

# EC510-ADS/EC511-ADS

12th Gen Intel® Core™  
Modular-Designed Embedded System

Q670E



## KEY FEATURES



### DDR4

DDR4 SODIMM up to 64GB



### PoE

Support up to 4 PoE (EC51x-ADS62GA6E-Q)



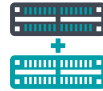
### Three Independent Displays

1 VGA + 2 HDMI/DP++ (auto detection)



### Support 5G Communication

Support 5G communication



### Multiple Expansion

3 M.2 and 1 PCIe or 1 PCI

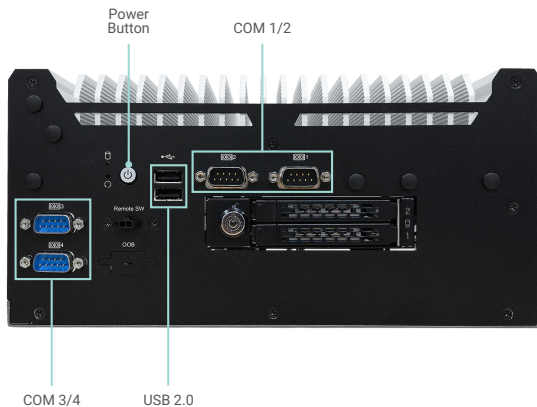


### Wide-Temperature

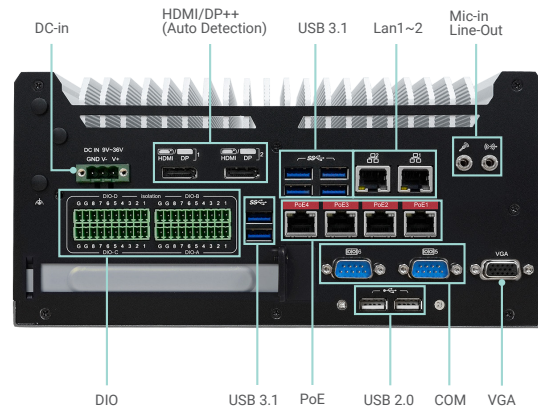
Operating Temperature: -20 to 60°C



## PANEL

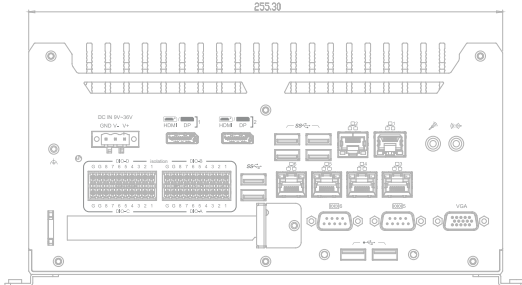


Front View

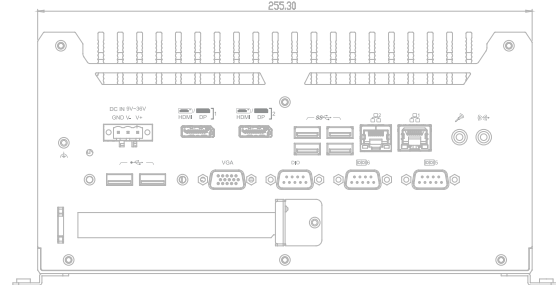


Rear View  
EC51x-ADS62GA6E-Q

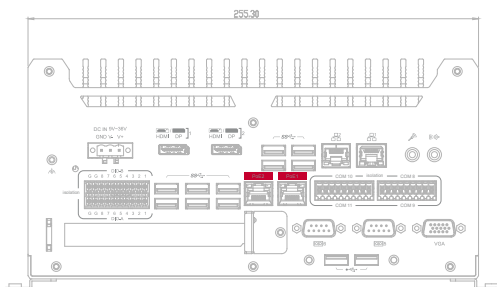
**PANEL**



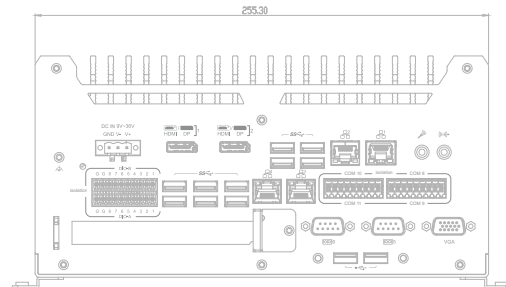
**Rear View**  
EC51x-ADS62GA6-Q



**Rear View**  
EC51x-ADS6881-Q

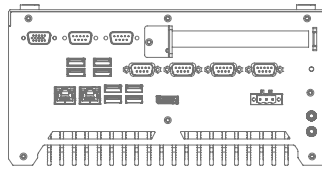


**Rear View**  
EC51x-ADSAGE4E-Q

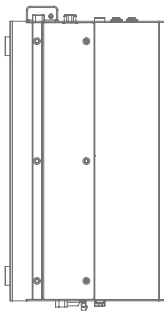


**Rear View**  
EC51x-ADSAGE4-Q

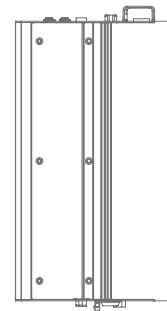
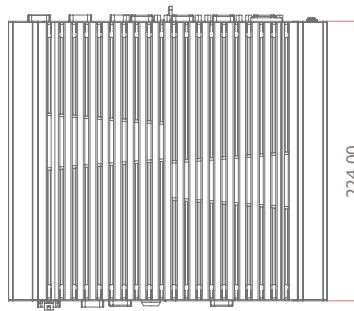
**DIMENSIONS**



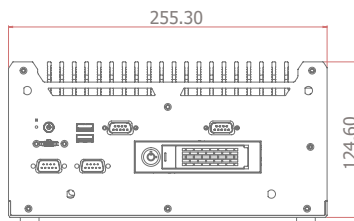
**Front View**



**Left View**

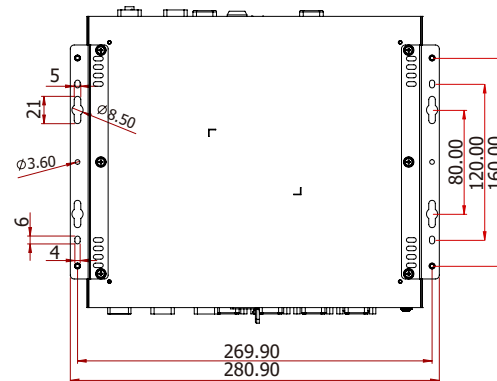
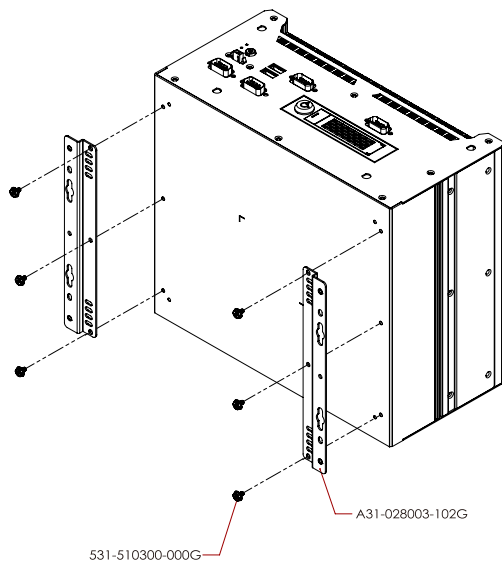


**Right View**



**Rear View**

**WALL MOUNTING**



## SPECIFICATION

<b>SYSTEM</b>	<b>Processor</b>	12th Generation Intel® Core™ Processors, LGA 1700 Intel® Core™ i9-12900TE (16 Cores, 30M Cache, up to 4.8GHz); 35W Intel® Core™ i7-12700TE (12 Cores, 25M Cache, up to 4.6GHz); 35W Intel® Core™ i5-12500TE (6 Cores, 18M Cache, up to 4.3GHz); 35W Intel® Core™ i3-12100TE (4 Cores, 12M Cache, to 4GHz); 35W Intel® Pentium® G7400TE (2 Cores, 6M Cache, 3GHz); 35W Intel® Celeron® G6900TE (2 Cores, 4M Cache, 2.4GHz); 35W	
	<b>Chipset</b>	Intel® Q670E Chipset	
	<b>Memory</b>	Two 260-pin DDR4 2400/2666MHz SODIMM up to 64GB	
	<b>BIOS</b>	AMI SPI 128Mbit	
	<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Graphics
<b>Feature</b>		OpenGL up to 5.0, DirectX 11, OpenCL 2.1 HW Decode: HEVC/H.265, H.264, M/JPEG, MPEG2, VC1/WMV9, VP8 (8-bit), VP9 (10-bit) HW Encode: HEVC/H.265, M/JPEG, MPEG2, VP8	
<b>Display</b>		1 x VGA 2 x HDMI/DP++ (auto detection)	VGA: resolution up to 1920x1200 @ 60Hz HDMI: resolution up to 4096x2160 @ 30Hz DP++: resolution up to 4096x2304 @ 60Hz
<b>Triple Displays</b>		1 VGA + 2 HDMI/DP++ (auto detection)	
<b>STORAGE</b>	<b>Interface</b>	2 x 2.5" SATA 3.0 drive bay (Support RAID 0/1)	
<b>EXPANSION</b>	<b>Interface</b>	[EC510-ADS Series] 1 x M.2 2230 E key (PCIe/USB 2.0) 1 x M.2 2280 M key (PCIe x4 NVMe) 1 x M.2 3042/3052 B key (PCIe/USB 3.0) 1 x PCI slot	
		[EC511-ADS Series] 1 x M.2 2230 E key (PCIe/USB 2.0) 1 x M.2 2280 M key (PCIe x4 NVMe) 1 x M.2 3042/3052 B key (PCIe/USB 3.0) 1 x PCIe x16 slot	
<b>AUDIO</b>	<b>Audio Codec</b>	ALC888	
<b>ETHERNET</b>	<b>Controller</b>	2 x Intel® i225-IT	
<b>LED</b>	<b>Indicators</b>	1 x Status LED 1 x HDD LED	
<b>FRONT I/O</b>	<b>Serial</b>	4 x RS-232/422/485 (DB-9)	
	<b>USB</b>	2 x USB 2.0 (type A)	
	<b>Buttons</b>	1 x Power button 1 x Reset button	
	<b>Antenna</b>	6 x Antenna hole (WiFi)	

## SPECIFICATION

<b>REAR I/O</b>	<b>Ethernet/PoE</b>	-EC51x-ADS62GA6E-Q 2 x GbE (RJ-45) 4 x PoE (RJ-45)	-EC51x-ADSAGE4E-Q 2 x GbE (RJ-45) 2 x PoE (RJ-45)
		-EC51x-ADS62GA6-Q 6 x GbE (RJ-45)	-EC51x-ADSAGE4-Q 4 x GbE (RJ-45)
		-EC51x-ADS6881-Q 2 x GbE (RJ-45)	
	<b>Serial</b>	-EC51x-ADS62GA6E-Q/ADS62GA6-Q/ADS6881-Q 2 x RS232	
		-EC51x-ADSAGE4E-Q/ADSAGE4-Q 4 x RS232/422/485 (w/ isolation 2KV) 2 x RS232	
	<b>USB</b>	-EC51x-ADS62GA6E-Q/ADS62GA6-Q 6 x USB 3.1 (Gen2) 2 x USB 2.0	-EC51x-ADSAGE4E-Q/ADSAGE4-Q 10 x USB 3.1 (Gen2) 2 x USB 2.0
		-EC51x-ADS6881-Q 4 x USB 3.1 (Gen2) 2 x USB 2.0	
	<b>DIO</b>	-EC51x-ADS62GA6E-Q/ADS62GA6-Q 32 bits DIO (w/ isolation 2KV)	-EC51x-ADSAGE4E-Q/ADSAGE4-Q 16 bits DIO (w/ isolation 2KV)
		-EC51x-ADS6881-Q 8 bits DIO	
	<b>Display</b>	1 x VGA 2 x HDMI/DP++ (auto detection)	
<b>Audio</b>	1 x Line-out 1 x Mic-in		
<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System reset, programmable via software from 1 to 255 seconds	
<b>SECURITY</b>	<b>TPM</b>	TPM 2.0	
<b>POWER</b>	<b>Type</b>	Wide range 9~36V	
	<b>Connector</b>	3-pole terminal block 2-pin power remote switch connector	
<b>OS SUPPORT</b>	<b>OS Support</b>	Windows 10 IoT Enterprise 64 Bit Linux (available upon request)	
<b>ENVIRONMENT</b>	<b>Operating Temperature</b>	-20 to 60°C (2.5" SSD or M.2 SSD)	
	<b>Storage Temperature</b>	-20 to 85°C	
	<b>Relative Humidity</b>	5 to 95% RH (non-condensing)	
<b>MECHANICAL</b>	<b>Construction</b>	Metal + Aluminum	
	<b>Mounting</b>	Wall mount	
	<b>Dimensions (W x H x D)</b>	255.3 x 124.6 x 224mm	
	<b>Weight</b>	5.1 kg	
<b>STANDARDS AND CERTIFICATIONS</b>	<b>Shock</b>	Half sine wave 3G, 11ms, 3 shock per axis	
	<b>Vibration</b>	IEC 60068-2-64	
	<b>Certifications</b>	CE, FCC Class A, UKCA, RoHS, BIS	

## 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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