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# Datasheet

## Distec

### SBC NPA-2009

**5.25" EBX Single-Board Computer with Intel Tiger Lake-U Series CPU  
and unique V-by-One / eDP / USB Docking Connector**

PC-61-206, SBC NPA-2009-1145G7E



Version 0.1

08.03.2022

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## 1 Revision History

Date	Rev.No.	Description	Page
08.03.2022	0.1	Preliminary Version	All

## 2 Description

The 5.25-inch single board computer (SBC) is designed specifically for industrial and low-cost applications. It is developed for 24/7 operation. The Intel® Tiger Lake-U UP3 Low Power Series processor of the 11th generation is available for the long term and designed for industrial applications. The SBC is equipped with the Intel® i5-1145G7E. Optionally, the SBC is available with the embedded processors Intel® i7-1185G7E, i3-1115G4E or Celeron® 6305E for a small MOQ.

As a special feature, the SBC has an internal V-by-One and eDP interface. Optionally the SBC can be equipped with a unique docking connector, which has V-by-One, eDP and USB interface. Additionally, the board can be powered with 24V DV-in via the docking connector.

The 5.25" SBC has a variety of other interfaces, such as 2x Gigabit Ethernet, 3x M.2 socket, audio with 6W amplifier, 3x USB 3.2, USB-C Alt Mode, 2x USB 2.0, 1x RS232, 1x RS232/422/485. In addition to V-by-One and eDP connectors, three DisplayPort connectors (once via the USB-C connector) are available as graphics interfaces.

## 3 Features

- 11th Gen. Intel® Tiger Lake Core™ i5-1145G7E embedded processor  
Optional Intel® i7-1185G7E, i3-1115G4E or Celeron® 6305E
- **V-by-One** and **eDP**, optional via Unique docking connector
- 3x DisplayPort (1x USB-C Alt mode)
- 2x Intel® Gigabit Ethernet
- 1x RS232, 1x RS232/422/485
- 24V DC-in

## 4 Specification

<b>Processor</b>	CPU	11th Gen. Intel® Core™ <b>i5-1145G7E</b> Optional: i7-1185G7E, i3-1115G4E or 6305E	
	Chipset	PCH integrated in 11 <sup>th</sup> Gen. processor	
	Frequency	1.5 GHz (i5-1145G7E), up to 4.1 GHz	
	Cores / Threads	4 / 8	
	Technology	vPro™ (i5,i7), iAMT 11.0	
	Embedded Version	Yes	
<b>Memory</b>	Max. capacity	64GB	
	Technology	DDR4-3200	
	Socket	2x SO-DIMM (1.2V)	
<b>Graphics</b>	Processor Graphics	Intel® Gen12 Graphics	
	DisplayPort	3x (1x USB-C Alt Mode)	
	V-by-one	Supports up to 4K@60Hz	
	eDP	1/2/4 Lanes up to 2K/4K/UHD	
<b>Ethernet</b>	LAN 1 LAN 2	Intel® 10/100/1000 Intel® 10/100/1000	
<b>Storage/ Extension</b>	M.2	1x M.2 2280 Key M (PCIe x4/SATAIII) 1x M.2 2230 Key E for Wifi/BT 1x M.2 2242/3042/3052 Key B w. SIM for 4G LTE/5G	
<b>Rear I/O</b>	USB	3x USB 3.2 Gen1 1x USB-C (DP Alt mode) 2x USB 2.0	
	Serial Port	1x RS232/422/RS485	
	Ethernet	2x	
	DisplayPort	2x (1x see USB-C)	
	Audio	1x Line-Out, 1x Mic-in	
<b>Front I/O</b>	Docking Connector (optional)	V-by-One	V-by-One with Backlight Power
		eDP	eDP with Backlight Power
		USB	4x USB 2.0 (2x on eDP and 2x on V-by-One Docking Con.)
		DC in*	24V (power supply for box pc)
	USB	2x USB 2.0 (only available if no Docking Board is connected)	
<b>Right I/O</b>	Power Supply	24V DC-in (+/- 10%)	
<b>Left I/O</b>	Display Port	1x	
<b>Internal I/O</b>	Serial Port	1x RS232	
	V-by-One	1x	
	eDP	1x	
	USB	2x 2.0	
	I2C	1x	
	GPIO	4in/4out	
<b>Other</b>	TPM	2.0	
	Watchdog Timer	Yes	
	Audio	ALC888s with 6W Amplifier, 1x Line-Out, 1x Mic-in	
<b>General</b>	Operating Temperature	0°...+60°C	
	Storage Temperature	-20...+70°C	
	Operating humidity	0%...90% Relative Humidity, non-condensing	
	Storage humidity	5%...95% Relative Humidity, non-condensing	
	Dimensions	203 x 146 mm	
	Power consumption	tbd.	
	Weight	tbd.	
	Certifications	CE, FCC	
	Operating System	Windows 10, Ubuntu Linux	

## Ordering Information

Order Nr.	Description
PC-61-206	5.25" V-by-One / eDP Single-Board Computer with Intel 11th Gen. Tiger Lake-U UP3 Series Processor

\*Note that only one DC input may be connected to a power supply.

## 5 Connectors / Interfaces



## 6 Operating System – Windows 10 IoT Enterprise

The Box PC comes optional with pre-installed "ready-to-use" Windows 10 IoT Enterprise 2019 LTSC Standard Image for worldwide use.

## 7 Docking Board (only with optional Docking Connector)

With the Docking Connector the internally used V-by-One, eDP signal or additional USB 2.0 can be easily routed to the outside and power the single-board computer. With this unique standard feature it is very easy to extend or add an external V-by-One or eDP TFT display to the SBC and add e.g. Webcam / PCAP Touch etc..



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