Advanced Telematics Display Module (ATDM)

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Andromeda's Advanced Telematics Display Module (ATDM) marks a significant leap forward in-vehicle telematics, delivering outstanding performance and dependability in a sleek design. The ATDM is crafted for seamless integration and customization across various remote applications that demand high-level data communication and enhanced display capabilities.

Notably lightweight, it comes with an IP65 rating, offering robust protection against dust and water. In addition to featuring CAN 2.0B communications with CANFD as an advanced extension for higher data rates, the ATDM is also equipped with GPS capabilities, WiFi, and LTE data communications, ensuring wide-ranging and reliable connectivity. With a 10.1" touch capacitive screen, the ATDM is perfectly suited for various human-machine interface (HMI) applications. With these comprehensive features, Andromeda's ATDM establishes itself as a leading solution in telematics technology, ready for deployment in numerous challenging environments.

Industries

Off-Highway | Defense | Marine | Automotive | Agriculture, Construction, and Mining | Energy Storage Systems

Features

- Display Size: Diagonal 10.1", Active area 152.4(H) x 91.4(V) mm
- Display Resolution: 1280 x 800 WXGA
- Support Color: 16.7 million colors
- Brightness: 850 cd/m^2
- Touch Mode: PCAP Multi-Touch
- Input Voltage: +12V/24V DC Nominal, +7-27V absolute with limiting and reverse polarity protection
- Processing & Graphics: Toradex Verdin SoM (AM62 or i.MX8)
- CAN Channels: 2x Configurable baud rates 125, 250, 500 kbps and 1Mbps, 2.5 kV RMS (ISO1050DUB)
- Digital I/O: 8 Digital Outputs (High Side), 12 Digital Inputs
- Analog Inputs: 6 Analog Inputs
- Operating Systems: Embedded Linux: Torizon Core and Yocto Reference Images with custom boot screen logos
- Boot Times: < 5 seconds cold start
- HMI Development: Qt Designer Studio and Crank (license)
- Interfaces: 35-pin Ampseal for Power, CAN, and I/O, 14-pin Ampseal for additional outputs + video and audio, GPS, WiFi, Bluetooth 5.2, 2x Ethernet (MX12-X connector), Analog Video Input, USB-C
- Cellular: mPCIE for cellular modem (tested with Quectel EG25), Nano SIM
- IoT SIMs: 180+ Countries
- GPS: Galileo, GLONASS and BeiDou
- Storage: uSD
- Housing: Aluminum 6061-T6

Designed & Manufactured in the USA

Final product specifications may vary. All information is subject to change without notice.

Electrical

Operating	
Working Voltage Limits	+12V/24V DC Nominal +7-27V absolute with limiting and reverse polarity protection
Input Protection	Input protection against reverse connection of supply
CAN Interfaces	
Protocol	CAN 2.0B, CAN FD
Baud Rates Supported	125, 250, 500 kbps and 1 Mbps
Channels	2X channel NXP TJA1041 CAN bus transceiver
On-board GPS	
Reception	GPS, Galileo, GLONASS, BeiDou
TTFF	Cold start - 26 seconds Hot start - 1 second Aided starts (backup power) – 2 seconds
Sensitivity	-167 dBm
Cellular Connectivity	
Global Cellular	LTE-FDD, LTE-TDD, DC-HSDPA, HSPA+, HSDPA, HSUPA and WCDMA
Connections	4G LTE
SIMs	Standard slot and swappable
Bandwidth Rates	Uplink 50Mbps, Downlink 300Mbps (with Quectel LTE-A EP06 module)
WiFi	
Protocol	IEEE 802.11ac/a/b/g/n (2.4GHz and 5GHz)
Bluetooth	
Protocol	5.0
Audio	
Audio Codec	SGTL5000
Amplifier	5 channels (4 + sub channels with digital crossover) 50W/channel (4 Ohms)
Input	Microphone Input
Display	
Touch	PCAP Multi-Touch
Resolution	1280 x 800 WXGA, 16.7 million colors

Mechanical

Operating Environment	
Operating Temperature	-30°C to 85°C
Non-Operating Temperature	-40° to +85°C
Humidity	Operating 25°C, humidity 55% RH Storage temperature: 0°C - 35°C < 60% humidity
Performance	
Vibration, Random	IEC 60068-2-6 Vibration (sinusoidal), IEC 60068-2-64 Vibration, broadband random
Weight	
Weight	4.1 lbs

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At Andromeda Interfaces, we don't just create display technologies; we redefine the interaction between humans and machines. Our state-of-the-art displays are designed to transform raw data into captivating, easily accessible information that propels creativity and innovation. Our mission has been clear since our inception in 2014: to ignite progress by providing groundbreaking solutions that merge aesthetic elegance with robust functionality. In the realms of transportation and industrial energy, Andromeda Interfaces has emerged as a beacon of advancement.

Our human-machine interface (HMI) development tools and sleek, ruggedized display instrumentation embody the perfect fusion of form and function. Built to enhance systems, equipment, and vehicle applications, our products are crafted with the durability to thrive in the toughest environments. With Andromeda Interfaces, expect more than just performance—expect a partnership that drives the evolution of your projects, ensuring that every interaction is an opportunity for discovery and every display is a canvas for innovation.

Do you want to order our digital instrument cluster to monitor the performance and diagnostics of your energy storage systems? Our sales team will help you.

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