

New Version of iTP-100 Transmission Line Relay Available

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Advanced protection, power quality monitoring, metering, communication, and PLC capabilities ideal for automation applications

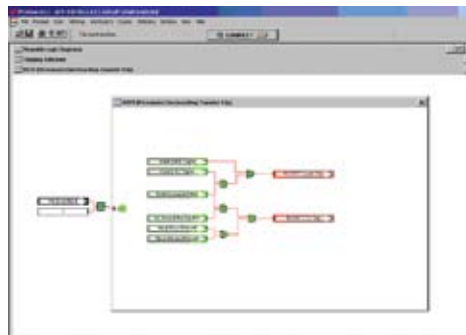
Since its introduction several years ago, the iTP-100 transmission line relay has served a niche in substations that required transmission line protection employing the flexibility of the ProView software platform. The latest version of the iTP-100 on ProView 4.0.1 software contains several hardware and software enhancements that increase the versatility of this comprehensive relay.

Enhanced Speed and Performance

The iTP-100 now features a new auxiliary I/O board that contains six high-speed solid-state output contacts, improving the total fault-clearing speed of the relay on all communication-aided protection schemes. Employing solid-state output contacts reduces the protection scheme time of operation by 7 ms. Software enhancements include the unique ability to view complex logic live in real-time and the ability to play back event files while observing the logic's behavior using any combination of relay settings. This invaluable ability to analyze and view complex logic is a powerful training and learning tool. The advanced Virtual Test Set software function allows for the simulation of out-of-step blocking and out-of-step tripping operations that normally require separate transient stability programs. In light of recent system disturbances, the ability to simulate load encroachment and relay behavior in the Virtual Test Set is a tremendous relay setting and analysis tool.

The iTP-100 is an exceptionally flexible and feature-rich relay. A partial list of traditional transmission line protection functions included in the iTP-100 includes:

- 3 forward and 1 reverse zone employing mho characteristics
- Zone 1 extension or 4th forward zone
- Directional phase, ground and negative sequence elements, both definite and inverse time
- Over/under voltage elements
- 4-shot reclosing (3-phase)
- 1 - 1.5 cycle operating time
- Synch-check with Synchroscope
- Switch-onto-fault logic
- Power Swing blocking and tripping
- Six communication-aided tripping schemes (including Permissive Underreaching Transfer Trip [PUTT] and Directional Comparison Blocking [DCB] schemes)
- Power quality, metering, control and communications capabilities addressing the needs of automation, Energy Management System (EMS) and Supervisory Control and Data Acquisition (SCADA)



Viewable logic for Permissive Overreaching Transfer Trip (POTT).

Other Enhancements

The updated release of the iTP-100 relay is designed to run in the ProView 4.0.1 application software environment. Moving up to ProView 4.0.1 allows for additional enhancements:

- Adjustable Oscillographic Event and Pre-trigger Lengths allow for flexibility when capturing events.
- Data Profiler provides tracking of transmission line power loading trends.
- Additional inverse time overcurrent curves allow easier time coordination.
- COMTRADE file export provides events for playback and manipulation by other data analysis programs.
- Front panel access to the most recent 25 SOE (sequence of events) records provides fast and convenient SOE access.
- Custom front panel LCD messages may be programmed via the Idea Workbench software functionality.

Existing iTP-100 relays may be updated with both a hardware upgrade and a software download. The hardware upgrade consists of replacing the existing auxiliary I/O board that contained eight electromechanical output contacts and eight contact inputs, with a new auxiliary board that has six high-speed solid-state output contacts and eight contact inputs. New iTP-100 relays are now also available with optional dual 10/100MBPS Ethernet ports supporting both DNP 3.0 and ProView over TCP/IP. ■