

DEWAR



SERIES DM1200 Teleprotection Terminal Voice Frequency / Digital G703, RS422



MAJOR FEATURES

- All Pilot Schemes
- Password security to three levels
- On board or remote programming.
- Three default digital settings
- Continuous automatic self test.
- G703, RS422. Voice frequency.
- 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.
- Three N/O command contacts per trip I/O.
- Sequence of events down load 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)

OVERVIEW

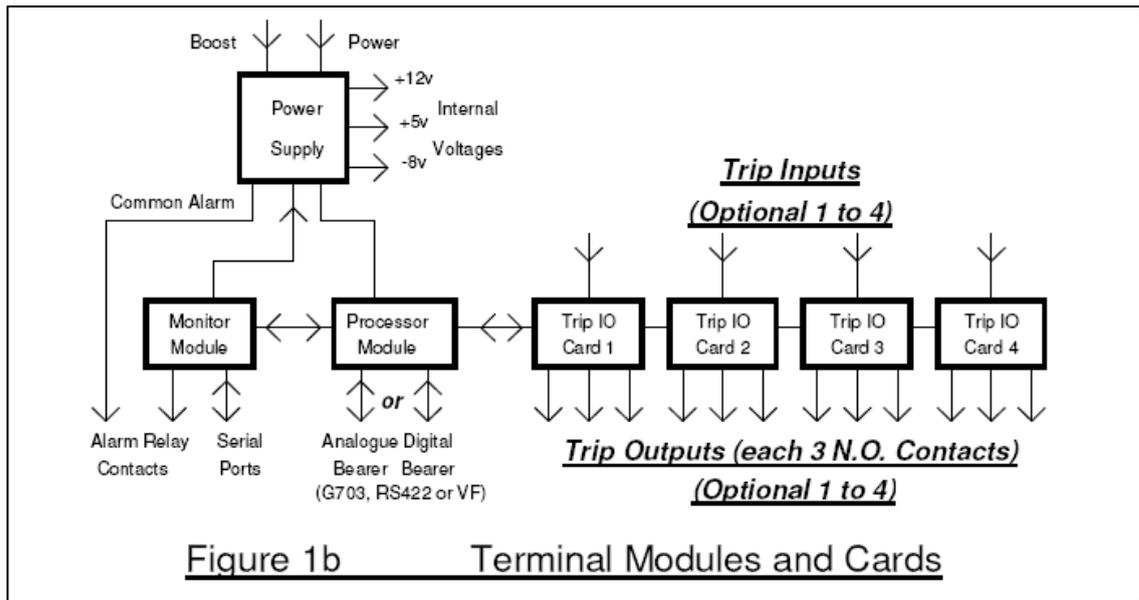
Designed and manufactured in Australia the DM1200 meets the International Standard IEC60834-1 for Teleprotection equipment of power systems performance and testing. The use of leading edged technology has resulted in a simple low cost construction with minimum component count leading to enhanced reliability, 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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Terminal Components



Standard Terminal.

The 19", 3U high terminal houses circuit cards and the Monitor module that comprise the DEWAR DM1200 terminal. All wiring is to the rear terminals which 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. Inrush protection and ripple filtering ensure minimum disturbance to the user's battery supply.



G703 Digital Processor RS422 Digital Processor

These modules perform the real time tasks required by the system for 64kB G703 and RS422 for 9 kB to 80 kB communications.

The tasks include:

- G703 Communicates with remote terminal. Co-directional (4 wire) /Contra directional (8 wire).
- RS422 communicates with remote terminal (8 wire)
- 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.
- RS422 transmitter and receiver communications logging.

Voice Frequency Analogue (Tones) Processor.

This module performs the real time tasks required by the system for VF communication. It uses a microprocessor and switched capacitor filter technology. The tasks include:

- two FSK transmitters and two FSK receivers.
- communications with remote terminal.
- Debounce the trip input signal from the field.
- frequency analysis on the received signal from the remote terminal.
- timing functions related to noise and command security.
- timed extensions on the trip command.
- self testing of the command hardware.
- provide supervisory data for monitor to monitor communication.
- Provide Loss of Guard (LoG) detection.

Trip I/O.

This module provides 5000 volt 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 RS422 communication and up to two trip IO cards fitted for VF communications. There are five programmable timing functions associated with each trip command



Monitor Module.

The Monitor 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 back light. The Monitor Module utilizes one or two relay cards, providing a maximum of 16 single changeover contacts, for the external signaling 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,
- trip and guard frequencies over VF link,
- Co or contra-directional over G703 link,
- master / slave over G703 and RS422 link,
- Clock inversions over RS422 link.
- Local loop back for testing.
- Violation / No violation over G703 setting

Trip IO Timing

- Debounce: 0 to 99 msec
- Input extend: 0 to 990 msec.
- Output extend: 0 to 990 msec
- Cut-off time: 0 to 200 sec.
- Hold-off time: 0 to 200 sec

Trip I/O

- Cards fitted, circuits used, series contact settings.

Security level

- G703 and RS422. Count of valid frames.
- Voice Frequency (Tone) Qualifying time, inhibit onset time, correlation time and inhibit extend time.
- Voice Frequency (Tone) Transmitter input and receiver output options.

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