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Understanding Embedded - Microprocessors

Embedded microprocessors are specialized computing chips designed to perform specific tasks within an embedded system. Unlike general-purpose microprocessors found in personal computers, embedded microprocessors are tailored for dedicated functions within larger systems, offering optimized performance, efficiency, and reliability. These microprocessors are integral to the operation of countless electronic devices, providing the computational power necessary for controlling processes, handling data, and managing communications.

Applications of Embedded - Microprocessors

Embedded microprocessors are utilized across a broad spectrum of applications, making them indispensable in

Details	
Product Status	Discontinued at Digi-Key
Core Processor	i7-3610QE
Number of Cores/Bus Width	4 Core, 64-Bit
Speed	2.3GHz
Co-Processors/DSP	-
RAM Controllers	DDR3, DDR3L
Graphics Acceleration	Yes
Display & Interface Controllers	-
Ethernet	-
SATA	-
USB	-
Voltage - I/O	-
Operating Temperature	-
Security Features	-
Package / Case	Module
Supplier Device Package	-
Purchase URL	https://www.e-xfl.com/product-detail/advantech/96mpi7m-2-3-6m9t

ARK-DS762

3rd Generation Intel® Core™ i7/i5/i3 Digital Signage Platform with 3 x HDMI Independent Display

Features

- 3rd generation Intel® Core™ i7/i5/i3 processor, up to 45W
- Supports Direct X11, and OCL 1.1
- 3 independent displays; 3 x HDMI
- Flexibility for expansion and storage options (HDD/Cfast/Mini PCIe/USB2.0 & 3.0)
- 19 VDC power input , supports DC power hot plug
- Operating temperature: 0 ~ 40° C (0 ~ 50° C is an option)
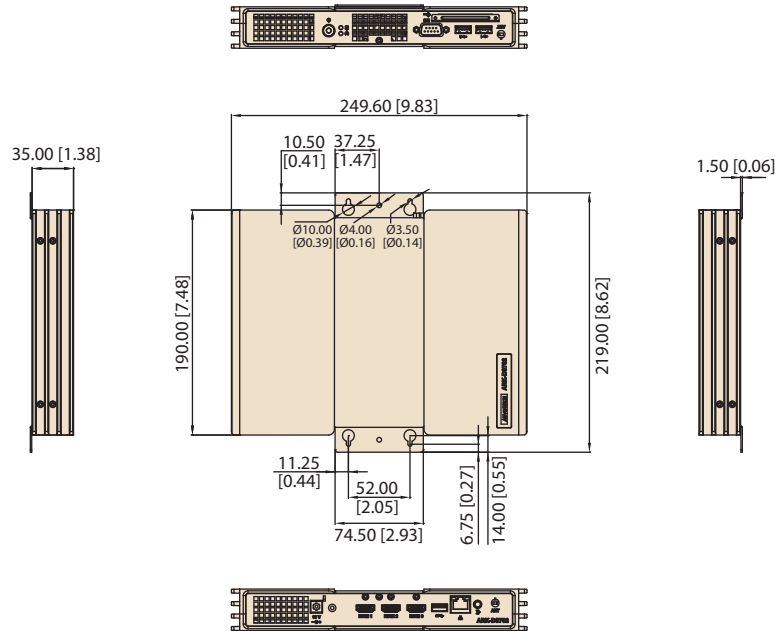- Supports iManager, SUSIAccess and Embedded Software APIs

Acronis® McAfee® SUSIAccess iManager

Windows Embedded Windows 7 Windows XP Professional Windows 8

Intel Intelligent Systems Alliance Premier

Specifications

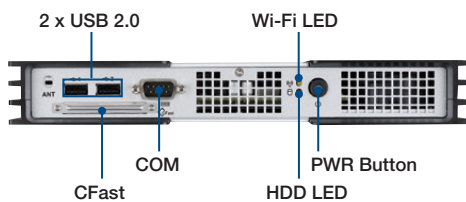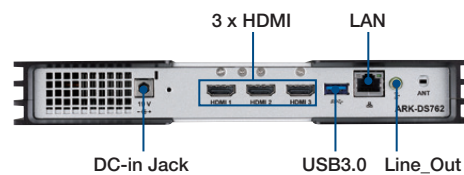|		
Processor System	CPU	3rd Gen. Intel Core i7/i5/i3 CPU, (uPGA 988B socket, up to 45W)
	System Chipset	QM77
	BIOS	AMI uEFI 64 Mbit
Memory	Technology	2 x DDR3 204-pin SODIMM
	Max. Capacity	16 GB (up to 8 GB per each SODIMM)
Display	Chipset	Embedded in Processor
	Processor Graphics	Intel HD Graphics 4000
	Output	3 x HDMI
	Resolution	HDMI: Supports 1920 x 1080p at 60 Hz, 36 bpp, Supports HDMI v1.3
Storage	SATA	1 x 2.5-inch SATA II HDD/SSD (support 9.5 mm / 7 mm height)
	Cfast (socket)	1
Ethernet	Interface	Gigabit LAN Controller
	Controller	Intel 82579LM
	Connector	1 x RJ-45
Audio	Chipset	Realtek ALC892, High Definition Audio(HD)
I/O Interface	HDMI	3 (Support CEC)
	LAN	1 (RJ-45)
	USB 2.0	2
	USB 3.0	1
	Audio	1 audio phone jack for Line-Out, Jack sensor support via OS setting
	Serial	1 x COM (RS-232)
	Mini-PCIe (Internal)	1 (for optional expansion modules)
	Power input	1 (DC-in Jack)
Power Requirement	Management	ACPI 3.0
	Power Consumption	17.4W (idle) 43.8W (full load)
	Input Voltage	19 V DC-in (ATX/AT mode, default ATX)
	Others	Supports boot on power back and schedule boot up function
Watchdog Timer	Output	Interrupt, system reset
	Interval	Programmable by SUSIAccess
Physical Characteristics	Mounting	Easy mounting kits for LCD or Plasma
	Dimensions (W x D x H)	249.6 x 190.0 x 35 mm
	Weight	2.0 kg (4.41 lb)
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F) (w / HDD); 0 ~ 50° C (32 ~ 122° F) (w / SSD)
	Relative Humidity	95% @ 40° C (non-condensing),Operating
	Vibration Resistance	0.2 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
Software Development Kit	Operating System	Supports Microsoft Windows 8, Windows 7, XP Embedded
	EWF & WDT SDK	EWF and WDT library for signage stability design in Windows OS
	Linux	Linux CentOS, Fedora 14
Certifications	Electromagnetic	CE/FCC Class B, CCC, BSMI
	Safety	UL, CCC, BSMI

Dimensions

Unit: mm [inch]

249.60 [9.83]

35.00 [1.38]

1.50 [0.06]

10.50 [0.41] 37.25 [1.47]

Ø10.00 [Ø0.39] Ø4.00 [Ø0.16] Ø3.50 [Ø0.14]

190.00 [7.48]

219.00 [8.62]

11.25 [0.44]

52.00 [2.05]

74.50 [2.93]

6.75 [0.27] 14.00 [0.55]

ARK-DS762 External I/O

Front

2 x USB 2.0 — Wi-Fi LED

COM — PWR Button

CFast — HDD LED

Rear

3 x HDMI — LAN

DC-in Jack — USB3.0 — Line_Out

Packing List

Part Number	Description
-	1 x ARK-DS762 Unit
-	1 x Driver/Utility DVD/Manual
-	1 x User Manual (Simplified Chinese)
-	1 x Power adapter AC-DC 100-240V, 90W
-	1 x China RoHS
-	1 x Mounting bracket kit

Ordering Information

Part Number	Description
ARK-DS762GQ-U3A1E	Intel 3rd Gen. Core i7-3610QE, 4G RAM, 250G HD, WES7P w/ SUSIAccess Pro
ARK-DS762GQ-U2A1E	Intel 3rd Gen. Celeron 1020E, 4G RAM, 250GB HD, WES7P w/ SUSIAccess Pro
ARK-DS762GB-00A1E	Intel 3rd Gen. Core i7/5/3 Digital Signage computer box (barebone)
96MPI7M-2.3-6M9T	Intel 3rd Gen. Core i7-3610QE Quad Core CPU 2.3GHz
96MPI5-2.7-3M9T	Intel 3rd Gen. Core i5-3610ME Dual Core CPU 2.7GHz
96MPI3M-2.4-3M9T	Intel 3rd Gen. Core i3-3120ME Dual Core CPU 2.4GHz
96MPCM-2.2-2M9T	Intel Celeron 1020E Dual core CPU 2.2GHz

Embedded OS

Part Number	Description
2070011542	IMG WES7P (32-bit) ARK-DS762 V5.1.2 ENG/TC/SC/JP w/ SA Pro
2070011223	IMG WES7E (32-bit) ARK-DS762 V5.1.3 ENG/TC/SC/JP w/ SA Pro
2070011553	IMG XPE WES09 ARK-DS762 V4.1 24 muti w/ SA Pro
2070011686	IMG WES7E (64-bit) ARK-DS762 V5.6.4 ENG w/ SA Pro
2070011749	IMG WES7P (64-bit) ARK-DS762 V5.6.3 ENG w/ SA Pro

Power Cord

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
170203180A	3-pin power cord (UK)
1700008921	3-pin power cord with PSE (Japan)
1700019146	3-pin power cord (CCC)

Accessories

Part Number	Description
AMO-WIFI06E	Wi-Fi 802.11 b/g/n Mini-PCIe module (w/ antenna)
AMO-HSDPA02E	3.75G HSDPA Mini-PCIe module
AMK-V005E	VESA mount kit