Application Spotlight

Designed to Empower Engineers

BE1-FLEX: High CT Count Bus Differential

Faster Bus Fault Clearance Starts with Better Visibility

Bus differential relays are inherently fast — they directly see whether a fault exists within the bus zone, and that speed is critical for clearing high-energy bus faults quickly.

They're also a key tool in arc-flash mitigation applications, where sensitive settings are always achievable.

But the relay is only as good as what it can see.

The Problem with Traditional Schemes

Traditionally, high-impedance differential relays have been the go-to solution. They place Current Transformers (CTs) on each line into and out of the differential zone and wire those CTs together before the relay.

The drawback: the relay never sees individual CTs — only the sum of all of them. That means limited visibility into individual feeders and reduced flexibility when your bus architecture demands more.

A Low-Impedance Approach Without the Compromise

Low-impedance schemes wire each CT directly to the relay, so the relay sees every line independently — and dedicated CTs are not required for total system protection.

The challenge has always been scaling that approach to complex buses with many connected lines. Until now.



How the BE1-FLEX Changes the Equation

The BE1-FLEX's ability to monitor up to 28 CTs in a single device makes what was previously an impractical solution easy and cost-effective to implement. CTs can be mapped to single, dual, or three-phase circuits — supporting up to 9 three-phase CT sets or 28 single-phase circuits in one unit. And because the BE1-FLEX is extensively configurable, it can serve additional protection functions beyond high-speed bus differential

In Short:

- Monitor up to 28 CTs in one device
- Support single, duel, or three-phase circuits
- Lower cost, greater flexibility