TELEPROTECTION

VALIANT COMMUNICATIONS

VALCOMM

IP/MPLS

C37.94

E1

IEC-61850 GOOSE

Overview:

VCL-TP, Teleprotection / Digital Protection Signalling Equipment / Digital Tele Protection Coupler (DTPC) is an extremely rugged product which has been designed to operate very reliably even under the most demanding conditions and environment. The VCL-TP, Teleprotection Equipment offers up to 8, 2-way independent binary command channels which can be operated selectively, in a combination, or simultaneously either over an E1 link, over an IEEE C37.94 compliant optical link, over an IP/MPLS network, or over E1 plus C37.94 interfaces.

VCL-TP, Teleprotection / Digital Protection Signalling Equipment also provides the IEC-61850 GOOSE interface option which allows the user to transmit / receive IEC-61850 GOOSE messages over an E1 link, an IEEE C37.94 compliant optical link, or over an IP/MPLS network.

Interfaces available in the VCL-TP, Teleprotection equipment include:
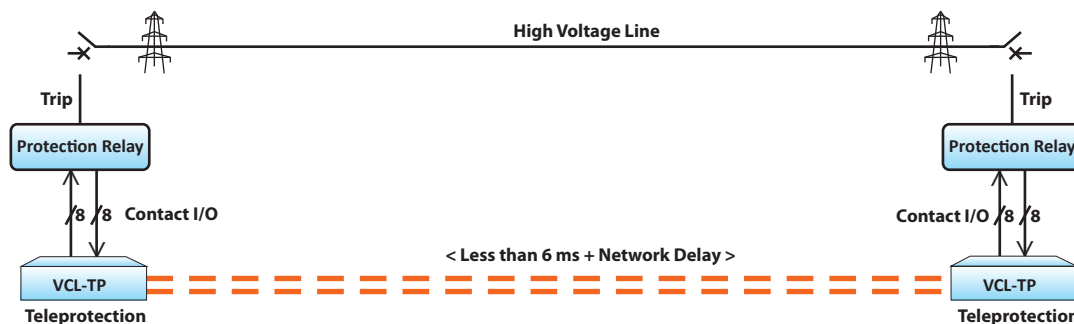
- E1, 2.048Mbps, G.703 interface for implementing Teleprotection over an E1 link
- E1, 2.048Mbps + IEEE C37.94 interfaces for implementing Teleprotection over redundant E1, 2.048Mbps + IEEE C37.94 links.
- IEEE C37.94 compliant Multi-Mode optical fiber interface for implementing Teleprotection over short-reach multi-mode optical fiber links
- IEEE C37.94 modulation compliant single-mode optical fiber interface for implementing Teleprotection over long-reach, single-mode optical fiber links (distance options of ≤ 40 KM, ≤ 80 KM, ≤ 120 KM, ≤ 150 KM, ≤ 180 KM/112 miles)
- 10/100BaseT (Electrical) / 100BaseFX (Optical) Ethernet Interfaces to provide Teleprotection over IP/MPLS networks
- IEC-61850 GOOSE interface option to transmit / receive IEC-61850 GOOSE messages to implement distance protection using IEC-61850 GOOSE messages over an E1 link, or E1 + IEEE C37.94 compliant optical links, or over a routable IP/MPLS network.

Typical Point-To-Point Application

Interface Options Supported	Command Transfer Time (including relay operating time)
E1 (2.048Mbps)	< 6ms (5ms typical)
C37.94 Optical	< 6ms
E1 (2.048 Mbps) + C37.94 Optical	< 6ms
Teleprotection over IP / MPLS	< 6ms (5ms typical)
IEC 61850 GOOSE over E1 (SDH)	< 3ms (2ms typical)
IEC 61850 GOOSE over C37.94	< 3ms (2ms typical)
IEC 61850 GOOSE over IP / MPLS	< 3ms (2ms typical)

Additional Features:

- Bi-directional transmission of 8 Binary command inputs and 8 Binary command outputs
- Meets and exceeds IEC 60834-1 Security and Reliability requirements
- Full Duplex Operation
- Automatic loop test facility checks end-to-end link integrity on a continuous basis
- IRIG-B / NTP Time Synchronization
- Power Options: 48V DC, 110V DC, 220V DC, 250V DC.

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