



## 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-DIMM socket support 1600MHz up to 16GB, default 2GB industrial grade memory

### Storage

- 2 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/Glonass/QZSS/Galileo/Beidou
- Optional modules with Dead Reckoning available
- Built-in G-sensor
- Built-in TPM

### I/O Interface-Front

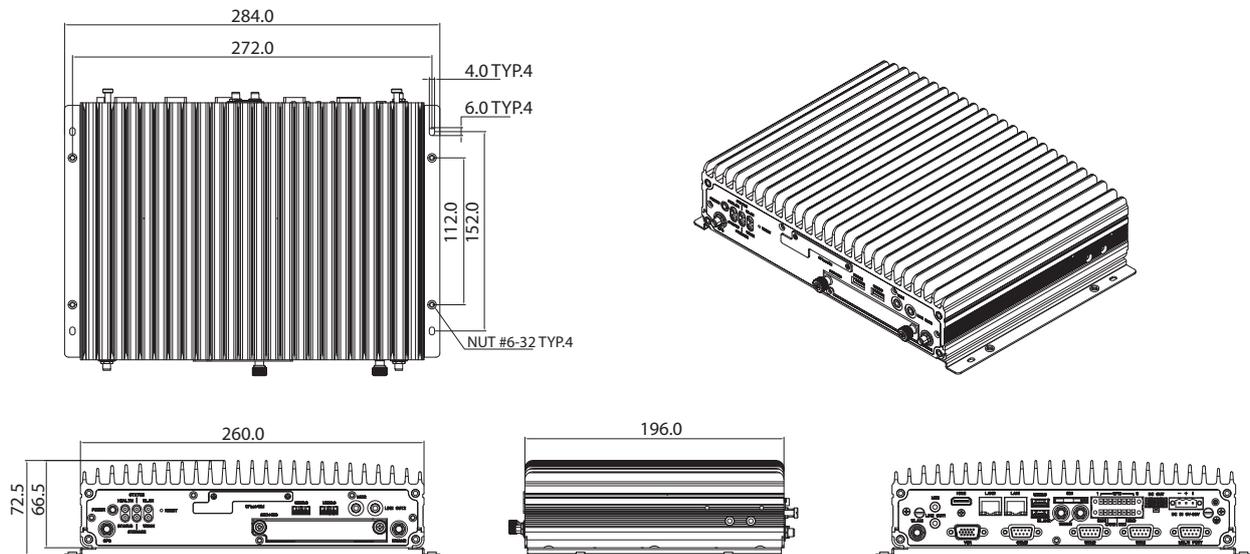
- 6 x LED indicators for power/storage/WLAN/WWAN/Status/Health
- 1 x CFast socket with cover

- 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 (R1/5V/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-OBDD-03 module (SAE J1939)
  - 1 x CAN Bus 2.0B from optional VIOB-CAN-03 module
  - 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)

## Dimension Drawing



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 accessible SIM card socket and 1x internal SIM card socket selectable
- 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/WES7/Windows 8/WES8/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, Class A, E13 Mark

## Ordering Information

### ♦ MVS 5600-7BK (P/N: 10VS056000X0)

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™ dual 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