

APP Traveling Wave Fault Location

Summary

The APP traveling wave technology is a scalable and configurable solution that can locate a fault with high accuracy. With an accuracy of 200 feet or better, this will significantly reduce the downtime of correcting the fault.

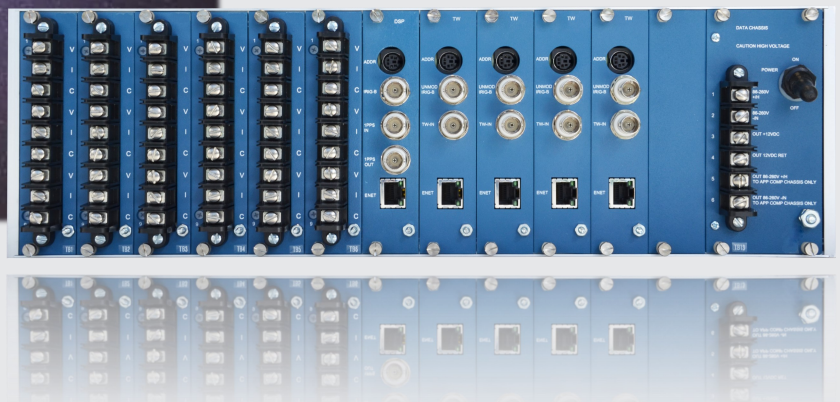
Add to any existing APP-601 system. Can create any configuration of analog, digital and traveling wave boards in each data chassis (over one million different configurations)

Both double end and single end configurations are possible

This is an accurate and reliable solution has the bottom line of reducing down time and ultimately saving costs.

Highlights

- High Level of Accuracy
- Double Ended or Single Ended Configurations
- Megahertz Sampling Frequency
- Highly Configurable
- Up to 10 Cards per Chassis
- Low Learning Curve
- Easy to Maintain
- Add to any existing APP-601 Recorder
- 10-Year Warranty on All Traveling Wave Hardware

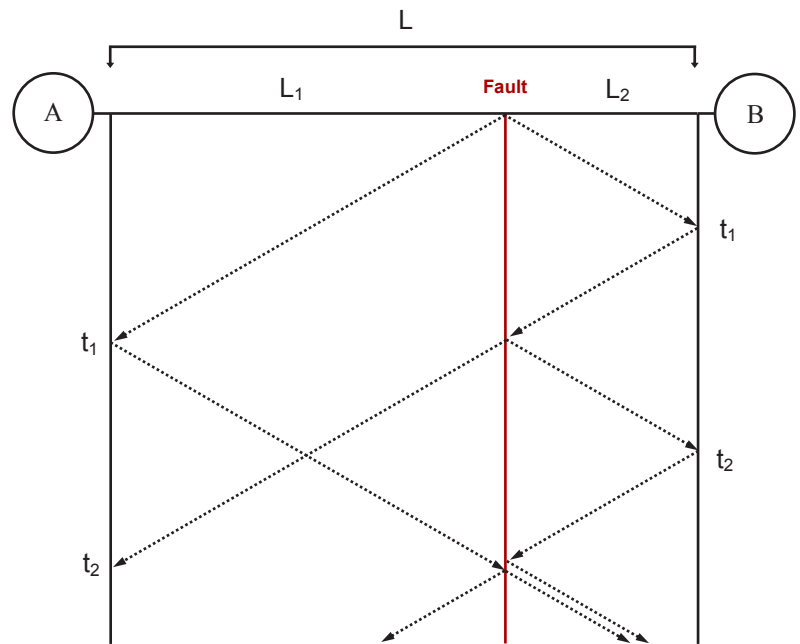


Concept

Travelling wave fault location (TWFL) is a method to determine the location of a fault on an electrical line.

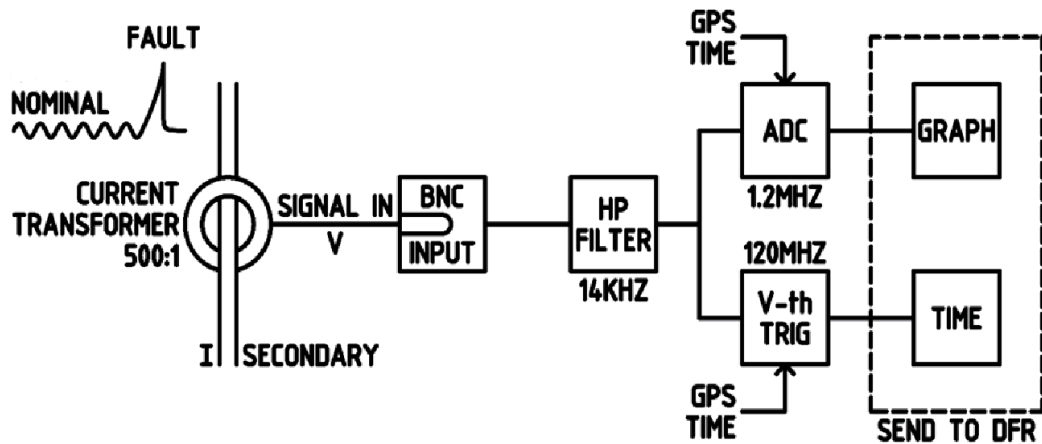
By using the information about the length of the line, the time of when the fault was recorded, and the velocity at which the fault moves along the line (information which is known at the time of setup), the Recorder's TWFL feature can determine the location of the fault along the line.

The Bewley diagram shows the relationship between the fault and the respective reflections being picked up by the DFR(s).



Block Diagram

- The signal is picked up by a high bandwidth, 500:1 CT that connects via BNC
- The signal runs through a high-pass filter which refines the presence of the fault
- The signal is split between a high frequency ADC and a voltage-threshold trigger
- The threshold trigger records the time-mark of the fault at the nanosecond precision and is recorded to the INF file



Easy Addition to Any APP Recorder

- 1) Install traveling wave board
- 2) Connect unmodulated IRIG-B signal
- 3) Connect to DFR ethernet switch
- 4) Install split core traveling wave CT
- 5) Connect traveling wave CT to traveling wave board
- 6) Add to DFR setup file

Hardware

- Traveling wave circuit board P/N: **PCBTW-1-POP-KIT**
Includes: Card, IRIG-B Jumper, BNC-T Ethernet Cable
- Traveling Wave Split Core CT P/N: **APP-00829-TW**
(with 15' twisted wire leads)



TW Circuit Board
P/N: PCBTW-1-POP

Configurations

- Add traveling wave cards & traveling wave CTs to existing APP DFR/DME data chassis that have open card slots
- Purchase an APP-601 data chassis with traveling wave cards and CTs and add to an existing APP DFR/DME
- Purchase new APP-601 DFR/DME with any combination of Analog, Event, and TW cards
- Purchase a standalone APP-601 DFR/DME in which all cards are traveling wave
- Double ended with communication or double ended no communication or single ended



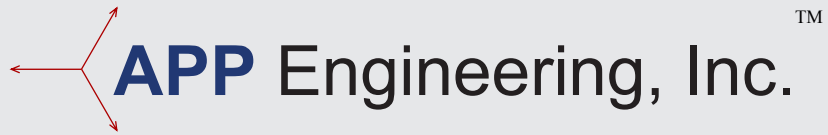
TW Split Core CT
P/N: APP00829-TW

Note

One traveling wave CT per phase or we recommend one traveling wave CT clamped around phases A, B, C then one traveling wave CT clamped around neutral (2 boards and 2 CT's per line).

Specifications

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|-----------------------------|--|
| Accuracy | < ± 200 feet |
| Features | Sampling Frequency: 1.2MHz Trigger Frequency: 120MHz Programmable Trigger Threshold |
| Interface & Comm | Viewable Record in COMTRADE Ethernet to APP DFR Switch Each TW Card IP Programmable Fully Integrable with APP DFR (DME) |
| Alarms | 8 Alarm Outputs |
| Configuration | One Channel per Board Up to 10 Boards per Data Chassis Up to 250 Boards per System |
| Environmental | Temperature: -25° to 70°C Humidity: 95% Non-Condensing |
| Warranty | 10-year on all traveling wave hardware |
| CT | 500:1 Ratio 100Hz to 1MHz Connector: via BNC |



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Specifications subject to change without notice.

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