised for the purpose of controlling a variety of circuits. This secondary current is produced by the current transformer. It is not difficult to measure the larger levels of the current.

In order to measure the fault current in a synthetic circuit, current transformers can be utilised. This makes the measurement of large currents, which are typically carried out in the presence of high voltages, much simpler and more secure. The primary winding is normally linked in

series with the source current that is to be monitored, and the secondary winding is typically connected to a metre, a relay, or a burden resistor in order to generate a low-level voltage that can then be amplified for control purposes. Elmex Controls Pvt. Ltd. is an excellent manufacturer as well as supplier of **Ring type current transformer** in India.

- Cores that are highly effective:

Cores that have a high effective permeability are typically utilised in current transformers because of their ability to eliminate mistakes and lower magnetising current.

- Electrically isolated to a high degree:

Its capacity to separate high voltage as well as current and reduce them to low values ensures that the equipment can be handled safely and that it can be operated safely. Electrical isolation can be provided by current transformers between power circuits with high-voltage and measuring equipment. In order to lessen the requirements for electrical insulation in protection circuits and measuring instruments.

- Simple construction:

Current transformers are utilised frequently in the measurement industry as well as in the field of protective transformers. Another benefit of the CT is the ease with which it may be installed and its straightforward construction.

- Simple operations for supplying and controlling:

The current that a CT measures provide its source of electricity. It is not necessary to supply any more power. In addition to this, the signal that is sent out by a CT can directly activate the electromechanical relays. There is no need for any further elaboration on this point.

- Measurements that are accurate:

A single transformer may supply power to a number of different equipment. In addition, the temperature of the windings or the magnetic cores does not have an effect on the findings of the measurement if it is within the permissible range. If you are looking for the leading and reliable **Ring type CT** manufacturer and exporter in India, Elmex Controls Pvt. Ltd. is the best pick for you.

- Clamp-on types:

The dimensions and shape are constrained by the location of the CT in the circuit. Around the phase conductor, the CT is installed once it is brought within the terminal box of the induction motor. Because of this, the transformer core can only grow to a certain maximum size. By utilising clamp-on cores, the installation process can be simplified, and the CT can be put in place without the phase conductor having to be disconnected from the motor's terminal.

- Simple upkeep and installation requirements:

The components of a CT that have been damaged are simple to replace. The mechanical strength of current transformers is very robust, and their design is quite compact. They are convenient in terms of transportation, storage, and set-up. In addition, they do not require any upkeep over their whole useful lives.

- Cost:

Because of the standardisation of the ratings for the secondary windings of CT, it is now possible to standardise instruments based on these ratings. As a result, the costs of CT as well as other instruments have been significantly reduced.

- Accurate measurement of AC:

Since current transformers do not enable the measurement of DC signals, it is impossible to use them for the detection of dielectric discharges. On the other hand, current transformers can be utilised for the measurement of voltage waveforms as well as inductive currents when used in conjunction with secondary load impedance. The influence of external magnetic fields on the findings of the measurement is negligible.

- Numerous categories:

There are many different kinds of current transformers, such as summation CTs, moulded case CTs, three-phase CTs, cable split-core CTs, compact CTs, DIN rail CTs, split-core residual CTs, flexible CTs, as well as differential CTs. Each of these categories fulfils a unique purpose.