DragonTech
VISION • INNOVATION • CREATION

DG-DRM48

48” Ultra-Wide Screen Dynamic Route Map System

GENERAL FEATURES

- Ultra Wide 48,4” 16:3 aspect ratio display
- LED backlight with SW control
- Resolution 1920 x 358
- Brightness 1600nits, contrast 6000:1
- Internal 802.11 Access Point and GBIT LAN
- MVB and Serial RS-485 for TCMS interface
- Low power i.MX6 processor
- Advanced Display management SW
- Full qualifications for railway use
- 1500V Isolated Railway class power supply with 110VDC or 24VDC Input

DESCRIPTION

Purpose built **- The DG-DRM48 PIS display architecture, functionality, enclosure, connectors and structure is designed for high availability and 24/7 operating railway applications.**

Resistant **– DG-DRM48 is designed to withstand the mechanical, electrical and environmental stress encountered in extreme rolling stock installations.**

Wide temperature range **- A wide operating temperature range ensures reliable continuous operation from 0~ +55°C. The system is completely fanless, and features an intelligent internal temperature monitoring and thermal protection system.**

Thermal design **– The conduction cooling of the isolated power supply increases operational reliability and guarantees the wide operating temperature range. The DRM48 display integrates a single core 1GHz i.MX6 processor with Dragontech’s embedded Linux display and content management software.**

Compliance **- The DRM48 display is compliant with:**

- **EN50155, EN50121 (vehicle and bus installations)**
- **EN61373 (Shock and vibration)**
- **IP54 (front face) according to IEC 60529 – IP40 for rear enclosure and connectors**

Connectivity **- Comprehensive set of connectivity options**

- **MVB Interface – EMD and ESD (Duagon)**
- **802.11 b/g/n WiFi**
- **10/100/1000MBit Ethernet, RS-485, CAN**

Functionality **– The Dynamic Route Map and PIS Display does not require a host coach computer, it works with minimal system overhead due to its completely autonomous operation in the management of display and route map, rich media content and advertising. It is designed to connect to onboard TCMS systems to receive information for display control. Wiring is simplified and installation in modernization and upgrade programs is made easy.**

DG-DRM48 is a rugged purpose-built uncompromising fully integrated stand-alone Dynamic Route Map System for various transportation applications which require high service availability and easy integration with other onboard systems. The DRM48 features an internal i.MX6 display management processor with turn-key firmware to autonomously manage static, changing image or video content on the display. Dynamically updated Route Map information can be combined with station, status and advertising content.

System integration is simplified with a rich set of wireless interfaces including MVB, Serial RS-485, CAN and GBIT Ethernet. The internal 802.11n WiFi can be used for updating content. Interfaces can be engineered to directly interface with TCMS containing information which the system uses to control the content and operation of the DRMS. No host computer, complex wiring, nor video signal splitters are needed thus simplifying installation and maintenance and improving solution robustness.

Hardware description

Integration and functionality are optimally balanced in the **DG-DRM48** dynamic route map display. A high brightness and contrast LCD display supports full HD resolution. The internal 1GHz i.MX6 system control processor manages all the display’s functionality including safe power on-off, temperature monitoring and event logging as well as interfacing to other onboard systems. A proven isolated railway class power supply can accept nominal 110VDC or optionally 24VDC train power feeder input. Since no external DVI or HDMI cables or video splitters are needed, wiring and maintenance is simplified and reliability increased.

Future Proof

Our design approach reduces lifecycle costs and migration challenges. The technology of the **DG-DRM48** is based on commercial standards using Industrial-Grade components and design principles leveraging 10+ years or paradigm experience in railway systems design. As system requirements may change, the open source Linux firmware can be updated to support future needs.

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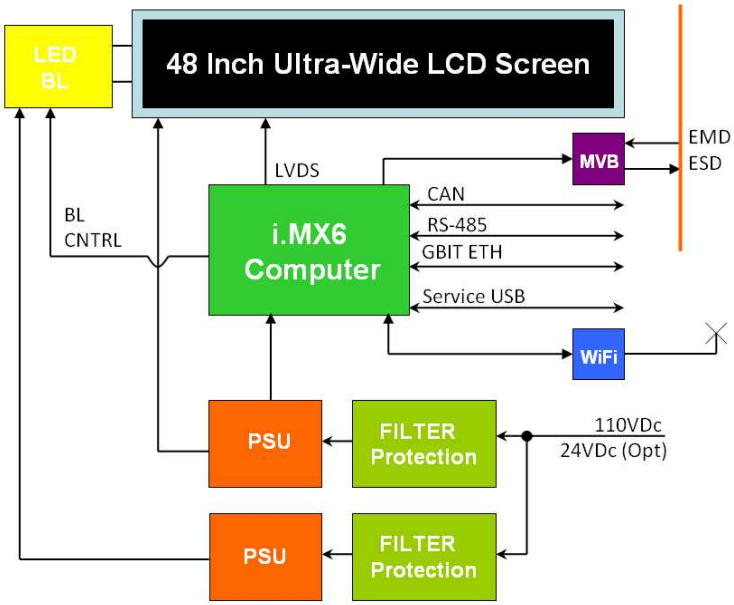
Block Diagram:



Technical Specifications	
Power Supply	110VDC nominal 66-160VDc 1500VDC Isolation Conduction cooling, Railway-Class input protection and filtering
Power Consumption	Max. 85W with full brightness
Environmental	-0°C to +55°C operating -20°C to +70°C storage
Ingress Protection	IP54 front face, IP40 rear side
Electrical Safety	IEC60950
Interfaces	MVB (EMD and ESD) RS-485, CAN 2.0 10/100/1000Mbit Ethernet 802.11b/g/n WiFi
Display	48,4”, 1920 x 358 pixel resolution, active viewing area 1209.6 (H) x 225.5 (V) 1600nit brightness, 8000:1 contrast LED backlight with full SW control Over temperature shutdown
System	Low power i.MX6 control processor Linux OS with advanced display operation and content management firmware Event logging and reporting Protection for safe operation, power-on and –off Support for Customization of System Software
Connectors	External connectors: - 10/100/1000Mbit Ethernet - MVB , RS-485 and CAN Optional - Power Input - USB under service panel
Mechanical	1247,5(W) x 268(H) x 66.6(D), Weight 11 kg, Open Frame Chassis