

DEWAR



DM1200 Teleprotection Terminal SERIES Digital G703 and Optical C37.94



Major Features

- All pilot schemes
- Password security to three levels
- On board or remote programming
- Three default digital settings
- Continuous automatic self-test
- G703 and C37.94
- Three N/O command contacts per trip I/O
- Each command configured independently
- Up to 16 common alarm relays
- Time stamp of command and alarm
- Sequence of events download capability
- Terminal to terminal remote ID
- Remote asset management ID
- Fully operator security & dependability settable
- Default setup tables fast response (blocking), medium security and response (permissive under reach/overreach) and high security (inter-tripping)
- LOS and Yellow Alarm LEDs for C37.94 processor cards

Overview

Designed and manufactured in Australia the DM1200 meets the International Standard IEC60834-1 for Teleprotection equipment of power systems performance and testing. The use of leading edge technology has resulted in a simple low cost construction with minimum component count leading to enhanced reliability, security and dependability. Through a menu driven LCD and software control, there are three levels of password entry that allows selected operators full set up and supervision over the terminal parameters without resort to extender boards, trimpot adjustments or the need for add on instruments programmers or compilers. To facilitate quick setups, built in default setup tables can be used for fast response (blocking), medium security and response (permissive under-reach/over-reach) and high security (inter-tripping) applications.

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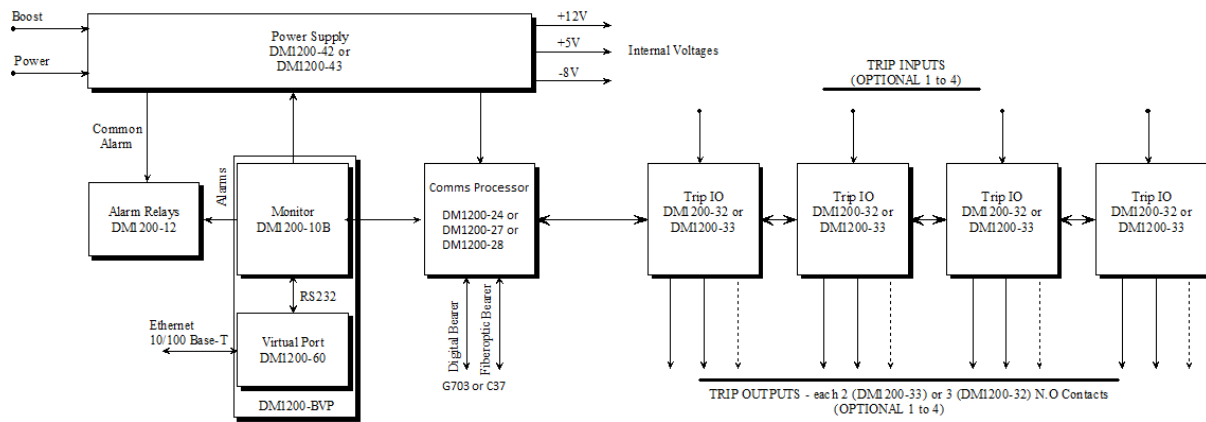
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Terminal Components



Standard Terminal

The 19", 3U high terminal houses circuit cards and the monitor module that comprise the DEWAR DM1200 terminal. All wirings, to the rear terminals, are fitted with supplied mating connectors. This allows pre-wiring prior to actual installation of the terminal. All active components are mounted on keyed circuit cards that are accessible from the front of the terminal. This simplifies both installation and maintenance.

Power Supply

This module isolates the user's communication battery from the system's internal rails to 5KV. It contains the 'common alarm' relay isolated to 5KV and is optionally available for 20 to 60 VDC and 90 to 320 VDC applications. In-rush protection and ripple filtering ensure minimum disturbance to the user's battery supply.



G703 Digital Processor

These modules perform the real time tasks required by the system for 64kbps G703 and N times 64kbps C37.94.

The tasks include:

- G703 communicates with remote terminal;
 - Co-directional (4 wire) /Contra directional (8 wire)
- C37.94 communicates with remote terminal;
 - Two optical fibres (for Tx and Rx)
- Debounce the trip-input signal from the field
- Validity tests on received signal from the remote terminal
- Timed extensions on the trip command
- Self-testing of the command IO hardware
- Provide a supervisory data path for monitor to monitor communication

Trip I/O.

This module provides 5kV isolation barrier between the command field wiring and rest of the system. The command input voltage is selected by the user for command battery voltages between 24V and 240V.

Three sets of command output 'N/O contacts' are provided. Dual path circuitry for both input and output are provided to ensure that a component failure cannot result in a false trip. Up to four trip I/O cards may be fitted to the terminal for G703 and C37.94 communication. There are five programmable timing functions associated with each trip command.



Monitor Module.

The monitor module provides user interface to the terminal and provides alarm reporting, monitoring and configuration facilities. To facilitate ease of setup, built in default setup tables can be used for fast response (blocking), medium security and response (permissive under-reach/overreach) and high security (inter-tripping) applications. The operator interface consists of a back-lit LCD display menu and membrane keypad switches. Terminal configuration is achieved by interfacing with the display menus and setting required parameters. Attention is drawn to alarm or command activity by the flashing of the display backlight. The monitor module utilizes one or two relay cards, providing a maximum of 16 single changeover contacts, for the external signalling of alarm activity.

Typical Menu Information Available

Supervisory Functions

- Local terminal status
- Remote terminal status
- Identity checking
- Power supply checking
- Alarm processing
- Alarm relay control
- Set-up menus
- History of command and alarm event
- LAN between local terminals

Communication Mode

- Identification of Processor utilized
- Co or contra-directional over G703
- Master / slave over G703
- Internal / recovered clock over C37.94
- Local loop back for testing
- Violation / No violation over G703 setting

Trip IO Timing

- Debounce 0 to 99ms
- Input extend 0 to 990ms
- Output extend 0 to 990ms
- Cut-off time 0 to 200s
- Hold-off time 0 to 200s

Trip I/O

- Cards fitted, circuits used, series contact settings

Security level

- G703 and C37.94 - count of valid frames

Trip IO Timing

- Input debounce, input and output extend times, forced cut-off time, hold-off time

Alarms

- Allocation of relays, on-set time delay, latching or non-latching action, relay alarm state
- Common alarm control
- All or specific counters

Manual Trip Test

- Request permission, grant permission, select trip circuit

Password Control

- Three levels of access available