ASSURED SYSTEMS

In-vehicle Computing

NEOUSYS TECHNOLOGY
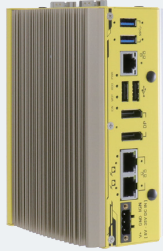
POC-451VTC Series

Intel® Elkhart Lake Atom® x6425E Ultra-compact In-vehicle Computer with 3x 2.5G, PoE+ and M.2/mPCIe for WIFI/4G/5G Modules

Key Features

- · Intel® Atom® x6425E quad-core processor
- · Rugged -25°C to 70°C fanless operation
- · 2x 2.5GbE PoE+ ports and 1x 2.5GbE port
- · 1x M.2 2242/ 3052 B key for 4G/5G module
- · 2x M.2 2230 E key for WIFI and edge TPU module
- · Conduction-cooled heatsink for M.2/ mPCIe modules
- · Dual M.2 2280 M key for SATA SSD
- · 8~35V DC input with built-in ignition power control

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Introduction

POC-451VTC is an ultra-compact in-vehicle computer with E-Mark certificate for in-vehicle applications, such as mobile gateway, mobile surveillance and passenger information system. It leverages the latest Intel® Elkhart Lake Atom® x6425E CPU, delivering 1.8x and 2x performance improvement for the CPU and GPU respectively, compared to the previous generation.

POC-451VTC provides multiple M.2 and mPCIe slots for installation of 4G/5G, WIFI5/6, CAN bus and edge TPU module for modern in-vehicle applications. It can therefore extend WIFI and broadband wireless communication as well as AI inference functionality inside a compact footprint. More than that, POC-451VTC introduces a dedicated conduction-cooled heat spreader to bring out and dissipate heat generated by M.2/mPCIe modules to maintains optimal system performance at high temperature environment.

POC-451VTC further offers three 2.5GBASE-T Ethernet ports with PoE+ capability for powering PoE PD devices, such as IP camera and GigE camera. They are backward-compatible with 1000/100 Mbps Ethernet to work with most existing Ethernet devices. It also provides isolated DIO for sensor/ actuator control and 8V-35V wide range DC input with ignition power control for in-vehicle deployment.

Combining significant performance boost, 2.5G PoE+ ports, superior thermal reliability for communication and inference, POC-451VTC is a AI-capable, mobile gateway solution to explore more possibility of versatile in-vehicle applications.
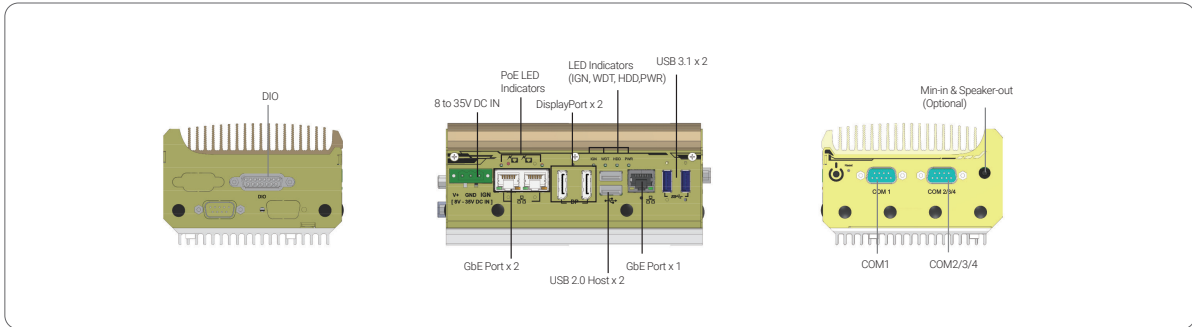
Specifications

System Core

Processor	Intel® Elkhart Lake Atom® x6425E quad-core 2.0GHz/3.0GHz 12W processor
Graphics	Integrated Intel® UHD Graphics
Memory	Up to 32 GB DDR4-3200 SDRAM by one SODIMM socket
TPM	Supports fTPM 2.0

Panel I/O Interface

Ethernet	3x 2.5GBASE-T Ethernet ports by Intel® I225 GbE controllers
PoE	IEEE 802.3at PoE+ on port #2 and #3
Video Port	2x DisplayPort connector, supporting 4096 x 2160 resolution @ 60Hz
USB 3.1	2x USB 3.1 Gen1 (5 Gbps) ports
USB 2.0	2x USB 2.0 ports
Serial Port	1x software-programmable RS-232/422/485 ports (COM1) 3x 3-wire RS-232 ports (COM2/3/4) or 1x RS-422/485 port (COM2)
Audio	Optional 1x 3.5 mm jack for mic-in and speaker-out
Isolated DIO	4x isolated DI and 4x isolated DO

Internal Expansion Bus

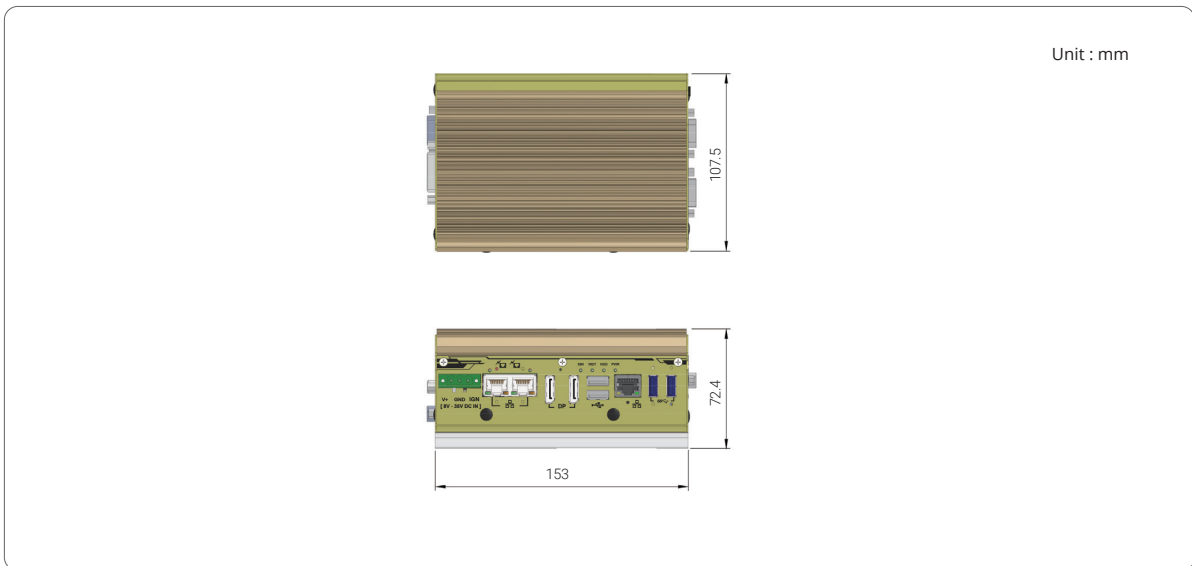|	
M.2 E key	2x M.2 2230 E key socket for WiFi or Google edge TPU
M.2 B key	1x M.2 2242/ 3052 B key socket for 4G/5G module with dual SIM support
Mini-PCIe	1x full-size mini-PCIe socket (USB2 signal only)

Power Supply

DC Input	1x 3-pin pluggable terminal block for 8 to 35V DC input

Mechanical

Dimension	153 mm (W) x 108 mm (D) x 72 mm (H)
Weight	0.96 kg
Mounting	Vertical-type wall-mount (standard) DIN-rail mount (optional)

Storage Interface

M.2 M key	2x M.2 2280 M key sockets for SATA SSD

Environmental

Operating Temperature	-25°C ~ 70°C*/**
Storage Temperature	-40°C ~85°C
Humidity	10%~90% , non-condensing
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
EMC	E-Mark CE/FCC Class A, according to EN 55032 & EN 55035

* For wide temperature use condition, a wide temperature/industrial M.2 M key SATA SSD module is required.
** For full function use condition (mini-PCIe and M.2 are all adopted), the operating temperature may be constrained by mini-PCIe and M.2 modules.Please contact Neousys Technology.

POC-451VTC Series

Appearance

Dimensions

Unit : mm

107.5

72.4

153

Ordering Information

Model No.	Product Description
POC-451VTC	Intel® Elkhart Lake Atom® x6425E ultra-compact in-vehicle computer with 3x 2.5G, PoE+ and M.2/mPCIe for WIFI/4G/5G modules

Optional Accessories

PA-60W-OW	60W AC/DC power adapter with 12V, 5A DC output, cord end terminals for terminal block. Operating temperature : -30 to 60 °C
PA-120W-OW	60W AC/DC power adapter with 12V, 5A DC output, cord end terminals for terminal block. Operating temperature : -30 to 60 °C
Cbl-DB9F-3DB9M-15CM	1x DB9 (Female) to 3x DB9 (Male), length: 15CM

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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