

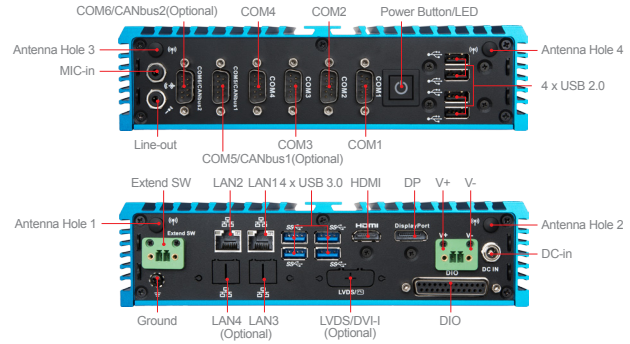
MS-9A89

Compact-Size Box PC with Intel® Kaby Lake-U/Skylake-U or Apollo Lake-I Series Processor for Ultra Low-Power Fanless Solution

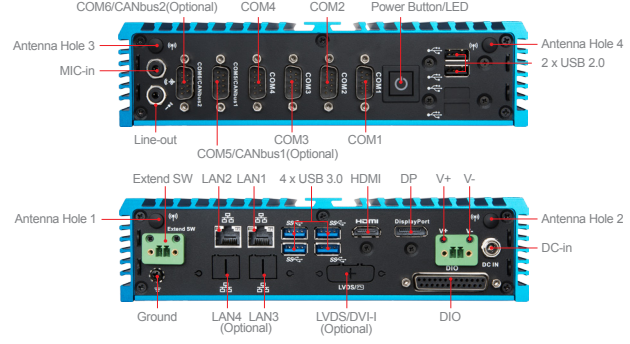
NEW



MS-9A89-U1 / MS-9A89-U2



MS-9A89-A1 / MS-9A89-A2



Features

- Ultra low power with fanless design
- Support DDR4 2133MHz SO-DIMM Memory up to 16GB(For KBL-U Series)
- Support DDR3L 1866/1600MHz SO-DIMM Memory up to 8GB(For APL-I Series)
- Support operating temperature: -20~70°C (w/ WT SSD or mSATA For MS-9A89A1 SKU)
- 3 independent displays: HDMI, DP and LVDS/DVI-I(Optional)
- Supports 16-bit GPIO (8*GPI; 8*GPO)
- Dual GbE LAN and 4*USB 3.0 and 4*USB2.0(APL-I Series support 2*USB2.0) and 6*COM
- Dual Mini-PCIe for expansion
- Support DC in 12V~24V
- 4 openings reserved for antennas
- Anti-Vibration & Shockproof Design
- EN50155 Compliance

Ordering Information

Part Number	Description
Please check MSI IPC website at http://ipc.msi.com for details.	

Packing List

Part Number	Description
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Specifications

		MS-9A89-U1	MS-9A89-U2	MS-9A89-A1	MS-9A89-A2	
Processor	CPU	Intel® KBL-U Core™ i3-7100U Processor, DC, 15W	Intel® SKL-U Core™ i5-6300U Processor, DC, 15W	Intel® Atom™ x7 Processor E3950, QC, 12W	Intel® Atom™ x5 Processor E3940, QC, 9.5W	
	Frequency	2.4GHz	2.4GHz	1.6GHz, up to 2.0GHz	1.6GHz, up to 1.8GHz	
	L2 Cache	3MB		2MB		
	CPU Type	BGA				
	Chipset	Integrated in Process		Integrated in SoC Process		
Memory	BIOS	AMI				
	Technology	Single channel for DDR4 2133 MHz		Single channel for DDR3L 1866/1600 MHz		
	Max. Capacity	Up to 16GB		Up to 8GB		
	Socket	1 x 260-pin SO-DIMMs		1 x 204-pin SO-DIMMs		
Display	Controller	Intel® HD Graphics				
	Graphic Memory	Shared system memory up to 1.7 GB SDRAM				
	Multiple Display	2 or 3 independent displays				
	Display Interface	HDMI1.4 up to 4096 x 2160 @24Hz DP up to 3840 x 2160 @60Hz LVDS up to 1920 x 1200 @60Hz (optional by cable) DVI-I up to 1920 x 1200 @60Hz (optional by MS-99C0)		HDMI up to 3840 x 2160 @30Hz DP up to 4096 x 2160 @60Hz LVDS up to 1920 x 1200 @60Hz (optional by cable) DVI-I up to 1920 x 1200 @60Hz (optional by MS-99C0)		
Ethernet	Controller	1 x Intel® I210-AT GbE LAN 1 x Intel® I219-LM GbE LAN PHY		2 x Intel® I210-IT GbE LAN	2 x Intel® I210-AT GbE LAN	
	Audio	Controller: Realtek® ALC887-VD2-CG HD Audio Codec				
H/W Monitor	Watchdog Timer	256-level Watchdog Timer				
TPM	Controller	N/A				
Expansion Slot	Mini-PCIe	2 x Full-size (Mini-PCIe1 Slot w/ NANO SIM-Holder) (Mini-PCIe2 Slot w/ mSATA)				
Storage	SATA	1 x 2.5" HDD/SSD Bay				
	mSATA	1				
	RJ-45	4 (LAN1/2 Standard, LAN3/4 by Option)				
	PoE	2 x 802.11af (by request)				
I/O Interface	Audio	1 x Line-out / 1 x Mic-in				
	USB	4 x USB 3.0, 4 x USB 2.0		4 x USB 3.0, 2 x USB 2.0		
	Serial	6 x COM ports COM1: RS-232/422/485, 0V/5V/12V COM2-6: RS-232, 0V/5V/12V				
	GPIO	16-bit (8*GPI; 8*GPO), 5V				
	CANbus	2 x CAN 2.0B (optional)				
	HDMI	1				
	LVDS	1 (optional)				
	DVI	1 (DVI-I by option)				
	DisplayPort	1				
	Antenna	4 openings reserved for antennas				
Power Supply	DC Input	DC-in 12V~24V				
	Environment	Operating Temperature	-10~45°C (HDD) -10~60°C (w/ WT SSD/mSATA)		-10~45°C (HDD) -20~70°C (w/ WT SSD/mSATA)	-10~45°C (HDD) -10~60°C (w/ WT SSD/mSATA)
		Operating Humidity	10 ~ 90%, non-condensing			
		Storage Temperature	-20 ~ 80°C			
Form Factor	Vibration	Operating: IEC61373, 0.101 Grms, Random, 5 ~ 150 Hz, 10 mins, Vertical axis (w/ HDD) IEC61373, 0.045 Grms, Random, 5 ~ 150 Hz, 10 mins, Transverse axis (w/ HDD) IEC61373, 0.07 Grms, Random, 5 ~ 150 Hz, 10 mins, Longitudinal axis (w/ HDD)				
	Shock	Non-operating: IEC61373, 3G, Half-sine, 30 ms, ±Vertical axis & ±Transverse axis (w/ HDD) IEC61373, 5G, Half-sine, 30 ms, ±Longitudinal axis (w/ HDD)				
	Dimensions (Wx DxH)	215 x 155 x 55mm				
Certification	Weight	1.55 kg				
	Mounting	Wall mount(STD)/DIN-rail mount(STD)/ VESA mount(by BOM option)				
Software Platform	EMC	CE, FCC, VCCI, RCM, BSMI				
	Safety	BSMI				
Optional Item	OS Support	Windows 7(For Sky Lake-U SKUs) Windows 8.1(For Sky Lake-U SKUs) Windows 10 (64-Bit) Linux Fedora 25 (By Request) Linux Ubuntu 16.04 (By Request)				
	Please check MSI IPC website at http://ipc.msi.com for details.					