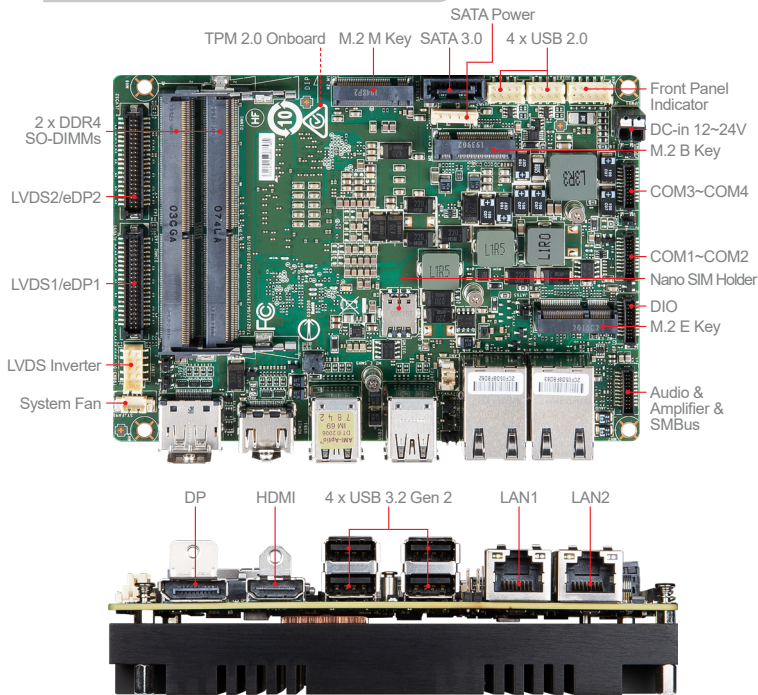


MS-98M3

3.5" SBC with Intel® Tiger Lake-UP3 for Fanless, Ultra Low-Power, High-Performance & Wide Temperature Solution



Features

- Intel® 11th Gen Tiger Lake-UP3 Embedded/Industrial SKU Series
- DDR4 3200 MHz SODIMM Slot up to 64GB
- Quadruple independent displays: DP++, HDMI, 2 LVDS/eDP
- 2 2.5GbE LAN with RJ-45
- 1 M.2 B key (with NANO SIM-holder), 1 M.2 E key
- 1 M.2 M key, 1 SATA 3.0 for storage
- SATA RAID 0/1 (Supported by i7/i5 SKUs)
- 4 USB 3.2 Gen 2, 4 USB 2.0, 4 COM (4 RS-485), DIO, Audio
- Onboard TPM 2.0
- Wide Voltage DC-IN 12~24V (OCP & OVP)
- Wide operating temperature supported

Ordering Information

Part Number	Description
919-98M3-023	MS-98M3/609-98M3-380/809-98M3-034 VER12 Intel Tiger Lake-UP3, i7-1185GRE,2"DDR4,1"DP,1"HDMI,2"LVDS/eDP,3"M.2,2.5GbE LAN,1"SATA3, 4"USB3.2 Gen2,4"USB2.4"COM,DC 12~24V,WT,SINGLE for Channel w/o H/S
919-98M3-024	MS-98M3/609-98M3-390/809-98M3-035 VER12 Intel Tiger Lake-UP3, i5-1145GRE,2"DDR4,1"DP,1"HDMI,2"LVDS/eDP,3"M.2,2.5GbE LAN,1"SATA3, 4"USB3.2 Gen2,4"USB2.4"COM,DC 12~24V,WT,SINGLE for Channel w/o H/S
919-98M3-025	MS-98M3/609-98M3-400/809-98M3-026 VER12 Intel Tiger Lake-UP3, i3-1115GRE,2"DDR4,1"DP,1"HDMI,2"LVDS/eDP,3"M.2,2.5GbE LAN,1"SATA3.0, 4"USB3.2 Gen2,4"USB 2.0,4"COM,DC 12~24V,WT,SINGLE for Channel
919-98M3-018	MS-98M3/609-98M3-330/809-98M3-027 12 Intel Tiger Lake-UP3, i7-1185G7E,2 "DDR4,1"DP,1"HDMI,2"LVDS/eDP,3"M.2,2.5GbE LAN,1"SATA3.0,4"USB3.2 Gen2,4"USB 2.0,4"COM,DC 12~24V,Non-WT
919-98M3-019	MS-98M3/609-98M3-340/809-98M3-028 12 Intel Tiger Lake-UP3, i5-1145G7E,2 "DDR4,1"DP,1"HDMI,2"LVDS/eDP,3"M.2,2.5GbE LAN,1"SATA3.0,4"USB3.2 Gen2,4"USB 2.0,4"COM,DC 12~24V,Non-WT
919-98M3-020	MS-98M3/609-98M3-350/809-98M3-029 12 Intel Tiger Lake-UP3, i3-1115G4E,2 "DDR4,1"DP,1"HDMI,2"LVDS/eDP,3"M.2,2.5GbE LAN,1"SATA3.0,4"USB3.2 Gen2,4"USB 2.0,4"COM,DC 12~24V,Non-WT
919-98M3-021	MS-98M3/609-98M3-360/809-98M3-030 12 Intel Tiger Lake-UP3, Celeron 6305E,2"DDR4,1"DP,1"HDMI,2"LVDS/eDP,3"M.2,2.5GbE LAN,1"SATA3.0,4"USB3.2 Gen2,4"USB 2.0,4"COM,DC 12~24V,Non-WT

Packing List

Part Number	Description	Quantity
K1G-3002057-V03	DC Power Cable, 200mm	1
K14-3018001-V03	COM Port Cable, 150mm	1
K1B-3008067-V03	USB Cable, 150mm	1
K1D-3012023-V03	SATA Cable with Power, 230mm	1

Optional Item

Part Number	Description
E31-0806800-K08	Heatspreader

Specifications

Processor	CPU	Embedded SKUs	Industrial SKUs
		11th Gen Intel® IoT Mobile Tiger Lake-UP3 Core™ i7-1185G7E/i5-1145G7E, QC, 28W 11th Gen Intel® IoT Mobile Tiger Lake-UP3 Core™ i3-1115G4E, DC, 28W 11th Gen Intel® IoT Mobile Tiger Lake-UP3 Celeron® 6305E, DC, 15W	11th Gen Intel® IoT Mobile Tiger Lake-UP3 Core™ i7-1185GRE/i5-1145GRE, QC, 28W 11th Gen Intel® IoT Mobile Tiger Lake-UP3 Core™ i3-1115GRE, DC, 28W
Memory	Frequency	1.5GHz~4.4GHz (Depends on CPU)	
	L2 Cache	4MB~12MB (Depends on CPU)	
	CPU Type	BGA	
	Chipset	N/A	
	BIOS	AMI	
Memory	Technology	Dual-channel DDR4 3200MHz	
	Max. Capacity	Up to 64GB	
	Socket	2 x 260-pin SO-DIMMs	
Display	Controller	Intel® Iris® X* Graphics (For i7/i5 SKUs) Intel® UHD Graphics (For i3/Celeron SKUs)	Intel® Iris® X* Graphics (For i7/i5 SKUs) Intel® UHD Graphics (For i3 SKU)
	Graphic Memory	Depends on CPU	
	LVDS	2 x Dual Channel 18/24-bit (Connector shared with eDP)	
	eDP	2 x eDP (Connector shared with LVDS)	
	VGA	N/A	
	DVI	N/A	
	HDMI	1	
	DisplayPort	1	
Ethernet	Multiple Display	4 independent displays	
	Display Interface	LVDS up to 1920 x 1200 @60 Hz eDP up to 4096 x 2160 @60 Hz HDMI up to 4096 x 2160 @30Hz DP up to 7680 x 4320 @60Hz	
Ethernet	Controller	2 x Intel® I225-LM 2.5 GbE LAN	2 x Intel® I225-IT 2.5 GbE LAN (LAN Speed running at 1000/100/10Mbps when OP TEMP. over 70°C)
	Controller	Realtek® ALC897 HD Audio Codec (Co-lay ALC888S)	Realtek® ALC888-VD2-GR HD Audio Codec
Audio	Controller	Fintek F81966AB-I	
Super I/O	Watchdog Timer	256-level Watchdog Timer	
H/W Monitor	Smart Fan	Yes	
TPM	Controller	Infineon SLB9670VQ2.0	Infineon SLB9670XQ2.0
I/O Interface	USB	4 x USB 2.0 (internal) 4 x USB 3.2 Gen 2 (rear)	
	Serial	4 x COM ports (internal) COM1~4: RS-232/422/485, 0V/5V/12V, support auto flow control	
	Parallel	N/A	
	PS/2	N/A	
	GPIO	16-bits (8 x GPI; 8 x GPO), 5V	
Expansion Slot	PCIe x 16	N/A	
	PCIe x 4	N/A	
	PCIe x 1	N/A	
	PCI	N/A	
Storage	M.2	1 x M.2 M key (PCIe Gen4 x4 NVMe), 2280 1 x M.2 B key (SATA 3.0, PCIe x1, USB 2.0, w/ NANO SIM-Holder), 2242/3042 1 x M.2 E key (PCIe x1, USB 2.0), 2230	
	Mini-PCIe	N/A	
	SATA	1 x SATA 3.0	
	IDE	N/A	
	eSATA	N/A	
	CFast	N/A	
Power Supply	mSATA	N/A	
	CompactFlash	N/A	
	DC	DC-in 12~24V (OCP & OVP)	
Environment	ATX	N/A	
	Operating Temperature	-10 ~ 60°C Note: 1. Thermal w/ Airflow:0.7m/s 2. The standard thermal solution only supports TDP up to 15W.	-40 ~ 70°C (w/Turbo disabled) Note: 1. Thermal w/ Airflow:0.7m/s 2. The standard thermal solution only supports TDP up to 15W. 3. -40 ~ 85°C by request
	Operating Humidity	10 ~ 90%, non-condensing	
	Storage Temperature	-20 ~ 80°C	
	Storage Humidity	10 ~ 90%, non-condensing	
Form Factor	Dimensions	146 x 102 mm (3.5")	
	Weight	0.65 kg	
Certification	EMC	FCC, CE, RCM, VCCI, BSMI, UKCA, IC	
Software Platform	OS Support	Windows 10 IoT Enterprise 2019 LTSC (64-bit, RS5) Windows 10 IoT Enterprise 2021 LTSC (64-bit, 21H2) Windows 11 IoT Enterprise (64-bit, 21H2, Pre-scan) Linux (Support by request)	