VTC・MVS & VMC series

Inspired Solutions for a Mobility World

In-Vehicle Computer Solutions
Data Book Vol.1

VTC MVS
VMC VMD
VES series

ATC 8010

Intel® Coffee Lake-S CPU + NVIDIA GPU
Powerful Intelligent Platform for AI and ANPR/AFR

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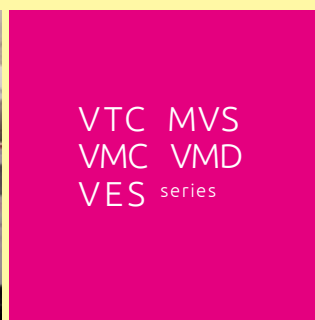
Main Features

- Intel® Coffee Lake-S Desktop, i7-8700T, 2.4GHz
- NVIDIA GTX 1050Ti MXM graphic module supported
- 8 x 10/100/1000 PoE 802.3af/at
- 1 x VGA and 5 x HDMI video output
- ultraONE+ for 10-Meter video + audio output
- 2 x External SSD and 2 x mSATA for RAID 0, 1, 5, 10
- 2 x WWAN module and 3 x SIM socket with eSIM option
- Swappable fan kit
- 3 x mini-PCIe and 1 x M.2
- CE/FCC/EMARK/EN50155 Tx (24V DC in)

Product Overview

ATC8010, powerful and reliable Artificial Intelligent (AI) platform, is specially designed for the applications, such as ANPR, AFR and highly-demanding on graphic performance. Its updated Intel® Coffee Lake desktop 35W CPU, and NVIDIA 1050Ti graphic card guarantees the graphic performance, which satisfies with most of the Automated Intelligent (AI) requirement. 8-Port 802.3af/at PoE, offers wide bandwidth and precise control to the analysis of big video data. Besides, ultraONE+ technology commits the transmission of video and audio, up to 10 meters distance. 5 x HDMI and 1 x VGA let users monitor the immediate video without any delay and blind spot. RAID 0, 1, 5, 10 guarantees the safety of video data in the 2 x external SSD, and 2 x mSATA. The design of swappable fans makes it easier to maintain.

Specifications

CPU
- Intel® Coffee Lake-S, i7-8700T, 2.4GHz, 35W, 6 core

Memory
- 2-Channel 260-pin DDR4 SO-DMIM sockets up to 16GB/channel (32G for two channels), default 8GB industrial grade memory

GPU
- NVIDIA GeForce GTX 1050Ti MXM module
- Memory size: 4GB GDDR5
- CUDA core: 768
- GPU clock: 1493 MHz
- Memory clock: 7.0 GHz
- Memory interface width: 128-bit

Storage
- 2 x 2.5" SATA 3.0 external SSD
- 2 x mSATA

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0, PCIe 3.0, SATA 3.0)
- 1 x Full size mini-PCIe socket (USB 2.0, USB 3.1), optional M.2 key B (3042)
- 1 x Full size mini-PCIe socket (USB 2.0, PCIe 3.0, SATA 3.0)
- 1 x M.2 key B (USB 2.0, USB 3.1)

GNSS and On Board Sensor
- 1 x Default U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional modules with dead reckoning available
- Built-in TPM 2.0

Power over Ethernet
- 8-Port LAN, 10/100/1000 Mbps, PoE 802.3af/at, max. 60W
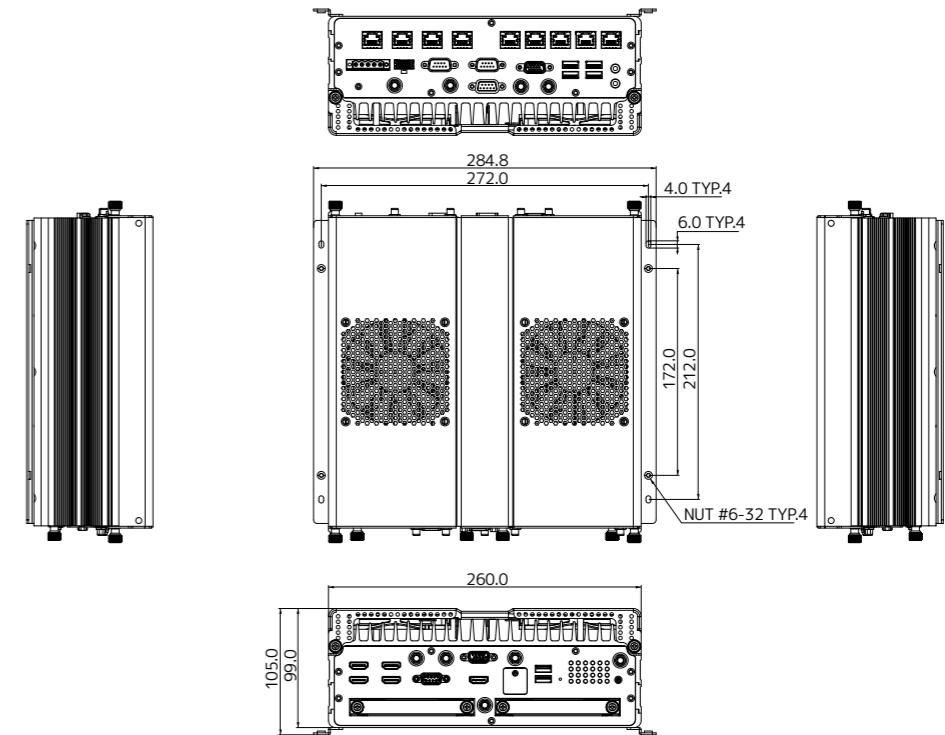- 1-Port LAN, 10/100/1000 Mbps

I/O Interface-Front
- 24 x LED indicators (including 4 x programmable LED)
- 1 x HDMI 1.4b. 4 x HDMI 2.0
- 1 x VGA
- 1 x ultraONE+ for 10M video + audio output
- 2 x USB 3.1 type A (5V/1A)
- 2 x Externally accessible SIM card sockets
- 2 x 2.5" removable SSD tray
- 1 x Reset button
- 1 x Power button
- 5 x SMA antenna

I/O Interface-Rear
- 8 x PoE 802.3af/at (Max. 60W)

Dimension Drawing

- 1-Port LAN, 10/100/1000 Mbps
- 1 x 5-pin terminal block for 9V~36V DC
- 1 x Mic-in, 1 x Line-out
- 4 x 2 connector for 12VDC/2A output, RS232 for VTK62B, power button, 2 x MDI
- 2 x DB9 for full RS232
- 1 x DB9 for full RS232/422/485 (RI, 5V/0.5A, 12V/0.5A)
- 1 x DB15
  - 1 x Isolated CANBus 2.0B
  - 1 x GPS DR
  - 4 x DI and 4 x DO
- 4 x SMA antenna
- 4 x USB 3.1 type A (5V/1A)

Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level power on/off delay time by software
- Support S3/S4 suspend mode

Operating System
- Windows 10/YOCTO (by request)

Dimensions
- 260 x 196 x 99 (W x D x H) (mm)

Weight
- 4kg

Environment
- Operating temperatures
  - -30°C~70°C (w/industrial SSD) with air flow
- Storage temperatures: -40°C~80°C
- Relative humidity: 90% (non-condensing)
- Vibration (random)
  - 2g@5~500 Hz (in operation, SSD)
- Vibration (SSD)
  - Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  - Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD)
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=40g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, E13 mark, EN50155 Tx (24V DC)

We reserve the right to change specifications and product descriptions at any time without prior notice.

VTC 1010

Intel® Atom™ E3827 Fanless In-Vehicle Computer

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Microsoft Azure
Certified

Main Features

- Intel® Atom™ processor E3827, 1.75GHz
- Dual SIM cards + dual WWAN modules support
- Wide operating temperature -30°C ~ 70°C
- Built-in CAN 2.0B. optional CAN/OBDII module (CAN Bus 2.0B or OBDII SAE J1939)
- 4 x mini-PCIe socket rich expansion capability
- Wake on RTC/SMS via WWAN module
- Voice communication via WWAN module
- Compliant with MIL-STD-810G
- Built-in U-blox M8N GPS, optional dead reckoning support

Dimension Drawing

180

180

Product Overview

VTC 1010 features next generation Intel® Atom™ processor E3827, 1.75GHz, with powerful graphic and multimedia enhancement. VTC 1010 is packed rugged, fanless, and 1 DIN compact enclosure. It is specifically designed to comply with stringent MIL-STD-810G military standard. VTC 1010 comes with build-in CAN BUS 2.0B interface and optional OBDII (SAE J1939) port to monitor the vehicle operating status real-time and troubleshoot a non-working vehicle. With dual SIM cards design, it allows the choice of the best service carrier network and minimizes roaming cost. VTC 1010 can be configured to work with two independent WWAN connections and can effectively increase the bandwidth for faster massive data transfer over the air. VTC 1010 also supports two-way voice communication. Equipped with intelligent vehicle power management, VTC 1010 can be waked up by ignition, RTC timer, or remote dial-up for flexible operation or maintenance. VTC 1010 can satisfy different demands for versatile telematics applications, such as infotainment, fleet management, dispatching system and mobile video surveillance.

Specifications

CPU
- Intel® Atom™ processor E3827, Dual Core 1.75GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1066MHz/1333MHz up to 8GB. Default 2GB

Storage
- 1 x 2.5" SATA 2.0
- 1 x External accessible SD card socket

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0+ PCIe)
- 1 x Full size mini-PCIe socket (mSATA or PCIe)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe)

Function
- 1 x u-blox NEO-M8N module (support GPS/Gloness/QZSS/Galileo/Beidou) or optional module with Dead Reckoning
- Built-in G-sensor, Gyroscope, and e-Compass sensors

I/O Interface-Front
- 8 x LED for power, system status, storage, WWAN, WLAN, GPS, LAN, GPIO
- 2 x External accessible SIM card socket (selectable) with cover
- 1 x Audio jack 3.5mm for WWAN voice communication, including 1 x Mic-in and 1 x Line-out

- 1 x External accessible SD card socket with cover
- 1 x Event button (trigger type)
- 1 x Reset button
- 1 x Type A USB 3.0 compliant host, supporting system boot up

I/O Interface-Rear
- 1 x 9 ~ 36VDC input with ignition and 11W typical power consumption
- 1 x Type A USB 2.0 compliant host, supporting system boot up
- 180mm x RJ45 10/100/1000 Fast Ethernet with LED
- 1 x Phone jack 3.5mm for 1 x Mic-in (for WWAN voice communication)
- 1 x Phone jack 3.5mm for 1 x Line-out (for PC audio)
- 1 x DB-15 VGA. Resolution up to 2560 x 1600 @60Hz
- 1 x DP port. Resolution up to 2560 x 1600 @60Hz
- 1 x DB-9 for RS-232
- 4 x Antenna hole for GPS/WWAN/WLAN/BT
- 1 x LHF 60-pin connector
  - 1 x 6-pin power connector, 12VDC output (max: 1A)
  - 1 x Type A female USB 2.0 compliant host, supporting system boot up
  - 1 x DB-9 RS-232
  - 1 x DB-9 RS-422/485
  - 1 x DB-9 female 3 x DI and 3 x DO. On board CAN 2.0B signals (Programmable Digital Input)
    - Input voltage (Internal Type): 5VDC TTL (default)
    - Input voltage (Source Type): 3 ~ 12VDC
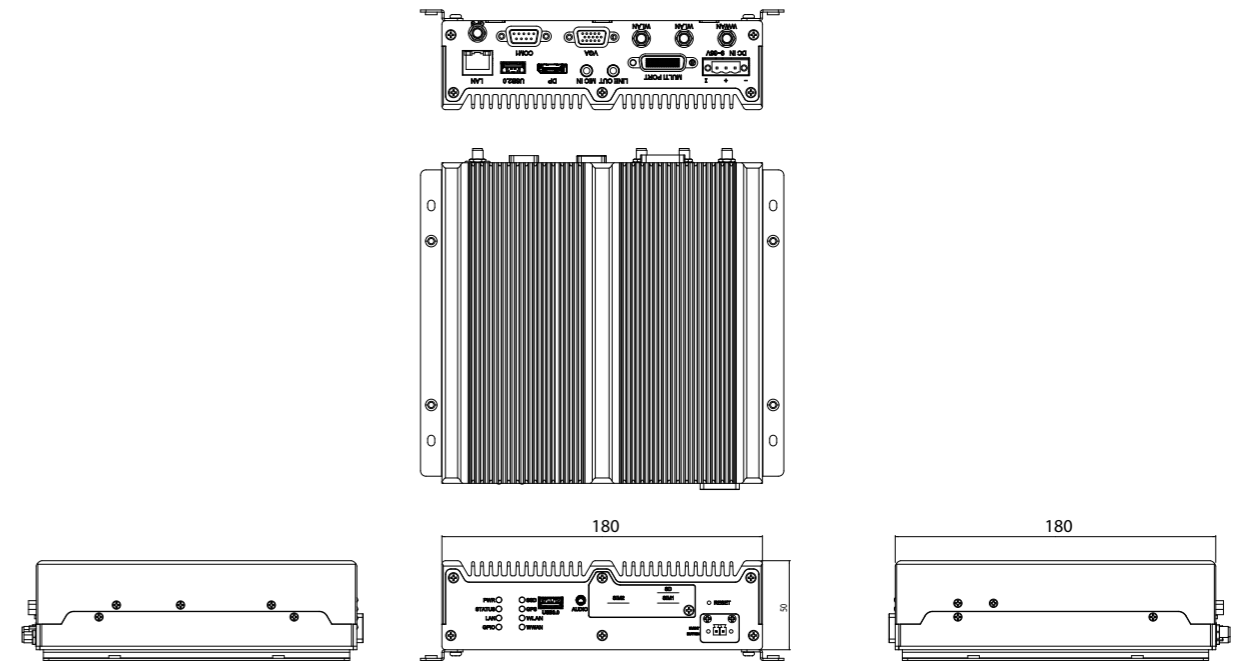
(Programmable Digital Output)
- Digital output (Sink Type): 5VDC TTL (default), max current: 20mA
- Digital output (Source Type): 3 ~ 24VDC, max current: 250mA
- 1 x optional CAN/OBDII module (CAN Bus 2.0B or OBDII SAE J1939)
- 1 x DB-9 for optional GPS Dead Reckening module
- 4 x BNC connector Video-In for optional 4-channel video capture card
- 4 x Audio connector for 7.1 channel audio output (front, center/woofer, rear surround, side surround)

Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level power on/off delay time by software
- Status of ignition and low voltage can be detected by software
- Support S3/S4 suspend mode

Operating System
- Windows 10
- Windows 7, WES7
- Fedora

Dimensions
- 180mm (W) x 180mm (D) x 50mm (H) (7.09" x 7.09" x 1.97")
- 1.7kg

Environment
- Operating temperatures:
  -30°C to 70°C (w/ industrial SSD) with air flow
  -20°C to 50°C (w/ commercial HDD) with air flow
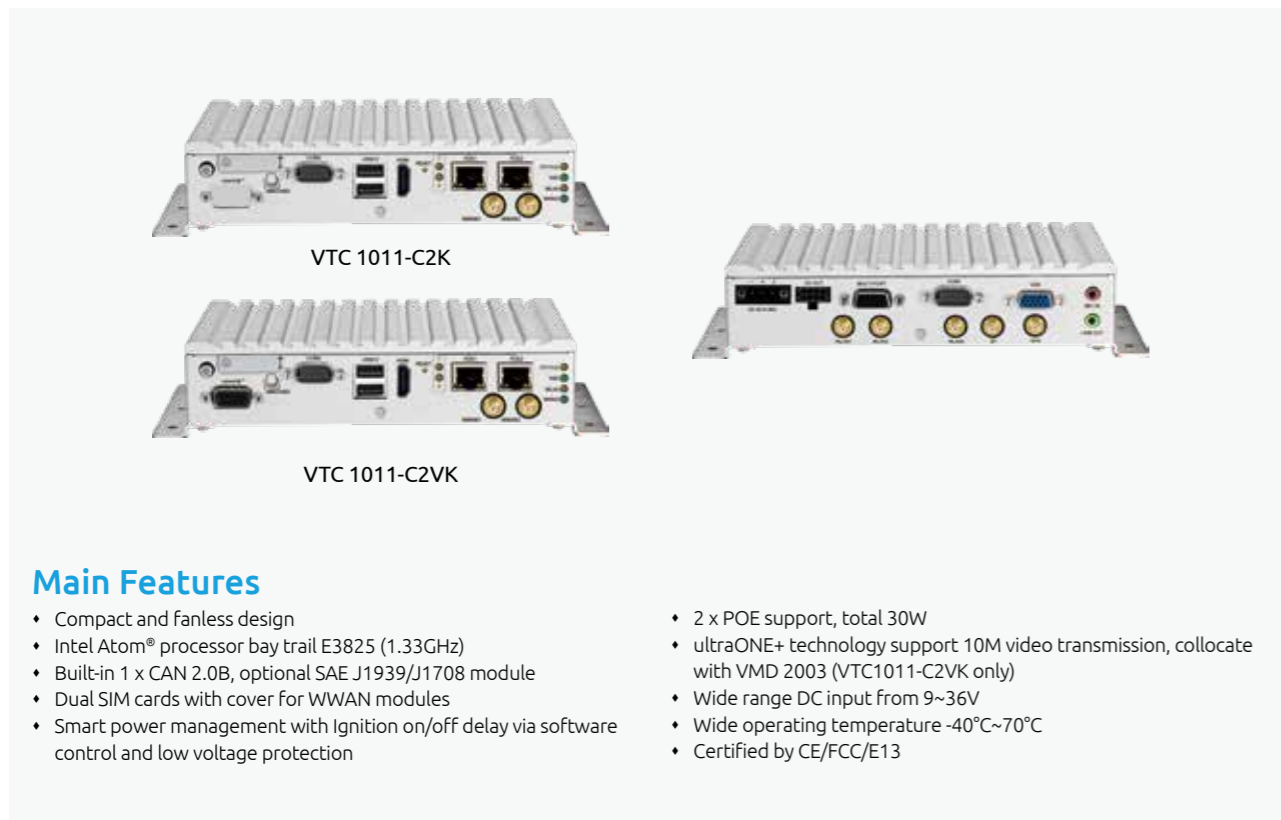- Storage temperatures: -35°C to 85°C

- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5 ~ 500 Hz (in operation, SSD)
- Vibration (SSD):
  Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD):
  Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  Non-Operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval
- FCC Class B
- E13 Mark

Ordering Information
- **VTC 1010-BK (P/N: 10V00101000X0)**
  Intel® Atom™ dual core processor E3827 1.75GHz CPU, 2GB DDR3L SO-DIMM, VGA/DP Output, 1 LAN, 2 x RS-232, 1 x RS-422/485, 3 x DI, 3 x DO, 3 x USB, 12VDC output

VTC 1011-C2K/C2VK

Intel Atom® E3825 Processor
Fanless In-Vehicle Computer

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VTC 1011-C2K

VTC 1011-C2VK

Main Features

- Compact and fanless design
- Intel Atom® processor bay trail E3825 (1.33GHz)
- Built-in 1 x CAN 2.0B, optional SAE J1939/J1708 module
- Dual SIM cards with cover for WWAN modules
- Smart power management with Ignition on/off delay via software control and low voltage protection
- 2 x POE support, total 30W
- ultraONE+ technology support 10M video transmission, collocate with VMD 2003 (VTC1011-C2VK only)
- Wide range DC input from 9~36V
- Wide operating temperature -40°C~70°C
- Certified by CE/FCC/E13

Dimension Drawing

Product Overview

VTC 1011, a compact, rugged and entry-level vehicle computer with Intel Atom® E3825 processor dual core 1.33GHz, is designed for the harsh in-vehicle environment. Because of the compact design, it is especially for the vehicles with limited space to locate the computer system, but without compromising with its space to scarify its features. VTC 1011 has on board CAN 2.0B and optional OBD interface (SAE J1939/1708) for vehicle diagnostics and driver behavior management. An advanced GPS receiver supports GPS/Glonass/QZSS/Galileo/Beidou . VTC 1011 features WLAN and WWAN wireless data and 3G voice connectivity. With external SIM socket, it allows user to access SIM card conveniently. Advanced ultraONE+ technology support 10M Video transmission, collocate with VMD 2003 (VTC1011-C2VK only). VTC 1011 always keeps the flexibility to meet different demands for telematics applications, such as infotainment, fleet management and patching system.

Specifications

CPU
- Intel Atom® processor bay trail E3825, 1.33GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1066MHz/1333MHz up to 8GB. Default 2GB

Storage
- 1 x 2.5" SSD SATA 2.0
- 1 x mSATA

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0 or USB3.0 (option))
- 1 x Full size mini-PCIe socket (mSATA + PCIe + USB 2.0)

Function
- 1 x u-blox NEO-M8N module (support GPS/Glonass/QZSS/Galileo/Beidou)
- Built-in G-sensor
- TPM 2.0

I/O Interface-Front
- 1 x Power button with LED
- 2 x SIM socket (Micro type) with cover
- 1 x DB9 for RS232 Full
- 2 x Type A USB 2.0 compliant host, supporting system boot up
- 1 x HDMI

- 1 x Reset button
- 2 x LED for POE status
- 2 x RJ45 POE
- 4 x LED for STATUS, SSD, WLAN, WLAN
- 1 x DB9 for ultraONE+ technology support (VTC1011-C2VK only)
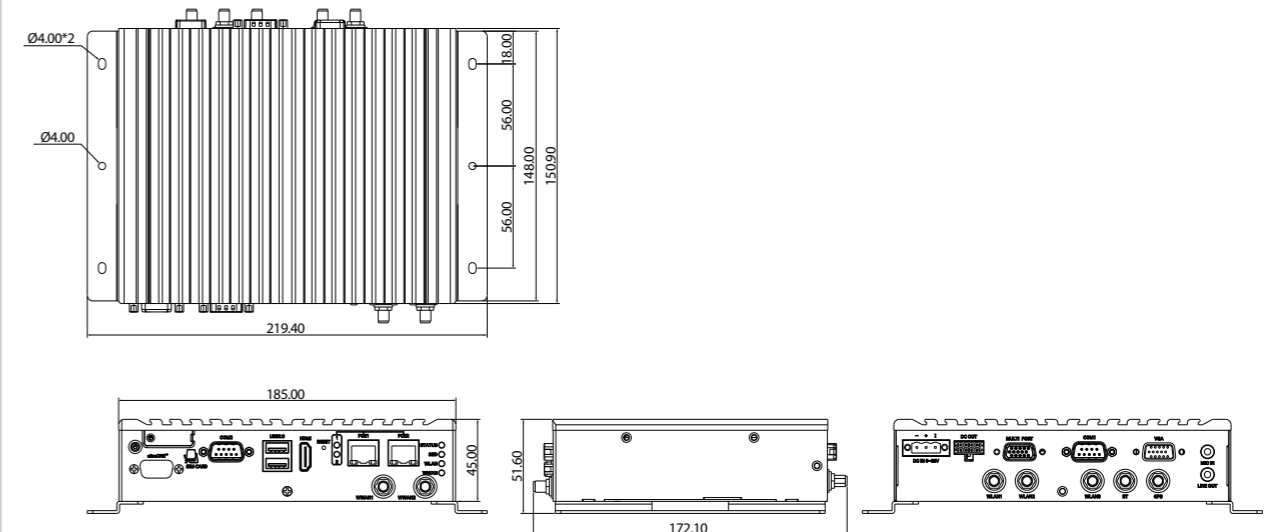- 2 x antenna hole for WWAN

I/O Interface-Rear
- 1 x Phoenix connector for power/GND/Ignition input
- 1 x 4 x 2 connect for 12V/2A DC output, UART, power button
- 1 x DB15 multi-port for 1 x CAN 2.0B, 1 x RS232 (Tx/Rx)/RS422/RS485, 8 x DIO
- 1 x DB9 for RS232 full
- 1 x DB15 VGA
- 1 x Mic-in
- 1 x Line-out
- 5 x Antenna hole for WLAN/BT/GPS

Operating System
- Windows 7
- Windows 10
- Linux (by request)

Dimensions
- 185mm (W) x 150.9mm (D) x 45mm (H) (7.28" x 5.94" x 1.77")
- Weight: 1.3kg (2.9lbs)

Environment
- Temperature:
  Operating temperatures:
  -40°C to 70°C (w/o PoE), -40°C to 60°C (w/ PoE)
  Storage temperatures: -45°C to 85°C
  Damp Heat Test per EN60068-2-30
- Humidity:
  IEC60068-2-3, Damp Heat Steady State Test,40C,95%,48Hrs
- Vibration:
  IEC 60068-2-64, 2G
  Operating: MIL-STD-810G, 514.6C procedure 1, category 4
  Storage: MIL-STD-810G, 514.6E procedure 1, category 24
- Shock:
  MIL-STD-810G, 516.6 procedure I, trucks and semi-trailers=40g
  Crash hazard: procedure V, ground equipment=75g

Standards/Certifications
- CE approval
- FCC Class A
- E13

Ordering Information

- **VTC 1011-C2K (P/N: 10V00101102X0)**
  Intel Atom® processor bay trail E3825, 1.33 GHz with 2GB DDR3L SO-DIMM, U-blox M8N GPS module, VGA/HDMI output, 2 x PoE, 2 x RS-232 & 1 x (RS-232 (Tx/Rx)/RS-422/485), 1 x CAN 2.0B, 4 x DI & 4 x DO, 2 x USB 2.0, 1 x Line-out, 1 x Mic-in

- **VTC 1011-C2VK (P/N: 10V00101101X0)**
  Intel Atom® processor bay trail E3825, 1.33 GHz with 2GB DDR3L SO-DIMM, U-blox M8N GPS module, VGA/HDMI Output, 2 x PoE, 2 x RS-232 & 1 x (RS-232 (Tx/Rx)/RS-422/485), ultraONE+ technology support, 1 x CAN 2.0B, 4 x DI & 4 x DO, 2 x USB 2.0, 1 x Line-out, 1 x Mic-in

VTC 1020

Intel Atom® x5-E3930 processor Fanless In-Vehicle Computer

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Main Features

- Compact and fanless design
- Built-in GPS receiver with optional dead reckoning function
- Variety of wireless communication options
- Built-in CAN bus 2.0B (BOM option SAE J1939)
- Wide range DC input from 9~36V
- Smart power management with Ignition on/off delay via software control and low voltage protection
- Certified by CE/FCC/E13 mark
- 5 x RS232 and 2 x RS485

Product Overview

VTC 1020, a compact, rugged and entry-level vehicle computer with Intel Atom® x5-E3930 processor dual core 1.8GHz, is designed for the harsh in-vehicle environment. Because of the compact design, it is especially for the vehicles with limited space to locate the computer system, but without compromising with its space to scarify its features.

VTC 1020 has on board CAN 2.0B and optional OBD interface (SAE J1939) for vehicle diagnostics and driver behavior management. An advanced GPS receiver supports GPS/Gloness/QZSS/Galileo/Beidou and optional dead reckoning module is also available. VTC 1020 features WLAN and WWAN wireless data and voice connectivity. With external SIM socket, it allows user to access SIM card conveniently. 12VDC output can be provided for external display with easy power wire arrangement. VTC 1020 keeps the flexibility to meet different demands for telematics applications, such as infotainment, fleet management and patching system.

Specifications

CPU
- Intel Atom® x5-E3930 processor dual core 1.8GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1867MHz up to 8GB. Default 2GB

Expansion
- 1 x mini-PCIe socket (USB)
- 1 x mini-PCIe socket (PCIe + USB + mSATA)

Function
- 1 x u-blox NEO-M8N module (support GPS/Gloness/QZSS/Galileo/ Beidou) or optional module with Dead Reckoning
- Built-in G-sensor
- Built-in TPM

I/O Interface-Front
- 1 x Power button
- 4 x LED indicators for Status (programmable), Storage, WLAN and WWAN
- 1 x System reset button
- 2 x Type A USB 3.0 compliant host, supporting system boot up
- 1 x DB-15 VGA
- 1 x HDMI
- 1 x SIM card socket

I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 20W typical power consumption
- 1 x 12V/2A DC output, SMBus, power button
- 1 x RJ45 with LEDs for 10/100/1000Mbps Ethernet
- 1 x Audio-in, 1 x Audio-out
- 1 x DB9 COM port for 4 x RS232 Tx/Rx and 2 x RS485
- 1 x DB15 for multi port
  - 1 x CAN 2.0 (BOM option SAE J1939)
  - 1 x RS232 Tx/Rx
  - 1 x odometer and direction for optional DR
  - 5 x programmable DIO
    Input voltage (internal type): 5VDC TTL (default)
    Input voltage (source type): 3~24VDC
    Digital output (sink type): 5VDC TTL (default), max current: 20mA
    Digital output (source type): 3~24VDC
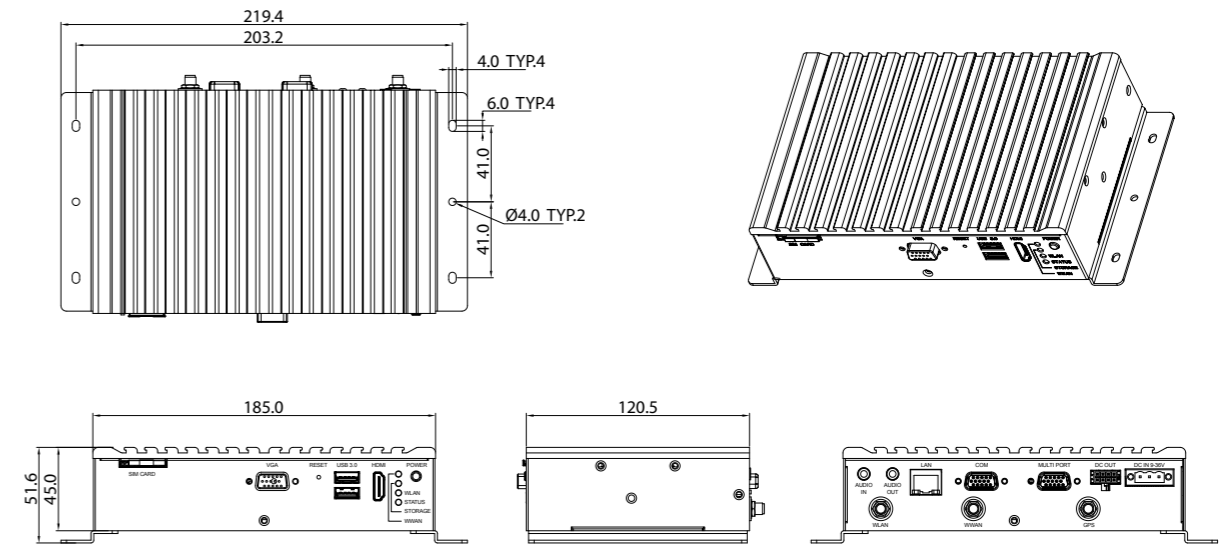- 3 x Antenna hole for SMA-type antenna (WWAN/WLAN/GPS)

Expandable Storage
- 1 x 2.5" SSD SATA 3.0
- 1 x mSATA

Operating System
- Windows 10 64-bit only
- Linux YOCTO (by request)

Dimension Drawing

Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3, S4 suspend mode

Dimensions
- 185mm (W) x 120mm (D) x 45mm (H) (7.3" x 4.7" x 1.8")
- 1 kg (2.20 lbs)

Construction
- Aluminum top case with sheet metal

Environment
- -40°C to 70°C (w/ industrial SSD) with air flow
- Storage temperatures: -40°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (SSD):
    Vibration (random): 2g @5~500 Hz
    Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
    Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock (SSD):
    Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
    Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

Standards/Certifications
- CE approval
- FCC Class A
- E13 mark

Ordering Information
- **VTC 1020 (P/N: 10V00102001X0)**
  Intel Atom® x5-E3930 processor 1.8GHz with 2GB DDR3L, U-blox GPS module, GPS antenna and CAN 2.0B (BOM option SAE J1939)

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VTC 1020-PA

Intel Atom® x5-E3930 processor Fanless In-Vehicle Computer
for Public Transportation

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Main Features

- Compact and fanless design
- Built-in GPS receiver with optional dead reckoning function
- Variety of wireless communication options
- Built-in CAN bus 2.0B (BOM option SAE J1939)
- Smart power management with Ignition on/off delay via software control and low voltage protection
- Wide range DC input from 9~36V
- Certified by CE/FCC/E13 mark
- 5 x RS232 and 2 x RS485
- 3 x Audio-in and 3 x Audio-out switchable
- 3 x Video ouput (VGA + HDMI + LVDS)

Dimension Drawing

Product Overview

VTC 1020-PA, a compact, rugged and entry-level vehicle computer with Intel Atom® x5-E3930 processor dual core 1.8GHz, is dedicated for public transportation application in harsh in-vehicle environment. Because of the compact design, it is especially for the vehicles with limited space to locate the computer system, but without compromising with its space to scarify its features.

VTC 1020-PA has 3 Audio-in and 3 Audio-out switchable that can be used as public announcement function, such as for driver, internal passengers and external passengers. Since it has 3 independant video ouput, it is flexible to provide different video conent in PIS application. VTC 1020-PA has on board CAN 2.0B and optional OBD interface (SAE J1939) for vehicle diagnostics and driver behavior management. An advanced GPS receiver supports GPS/Gloness/QZSS/Galileo/Beidou and optional dead reckoning module is also available. VTC 1020-PA features WLAN and WWAN wireless data and voice connectivity. With external SIM socket, it allows user to access SIM card conveniently. 12VDC output can be provided for external display with easy power wire arrangement. VTC 1020-PA is very suitable for public transportation application, such as local bus, shuttle bus, tour bus and highway bus.

Specifications

CPU
- Intel Atom® x5-E3930 processor dual core 1.8GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1867MHz up to 8GB. Default 2GB

Expansion
- 1 x mini-PCIe socket (USB)
- 1 x mini-PCIe socket (PCIe + USB + mSATA)

Function
- 1 x u-blox NEO-M8N module (support GPS/Gloness/QZSS/Galileo/Beidou) or optional module with Dead Reckoning
- Built-in G-sensor
- Built-in TPM

I/O Interface-Front
- 1 x Power button
- 4 x LED indicators for Status (programmable), Storage, WLAN and WWAN
- 1 x System reset button
- 2 x Type A USB 3.0 compliant host, supporting system boot up
- 1 x DB-15 VGA

- 1 x HDMI
- 1 x external SIM card socket
- 1 x DB26 LVDS interface with 12VDC, USB 2.0 and power button
- 2 x Audio-in, 2 x Audio-out

I/O Interface-Rear
- 1 x 9~36VDC input with Ignition and 20W typical power consumption
- 1 x 12V/2A DC output, SMBus, power button
- 1 x RJ45 with LEDs for 10/100/1000Mbps Ethernet
- 1 x Audio-in, 1 x Audio-out
- 1 x DB15 COM port for 4 x RS232 Tx/Rx and 2 x RS485
- 1 x DB15 for multi port
  - 1 x CAN2.0 (BOM option SAE J1939)
  - 1 x RS232 Tx/Rx
  - 1 x odometer and direction for optional GPS DR
  - 5 x programmable DIO
    Input voltage (internal type): 5VDC TTL (default)
    Input voltage (source type): 3~24VDC
    Digital output (sink type): 5VDC TTL (default), max current: 20mA
    Digital output (source type): 3~24VDC
- 3 x Antenna hole for SMA-type antenna (WWAN/WLAN/GPS)
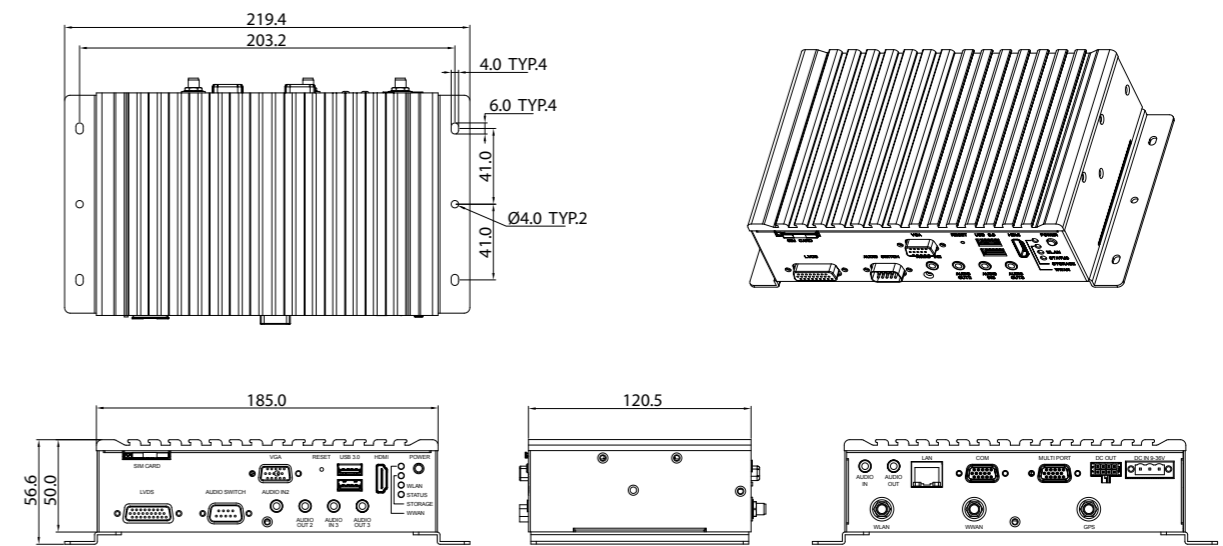
Expandable Storage
- 1 x 2.5" SSD SATA 3.0
- 1 x mSATA

Operating System
- Windows 10 64-bit only
- Linux YOCTO (by request)

Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3, S4 suspend mode

Dimensions
- 185mm (W) x 120mm (D) x 50mm (H) (7.3" x 4.7" x 1.96")
- 1.1kg (2.42 lbs)

Construction
- Aluminum top case with sheet metal

Environment
- -40°C to 70°C (w/ industrial SSD) with air flow
- Storage temperatures: -40°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)

- Vibration (SSD):
  Vibration (random): 2g @5~500 Hz
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock (SSD):
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

Standards/Certifications
- CE approval
- FCC Class A
- E13 mark

Ordering Information

- **VTC 1020-PA (P/N: 10V00102000X0)**
  Intel Atom® x5-E3930 processor 1.8GHz with 2GB DDR3L, U-blox GPS module, GPS antenna and CAN 2.0B (BOM option SAE J1939), LVDS and 3 x Audio-in + 3 x Audio-out

VTC 1021-BK/C2K

Intel Atom® x5- E3940 Fanless In-Vehicle Computer

NEXCOM

VTC 1021-BK

VTC 1021-C2K

Dimension Drawing

VTC 1021-BK

VTC 1021-C2K

Main Features

- Intel Atom® x5-E3940 processor quad core 1.8GHz
- Built-in U-blox M8N GPS, optional dead reckoning support
- Built-in CAN 2.0B. optional OBD2 SAE J1708/ SAE J1939
- 2 x POE support, total 60W (VTC1021-C2K only)
- 2 x RJ45 10/100/1000 Fast Ethernet with LED
- 3 x DI and 3 x DO support
- Smart power management with Ignition on/ off delay via software control and low voltage protection
- Variety of wireless communication options
- Certified by CE/ FCC/ E13 mark

Product Overview

VTC 1021 features next generation Intel Atom® x5-E3940 processor quad core 1.8GHz, with powerful graphic and multimedia enhancement. VTC 1021 is packed rugged, fanless, and 1 DIN compact enclosure for the vehicles with limited space to locate the computer system. On board CAN 2.0B and optional OBD interface (SAE J1939) for vehicle diagnostics and driver behavior management. An advanced GPS receiver supports GPS/Glonass/QZSS/Galileo/Beidou and optional dead reckoning is also available. VTC 1021 features WLAN and WWAN wireless data and voice connectivity. With dual SIM external access design, it allows user to access SIM card conveniently.

Dual PoE functions (VTC1021-C2K only) are suited for most PoE devices, including wireless access points, as well as IP cameras. Additional 12VDC output can be provided for external display with easy power wire arrangement. VTC 1021 keeps the flexibility to meet different demands for telematics applications, such as infotainment, fleet management, dispatching system and mobile video surveillance.

Specifications

CPU
- Intel Atom® processor Apollo Lake E3940, 1.80GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1066MHz/ 1333MHz up to 8GB. Default 2GB

Storage
- 1 x 2.5" SATA 2.0
- 1 x mSATA for full-size mini-PCIe socket

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe + mSATA)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x Full size mini-PCIe socket (USB 2.0, optional USB 3.0)

Function
- 1 x u-blox NEO-M8N on board (support GPS/Glonass/QZSS/Galileo/Beidou)
- Built-in G-sensor
- TPM 2.0

I/O Interface-Front
- 1 x Power button with LED
- 4 x LED for WWAN, WLAN, SSD, GPS
- 1 x Line-out/MIC-in

- 1 x Reset button
- 1 x DB9 for fully RS232
- 2 x Type A USB 2.0 compliant host, supporting system boot up
- 2 x External accessible SIM card socket (selectable) with cover
- 1 x DB9 for Expansion Port (Option)
- 2 x RJ45 PoE (including 2 x PoE LED light, VTC1021-C2K only)

I/O Interface-Rear
- 1 x Phoenix connector for Power/ GND/ Ignition input
- 1 x Type A USB 3.0 compliant host, supporting system boot up
- 2 x RJ45 10/ 100/ 1000 Fast Ethernet with LED
- 1 x DB15 VGA, resolution up to 1920 x 1080 @60Hz
- 1 x HDMI port, resolution up to 3840x2160 @30Hz
- 1 x DB26 port
  - 1 x CANBus 2.0B
  - 1 x RS232 Tx/ Rx
  - 1 x GPS DR (Option)
  - 3 x DI and 3 x DO
  - 1 x RS422/ RS485
  - 12V/ 2A DC output
  - GND
- 5 x Antenna holes for GPS/WWAN/WLAN
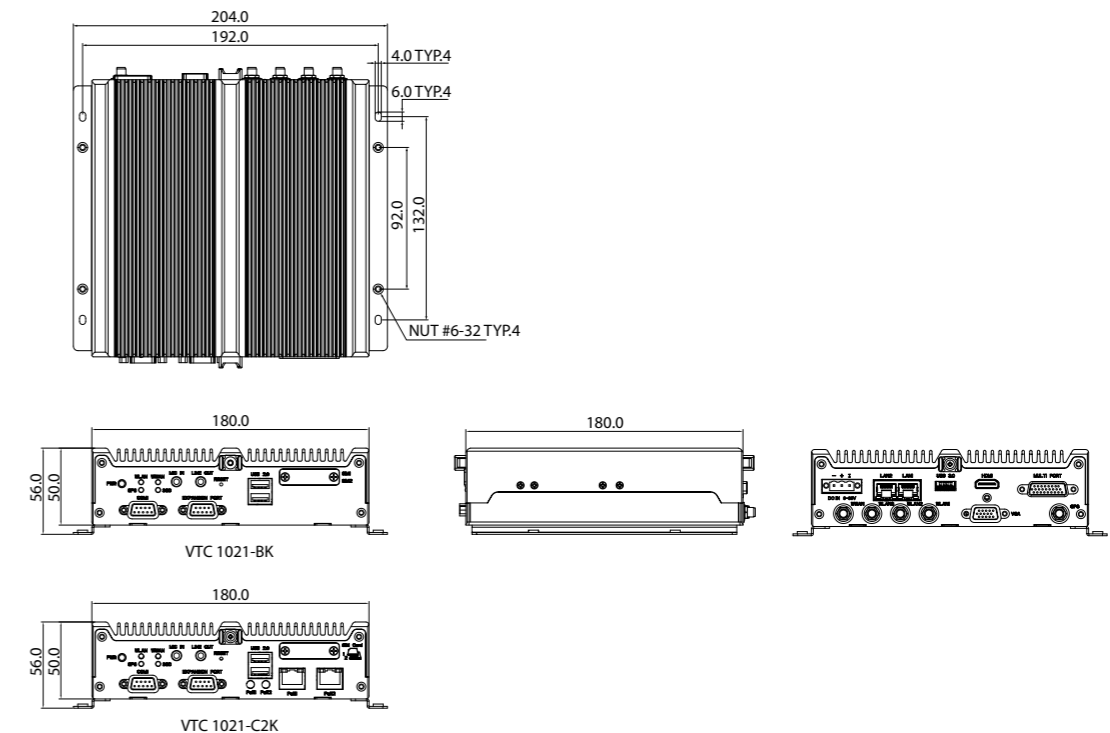
Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level power on/off delay time by software
- Status of ignition and low voltage can be detected by software
- Support S3/S4 suspend mode

Operating System
- Windows 10 64-bit only
- YOCTO

Dimensions
- 180 mm (W) x 180 mm (D) x 50 mm (H) (7.09" x 7.09" x 1.97")
- Weight: 1.7 kg

Environment
- Temperature:
  Operating temperatures:
  -40°C to 70°C (w/ industrial SSD) with air flow
- Storage temperatures:
  -40°C to 85°C with air flow
  Damp Heat Test per EN60068-2-30
- Humidity: IEC60068-2-3, Damp Heat Steady State Test, 40C, 95%, 48Hrs
- Vibration: IEC 60068-2-64, 2G for SSD or 0.5G for HDD
  Operating: MIL-STD-810G, 514.6C Procedure 1, Category 4
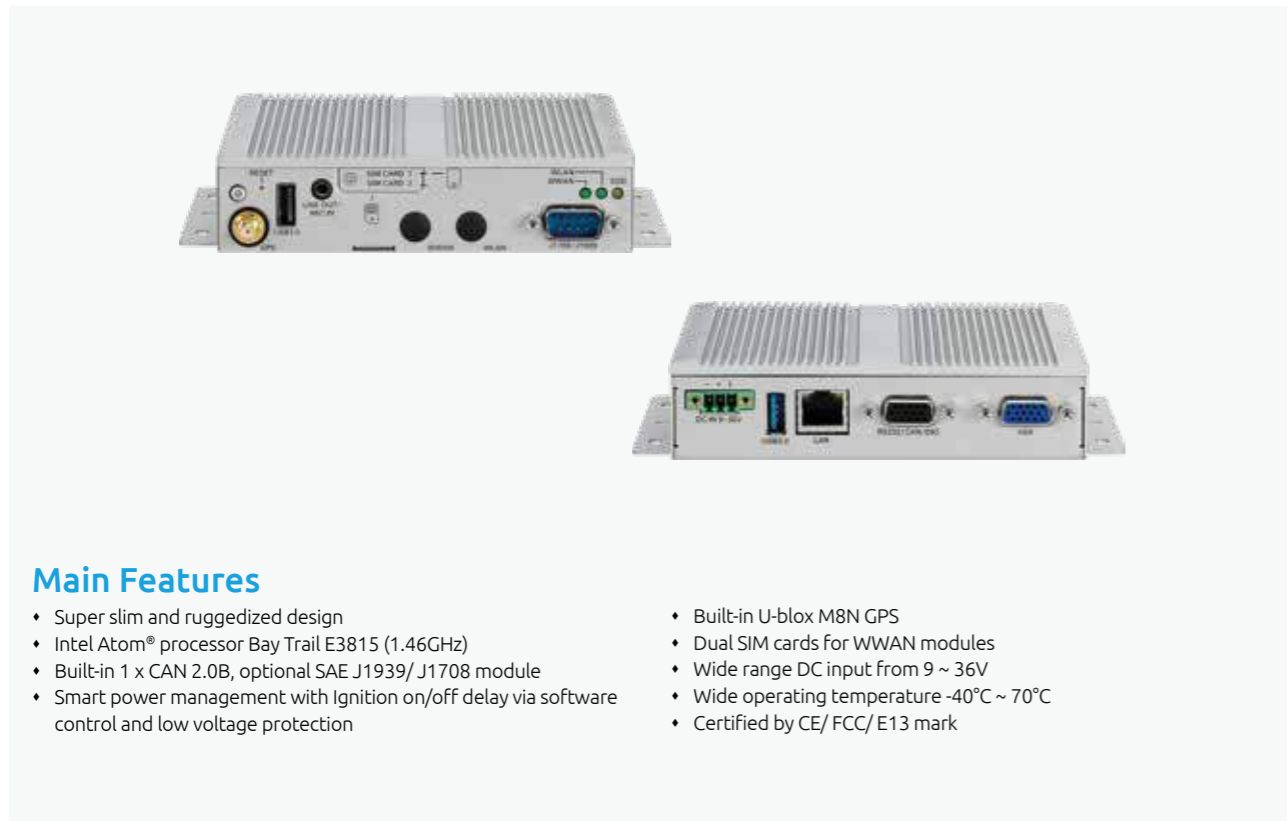 Storage: MIL-STD-810G, 514.6E Procedure 1, Category 24

- Shock:
  MIL-STD-810G, 516.6 Procedure I, trucks and semi-trailers=40g
  Crash hazard: Procedure V, ground equipment=75g

Certifications
- CE approval
- FCC Class A
- E13 Mark

Ordering Information
- **VTC 1021-BK (P/N: 10V00102101X0)**
  Intel Atom® processor Apollo Lake E3940, 1.80GHz with 2GB DDR3L SO-DIMM, U-blox M8N GPS on board, VGA/HDMI output, 2 x LAN, 2 x RS-232 (1 x full, 1x Tx/Rx) & 1 x RS-422/485, 1 x CAN 2.0B, 3 x DI & 3 x DO, 2 x USB 2.0 & 1 x USB 3.0, 1 x Line-out/Mic-in

- **VTC 1021-C2K (P/N: 10V00102102X0)**
  Intel Atom® processor Apollo Lake E3940, 1.80GHz with 2GB DDR3L SO-DIMM, U-blox M8N GPS on board, VGA/HDMI Output, 2 x LAN & 2 x PoE, 2 x RS-232 (1 x full, 1x Tx/Rx) & 1 x RS-422/485, 1 x CAN 2.0B, 3 x DI & 3 x DO, 2 x USB 2.0 & 1 x USB 3.0, 1 x Line-out/Mic-in

VTC 1910-S

Intel Atom® E3815 Telematics IoT Gateway
Super Slim and Ruggedized Design

www.nexcom.com

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Main Features

- Super slim and ruggedized design
- Intel Atom® processor Bay Trail E3815 (1.46GHz)
- Built-in 1 x CAN 2.0B, optional SAE J1939/ J1708 module
- Smart power management with Ignition on/off delay via software control and low voltage protection
- Built-in U-blox M8N GPS
- Dual SIM cards for WWAN modules
- Wide range DC input from 9 ~ 36V
- Wide operating temperature -40°C ~ 70°C
- Certified by CE/ FCC/ E13 mark

Dimension Drawing

Product Overview

VTC 1910-S, a super slim, rugged and entry-level vehicle computer with Intel Atom® processor E3815 (1.46GHz), is designed for the harsh in-vehicle environment. It allows to comply with stringent MIL-STD-810G military standard in rugged, fanless and compact mechanism. Because of the super slim design, it is especially for the vehicles with limited space to locate the computer system, but without compromising with its space to scarify its features.

VTC 1910-S has on board CAN 2.0B and optional OBD interface (SAE J1939/ J1708) for vehicle diagnostics and driver behavior management. An advanced GPS receiver supports GPS/Glonass/QZSS/Galileo/Beidou. VTC 1910-S features WLAN and WWAN wireless data and voice connectivity (collocate with VIOB-DA-01). With external 2 x SIM socket which can support a better connectivity quality by software. VTC 1910-S keeps the flexibility to meet different demands for telematics applications, such as IoT Gateway infotainment, fleet management and dispatching system.

Specifications

CPU
- Intel Atom® processor bay trail E3815, 1.46GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1066MHz/1333MHz up to 8GB. Default 2GB

Storage
- 1 x mSATA
- 1 x SATA DOM

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (mSATA + PCIe)

Function
- 1 x u-blox NEO-M8N on board (support GPS/Glonass/QZSS/Galileo/ BeiDou)
- Built-in G-sensor
- TPM2.0

I/O Interface-Front
- 1 x Power button with LED
- 3 x LED for WWAN, WLAN, SSD

- 1 x Reset button
- 2 x SIM socket (Micro type) with cover
- 1 x DB9 connector for optional SAE J1939 and J1708 modules
- 1 x Line-out/MIC-In
- 1 x Type A USB 2.0 compliant host, supporting system boot up
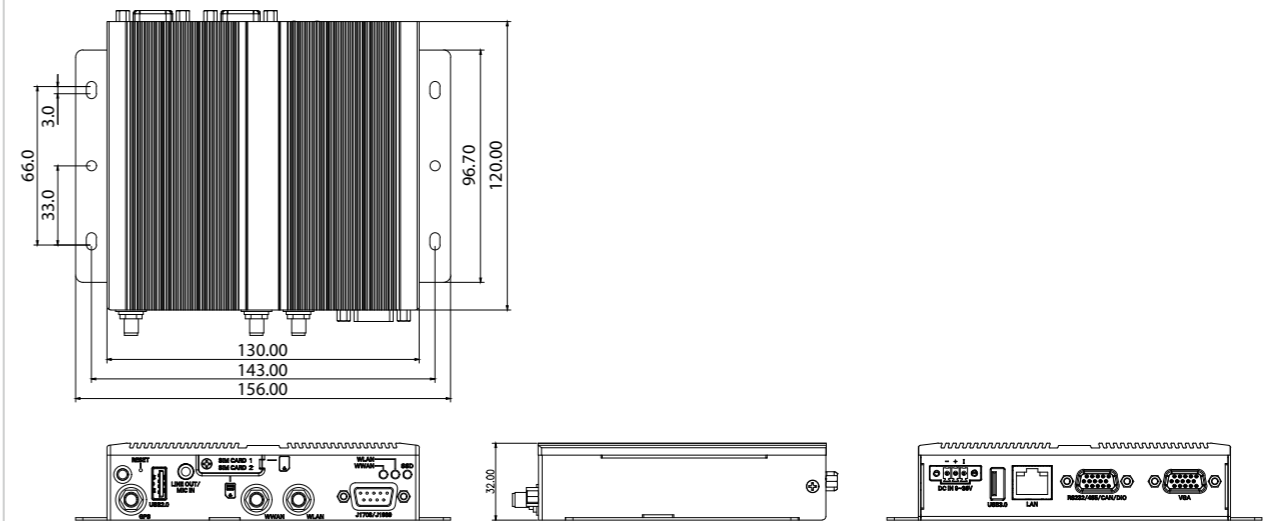- 3 x antenna hole for GPS/WWAN/WLAN

I/O Interface-Rear
- 1 x Phoenix connector for Power/GND/Ignition input
- 1 x Type A USB 3.0 compliant host, supporting system boot up
- 1 x RJ45 10/100/1000 Fast Ethernet with LED
- 1 x DB15 VGA, resolution up to 2560 x 1600 @60Hz
- 1 x DB15 for 2 x RS232 (TX/RX), 1 x RS485 (TX/RX),1 x CAN 2.0B, 3 x DI, 3 x DO

Operating System
- Windows 7
- Windows 10
- Linux (by request)

Environment
- Temperature:
  Operating temperatures: -40°C to 70°C
  Storage temperatures: -45°C to 85°C
  Damp Heat Test per EN60068-2-30
- Humidity:
  IEC60068-2-3, Damp Heat Steady State Test,40C,95%,48Hrs
- Vibration:
  IEC 60068-2-64, 2G
  Operating: MIL-STD-810G, 514.6C Procedure 1, Category 4
  Storage: MIL-STD-810G, 514.6E Procedure 1, Category 24
- Shock:
  MIL-STD-810G, 516.6 Procedure I, trucks and semi-trailers=40g
  Crash hazard: Procedure V, ground equipment=75g

Dimensions
- 130mm (W) x 120mm (D) x 32mm (H) (5.12" x 4.72" x 1.26")
- Weight: 0.6 kg (1.3 lbs)

Certifications
- CE approval
- FCC Class B
- E13 mark

Power Management
- Selectable boot-up & shut-down voltage for low power protection by software
- Setting 8-level power on/ off delay time by software
- Status of ignition and low voltage can be detected by software
- Support S3/ S4 suspend mode

Ordering Information

- **VTC 1910-S (P/N: 10V00191002X0)**
  Intel Atom® processor bay trail E3815, 1.46GHz with 2GB DDR3L SO-DIMM, U-blox M8N GPS on board, VGA output, 1 x LAN, 2 x RS-232 (Tx/Rx), 1 x RS-485 (Tx/Rx), 1 x CAN 2.0B, 3 x DI, 3 x DO, 1 x USB 2.0, 1 x USB 3.0, 1 x Line-out/Mic-in

VTC 1911-IPK

Intel Atom® E3815 Telematics IoT Gateway

IP67 Water and Dust Resistant

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Dimension Drawing

73.50
79.50
174.00
157.00
130.00
185.00
139.00
131.00
56.50
167.00

Main Features

- IP67 precision design to resist water and dust
- Built-in CAN 2.0B. Optional OBDII function (SAE J1939/J1708)
- U-blox NEO-M8N on board
- Dual SIM cards for WWAN modules
- Additional waterproof HDMI connector (by request)
- Smart power management with ignition on/off delay via software control and low voltage protection
- Wide range DC input from 9V~36V
- Wide operating temperature -40°C~70°C
- Certified by CE/FCC/E13 mark

Product Overview

VTC 1910-IPK, a waterproof entry-level vehicle computer with Intel Atom® processor E3815 (1.46GHz), is designed for the wet, dirty and harsh environment. The precision design to resist water and dust to IP67 (enclosure is immersed in water depth 1 meter for 20 minutes). It allows to comply with stringent MIL-STD-810G military standard in rugged, fanless and compact mechanism. Because of the lightweight design, it is especially for the vehicles with limited space to locate the computer system, but without compromising with its space to scarify its features.

VTC 1911-IPK has on board CAN 2.0B and optional OBD interface (SAE J1939/J1708) for vehicle diagnostics and driver behavior management. An advanced GPS receiver supports GPS/Glonass/QZSS/Galileo/Beidou. VTC 1911-IPK features WLAN and WWAN wireless data and voice connectivity. With external 2 x SIM socket which can support a better connectivity quality by software. VTC 1911-IPK keeps the flexibility to meet different demands for telematics applications, such as IoT gateway infotainment, fleet management and dispatching system.

Specifications

CPU
- Intel Atom® processor Bay Trail E3815, 1.46GHz

Memory
- 1 x 204-Pin DDR3L SO-DIMM socket support 1066MHz/1333MHz up to 8GB. Default 2GB

Storage
- 1 x mSATA
- 1 x SATA DOM or 1 x 2.5" SSD

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (mSATA + USB 2.0 + PCIe)

Function
- 1 x U-blox NEO-M8N on board (support GPS/Glonass/QZSS/Galileo/ BeiDou)
- Built-in G-sensor
- TPM 2.0

I/O Interface-Front
- 4 x LED for power, WWAN, Wi-Fi, storage
- 2 x SIM socket (micro type) with cover

- 1 x M12 (A-code) connector for 10/100/1000Mbps Ethernet
- 1 x (Male) 15-pin waterproof D-SUB connector
  - 1 x RS485 (TX+/TX-)
  - 1 x USB 2.0
  - 1 x Mic-in (L/R)
  - 1 x Line-out (L/R)
  - 1 x Optional VIOB-CAN-05/06 or 2 x video input
- 1 x (Female) 15-pin waterproof D-SUB connector
  - 2 x RS-232 (TX/RX)
  - 1 x CAN 2.0B (w/ isolation)
  - 3 x DI, 3 x DO
- 2 x Antenna hole for WWAN/WLAN

I/O Interface-Rear
- 1 x M12 5-pin circular power connector (ignition, power, GND)
- 1 x M12 (A-code) connector for 10/100/1000Mbps Ethernet
- 1 x 15-Pin waterproof D-SUB connector for VGA output
- 1 x Waterproof HDMI connector (by request)
- 3 x Antenna hole for WWAN/WLAN/GPS
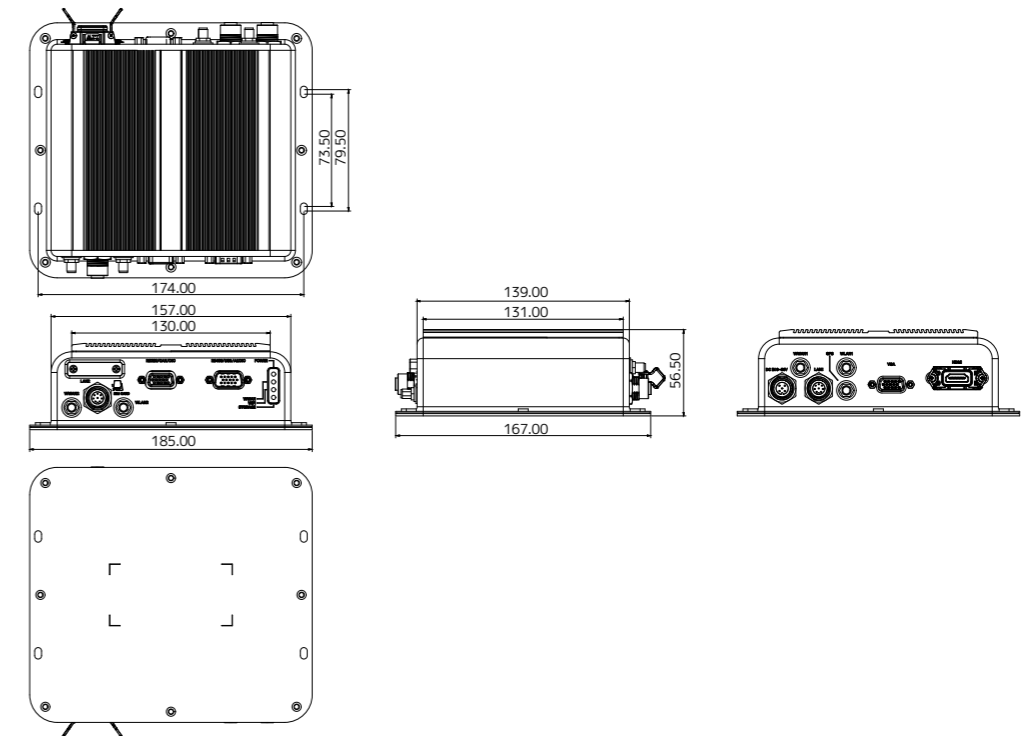
Operating System
- Windows 7
- Windows 10
- Linux (by request)

Dimensions
- 185 x 167 x 56.5 (W x D x H) (mm) (7.28" x 6.57" x 2.22")
- Weight: 1.1kg (2.42bs)

Environment
- Temperature
  - Operating temperatures: -40°C~70°C
  - Storage temperatures: -45°C~85°C
  - Damp heat test per EN60068-2-30
- Humidity
  - IEC60068-2-3, damp heat steady state test, 40°C, 95%, 48Hrs
- Vibration
  - IEC 60068-2-64, 2G
  - Operating: MIL-STD-810G, 514.6C Procedure 1, Category 4
  - Storage: MIL-STD-810G, 514.6E Procedure 1, Category 24
- Shock
  - MIL-STD-810G, 516.6 Procedure I, trucks and semi-trailers=40g
  - Crash hazard: Procedure V, ground equipment=75g

Certifications
- CE
- FCC Class A
- E13

Ordering Information

- **VTC 1911-IPK (P/N: 10V00191100X0)**
  Intel Atom® processor Bay Trail E3815, 1.46GHz with 2GB DDR3L SO-DIMM, U-blox M8N GPS on board, VGA output, 2 x LAN, 2 x RS-232 (Tx/Rx), 1 x RS-485 (Tx/Rx), 1 x CAN 2.0B, 3 x DI, 3 x DO, 1 x USB 2.0, 1 x Line-out/Mic-in

We reserve the right to change specifications and product descriptions at any time without prior notice.

MVS 2620-IP

In-Vehicle IP65-Rated Box Computer

NEXCOM

Dimension Drawing

Main Features

- IP65-rated rugged design
- Intel Atom®, 4c, 2.0GHz E3950 (Apollo-lake)
- 9~36VDC with ignition control
- Built-in GPS with optional dead reckoning

- Up to two WLAN or two 3G/LTE via 3 mini-PCIe slots
- Electrical isolation for CAN 2.0B & GPI/O
- Optional OBD function (SAE J1939/J1708)
- Rich and various GbE, USB 2.0, serial I/O and storages
- Compliant to E-mark and ISO 7637-2
- Compliant to MIL-STD-810G in vibration/shock

Product Overview

MVS 2620-IP, an IP65-rated rugged enclosure, maintenance-free box computer, is ideal for data acquisition in extreme environments throughout a number of in-vehicle applications, like transportation, heavy duty and waste management, etc. All external interfaces, including Gigabit Ethernet, isolated CAN Bus and digit I/O, USB, and RS232/485 serial ports, are implemented on IP67-proof connectors for reliable data transmission in harsh and rugged environments.

MVS 2620-IP is a modular design, it is flexible to use other kinds of expansion boards to extend different I/O functions for quickly tailored to a vast number of applications. Inside the system, there're four mini-PCIe slots with three SIM card slots offering WLAN, 3G/LTE, CAN OBD (SAE J1708/J1939) or CVBS functionality. Besides, it can operate at temperatures from -30°C~70°C under fanless.

MVS 2620-IP supports 9~36VDC power input with ignition managemnt and 12VDC at 2A maximun power output. It is compliant to E-mark and ISO 7637-2 in vehicle certificate and meet US military MIL-STD-810G, category 4, composite wheeled vehicle, for vibration and shock criteria.

Specifications

CPU
- Intel Atom®, 4C, 2.0GHz E3950 (Apollo Lake)

Memory
- 204-Pin DDR3L SO-DMIM socket support 1600MHz up to 8GB
- 2GB industrial grade memory in default

Storage
- 1 x 2.5" SATA 3.0 SSD/HDD
- 1 x CFast (externally acessible)

Expansion
- 1 x Full size mini-PCIe socket (USB 3.0/2.0)
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe)

GPS and On Board Sensor
- 1 x Default U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional modules with dead reckoning available
- Built-in G-sensor

Ethernet
- 2-Port 10/100/1000Mbps
- Controller: Intel® 1210-T1

Security
- TPM 2.0

I/O Interface-Front
- 6 x LED indicators for power/storage/WLAN/WWAN/status/health
- 1 x USB type A USB 2.0 port (w/lid)
- 1 x SIM slot (w/lid)
- 1 x Mic-in, 1 x Line-out, power & reset buttons for M12 connector
- 3 x Antenna holes for WWAN/GPS
- 1 x Expansion port (M12-type) reserved

I/O Interface-Rear
- Circular 22-pin:
  - 3x RS-232 (two for full, RI/5V/12V selectable)
- M12 8-pin
  - 1 x GbE
- M12 8-pin
  - 2 x USB 2.0
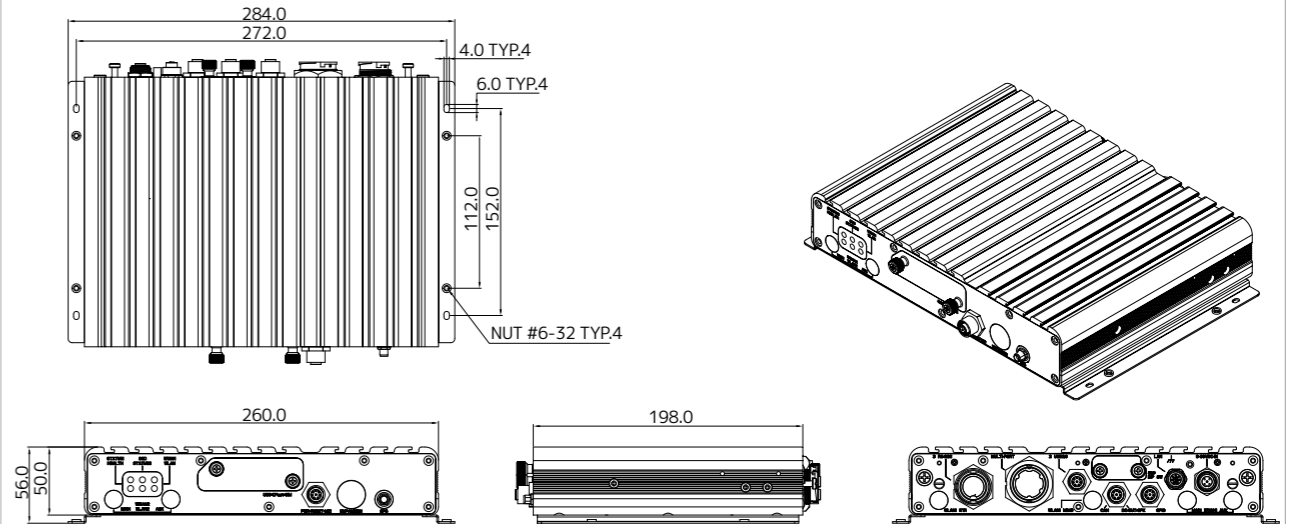
- M12 12-pin
  - 3-Bit GPO & 3-bit GPI
  - iButton
- M12 12-pin:
  - 1 x Line-out
  - DC12V-out, 2A max.
  - OBD from optional VIOB-CAN-05/06 module (SAE J1939/J1708)
  - 2 x CAN Bus 2.0B from optional VIOB-CAN-04 module
- Circular 31-pin:
  - 1 x VGA, resolution up to 2560 x 1600@60Hz
  - 1 x GbE
  - 2 x RS-485 (2-wire)
  - 1 x CAN 2.0B w/ isolation
- 6-Bit DIP switch (w/lid)
  - 3 x Digital inputs
    - Source-type: 9~36V-in (default)
    - Eexternal-type: 0~33VDC pull-high
    - Isolation
  - 3 x Digital outputs
    - Source-type: 9~36V-in (norminal 35 mA@24V) (default)
    - External 5~27VDC pull-high, sink current: typical 220mA for each bit, 500mA max. (@25°C)
    - Isolation
    - Source or external selected by 6-bit DIP Switch
- 1 x SIM card socket (w/lid) and 1x internal SIM card socket selectable
- 4 x Antenna holes for WLAN/WWAN
- 1 x M12 S-code for 9~36VDC-IN

Power Management

- Selectable boot-up & shut-down voltage for low power protection by software. Setting 8-level power on/off delay time by software. Support S3/S4 suspend mode

Operating System
- Windows 10 64-bit only, Linux YOCTO

Dimensions
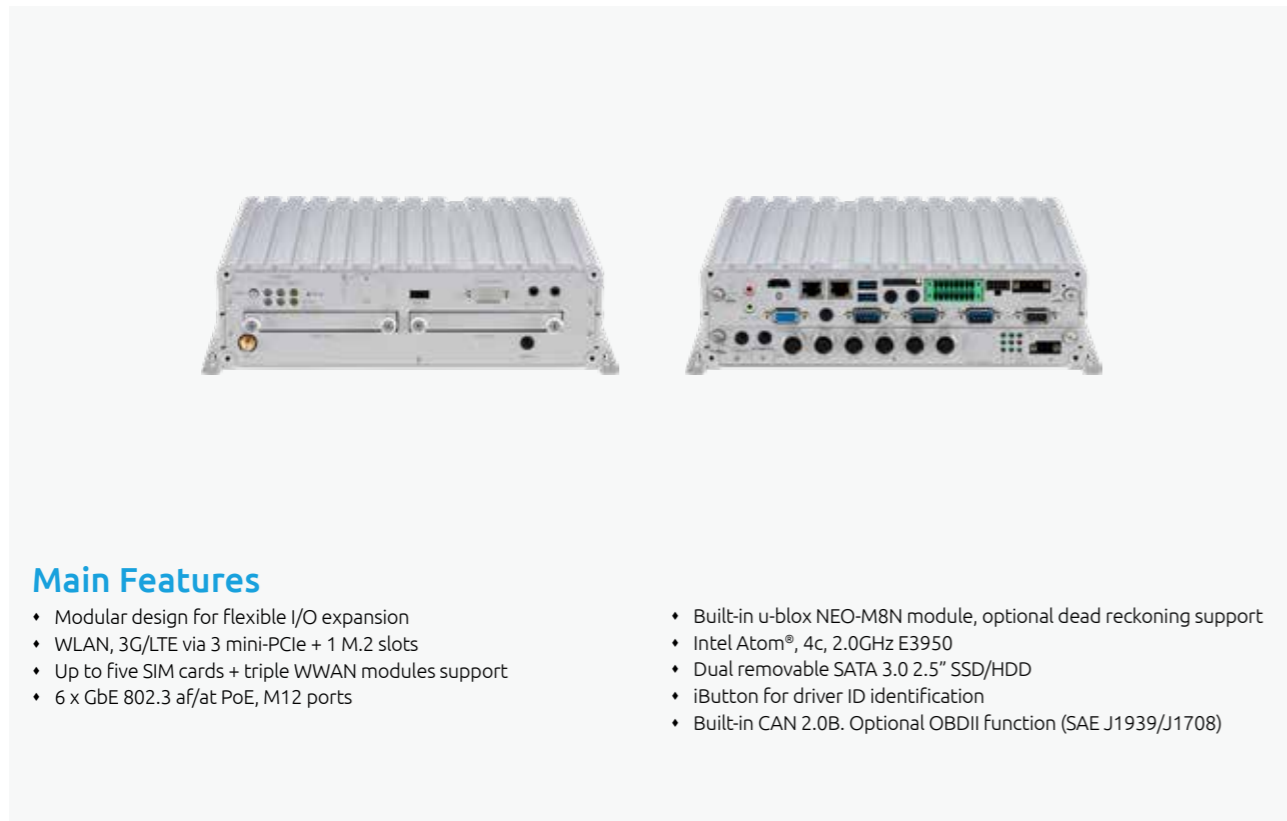- 260 x 198 x 50 (W x D x H) (mm) (10.24" x 7.80" x 1.97")
- 2.88kg

Environment
- Operating temperatures
  -30°C~70°C (w/industrial SSD) with air flow
- Storage temperatures: -40°C~80°C
- Relative humidity: 10%~90% (non-condensing)
- Vibration (random)
  1.5g@5~500Hz (in operation, HDD), 2g@5~500Hz (in operation, SSD)
- Vibration (SSD)
  - Operating: MIL-STD-810G, 514.6C, category 4
  - Storage: MIL-STD-810G, 514.6, category 24, minimum integrity test
- Shock (SSD/HDD)
  - Operating: MIL-STD-810G, Method 516.6, procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, E13

Ordering Information

- **MVS 2620-IPK (P/N: 10VS0262000X0)**
  Intel Atom® 4c E3950 (Apollo-lake) 2.0GHz, 2GB DDR3L industrial grade, 2 x GbE, VGA output, 3 x RS-232, 2 x RS-485, 3 x USB 2.0, 12VDC output, 1 x CAN 2.0B

- **Cables Kit (P/N: 10VS0262001X0)**
  External cables for all the communication ports

MVS 2623-C6SMK

6-CH PoE In-Vehicle Mobile Computer

NEXCOM

Dimension Drawing

284.0
272.0
4.0 TYP.4
6.0 TYP.4
112.0
152.0
NUT #6-32 TYP.4
260.0
196.0
79.6
73.6

Main Features

- Modular design for flexible I/O expansion
- WLAN, 3G/LTE via 3 mini-PCIe + 1 M.2 slots
- Up to five SIM cards + triple WWAN modules support
- 6 x GbE 802.3 af/at PoE, M12 ports
- Built-in u-blox NEO-M8N module, optional dead reckoning support
- Intel Atom®, 4c, 2.0GHz E3950
- Dual removable SATA 3.0 2.5" SSD/HDD
- iButton for driver ID identification
- Built-in CAN 2.0B. Optional OBDII function (SAE J1939/J1708)

Product Overview

MVS 2623-C6SMK 6-CH PoE In-vehicle mobile computer increases safety and security for bus passenger transportation with high video resolution and 2 removable extensive storage 2.5" SSD/HDD capacity. It connects up to 6 IP cameras + PoE function providing reliable and high quality video coverage around the bus.

MVS 2623-C6SMK is a modular design, it is flexible to use other kinds of expansion boards to extend different I/O functions for different applications.

MVS 2623-C6SMK leverages wireless networks to simplify fleet management with capabilities such as remote, real-time video monitoring. This remote capability keeps transit fleets in service around the clock.

Vehicle data integration and diagnostics are also carried out via CAN Bus and OBDII. MIL-STD-810G for shock and vibration is designed to operate in harsh environments. Optional internal back-up battery guards against any unexpected vehicle power failure or unstable vehicle power.

Specifications

CPU
- Intel Atom®, 4C, 2.0GHz E3950 (Apollo Lake)

Memory
- 204-pin DDR3L SO-DMIM socket support 1600MHz up to 8GB, default 2GB industrial grade memory

Storage
- 2 x 2.5" SATA 3.0 SSD/HDD, removable & hot swappable (optional lockable storage available)

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x M.2 B-key (3042)
- 1 x Full size mini-PCIe socket (USB 2.0)

GNSS and On Board Sensor
- 1 x Default U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional modules with dead reckoning available
- Built-in G-sensor

Power over Ethernet
- 6-Port M12 for 10/100/1000 Mbps PoE IEEE 802.3af/at conformity, total 60W PSE
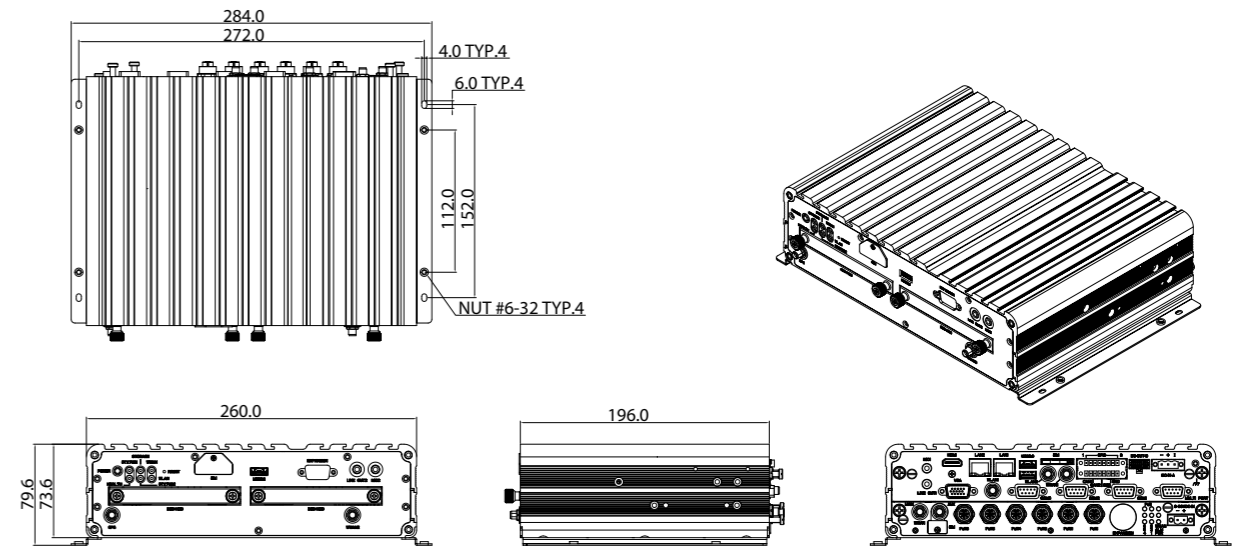
Security
- TPM 2.0

I/O Interface-Front
- 6 x LED indicators for power/storage/WLAN/WWAN/status/health
- 1 x Reset button
- 1 x USB type A USB 2.0 port
- 2 x Phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 1 x Externally accessible SIM card sockets
- 2 x Antenna holes for WWAN/WLAN/BT/GPS

I/O Interface-Rear
- 6 x M12 10/100/1000 Mbps PoE ports with LED
- 2 x RJ45 10/100/1000 Intel® Fast Ethernet with LED
- 1 x 9~36VDC input with ignition and 40W typical power consumption

- 2 x USB type A USB 3.0 port
- 2 x Phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 1 x DB-15 VGA, resolution up to 2560 x 1600 @60Hz
- 1 x HDMI port, resolution up to 2560 x 1600 @60Hz
- 2 x DB-9 RS-232
- 1 x DB-9 RS-232/422/485 (RI/5V/12V selectable)
- 1 x 12VDC output (2A) + SM Bus + 2 x MDI + power button
- 1 x DB9 connector for optional DR signal input, 2 x MDO and iButton
- 1 x 16-Pin terminal block connector
  - 1 x CAN Bus 2.0B (on board)
  - 1 x OBDII from optional VIOB-CAN-03 module (SAE J1939)
  - 1 x CAN Bus 2.0B from optional VIOB-CAN-03 module
  - 8 x Programmable GPIO
    (4 x Digital inputs in default)
    Input voltage (source type): 5VDC TTL (default)
    Input voltage (external type): 3 ~ 12VDC
    (4 x Digital outputs in default)
    Digital output (source type): 5VDC TTL (default), max current: 20mA
    Digital output (external type): 3 ~ 24VDC, max current: 150mA
- 1 x Externally acessible SIM card socket and 1x internal SIM card socket selectable

Power Management
- Selectable boot-up & shut-down voltage for low power protection by software. Setting 8-level power on/ off delay time by software. Support S3/S4 suspend mode

Rechargeable Battery (option)
- Lithium-ion polymer
- Nominal capacity 1100mAh
- Maximum charge current 1.0CmA

Operating System
- Windows 10 64-bit only, Linux YOCTO

Dimensions
- 260mm (W) x 196mm (D) x 79.6mm (H) (10.24" x 7.72" x 3.13")
- 4kg

Environment
- Operating temperatures:
  -30°C~70°C (w/ industrial SSD) with air flow
- Storage temperatures: -40°C~80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random):
  1.5g@5~500 Hz (in operation, HDD), 2g@5~500 Hz (in operation, SSD)
- Vibration (SSD):
  - Operating: MIL-STD-810G, Method 514.6C, Procedure 1, Category 4, common carrier US highway truck vibration exposure
  - Storage: MIL-STD-810G, Method 514.6E, Procedure 1, Category 24, minimum integrity test
- Shock (SSD/HDD):
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g (HDD); functional shock=40g (SSD)
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, E13 mark

Ordering Information

- **MVS 2623-C6SMK (P/N: 10VS0262301X0)**
  Intel Atom® quad core E3950 (Apollo Lake) 2.0GHz, 2GB DDR3L industrial grade SO-DIMM, 6 x M12 GbE PoE, 2 x GbE, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 2 x USB3.0, 1 x USB2.0, 12VDC output, 1 x CAN

- **Battery Kit (P/N: 88VS0560303X0)**
  Rechargeable battery, Lithium-ion, capacity 1100mAh

MVS 2623-C8SK

8-CH PoE Mobile NVR

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Main Features

- Modular design for flexible I/O expansion
- Three SIM cards + dual WWAN modules support
- 8 x 10/100/1000 Mbps 802.3af PoE ports
- Built-in u-blox NEO-M8N module, optional dead reckoning support
- Intel Atom®, 4c, 2.0GHz E3950
- Dual removable SATA 3.0 2.5" SSD/HDD
- iButton for driver ID identification
- Built-in CAN 2.0B. Optional OBDII function (SAE J1939/J1708)

Dimension Drawing

Product Overview

MVS 2623-C8SK 8-CH PoE Mobile NVR increases safety and security for bus passenger transportation with high video resolution and 2 removable extensive storage HDD/SSD capacity. It connects up to 8 IP cameras + PoE function providing reliable and high quality video coverage around the bus.

MVS 2623-C8SK is a modular design, it is flexible to use other kinds of expansion boards to extend different I/O functions for different applications.

MVS 2623-C8SK leverages wireless networks to simplify fleet management with capabilities such as remote, real-time video monitoring. This remote capability keeps transit fleets in service around the clock.

Vehicle data integration and diagnostics are also carried out via CAN Bus and OBDII. MIL-STD-810G for shock and vibration is designed to operate in harsh environments. Optional internal back-up battery guards against any unexpected vehicle power failure or unstable vehicle power.

Specifications

CPU
- Intel Atom®, 4C, 2.0GHz E3950 (Apollo Lake)

Memory
- 204-Pin DDR3L SO-DMIM socket support 1600MHz up to 8GB, default 2GB industrial grade memory

Storage
- 2 x 2.5" SATA 3.0 SSD/HDD, removable & hot swappable (optional lockable storage available)

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe)

GNSS and On Board Sensor
- 1 x Default U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional modules with Dead Reckoning available
- Built-in G-sensor

Power over Ethernet
- 8-Port RJ45 for 10/100/1000 Mbps PoE IEEE 802.3af conformity, total 60W
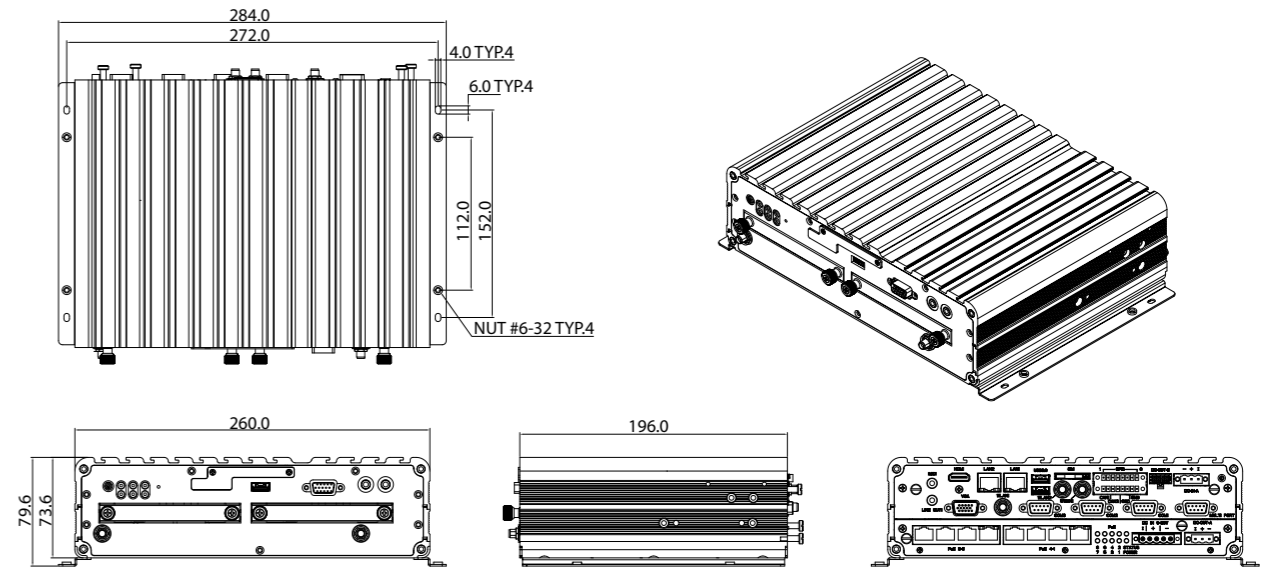
Security
- TPM 2.0

I/O Interface-Front
- 6 x LED indicators for power/storage/WLAN/WWAN/status/health
- 1 x Reset button
- 1 x USB type A USB 2.0 port
- 2 x Phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 1 x Externally accessible SIM card sockets
- 2 x Antenna holes for WWAN/WLAN/BT/GPS

I/O Interface-Rear
- 8 x RJ45 10/100/1000 Mbps PoE ports with LED
- 2 x RJ45 10/100/1000 Intel® Fast Ethernet with LED
- 1 x 9~36VDC input with ignition and 40W typical power consumption
- 2 x USB type A USB 3.0 port
- 2 x Phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 1 x DB-15 VGA, resolution up to 2560 x 1600 @60Hz
- 1 x HDMI port, resolution up to 2560 x 1600 @60Hz
- 2 x DB-9 RS-232
- 1 x DB-9 RS-232/422/485 (RI/5V/12V selectable)
- 1 x 12VDC output (2A) + SM Bus + 2 x MDI + power button
- 1 x DB9 connector for optional DR signal input, 2 x MDO and iButton

- 1 x 16-Pin terminal block connector
  - 1 x CAN Bus 2.0B (on board)
  - 1 x OBDII from optional VIOB-CAN-03 module (SAE J1939)
  - 1 x CAN Bus 2.0B from optional VIOB-CAN-03 module
  - 8 x Programmable GPIO
    (4 x Digital inputs in default)
      Input voltage (source type): 5VDC TTL (default)
      Input voltage (external type): 3 ~ 12VDC
    (4 x Digital outputs in default)
      Digital output (source type): 5VDC TTL (default), max current: 20mA
      Digital output (external type): 3 ~ 24VDC, max current: 150mA
- 1 x Externally acessible SIM card socket and 1x internal SIM card socket selectable

Power Management
- Selectable boot-up & shut-down voltage for low power protection by software. Setting 8-level power on/ off delay time by software. Support S3/S4 suspend mode

Rechargeable Battery (option)
- Lithium-ion polymer
- Nominal capacity 1100mAh
- Maximum charge current 1.0CmA

Operating System
- Windows 10 64-bit only, Linux YOCTO

Dimensions
- 1 x 16-Pin terminal block connector

- 260mm (W) x 196mm (D) x 79.6mm (H) (10.24" x 7.72" x 3.13")
- 4kg

Environment
- Operating temperatures: -30°C~70°C (w/ industrial SSD) with air flow
- Storage temperatures: -40°C~80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1.5g@5~500 Hz (in operation, HDD), 2g@5~500 Hz (in operation, SSD)
- Vibration (SSD/HDD):
  - Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  - Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD/HDD):
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, E13 mark

Ordering Information

- **MVS 2623-C8SK (P/N: 10VS0262300X0)**
  Intel Atom® quad core E3950 (Apollo-lake) 2.0GHz, 2GB DDR3L industrial grade SO-DIMM, 8 x GbE PoE, 2 x GbE, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 2 x USB 3.0, 1 x USB 2.0, 12VDC output, 1 x CAN

- **Battery Kit (P/N: 88VS0560303X0)**
  Rechargeable battery, Lithium-ion, capacity 1100mAh

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MVS 5600

Intel® Core™ i7 Modular Fanless In-Vehicle Computer

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Main Features

- Modular design for flexible I/O expansion
- Three SIM cards + dual WWAN modules support
- Wake on RTC/SMS via WWAN module
- Built-in u-blox NEO-M8N module, optional Dead Reckoning support
- Intel® Core™ dual core i7-6600U/i3-6100U
- Voice communication via WWAN module
- iButton for driver ID identification
- Built-in CAN 2.0B. Optional OBDII function (SAE J1939)

Product Overview

MVS 5600, based on 6th generation Intel® Core™ dual core i7-6600U 2.6GHz and i3-6100U 2.3GHz, is specifically designed for the harsh in-vehicle environment. It allows MVS 5600 to comply with stringent MIL-STD-810G military standard in rugged, fanless and compact mechanism.

MVS 5600 is a modular design, it is flexible to use other kinds of expansion boards to extend different I/O functions for different applications. MVS 5600 leverages wireless networks to simplify fleet management with capabilities such as remote, real-time video monitoring. This remote capability keeps transit fleets in service around the clock. Vehicle data integration and diagnostics are also carried out via CAN Bus and OBDII.

With iButton function, it is easy to perform driver identification management. Optional internal back-up battery guards against any unexpected vehicle power failure or unstable vehicle power.

Specifications

CPU
- 6th generation Intel® Core™ dual core i7-6600U, 2.6GHz/i3-6100U, 2.3GHz

Memory
- 2-channel 204-pin DDR3L SO-DMIM socket support 1600MHz up to 16GB, default 2GB industrial grade memory

Storage
- 1 x 2.5" SATA 3.0 SSD/HDD (removable & hot swappable), RAID 0, 1 supported (optional lockable storage available)
- 1 x CFast (externally accessible)

Expansion
- 1 x full size Mini-PCIe socket (USB 2.0)
- 1 x full size Mini-PCIe socket (USB 2.0 + PCIe)
- 1 x half size Mini-PCIe socket (USB 2.0 + PCIe)

GPS and On Board Sensor
- 1 x default U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional modules with Dead Reckoning available
- Built-in G-sensor
- Built-in TPM

I/O Interface-Front
- 6 x LED indicators for power/storage/WLAN/WWAN/Status/Health
- 1 x CFast socket with cover
- 1 x Reset button
- 2 x USB type A USB 3.0 port
- 2 x phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 1 x externally accessible SIM card sockets
- 2 x antenna holes for WWAN/WLAN/BT/GPS

I/O Interface-Rear
- 2 x RJ45 10/100/1000 Intel® Fast Ethernet with LED
- 1 x 9~36VDC input with ignition and 34W typical power consumption
- 2 x USB type A USB 3.0 port
- 2 x phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 1 x DB-15 VGA, resolution up to 2560 x 1600 @60Hz
- 1 x HDMI port, resolution up to 2560 x 1600 @60Hz
- 2 x DB-9 RS-232
- 1 x DB-9 RS-232/422/485 (RI/5V/12V selectable)
- 1 x 12VDC output (2A) + SM Bus + 2 x MDI + power button
- 1 x 16-pin terminal block connector
  - 1 x CAN Bus 2.0B (on board)
  - 1 x OBDII from optional VIOB-OBD-03 module (SAE J1939)
  - 1 x CAN Bus 2.0B from optional VIOB-CAN-03 module

Dimension Drawing
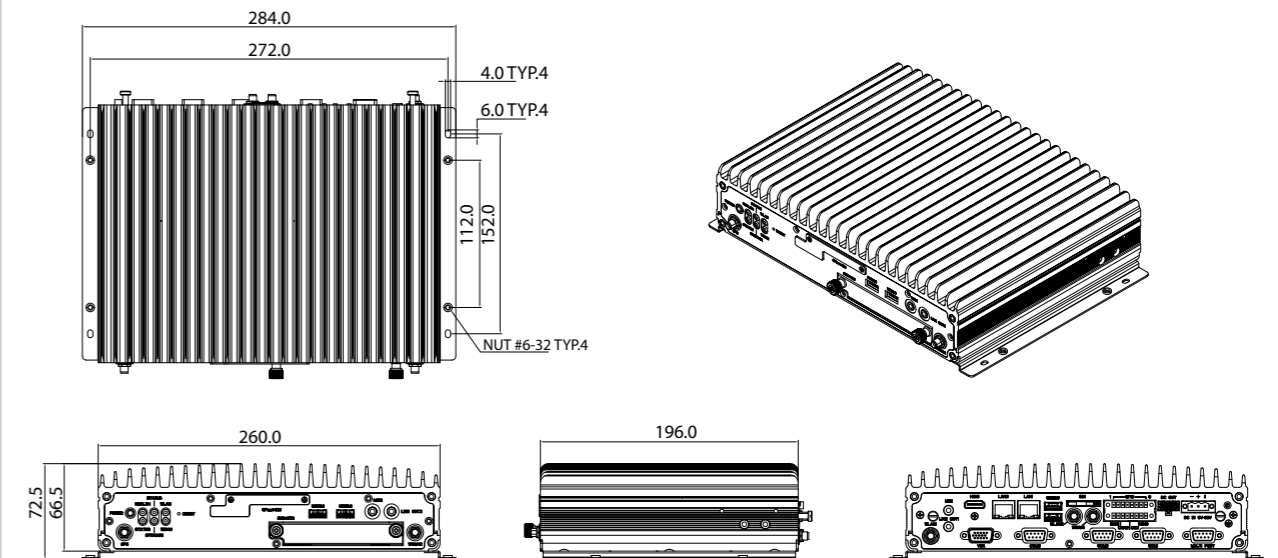
- 1 x DB9 connector for optional DR signal input, 2 x MDO and iButton
- 8 x programmable GPIO
  (4 x Digital inputs, w/ optional 3KV isolation protection)
    Input voltage (internal type): 5VDC TTL (default)
    Input voltage (source type): 3 ~24VDC
  (4 x Digital outputs, w/ optional 3KV isolation protection)
    Digital output (sink type): 5VDC TTL (default), max current: 20mA
    Digital output (source type): 3 ~ 24VDC, max current: 150mA

Power Management
- 1x externally acessible SIM card socket and 1x internal SIM card socket slectable
- Selectable boot-up & shut-down voltage for low power protection by software. Setting 8-level power on/ off delay time by software. Support S3/S4 suspend mode
- Optional internal 1100mAh, Li-Polymer rechargeable battery

Operating System
- Windows 7/Windows 10/Linux kernel 3.X

Dimensions
- 260mm (W) x 196mm (D) x 66.5mm (H) (10.24" x 7.72" x 2.62")
- 2.1kg

Environment
- Operating temperatures: -30°C~60°C (w/ industrial SSD) with air flow
- Storage temperatures: -40°C~80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1.5g@5~500 Hz (in operation, HDD), 2g@5~500 Hz (in operation, SSD)
- Vibration (SSD/HDD):
  - Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  - Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD/HDD):
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, E13 Mark

Ordering Information

- **MVS 5600-7BK (P/N: 10VS0560000X0)**
  6th generation Intel® Core™ dual core i7-6600U, 2.6GHz, 2GB DDR3L industrial grade SO-DIMM, 2 x 10/100/1000 Ethernet, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 2 x USB3.0, 2 x USB2.0 , 12VDC output, 1 x CAN

- **MVS 5600-3BK (P/N: 10VS0560001X0)**
  6th generation Intel® Core™ daul core i3-6100U, 2.3GHz, 2GB DDR3L industrial grade SO-DIMM, 2 x 10/100/1000 Ethernet, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 2 x USB3.0, 2 x USB2.0, 12VDC output, 1 x CAN

NEXCOM In-Vehicle Computer Solutions 25

We reserve the right to change specifications and product descriptions at any time without prior notice.

MVS 5600-IP

In-Vehicle IP65-Rated Box Computer

NE*COM

Main Features

- IP65-rated rugged design
- Intel® Core™ dual core i7-6600U/i3-6100U (Skylake)
- 9~36VDC with ignition control
- Built-in GPS with optional dead reckoning
- Up to 2WLAN or two 3G/LTE via 3 mini-PCIe slots
- Electrical isolation for CAN 2.0B & GPI/O
- Optional OBD function (SAE J1939/J1708)
- Rich and various GbE, USB 2.0/3.0, serial I/O and storages
- Compliant to E-mark and ISO 7637-2
- Compliant to MIL-STD-810G in vibration/shock

Dimension Drawing

Product Overview

MVS 5600-IP, an IP65-rated rugged enclosure, maintenance-free box computer, is ideal for data acquisition in extreme environments throughout a number of in-vehicle applications, like transportation, heavy duty and waste management, etc. All external interfaces, including Gigabit Ethernet, isolated CAN Bus and digit I/O, USB, and RS232/485 serial ports, are implemented on IP67-proof connectors for reliable data transmission in harsh and rugged environments.

MVS 5600-IP is a modular design, it is flexible to use other kinds of expansion boards to extend different I/O functions for quickly tailored to a vast number of applications. Inside the system, there're four mini-PCIe slots with three SIM card slots offering WLAN, 3G/LTE cat.12, CAN OBD (SAE J1708/J1939) or CVBS functionality. Besides, it can operate at temperatures from -30℃~60℃ under fanless.

MVS 5600-IP supports 9~36VDC power input with ignition managemnt and 12VDC at 2A maximun power output. It is compliant to E-mark and ISO 7637-2 in vehicle certificate and meet US military MIL-STD-810G, category 4, composite wheeled vehicle, for vibration and shock criteria.

Specifications

CPU
- 6th generation Intel® Core™ dual core i7-6600U, 3.4GHz/i3-6100U, 2.3GHz

Memory
- 204-Pin DDR3L SO-DMIM socket support 1600MHz up to 16GB
- 2GB industrial grade memory in default

Storage
- 1 x 2.5" SATA 3.0 SSD/HDD
- 1 x CFast (externally acessible)

Expansion
- 1 x Full size mini-PCIe socket (USB 3.0/2.0)
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe)

GPS and On Board Sensor
- 1 x Default U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional modules with dead reckoning available
- Built-in G-sensor

Ethernet
- 2-Port 10/100/1000Mbps
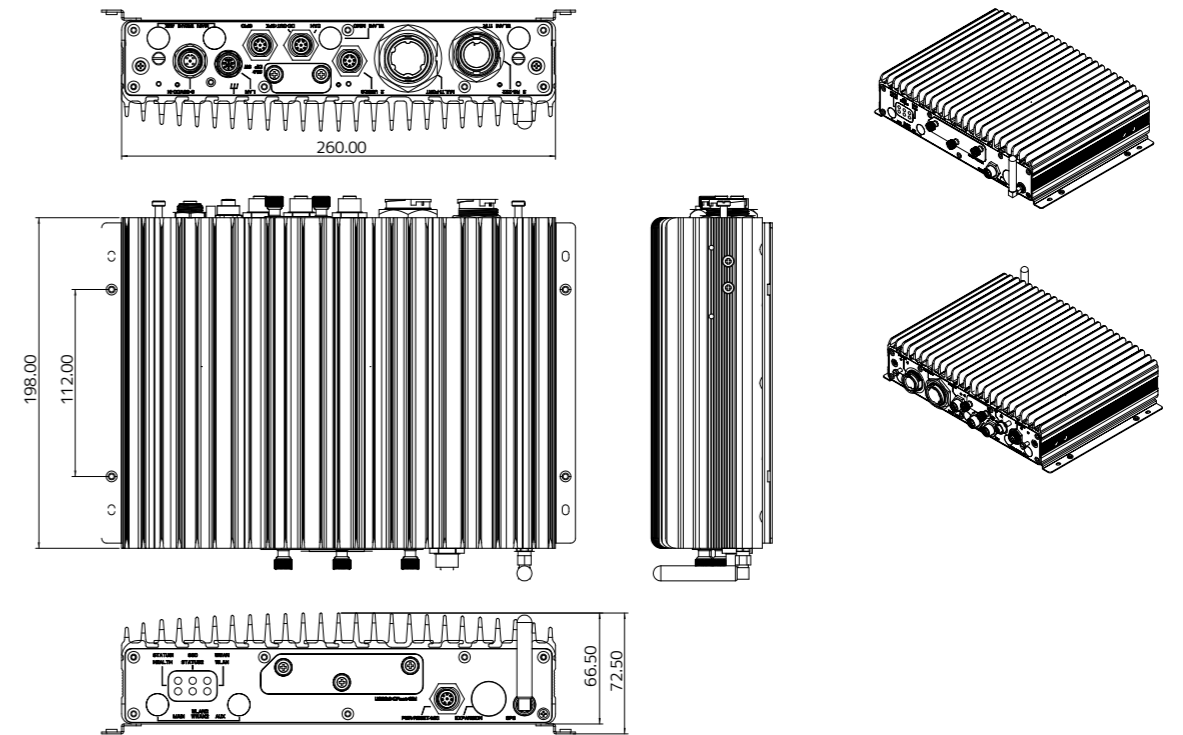- Controller: Intel® 1210-T1

Security
- TPM in option

I/O Interface-Front
- 6 x LED indicators for power/storage/WLAN/WWAN/status/health
- 1 x USB type A USB 3.0 port (w/lid)
- 1 x SIM slot (w/lid)
- 1 x Mic-in, 1 x Line-out, power & reset buttons for M12 connector
- 3 x Antenna holes for WWAN/GPS
- 1 x Expansion port (M12-type) reserved

I/O Interface-Rear
- Circular 22-pin
  - 3 x RS-232 (two for full, RI/5V/12V selectable)
- M12 8-pin
  - 1 x GbE
- M12 8-pin
  - 2 x USB 2.0
- M12 12-pin
  - 3-Bit GPO & 3-bit GPI
  - iButton
- M12 12-pin
  - 1 x Line-out
  - DC12V-out, 2A max.
  - OBD from optional VIOB-CAN-05/06 module (SAE J1708/J1939)
  - 2 x CAN Bus 2.0B from optional VIOB-CAN-04 module
- Circular 3-pin
  - 1 x VGA, resolution up to 2560 x 1600@60Hz
  - 1 x GbE
  - 2 x RS-485 (2-wire)
  - 1 x CAN 2.0B w/ isolation
- M12 S-code
  - DC 9~36V input with ignition and 40W typical power consumption
- 6-Bit DIP switch (w/lid)
  - 3 x Digital inputs
    - Source-type: 9~36V-in (default)
    - Eexternal-type: 0~33VDC pull-high
    - Isolation
  - 3 x Digital outputs
    - Source-type: 9~36V-in (norminal 35mA@24V) (default)
    - External 5~27VDC pull-high, sink current: typical 220mA for each bit, 500mA max. (@25℃)
    - Isolation
    - Source or external selected by 6-bit DIP Switch
- 1 x SIM card socket (w/lid) and 1x internal SIM card socket selectable
- 4 x Antenna holes for WLAN/WWAN
- 1 x M12 S-code for 9~36VDC-IN

Power Management
- Selectable boot-up & shut-down voltage for low power protection by software. Setting 8-level power on/off delay time by software. Support S3/S4 suspend mode

Operating System
- Windows 7/Windows 10/Linux kernel 3.X

Dimensions
- 260 x 198 x 66.5 (W x D x H) (mm) (10.24" x 7.80" x 2.62")
- 3.3kg

Environment
- Operating temperatures
  -30℃~60℃ (w/industrial SSD) with air flow
- Storage temperatures: -40℃~80℃
- Relative humidity: 10%~90% (non-condensing)
- Vibration (random)
  1.5g@5~500Hz (in operation, HDD), 2g@5~500Hz (in operation, SSD)
- Vibration (SSD)
  - Operating: MIL-STD-810G, 514.6C, category 4
  - Storage: MIL-STD-810G, 514.6, category 24, minimum integrity test
- Shock (SSD/HDD)
  - Operating: MIL-STD-810G, Method 516.6, procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, E13

Ordering Information

- **MVS 5600-3IPK (P/N: 1VS0560005X0)**
  Intel® Core™ 2c i3-6100U (Skylake) 2.3GHz, 2GB DDR3L industrial grade, 2 x GbE, VGA output, 3 x RS-232, 2 x RS-485, 2 x USB 2.0, 1 x USB 3.0, 12VDC output, 1 x CAN 2.0B

- **MVS 5600-7IPK (P/N: 1VS0560004X0)**
  Intel® Core™ 2c i7-6600U (Skylake) 3.4GHz, 2GB DDR3L industrial grade, 2 x GbE, VGA output, 3 x RS-232, 2 x RS-485, 2 x USB 2.0, 1 x USB 3.0, 12VDC output, 1 x CAN 2.0B

- **Cable Kit (P/N: 10VS0262001X0)**
  External cables for all the communication ports
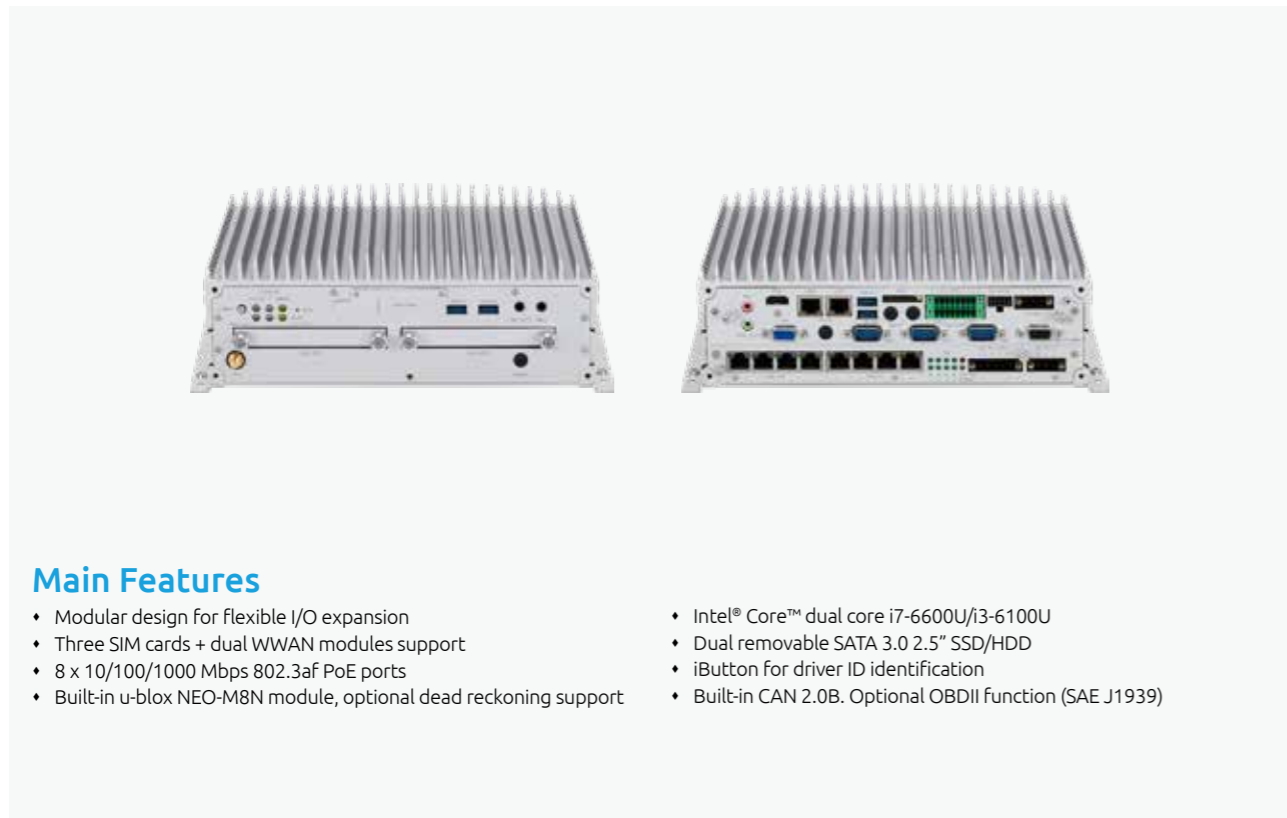
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MVS 5603-C8SK

8-CH PoE Mobile NVR

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Main Features

- Modular design for flexible I/O expansion
- Three SIM cards + dual WWAN modules support
- 8 x 10/100/1000 Mbps 802.3af PoE ports
- Built-in u-blox NEO-M8N module, optional dead reckoning support
- Intel® Core™ dual core i7-6600U/i3-6100U
- Dual removable SATA 3.0 2.5" SSD/HDD
- iButton for driver ID identification
- Built-in CAN 2.0B. Optional OBDII function (SAE J1939)

Dimension Drawing

Product Overview

MVS 5603-C8SK 8-CH PoE Mobile NVR increases safety and security for bus passenger transportation with high video resolution and 2 removable extensive storage HDD/SSD capacity. It connects up to 8 IP cameras + PoE function providing reliable and high quality video coverage around the bus.

MVS 5603-C8SK is a modular design, it is flexible to use other kinds of expansion boards to extend different I/O functions for different applications.

MVS 5603-C8SK leverages wireless networks to simplify fleet management with capabilities such as remote, real-time video monitoring. This remote capability keeps transit fleets in service around the clock.

Vehicle data integration and diagnostics are also carried out via CAN Bus and OBDII. MIL-STD-810G for shock and vibration is designed to operate in harsh environments. Optional internal back-up battery guards against any unexpected vehicle power failure or unstable vehicle power

Specifications

CPU
- 6th generation Intel® Core™ dual core i7-6600U, 2.6GHz/i3-6100U, 2.3GHz

Memory
- 2-Channel 204-pin DDR3L SO-DMIM socket support 1600MHz up to 16GB, default 2GB industrial grade memory

Storage
- 2 x 2.5" SATA 3.0 removable HDD/SSD trays
- 1 x CFast

Expansion
- 1 x Full size mini-PCIe socket (USB 2.0)
- 1 x Full size mini-PCIe socket (USB 2.0 + PCIe)
- 1 x Half size mini-PCIe socket (USB 2.0 + PCIe)

GNSS and On Board Sensor
- 1 x Default U-blox NEO-M8N GNSS module for GPS/Gloness/QZSS/Galileo/Beidou
- Optional modules with Dead Reckoning available
- Built-in G-sensor

Power over Ethernet
- 8-Port RJ45 for 10/100/1000 Mbps PoE IEEE 802.3af conformity, total 60W
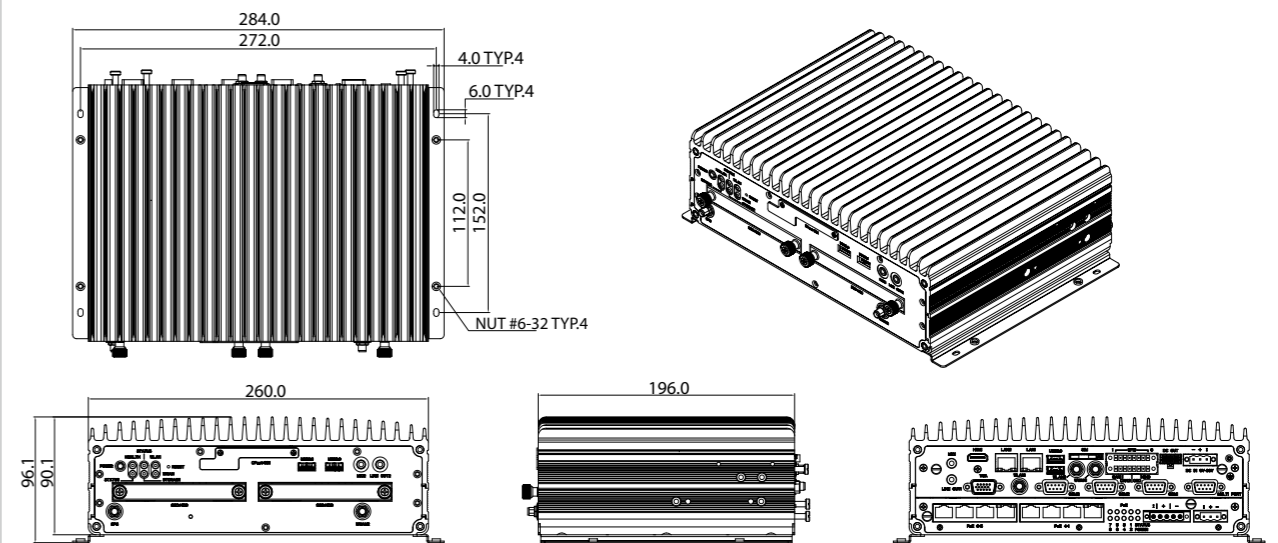
I/O Interface-Front
- 6 x LED indicators for power/storage/WLAN/WWAN/status/health
- 1 x CFast socket with cover
- 1 x Reset button
- 2 x USB type A USB 3.0 port
- 2 x Phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 2 x Externally accessible SIM card sockets
- 2 x Antenna holes for WWAN/WLAN/BT/GPS

I/O Interface-Rear
- 8 x RJ45 10/100/1000 Mbps PoE ports with LED
- 2 x RJ45 10/100/1000 Intel® Fast Ethernet with LED
- 1 x 9~36VDC input with ignition and 40W typical power consumption
- 2 x USB type A USB 3.0 port
- 2 x phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- 1 x DB-15 VGA, resolution up to 2560 x 1600 @60Hz
- 1 x HDMI port, resolution up to 2560 x 1600 @60Hz
- 2 x DB-9 RS-232

- 1 x DB-9 RS-232/422/485 (RI/5V/12V selectable)
- 1 x 12VDC output (2A) + SM Bus + 2 x MDI + power button
- 1 x DB9 connector for optional DR signal input, 2 x MDO and iButton
- 1 x 16-Pin terminal block connector1 x CAN Bus 2.0B (on board)
  - 1 x CAN Bus 2.0B (on board)
  - 1 x OBDII from optional VIOB-OBD-03 module (SAE J1939)
  - 1 x CAN Bus 2.0B from optional VIOB-CAN-03 module
  - 8 x Programmable GPIO
    (4 x Digital inputs, w/ optional 3KV isolation protection)
    Input voltage (source type): 5VDC TTL (default)
    Input voltage (external type): 3~12VDC
    (4 x Digital outputs, w/ optional 3KV isolation protection)
    Digital output (source type): 5VDC TTL (default), max current: 20mA
    Digital output (external type): 3~24VDC, max current: 150mA

Power Management
- Selectable boot-up & shut-down voltage for low power protection by software. Setting 8-level power on/ off delay time by software. Support S3/S4 suspend mode

Operating System
- Windows 7/Windows 10/Linux kernel 3.X

Dimensions
- 260mm (W) x 196mm (D) x 91mm (H) (10.24" x 7.72" x 3.58")
- 4kg

Environment
- Operating temperatures:
  -30°C~60°C (w/ industrial SSD) with air flow
- Storage temperatures: -40°C~80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random):
  1.5g@5~500 Hz (in operation, HDD), 2g@5~500 Hz (in operation, SSD)

- Vibration (SSD/HDD):
  - Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  - Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD/HDD):
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Certifications
- CE approval, FCC Class A, E13 mark

Ordering Information

- **MVS 5603-7C8SK (P/N: 10VS0560300X0)**
  6th generation Intel® Core™ dual core i7-6600U, 2.6GHz, 2GB DDR3L industrial grade SO-DIMM, 8 x 10/100/1000 PoE, 2 x 10/100/1000 Ethernet, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 4 x USB, 12VDC output, 1 x CAN

- **MVS 5603-3C8SK (P/N: 10VS0560301X0)**
  6th generation Intel® Core™ daul core i3-6100U, 2.3GHz, 2GB DDR3L industrial grade SO-DIMM, 8 x 10/100/1000 PoE, 2 x 10/100/1000 Ethernet, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 4 x USB, 12VDC output, 1 x CAN

We reserve the right to change specifications and product descriptions at any time without prior notice.

nROK 1020

Intel Atom® x5-E3930 processor Fanless Railway Computer
with EN50155 Conformity

NEXCOM

www.nexcom.com

Main Features

- Compact and fanless design
- Built-in GPS receiver with optional dead reckoning function
- Variety of wireless communication options
- Smart power management with Ignition on/off delay via software control and low voltage protection
- Wide range DC input from 9~36V
- EN50155 Class TX conformity
- Compliance to EN45545-2
- 5 x RS232 and 2 x RS485

Dimension Drawing

Product Overview

nROK 1020, a compact, rugged and entry-level railway computer with Intel Atom® x5-E3930 processor dual core 1.8GHz, is designed for the harsh railway related applications. Because of the compact design, it is easy to be located without compromising its features.

Adopting lock concept, LAN, Power-in and Audio, are all designed against vibration and shock impact. An advanced GPS receiver supports GPS/Gloness/QZSS/Galileo/Beidou and optional dead reckoning module is also available. Thanks to 2 mini-PCIe socket, nROK 1020 is perfectly suited for wireless applications, such as WLAN and WWAN data and voice transmission. With external SIM socket, it allows users to access SIM card conveniently. 12VDC output can be provided for external display with easy power wire arrangement. nROK 1020 is very suitable for Passenger Information System, Automatic Fare Collections and digital radio data/voice transmission applications.

Specifications

CPU
- Intel Atom® x5-E3930 processor dual core 1.8GHz

Memory
- 1 x 204-pin DDR3L SO-DIMM socket support 1867MHz up to 8GB. Default 2GB

Expansion
- 1 x mini-PCIe socket (USB)
- 1 x mini-PCIe socket (PCIe + USB + mSATA)

Function
- 1 x u-blox NEO-M8N module (support GPS/Gloness/QZSS/Galileo/Beidou) or optional module with Dead Reckoning
- Built-in G-sensor
- Built-in TPM

I/O Interface-Front
- 1 x power button
- 4 x LED indicators for Status (programmable), Storage, WLAN and WWAN
- 1 x system reset button
- 2 x type A USB 3.0 compliant host, supporting system boot up
- 1 x DB-15 VGA
- 1 x HDMI
- 1x external SIM card socket

- 1 x circular connector for 9~36VDC input with ignition and 20W typical power consumption
- 1 x circular connector for Audio-In and Audio-Out
- 1 x M12 connector for 10/100/1000Mbps Ethernet

I/O Interface-Rear
- 1 x 12V/2A DC output, SMBus, power button
- 1 x DB15 COM port for 4 x RS232 Tx/Rx and 2 x RS485
- 1 x DB15 for multi port
  - 1 x CAN2.0
  - 1 x RS232 Tx/Rx
  - 1 x odometer and direction for optional DR
  - 5 x programmable DIO
    Input voltage (internal type): 5VDC TTL (default)
    Input voltage (source type): 3~24VDC
    Digital output (sink type): 5VDC TTL (default), max current: 20mA
    Digital output (source type): 3~24VDC
- 3 x Antenna hole for SMA-type antenna (WWAN/WLAN/GPS)
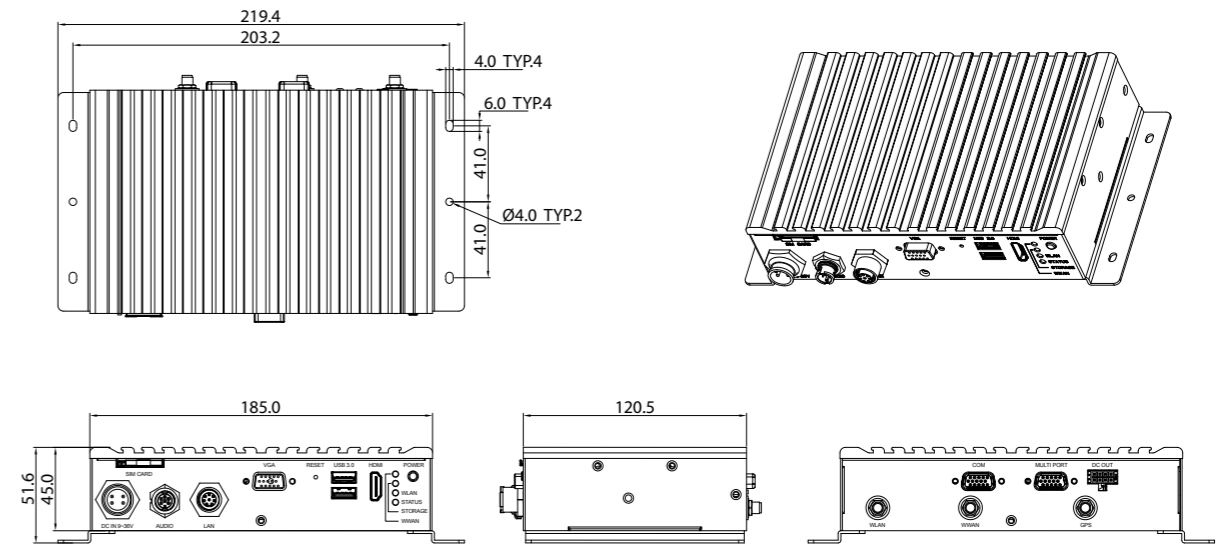
Expandable Storage
- 1 x 2.5" SSD SATA 3.0
- 1 x mSATA

Operating System
- Windows 10 64-bit only
- Linux YOCTO (by request)

Power Management
- Selectable boot-up & shut-down voltage for low power protection
- HW design ready for 8-level delay time on/off at user's self configuration
- Power on/off ignition, software detectable
- Support S3, S4 suspend mode

Dimensions
- 185mm (W) x 120mm (D) x 45mm (H) (7.3" x 4.7" x 1.8")
- 1 kg (2.20 lbs)

Construction
- Aluminum top case with sheet metal

Environment
- Storage temperatures: -40°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration:
  Vibration (random): 2g @5~500 Hz
  Operating: MIL-STD-810F, Method 514.5, Category 20, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810F, Method 514.5, Category 24, Integrity Test
- Shock:
  Operating: MIL-STD-810F, Method 516.5, Procedure I, Trucks and semi-trailers=20g
  Crash hazard: MIL-STD-810F, Method 516.5, Procedure V, Ground equipment=75g

Standards/Certifications
- CE approval
- FCC Class A
- 24VDC EN50155 Class TX conformity

Ordering Information

- **nROK 1020-A (P/N: 10V00102002X0)**
  Intel Atom® x5-E3930 processor 1.8GHz with 2GB DDR3L, U-blox GPS module, GPS antenna, EN50155 Class TX (24VDC w/o isolation)

VMC 3020

NEXCOM

Main Features

- 10.4" XGA TFT LCD monitor with 5-wire resistive touch
- Aluminum die-casting and fanless design
- Built-in Intel Atom® x5-E3930 processor, 1.8GHz
- Automatic/manual brightness control
- Touch with heater supported
- On screen F1 ~ F10 programmable function keys
- Powered USB and COM (5V/12V, 1.5A) for accessories
- Military standard for vibration and shock
- UPS Battery supported
- iButton and RFID for ID identification
- Wide range DC input from 9V~60V DC in
- Sunlight readable capability: 1,200nits LCD brightness
- Operating system: Windows and Linux
- CE/FCC/EMark

Product Overview

VMC 3020, 10.4-inch all in one robust vehicle mount computer, is designed for the warehouses, logistic and material handling market. It implements the latest Intel Atom® x5-E3930 processor (codename Apollo Lake) and can work on Windows and Linux for different OS. markets. To work well in the special warehouse application, VMC 3020 specially designs powered I/O (up to 12V DC out) to power on printer, scanner... Besides, heater inside VMC 3020 can help forklift resume to work quickly when it stays in snow for a long time. Back-up battery can assist system without stopping working if power battery in forklift suddenly drops down. 1,200 nits brightness is for sunlight readable purpose.

Specifications

LCD Panel
- 10.4-inch TFT LCD panel with LED backlight
- 1024 x 768 pixels (XGA)
- Brightness: 1200 cd/m² (typical)
- Viewing angle: 140° (H):120°(V)
- Contrast ratio: 500:1 (typical)

Touch Screen Sensor
- 5-wire resistant touch
- Anti-glare coating surface
- Transmission rate: 81 ± 3%

CPU & Chipset
- Intel Atom® x5-E3930 processor dual core 1.8GHz

Memory
- One 204-pin DDR3L 1600MHz SO-DIMM slot (Default: 2GB)

Expandable Storage
- 1 x CFast
- 1 x 2.5" SATA SSD bay

Expansion
- 1 x half-size mini-PCIe socket (PCIe + USB) for WLAN option
- 1 x full-size mini-PCIe socket (USB) x 1 for WWAN option
- 1 x M.2 key-E (PCIe + SDIO + UART + USB) for WLAN option
- 1 x SIM slot

I/O Interface-Front
- 5 x on screen display buttons
  Power on/off
  Volume control (+/-)
  Brightness control (+/-)
- Light sensor
- 4 x LED indicators (power/battery charging, WLAN, shift, storage)
- F1 ~ F10 programmable function keys
- 2 x Built-in 2W speakers

I/O Interface-Lateral
- Right Side:
  1 x CFast card slot
  System reset button
  USB 2.0 host type A connector
- Left Side:
  1 x antenna for WWAN

I/O Interface-Bottom
- 1 x Power Switch (ATX mode)
- Lockable power connector (power, ignition, ground)
- 2 x RS232 (full signals, RI, 0V, 5V/1.5A, 12V/1.5A)
- 1 x RJ45 for Giga LAN
- 1 x DB15
  - 1 x Isolated CAN 2.0B
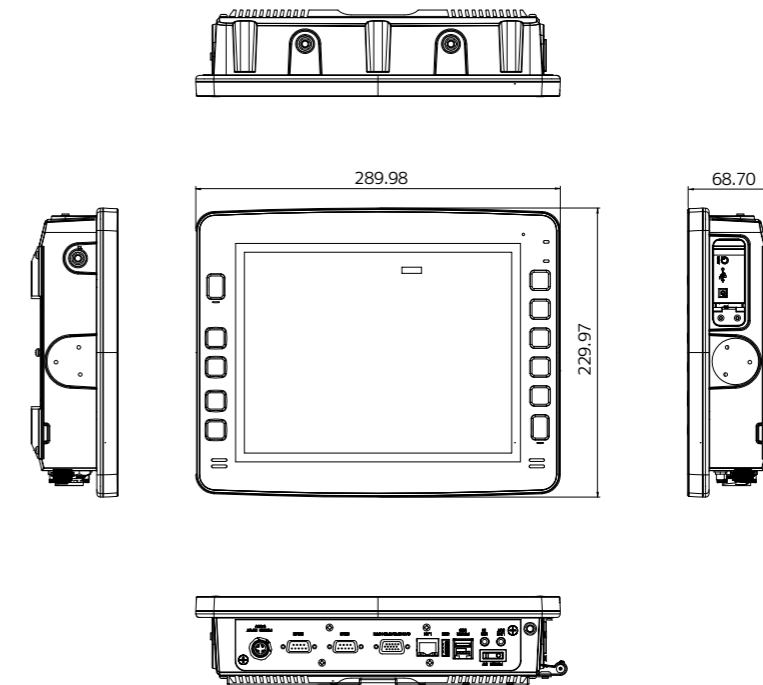
- 1 x iButton
- 1 x RFID (12V/1A. 5V/1A, 4pin)
- 1 x Optional RS232 Tx/Rx (share with GPS UART)
- 2 x GPI
  Sink type: 5VDC TTL (default)
  Source type: 3 ~ 28VDC
- 2 x GPO
  Sink type: 5VDC TTL (default), max current: 20mA
  Source type: 3 ~ 28VDC, max current: 150mA
- 1 x Powered USB (5V/1.5A, 12V/1.5A)
- 1 x USB Type A (5V/1A)
- 1 x Mic-in, 1 x Line-out
- 1 x Antenna for GPS

I/O Interface-Top
- 2 x Antenna for Wi-Fi

Mechanical
- Cooling system: Fanless
- Enclosure: Aluminum die castig
  Mounting: VESA 75/100 & desktop mounting
- Ingress protection: front panel IP65
- Dimension: 289.98mm(W) x 229.97mm(H) x 68.70mm(D)
- Weight: 3kg, 6.61lb

Power Management
- 9V~60V DC in (UPS: 12V, 24V, 36V and 48V)
- Reverse protection/over voltage protection/under voltage protection
- Ignition On/Off control & programmable On/Off delay timing
- Wake up by SMS, RTC and ignition

Dimension Drawing

289.98

68.70

229.97

Operating System
- Windows 10 64-bit only
- Linux: YOCTO (by request)

Environment
- Operating temperatures: Ambient with air -30°C to 60°C
- Storage temperatures: -30°C to 70°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration
  Operating: MIL-STD-810G, 514.6 Procedure 1, Category 4
  Storage: MIL-STD-810G, 514.6 Procedure 1, Category 24
- Shock
  Operating: MIL-STD-810G, Method 516.6, Procedure I, trucks and semi-trailers= 20g
  Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, ground equipment= 75g

Standards/Certifications
- CE/FCC class B/E13

Ordering Information

- **VMC 3020 (P/N: 10VC0320000X0)**
  10.4" Rugged Vehicle Mount Computer with Intel Atom® x5-E3930, Touch Screen and Front IP65 w/o Heater

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VMD 2003

Main Features

- 8" SVGA TFT LCD monitor
- ultraONE+ technology
- 10M transmission distance for video input
- Analog camera x 4 supported
- One cable only to connect with the system
- Automatic/Manual brightness control
- Remote power on/off to system
- On screen control buttons
- Display powered from system
- On screen control buttons
- Support USB 2.0 type A
- Sunlight readable solution: 1,000cd/m² (typ.)
- Front panel compliant with IP54
- Line-out and Mic-in

Dimension Drawing

Product Overview

VMD 2003 is a 8-inch high-brightness TFT LCD monitor with 4 wire resistive touch, analog cameras x 4 supported and ultraONE+ technology. ultraONE+ technology can help to transmit video and audio content up to 10 meters, which offers the best advantage to solve the cabling issue when implemented into the vehicle with limited space. Unique design to connect with analog cameras x 4 can guarantee drivers to see the video content within 1 second, beneficial for the safety a lot. Besides, there is only one cable between VMD 2003 and Nexcom telematics computer, contributing to solving the cabling issue, saving the implementation cost, and increasing the reliability. VMD 2003 also provides friendly user interface to driver with the advantage of hot keys x 5, IP54 protection and 1,000nits brightness (typ.).

Specifications

General
- Enclosure: plastic PC + ABS
- Mounting: support VESA mount: 75mm x 75mm
- Power input: 24VDC
- Power consumption: 14W
- Ingress protection: front panel IP54
- Dimension: 207mm (W) x 173mm (H) x 36.7mm (D)
  (8.15" x 6.81" x 1.44")
- Weight (net): around 0.8Kg, 1.76Lb

LCD Panel
- 8-inch TFT LCD panel with LED backlight
- 800 x 600 pixels (SVGA)
- Brightness: 1,000 cd/m² (typical)
- Contrast ratio: 500: 1 (typical)

Touch Screen Sensor
- 4-wire resistant touch
- Anti-glare coating surface

I/O Interface-Front
- On screen display buttons x 5
  - Power on/off
  - Brightness control (+/-)
  - Volume control (+/-)
- Light sensor
- 2 x LED indicators
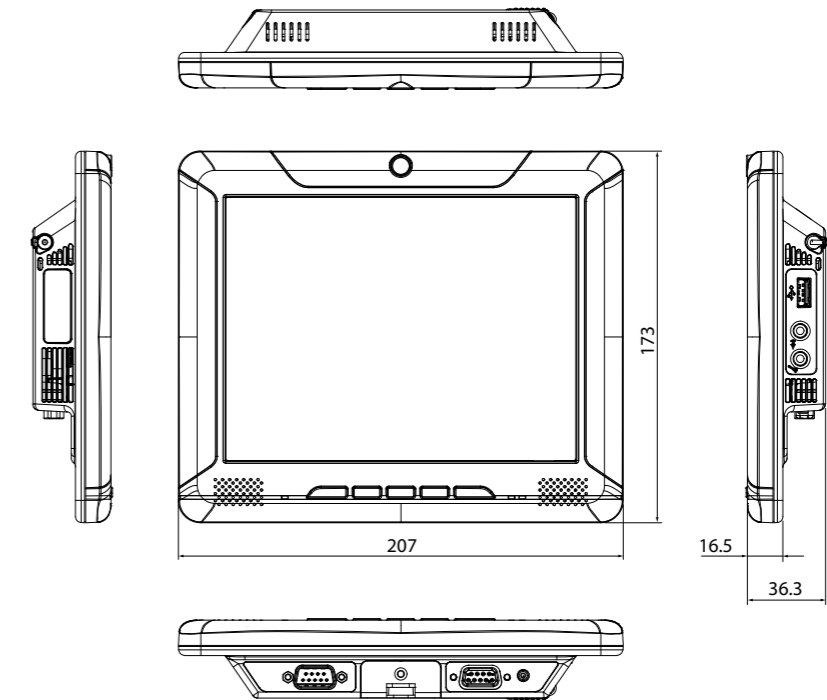- 2 x Built-in speakers (1.2W)

I/O Interface-Lateral
- 1 x USB type A for storage
- 1 x Line-out (automatic detection/switch to external speaker)
- 1 x Mic-in

I/O Interface-Bottom
- 1 x Remote button to power on/off the system
- 1 x DB9 (male, integrating USB, power, video, audio and DO) to connect with the system
- 1 x DB9 (female) for analog camera x 4 (CVBS)

Environment
- Operating temperature: -20℃ to 60℃
- Storage temperature: -30℃ to 70℃
- Vibration (random): 2.5g@5 ~ 500 Hz
- Vibration
  Operating: MIL-STD-810G, 514.6 Procedure 1, Category 4, Ground Vehicle – Highway Truck
  Storage: MIL-STD-810G, 514.6 Procedure 1, Category 4, Integrity Test
- Shock
  Operating: MIL-STD-810G, Method 516.6, Procedure I, Trucks and semi-trailers=40g
  Crash hazard: MIL-STD-810G, Method 516.6, Procedure V, Ground equipment=75g

Standards/Certifications
- CE approval
- FCC Class B

Ordering Information

- **VMD 2003 (P/N: 10VD0200300X0)**
  VMD 2003-BS 8" 800 x 600 Vehicle Display 1000nits w/CVBS x 4

Accessories

- **BNC x 4 Cable (P/N: 6030000291X00)**
  30cm for VMD2003

- **ultraONE+ Cable (DB9)(P/N: 6030000289X00)**
  5M for VMD2003

- **ultraONE+ cable (DB9) (P/N: 6030000290X00)**
  10M for VMD2003

VES30-4S

4 + 1 Gigabit Ethernet Switch with 4-Port PoE

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Dimension Drawing

139.6

166.92

211.00

51.49

Main Features

- 4 x 10/100/1000 Mbps PoE port (802.3af compliance)
- 15.4W at 48VDC for each PoE port
- Low battery voltage protection
- CE/FCC, E13 mark certification
- Wide power input range 9 ~ 36VDC
- -30 ~ 70°C operating temperature
- Ignition power on/off support
- Power on/off delay time setting

Product Overview

VES30-4S mobile PoE switch is designed for telematics applications in harsh environments with fanless enclosure. It provides 5 Giga bit Fast Ethernet ports including 4 IEEE 802.3af compliance PoE ports to transfer large amounts of video streaming, voice and critical data across Ethernet network smoothly and quickly.

As the power source from a vehicle is unstable by nature, the mobile PoE switches support a wide voltage input range of 9VDC to 36VDC and provide smart power management with low battery voltage protection, power-on and power-off delay timer, and auto ignition power on/off functions. These unique features can secure reliable operation and prevent premature failure of both the PoE switches and vehicle.

VES30-4S is encased in a fanless dustproof enclosure and can operate under shock, vibration, and temperature extremes from -30 to 70°C. The mobile PoE switches are also small in size and support din rail mounting for ease of installation with PD devices such as IP cameras and Wi-Fi access points.

Specifications

Architecture
- Switch architecture. Highly integrated, unmanaged-smart gigabit, store and forward switch
- 4K entry MAC address table with automatic learning and aging

Power over Ethernet
- PoE standard IEEE 802.3af Power over Ethernet/PSE
- PoE power supply type end-span
- PoE power output per port 48V DC, 350mA. max. 15.4 watts

Network Connector
- 4-port RJ45 for 10/100/1000 base-T. PoE IEEE 802.3af compliance, total 60W
- 1-port RJ45 for 10/100/1000 base-T

Standard Compliance
- IEEE 802.3 for 10BaseT Ethernet
- IEEE 802.3u for 100BaseT(X) Fast Ethernet
- IEEE 802.3ab for 1000BaseT(X) Gigabit Ethernet
- IEEE 802.3x for flow control
- IEEE 802.3af Power Over Ethernet

I/O Interface
- Power: 1 x 9~36VDC input with ignition
- Ethernet
  - 4 x RJ45 10/100/1000 Mbps PoE port, 802.3af compliance
  - 1 x RJ45 10/100/1000 Mbps
- LED
  - 1 x power indicator
  - 4 x PoE indicator
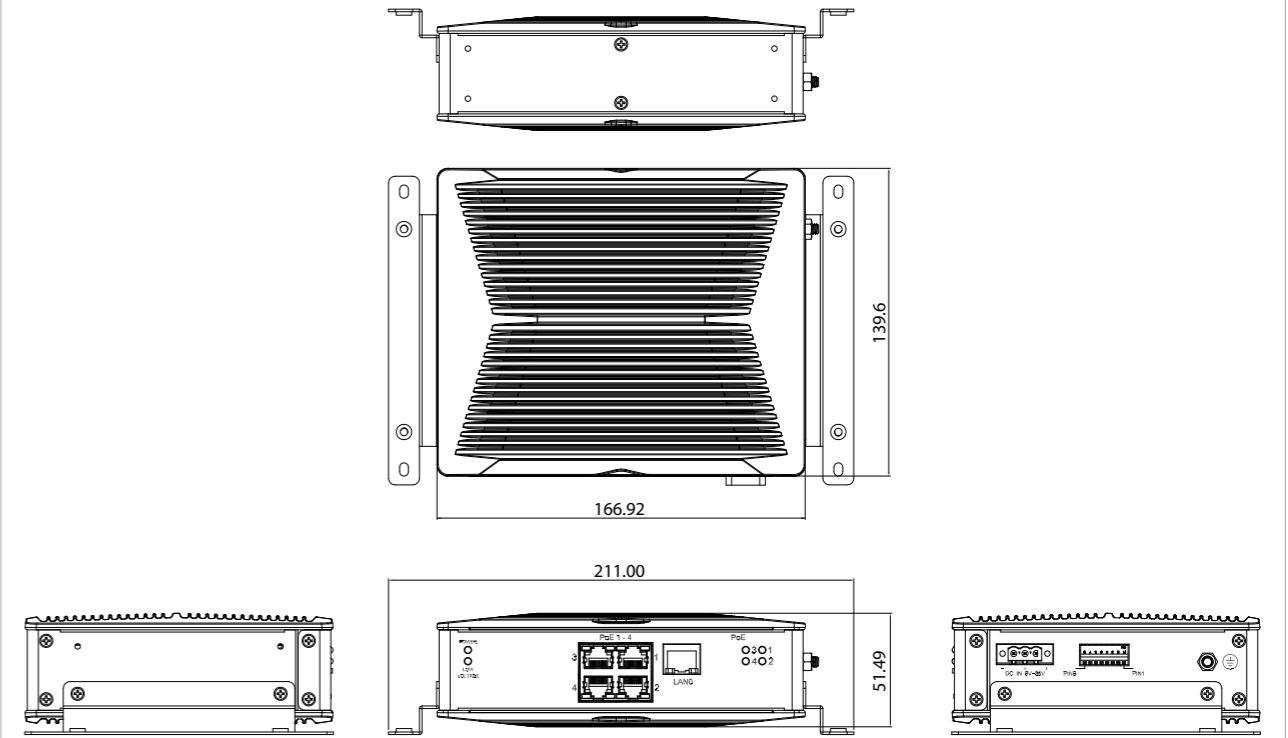 - 1 x low voltage protection indicator

Power Management
- Selectable boot-up & shut-down voltage for low power protection by Dip switch
- Power on/ off delay time setting by Dip switch

Dimensions
- 167 x 51.49 x 139.6 mm (65.75" x 20.27" x 54.96")
- Weight: 1kg
- Support Horizontal Mounting, DIN- Rail Mounting (option) and vertical Mounting (option)

Environment
- Operating temperatures: Ambient with air -30°C to 70°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5~500 Hz
- Vibration:
  Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock:
  Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  Non-Operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Standards/Certifications
- CE approval
- FCC Class B
- E13 Mark

Ordering Information

- **VES30-4S (P/N: 10VE0003000X0)**
  4 x RJ45 10/100/1000 PoE port (802.3af), 1 x RJ45 10/100/1000 Ethernet port, 9 ~ 36VDC input, ignition detection, low voltage protection, delay timer, E13 mark

We reserve the right to change specifications and product descriptions at any time without prior notice.

VES30-8S

8 + 1 Gigabit Ethernet Switch with 8-Port PoE

NEXCOM

Main Features

- 8 x 10/100/1000 Mbps PoE port (802.3af compliance)
- 15.4W at 48VDC for each PoE port
- Low battery voltage protection
- CE/FCC, E13 mark certification
- Wide power input range 9 ~ 36VDC
- -30 ~ 70°C operating temperature
- Ignition power on/off support
- Power on/off delay time setting

Dimension Drawing

139.6

166.92

211.00

51.49

Product Overview

VES30-8S mobile PoE switch is designed for telematics applications in harsh environments with fanless enclosure. It provides 9 Giga bit Fast Ethernet ports including 8 IEEE 802.3af compliance PoE ports to transfer large amounts of video streaming, voice and critical data across Ethernet network smoothly and quickly.

As the power source from a vehicle is unstable by nature, the mobile PoE switches support a wide voltage input range of 9VDC to 36VDC and provide smart power management with low battery voltage protection, power-on and power-off delay timer, and auto ignition power on/off functions. These unique features can secure reliable operation and prevent premature failure of both the PoE switches and vehicle.

VES30-8S is encased in a fanless dustproof enclosure and can operate under shock, vibration, and temperature extremes from -30 to 70°C. The mobile PoE switches are also small in size and support din rail mounting for ease of installation with PD devices such as IP cameras and Wi-Fi access points.

Specifications

Architecture
- Switch architecture. Highly integrated, unmanaged-smart gigabit, store and forward switch
- 4K entry MAC address table with automatic learning and aging

Power over Ethernet
- PoE standard IEEE 802.3af Power over Ethernet/PSE
- PoE power supply type end-span
- PoE power output per port 48V DC, 350mA. max. 15.4 watts

Network Connector
- 8-port RJ45 for 10/100/1000 base-T. PoE IEEE 802.3af compliance, total 120W
- 1-port RJ45 for 10/100/1000 base-T

Standard Compliance
- IEEE 802.3 for 10BaseT Ethernet
- IEEE 802.3u for 100BaseT(X) Fast Ethernet
- IEEE 802.3ab for 1000BaseT(X) Gigabit Ethernet
- IEEE 802.3x for flow control
- IEEE 802.3af Power Over Ethernet

I/O Interface
- Power: 1 x 9~36VDC input with ignition
- Ethernet
  - 8 x RJ45 10/100/1000 Mbps PoE port, 802.3af compliance
  - 1 x RJ45 10/100/1000 Mbps
- LED
  - 1 x power indicator
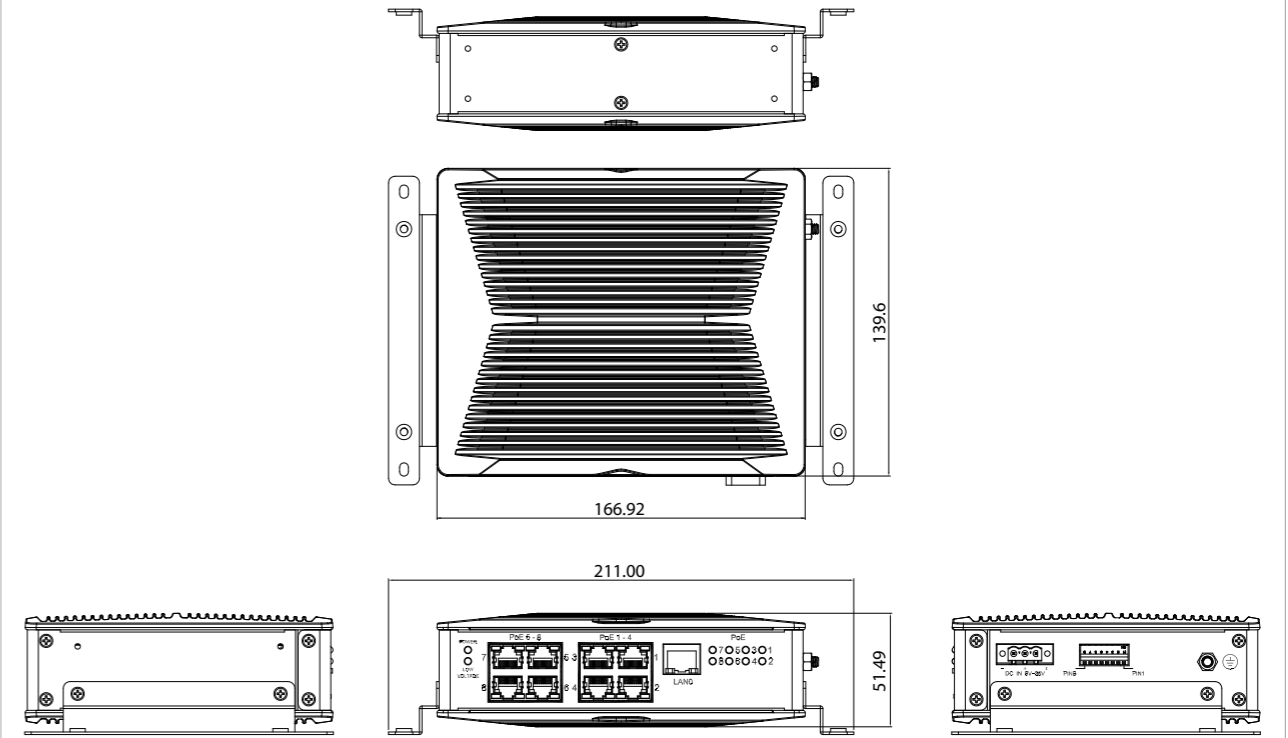 - 8 x PoE indicator
  - 1 x low voltage protection indicator

Power Management
- Selectable boot-up & shut-down voltage for low power protection by Dip switch
- Power on/ off delay time setting by Dip switch

Dimensions
- 167 x 51.49 x 139.6 mm (65.75" x 20.27" x 54.96")
- Weight: 1kg
- Support Horizontal Mounting, DIN- Rail Mounting (option) and vertical Mounting (option)

Environment
- Operating temperatures: Ambient with air -30°C to 70°C
- Storage temperatures: -35°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random): 1g@5~500 Hz
- Vibration:
  Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock:
  Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
- Non-Operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

Standards/Certifications
- CE approval
- FCC Class B
- E13 Mark

Ordering Information

- **VES30-8S (P/N: 10VE0003001X0)**
  8 x RJ45 10/100/1000 PoE port (802.3af), 1 x RJ45 10/100/1000 Ethernet port, 9 ~ 36VDC input, ignition detection, low voltage protection, delay timer, E13 mark

NEXCOM In-Vehicle Computer Solutions 39

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本製品に関するお問い合わせは

2018082500