[redacted] (for Connection to a 5A or 1A CT)

The [redacted] is an aluminum enclosure with a swing-down front door. Terminal blocks on the rear face of the [redacted] are used to connect field wiring to the TTM.

The isolation transformers are mounted on the inside of the swing-down front door of the [redacted] enclosure. The leads from the secondary side of the transformers are terminated on tabs of the scaling module. Scaling resistors and roll-off capacitors (if used) are inserted into the scaling module via the front of the [redacted] by removing two screws which connect the small cover plate to the [redacted] front panel.

Disconnect devices (also referred to as test switches), if used, are typically mounted on the cabinet side rails, cabinet front panels, or outside of the cabinet.

Scaling Module

The [redacted] allows the custom attenuation of AC analog waveforms at the [redacted]. The Scaling Module accepts the leads from the secondary windings of the transformers and passes the signals through the resistor/capacitor pair for a given channel on to the DB-25 connector on the rear of the module.

- The [redacted] is accessible on the front of each [redacted] for ease in changing components and measuring signals.
- Scaling resistors and/or capacitors mount in spring cups to allow field alterations without soldering.
- A single pole low-pass passive filter is optionally available.
- Scaling module contains locations for 32 pairs of resistors and capacitors, or one R/C combination for each analog input terminated by the [redacted].

Channel selection

[redacted] can be chained together using a short cable between the male DB-25 at the top of the TTM and the female DB-25 connector at the bottom of the [redacted]. A common cable may carry the signals from more than one [redacted] to the Electronics Chassis. Each DB-25 cable can connect 16 analog signals from the [redacted] the Electronics Chassis.

Note To determine the resistor values, capacitor value[redacted] configuration, and DB-25 cable connections, refer to the site-specific documentation.

Figure 2: Typical analog input

Scaling of Current Inputs

The purpose of scaling the analog inputs is to optimize the dynamic range of the analog to digital (a-d) converter. The selection of the proper scaling resistor depends upon the expectation and needs of the user. For example, a user might be interested in the ability to trigger on abnormalities two or three substations from the System location.

To increase sensitivity to abnormalities away from the System installation, the analog input can be scaled for a value lower than the calculated maximum. If an analog input exceeds the maximum scaled value, the result is digital clipping of the waveform for values. If the input is digitally clipping, no physical damage will occur if the input exceeds the maximum scaled values.*

* Provided the design maximums for the analog input device are not exceeded.

For information about how to calculate the size of a scaling resistor, see Appendix E.