DLOGIC™

Smart Display Module® 9-inch

Model: DL-DM900x

- ◆ Appliances & Vending
- ◆ Control & Monitoring
- ◆ Marine & Trucking
- ◆ Laboratory Equipment
- ◆ Food Processing
- ◆ Healthcare & Medical
- ◆ Harsh Environment

The most comprehensive all-in-one touch display solution on the market

Our Smart Display Modules (SDMs) are slim attractive all-in-one touch display computers ready for use in your application. The SDMs are designed for rapid implementation into industrial equipment, appliances, vending machines, monitoring equipment or other applications.

The SDM consists of a color display, a projected capacitive touch screen and an embedded computer mounted into an aluminium frame and wrapped in a robust stainless steel housing. SDMs come with many standard interfaces and are configured with Linux ready for loading and running your applications. SDMs provide a cost effective and fast track to equip your product with state of the art touch based user interfaces and enhanced embedded computing power.
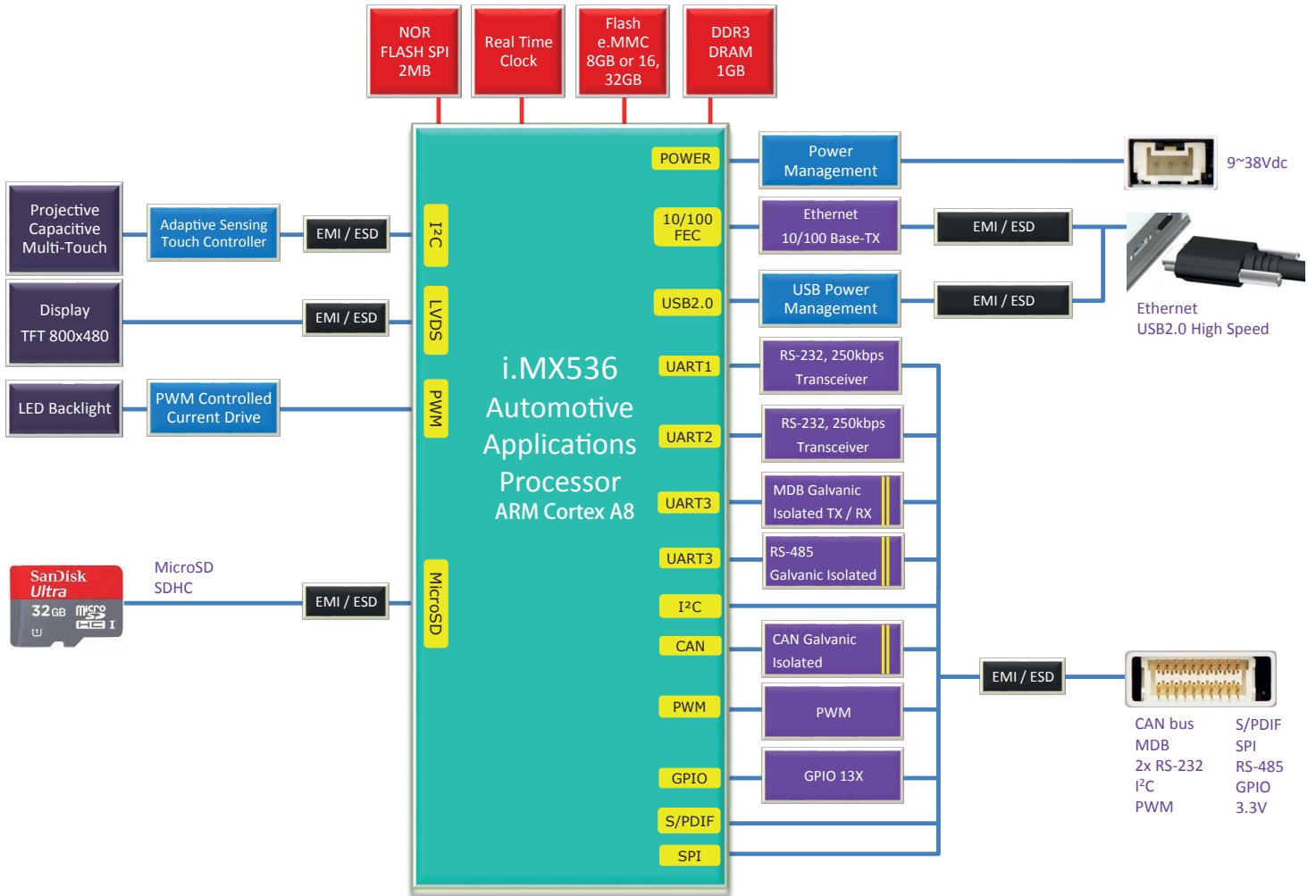
- Industrial strength, reliable, production ready hardware.
- Fast time to market, easy integration and low development risk.
- Guaranteed 7 years supply.

Key Features

- Display Module with touch screen, color display and ARM-based computer ready for integration in custom applications.
- Aluminium Frame with stainless steel backpanel.
- Projected capacitive multi-touch or resistive single-touch screen.
- TFT LCD display with LED backlight in different sizes, viewing modes & resolutions.
- A range of high reliability standard interfaces.
- Software Board Support Package included, ready for application development.
- Standard and tailored mechanical mounting and integration solutions.
- Simple addition of custom interface extensions.
- Optional optically bonded 4mm safety glass solutions available.
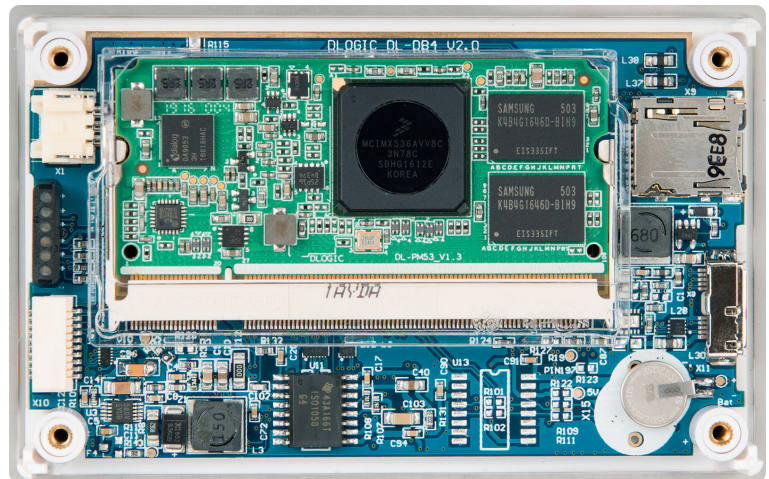- Supported by a highly skilled engineering team.

Block Diagram

NOR FLASH SPI 2MB

Real Time Clock

Flash e.MMC 8GB or 16, 32GB

DDR3 DRAM 1GB

i.MX536 Automotive Applications Processor ARM Cortex A8

Projective Capacitive Multi-Touch → Adaptive Sensing Touch Controller → EMI / ESD → I²C

Display TFT 800x480 → EMI / ESD → LVDS

LED Backlight → PWM Controlled Current Drive → PWM

MicroSD SDHC → EMI / ESD → MicroSD

POWER → Power Management → 9~38Vdc

10/100 FEC → Ethernet 10/100 Base-TX → EMI / ESD → Ethernet USB2.0 High Speed

USB2.0 → USB Power Management → EMI / ESD

UART1 → RS-232, 250kbps Transceiver

UART2 → RS-232, 250kbps Transceiver

UART3 → MDB Galvanic Isolated TX / RX

UART3 → RS-485 Galvanic Isolated

I²C

CAN → CAN Galvanic Isolated

PWM → PWM → EMI / ESD

GPIO → GPIO 13X

S/PDIF

SPI
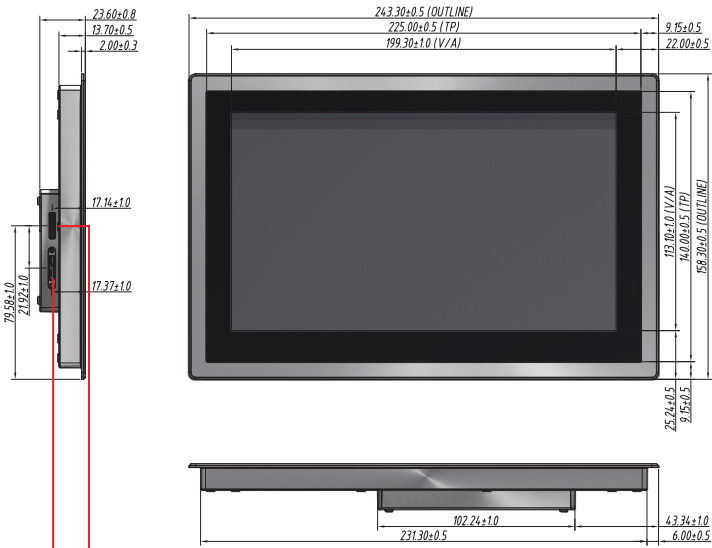
CAN bus
MDB
2x RS-232
I²C
PWM

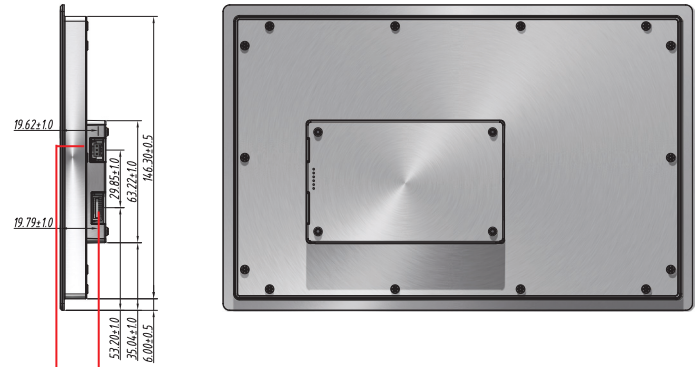S/PDIF
SPI
RS-485
GPIO
3.3V

DL-DM900x

- Aluminium Mounting Frame
- Optional Stainless Steel Frame (S31600)
- Stainless steel protective housing
- 9" TFT LCD 800x480 with LED backlight
  - Brightness (incl. touch): 550 cd/m²
  - Ultra-wide viewing angle
- Projected Capacitive multi-touch screen
  - Moisture Water Compensation
  - Glove Support
- Landscape or Portrait Orientation
- NXP / Freescale Automotive i.MX536 A8 - Cortex
- 1GB DDR3 SDRAM (Industrial)
- 8GB e.MMC (Industrial)
- Battery backed real time clock (200 days)
- Standard interfaces:
  Ethernet, USB, 2x RS-232, I²C, Isolated CAN, Isolated MDB,
  Isolated RS-485, PWMs, GPIOs, MicroSD, S/PDIF, SPI
- Optional optically bonded 4mm safety glass
- Fully functional board support package (BSP)
  - Debian Linux including access to all standard packages
  - Driver support for all interfaces
  - GPU hardware accelerated graphics support
  - VPU hardware video encoding/decoding support
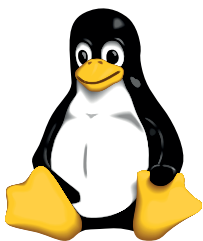 - QT5 GUI application development support

- Ready to go Debian Linux virtual machine (VM) application development environment
  - Cross compile tools
  - QT5 with Integrated Development Environment
  - Demo applications with source code
  - DM remote boot options support

Mechanical Drawing Labels

23.60±0.8
13.70±0.5
2.00±0.3

243.30±0.5 (OUTLINE)
225.00±0.5 (TP)
199.30±1.0 (V/A)

9.15±0.5
22.00±0.5

17.14±1.0

17.37±1.0

79.58±1.0
21.92±1.0

113.10±1.0 (V/A)
140.00±0.5 (TP)
158.30±0.5 (OUTLINE)

25.24±0.5
9.15±0.5

19.62±1.0

29.85±1.0
63.72±1.0
146.30±0.5

19.79±1.0

53.20±1.0
35.04±1.0
6.00±0.5

102.24±1.0
231.30±0.5

43.34±1.0
6.00±0.5

Micro SDHC
Screwlocked connector
Ethermet/USB

Secure locking connector
RS-232/RS-485/I²C/CAN/MDB/SPI/PWM/GPIOs/SPDIF/3.3V

Secure locking connector 9~38Vdc

Energy Efficient Solutions
by Freescale ™

NXP

Display Size	
Size	9 inch
Type	LCD TFT, Ultra-wide viewing
Mode	Transmissive
Resolution	800 x 480 pixels
Backlight	550 cd/m² (incl. touch screen)
Colors	24-bit RGB
Orientation	Landscape or Portrait
Touch Screen	
Type	Projected Capacitive [Option Resistive]
Touch	Multitouch (Water, Glove support)
CPU	
Type	NXP / Freescale i.MX536 ARM Cortex A8 (Automotive)
Clock/Frequency	800 MHz
Memory	
SDRAM	1 GB DDR3 (Industrial)
FLASH	8GB e.MMC Flash [Option:16, 32GB] (Industrial)
SPI NOR Boot FLASH	2 MB (Industrial)
MicroSD	SDHC
Features	
Real Time Clock	Battery backed Real Time Clock (min. 200 days)
Interfaces	
Network	1x 10/100 MBit/s Ethernet (IEEE 1588)
Asynchronous Serial Interfaces	3x RS-232
Synchronous Serial Interface	1x I²C (400 Kbit/s) [Configurable]
USB	1x USB 2.0 Hi-Speed OTG
CAN	1x CAN 2.0B Galvanic Isolated
MDB	1x MDB Galvanic Isolated [HW Option]
SPI	1x SPI [HW Option]
PWM	1x PWM, 12-bit, 125kHz [Configurable]
RS-485	1x RS-485 Galvanic Isolated [HW Option]
GPIOs	Up to 13x GPIOs [Configurable]
Digital Audio	1x S/PDIF Out
Software	
Linux	Debian [access to all std packages]
Application Environment	QT5
Mechanical	
Frame	Aluminium Frame [Option: Stainless Steel Frame S31600]
Backplate	Stainless steel
Cover Glass	1.1mm Chemically Strengthened Glass [Option: 4mm Safety Glass UL751]
Power	
Supply & Consumption	12V, 0.5A, 6W [9Vdc ~ 38Vdc]
Environmental Conditions	
Storage Temp	-30 ~ +80°C
Operating Temp	-20 ~ +70°C
Relative Humidity	95 % (non condensating)
Device Dimensions	
Height x Width x Depth	243.3 x 158.3 x 23.6 mm
Weight (g)	860g

Need a custom solution?

101458 Integrated Safety Glass, front mount

101442 Protruded Safety Glass, rear mount

The Smart Display Module hardware and software is optimized for quick adaptation and customization to specific product requirements. When a standard SDM will not do our engineering team is at your service to provide customized SDM solutions tailored for your application's needs. When engineering is completed we manufacture and assemble your SDM version to the developed custom specifications. Typical customizations include special mechanical integration adaptations and mounting solutions, display alterations (type, size, resolution, backlight intensity, viewing angle), additional external interfaces, software board support enhancements (drivers, protocols, libraries) and software application development including graphical user interface design.

To support your selection, adaptation and integration of an SDM in your solutions we provide a range of support services including:

- **SDM selection**
  We provide an evaluation kit including the DL-DM900x SDM with demo applications and development tools.

- **SDM customization**
  We provide specialist engineering resources to adapt / customize the SDM to satisfy your application requirements.
  Our development services include mechanical and electronics engineering, and software systems and applications development.

- **SDM manufacturing & support**
  We provide cost efficient high quality manufacturing services and support during your entire product lifecycle. Our factory is specialized in industrial and robotics product manufacturing and is certified for ISO9001, QS9000, ISO14000, ISO14001, OHSAS18000, UL, TUV and TS16949-1/2.

Order Information

Part No.	Description
101074	DEVELOPMENT KIT DISPLAY MODULE DL-DM900x ALU FRAME TFT 9.0" UWAT 550cd/m² CAP TOUCH FRONT MOUNT
101072	PRODUCT DISPLAY MODULE DL-DM900x ALU FRAME TFT 9.0" UWAT 550cd/m² CAP TOUCH FRONT MOUNT
101458	PRODUCT DISPLAY MODULE DL-DM900x ALU FRAME INTEGRATED SAFETY GLASS TFT 9.0" UWAT 550cd/m² CAP TOUCH FRONT MOUNT
101442	PRODUCT DISPLAY MODULE DL-DM900x ALU FRAME PROTRUDED SAFETY GLASS TFT 9.0" UWAT 550cd/m² CAP TOUCH REAR MOUNT
101452	PRODUCT DISPLAY MODULE DL-DM900x S316 STAINLESS STEEL FRAME TFT 9.0" UWAT 550cd/m² CAP TOUCH FRONT MOUNT

Rear Mount Frame with
4mm UL751 Safety Glass

For further information:

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