CTP-1

Teleprotection System

Operates over analog or digital channels

- Small-sized

- Up to four teleprotection commands

- IRIG-B port for GPS time synchronization

CTP-1

Key features:

- Small-sized design

- Extremely high security and dependability

- Operates over analog or digital channels

- 2-command and 4-command versions

- Intended for blocking, direct tripping and permissive tripping schemes as well as telesignalling

Description

CTP-1 technology

The CTP-1 is ZIV communications DIMAT's answer to the ever increasing demand for small-sized terminals for power utilities.

The non-linear detection process used for the analog channel as well as the frame format used for the digital channel, guarantee security, dependability and transmission time values that meet or exceed the requirements of IEC 60834-1.

Product overview

The CTP-1 is a small-sized terminal easily adaptable to any teleprotection requirement. Up to 4 commands can be transmitted over digital or analog channels. The digital-channel line interface can be electrical (G.703, V.11 and V.35) or optical. The analog-channel line interface can be used in any 4 kHz channel as, for example, Power-Line Carrier links over high-voltage lines, telephone cables, radio links, etc.

The CTP-1 terminals are intended for blocking, direct tripping and permissive tripping schemes, obtaining in each case an excellent combination of security, dependability and transmission time.

CTP-1 terminals register all alarms and events that take place in the teleprotection link. These alarms and events are time and date stamped thanks to a real-time clock with the possibility of GPS synchronization by means of an IRIG-B interface. This chronological register has 1 ms resolution.

As an option, the CTP-1 terminals can also include transmitted and received command counters on the front plate, as well as cabinet-mounted terminal blocks.

Management system

The CTP-1 terminal has a local management system based on a Web interface.

CTP-1 terminals can be fully programmed, monitored and managed from a PC connected to the terminal via USB. The user interface is based on Web technology and the required PC software is supplied with the terminals.

MBCT.## - Protection interface

Optical-fiber line interface (MOCT.## Protection interface module required)

KACT Analog-channel line interface
or
KECT Electrical digital-channel line interface at 64 kbit/s
or
KDCT Electrical digital-channel line interface at 2 Mbit/s

PSCT - Power supply   **MPCT** - Processing module
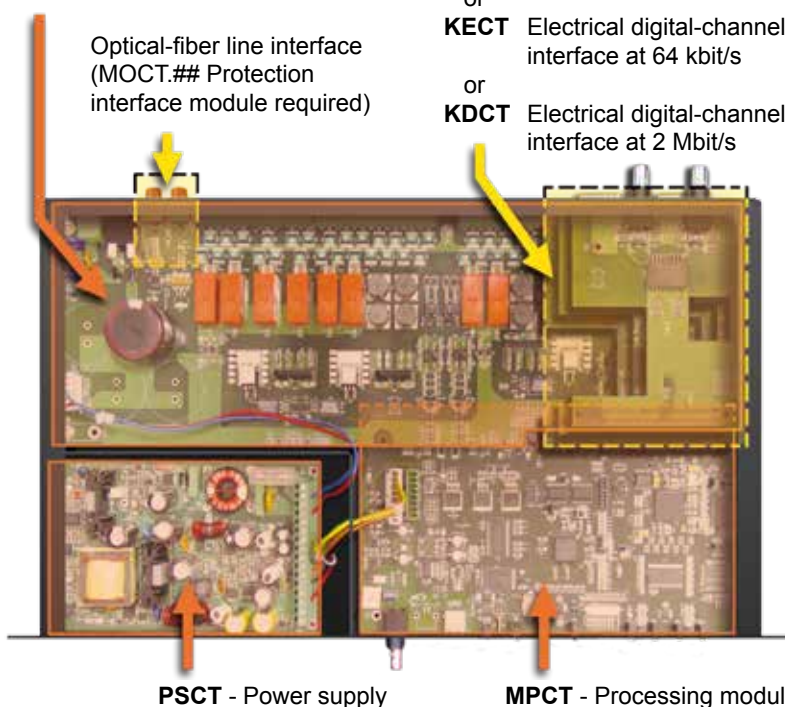
- It is NOT possible to have an optical interface and a line-interface submodule at the same time.

Technical specifications

Application	Transmission of teleprotection commands for electrical high-frequency line protection for the following schemes: Blocking, Direct tripping and Permisive tripping. Telesignalling.
Communication channel	Analog or digital with electric or optic interface
Capacity	From 1 to 4 commands
Nominal transmission time	
Over digital channels	
Transm. speed of 64 kbit/s	From 2.1 ms to 15.66 ms
Transm. speed of 2 Mbit/s (1 slot)	From 2.1 ms to 7.8 ms
Over analog channels	Programmable among 7 ms, 15 ms and 25 ms
Security and dependability	According to IEC 60834-1 standard
Line interfaces	
Digital	64 kbit/s (G.703 codirectional , V.35 or V.11) E1/T1 (G.703) 64 kbit/s (single mode, 1300 nm, FO 9/125 μm)
Analog	
Nominal impedance	600 Ω
Return loss	> 20 dB
Transmit level	Programmable between -30 dBm and 0 dBm
Power boosting	Programmable between 0 dB and +6 dB
Receiver sensitivity	Programmable between -40 dBm and 0 dBm
Command inputs	Optocoupled
Number of inputs	2 or 4 depending on the model
Nominal operating voltage	Selectable among 24 V_{DC}, 48 V_{DC}, 110 V_{DC} and 220 V_{DC}
Command outputs	Solid-state relay (semiconductor)
Number of outputs	2 or 4 depending on the model
Maximum current	Permanent: 2 A (3 A for a maximum of 20 s)
Maximum voltage	300 V_{DC}
Power supply	48 V_{DC} Others on request
Consumption	15 W
Dimensions	Height: 88 mm; Width: 482 mm (19"); Depth: 271 mm
Weight	5 kg
Operating conditions	
Temperature and humidity	From -5 °C to +45 °C and relative humidity not greater than 95%, in accordance with IEC 721-3-3 class 3K5 (climatogram 3K5)
Storage conditions	In accordance with IEC 721-3-1, class 1k5
Standards	Complies with IEC 60834-1, IEC 61000-6-2, ANSI C37.90.1 and ANSI C37.90.2
Management computer	
Type	Compatible personal computer (PC) with Pentium III 350 MHz processor or higher
Operating system	Microsoft Windows 2000 or Microsoft Windows XP
Web browser	Microsoft Internet Explorer v 5.5 or higher
JAVA virtual machine	Sun Microsystems version 1.6 or higher
Local management (Web interface)	USB

Key features:

- IRIG-B port for GPS time synchronization

- Fully programmable

- Chronological register (alarms and events) with 1 ms resolution

- Option for front-plate transmitted/received command counters

For other functionality or technical characteristics, please contact ZIV communications DIMAT

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