



THE DRIVING FORCE BEHIND POWERFUL IDEAS

MULTIFUNCTION TFT LCD DISPLAY



MEDHATM Servo Drives Pvt. Ltd., established in 1984 is an R&D focussed company dedicated to railway products. Over last 25 years, MEDHA's inhouse design teams have developed various world class hi-tech products and systems for application in Locomotives, Coaches and Stations/ Yards. MEDHA's state of art Design Centre and Manufacturing facilities employs over 900 people who are constantly striving to apply latest technologies to create innovative products in wide range of fields like Control Electronics, Power Electronics, Electro-mechanical systems and Signaling Systems. All new developments and modifications go through stringent testing, validation and verification of both hardware and software, many times going beyond customer specification requirements.

MEDHA has well equipped manufacturing facilities that are **ISO 9001:2000** certified by American Quality Assessors (accredited by **ANAB**). Facilities include automated assembly of Surface Mounted Devices on PCBs, CNC machines, various test equipment and custom test jigs for in process and final inspection of all manufactured goods. MEDHA supplies products for Locomotives including IGBT based AC Traction Control Systems for Diesel Locomotives, various models of microprocessor based Locomotive Control Systems including control panel and electricals for Diesel and Electric locomotives, microprocessor based Governors, 180 kVA 3 phase Static Converters for Electric Locomotives, Speed and Event recorders, TFT LCD Driver Display screens, End of Train Telemetry, etc. For signaling applications, MEDHA has developed Electronic Interlocking system and Integrated Signaling Power Supplies. For coaches, MEDHA supplies various models of underslung naturally cooled inverters ranging from 2.5 kVA to 50 kVA.

F E A T U R E S

- Multi functional TFT Driver Display
- Suitable for Harsh Railway Environment
- Low Power Fanless AMD GEODE Processor based design
- Can communicate with 2 different systems using Serial RS232 or RS485 communication interfaces
- Automatic and Manual Brightness Control
- No Moving parts, Flash Memory for BIOS and Program Memory upto 8 GB
- Integrated Graphics Controller
- Vandal resistant keyboard design
- Touch screen interface option available
- 800 x 600 pixel resolution
- Available with 24V, 72V and 110V DC power supply voltage
- 2 USB connectors for memory, keyboard, mouse, etc interfaces
- 10.4" and 12.1" screen sizes



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Application

Driver's display console for Locomotives / EMUs / Metro Cars for showing running data (status information), historical data (Event / Fault logs), maintenance related data and for data entry.

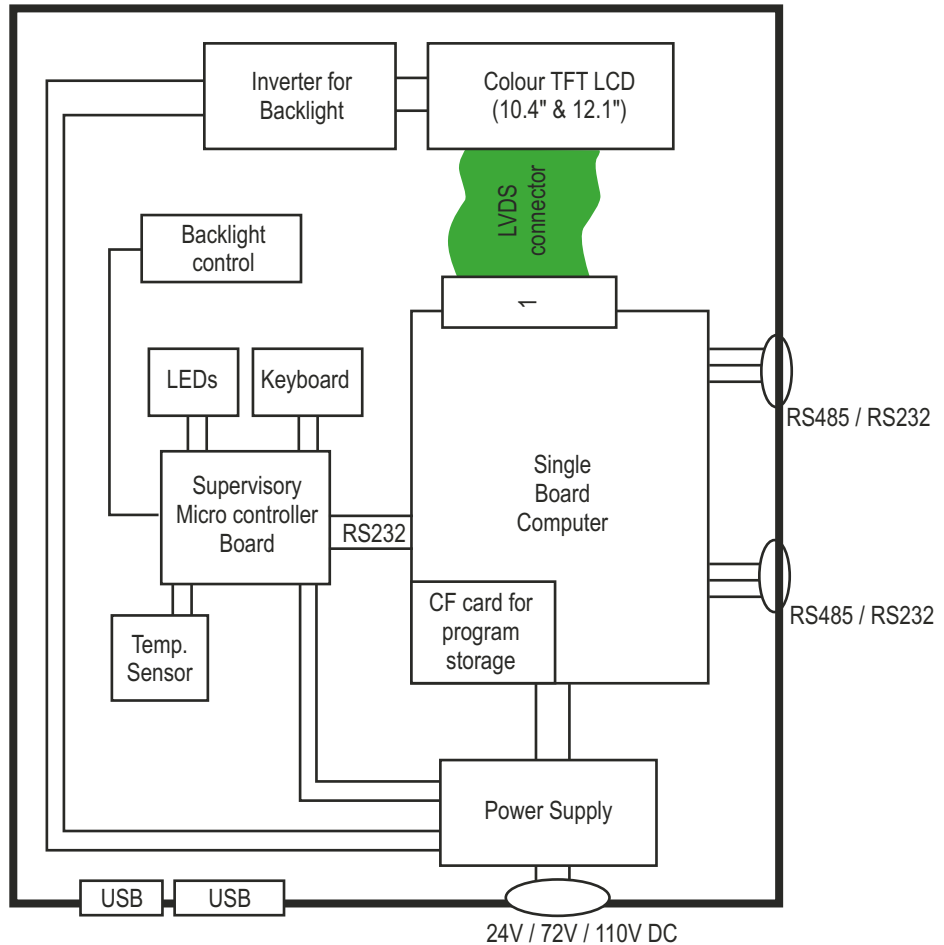
Operating Principle

The Multifunction TFT LCD Display is used in Locomotives as Man Machine Interface for guiding the operator to control the Locomotive. It communicates with the Locomotive Control System by either RS232 or RS485 link. It displays the data sent by the Locomotive Control System in graphical as well as text format.

The data received from the Locomotive Control System can be displayed in graphical form as circular or linear dials, or as a simple text. Status information can be shown in the form of status icons or coloured boxes or buttons. The overall layout of the display screen can be programmed as per customer requirement. Fault messages, maintenance remedy messages and any other relevant information is displayed in specified display areas in simple text format. Data input for operator or maintenance configuration related parameters can be done through keypad provided or through touch screen when available.

The Display can communicate with 2 different systems on serial link and process the combined data for displaying simultaneously.

The display screens are programmable and the layout, language etc of display screen can be customized to suit various locomotive model and geographical locations.



Block Diagram of Multifunction TFT LCD Display

Technical Specifications	
Operating Supply Voltage	: 24 / 72 / 110 V DC, others on request
Communication Port	: RS 232 / RS 485 , galvanically isolated
Display	Backlit TFT LCD display with brightness control, 800 X 600 pixel resolution 10.4" and 12.1" size 400 cd/m ² brightness. Higher brightness available on request
LED indications	: Display ON/OFF, over temperature and health status
Memory size	: Flash memory 1 GB standard, upto 8 GB optional
Processor	: Low power fan-less AMD GEODE