WHITEPAPER

Detect Ground Faults with Zero Sequence Current Tranformers

Zero sequence current transformers, also known as core balance current transformers (CBCT), detect the presence of zero sequence currents during short circuit fault conditions such as the occurrence of a single line to ground fault that causes unbalanced currents in three-phase systems.

During the normal operation of a three-phase system, the vector sum of the three-phase currents (Ia + Ib + Ic) equals zero, therefore, no magnetic flux is generated by the three phases and no zero-sequence current is detected by the ground fault relay.

During abnormal operations, the occurrence of a single phase to ground fault causes current imbalances in the three phases and with the vector sum of the phase currents not equal to zero, magnetic flux is generated in the core of the zero sequence current transformer and causes current flow to be detected by the ground fault relay.

Model FCR50/5-R822 (view product details)

The model FCR50/5-R822 is a zero sequence split-core relay class current transformer. Used in relay class, revenue grade applications.

- 50A:5A current ratio, C10 relay class
- Zero Sequence Applications
- Window opening of 8” min. x 22”
- 600V
- Heat Set Polyester and Varnish Construction
- Indoor application
- Estimated weight =120 lbs
- Manufactured to meet requirements of ANSI/IEEE C57.13

Manufacturing lead time is 2-3 weeks ARO. For large quantity order, please ask Flex-Core.

Model FCR50/5-RZ & FCR100/5-RZ (view product details)

The model FCR is a split-core relay class current transformer. In applications, where the removal and reconnection of the cables are not practical, such as is the case with medium voltage applications, split-core current transformers are an ideal solution.

- 50:5A current ratio, C10 relay class
- 100:5A current ratio, C20 relay class
- Window opening of 2.5” min. x 6.5” min.
- 600V, 50-400Hz
- Indoor application
- Estimated weight = 55 lbs

Manufacturing lead time is 2-3 weeks ARO. For large quantity order, please ask Flex-Core.

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Model 114-500 (view product details)

For cable sizes requiring a smaller window opening, FLEX-CORE® stocks the 114-500 which is small and much lighter in weight.

- 50:5A current ratio
- C10 relay class
- Window opening of 3.25” ID
- 600V, 50-400Hz
- Indoor application
- Mounting holes at the corners and optional mounting bracket
- Estimated weight = 22 lbs

FLEX-CORE® maintains adequate quantities in stock and available for immediate shipment.

Model 143-500 (view product details)

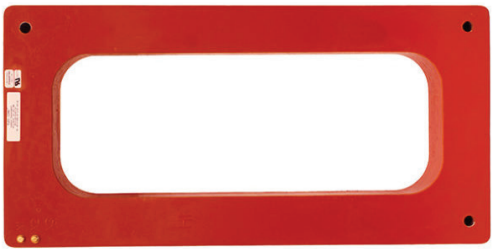
The model 143-500 relay class current transformer is our most popular current transformer for zero sequence ground fault protection applications. Note, the 143-750, 75:5A and the 143-101, 100:5A can also be used for zero sequence current applications depending on the magnitude of the current to be sensed.

- 50:5A current ratio
- C20 relay class
- Window opening size: 7.31” ID
- 600V, 50-400Hz
- Indoor application
- Optional mounting bracket
- Estimated weight = 60 lbs

FLEX-CORE® maintains adequate quantities in stock and available for immediate shipment. Large quantity orders are shipped by freight in a skid to avoid any damages during shipment. For single order quantity it also recommended to ship freight but can be shipped in a fully protected box if next day delivery is required.

Model 593-500 (view product details)

For applications requiring a larger window opening than is available on the Model 143-500 CT, FLEX-CORE® can provide you with model 593-500 which offers a 8.06” x 22.06” window to allow for a larger number of cables. Note that due to the large window opening, the model 593-500 has a much larger core and is heavier than the model 143-500.



- 50:5A current ratio
- C10 relay class
- Large window opening size of 8.06” x 22.06”
- 600V, 50-400Hz
- Indoor application
- Mounting holes at the corners
- Estimated weight = 150 lbs

FLEX-CORE® maintains adequate quantities in stock and available for immediate shipment. Typically shipped on a skid for freight shipment.