

MS-98F1

Mini-ITX with Intel® Atom™ Braswell Platform for Rich I/O ports, Multi-Displays, Low-Power, Fanless & DC/ATX Solution

Industrial Computer

Pico-ITX Board

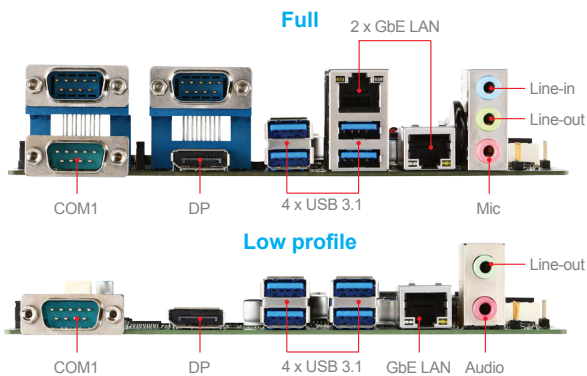
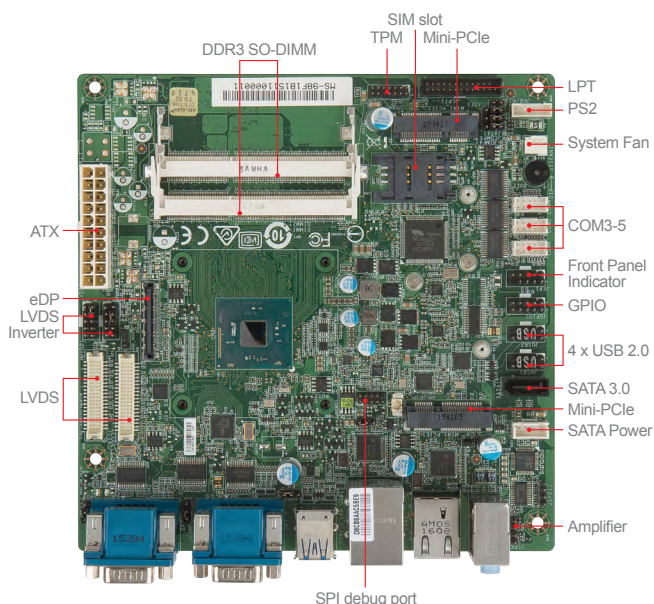
3.5" Board

EPIC Board

Mini-ITX Board

Micro-ATX Board

ATX Board



Features

- Intel® Braswell Series SoC
- 2 DDR3L 1600/1333 MHz SODIMM slots up to 8GB
- Triple independent displays: DP, LVDS, LVDS(eDP by option)
- 2 GbE LAN with RJ-45
- 1 Mini-PCle (Full/Half size, with SIM Holder), 1 Mini-PCle (Full/Half size, with mSATA slots)
- mSATA, SATA 3.0 for storage SATA RAID 0/1
- 4 USB 3.2 Gen 1, 4 USB 2.0, 6 COM(2 RS485, 4 ports by option), GPIO, LPT, PS/2, Audio, S/PDIF, System FAN
- Onboard TPM 1.2 (by option)
- 2 LVDS for dual independent panels
- DC-IN 12V/19V/24V (ATX Power by option)

Ordering Information

Part Number	Description
919-98F1-104	MS-98F1\609-98F1-040\809-98F1-105\VER 11 OPT:D Intel N3160,2*DDR3L,1*DP,1*LVDS,1*LVDS colay eDP,6*COM,4*USB3.0, 4*USB2.0, 2*GbE LAN,1*SATA3.0, 2*Mini-PCle,ATX Power,1*SATA cable, 1*I/O Shield, Bulk, For channel
919-98F1-103	MS-98F1\609-98F1-030\809-98F1-104\VER 11 OPT:C Intel N3060,2*DDR3L,1*DP,1*LVDS,1*LVDS colay eDP,4*COM,4*USB3.0, 4*USB2.0, 1*GbE LAN,1*SATA3.0, 2*Mini-PCle,DC Power, 1*SATA cable,1*Power cable,1*I/O Shield,Bulk, For Channel

Packing List

Part Number	Description
K1D-1012064-V03	SATA CABLE
K10-3004215-V03	DC POWER CABLE For OPT: C
E21-98F1010-C22	I/O SHIELDING For OPT: C
E21-98F1020-C22	I/O SHIELDING For OPT: D

Specifications

Processor	CPU	Intel® Pentium processor N3710, QC, 6W Intel® Celeron processor N3160, QC, 6W Intel® Celeron processor N3060, DC, 6W Intel® Celeron processor N3010, DC, 4W	
	Frequency	N3710, 1.6 GHz, up to 2.56 GHz N3160, 1.6 GHz, up to 2.24 GHz N3060, 1.6 GHz, up to 2.48 GHz N3010, 1.04 GHz, up to 2.24 GHz	
	L2 Cache	2MB	
	CPU Type	BGA	
	Chipset	Integrated	
	BIOS	AMI	
Memory	Technology	Dual-channel DDR3L 1333/1600 MHz	
	Max. Capacity	Up to 8GB	
	Socket	2 x 204-pin SO-DIMM	
Display	Controller	Intel® HD Graphics	
	Graphic Memory	Depends on CPU	
	LVDS	2 x dual channel 18/24-bit	
	eDP	1 (colay with LVDS)	
	DisplayPort	1	
	Multiple Display	3 independent displays	
Display Interface	LVDS up to	1920 x 1200 @60Hz	
	DP up to	3840 x 2160 @30Hz	
Ethernet	eDP up to	2560 x 1600 @60Hz	
	Controller	2 x Intel® i210-AT GbE LAN 1 x Intel® i210-AT GbE LAN	
Audio	Controller	Realtek® ALC887 co-lay ALC888S	
Super I/O	Controller	Fintek F81866AD-I	
H/W Monitor	Watchdog Timer	256-level Watchdog Timer	
	Smart Fan	Yes	
TPM	Controller	Pin header (default) Infineon SLB9635TT 1.2 (by BOM option) Pin header	
	I/O Interface	USB	4 x USB 2.0 (internal)
4 x USB 3.1 Gen 1 (rear)			4 x USB 3.1 Gen 1 (rear)
Serial		6 x COM ports (COM1~3: rear, COM4~6: internal)	4 x COM ports (COM1: rear, COM4~6: internal)
		COM1&5: RS-232/422/485, 0V/5V/12V COM2~4: RS-232, 0V/5V/12V COM6: RS-232 w/ o power	COM1&5: RS-232/422/485, 0V/5V/12V COM4: RS-232, 0V/5V/12V COM6: RS-232 w/ o power
Parallel	1		
PS/2	1 (pin header)		
GPIO	8-bits (4 x GPI; 4 x GPO), 5V		
Expansion Slot	M.2	N/A	
	Mini-PCle	2 x Full/Half-size (one w/ SIM holder & one w/mSATA)	
Storage	SATA	1 x SATA 3.0	
	mSATA	1 (support by mini PCIe slot)	
Power Supply	CompactFlash	N/A	
	DC	DC-in 12V/19V/24V	
ATX	ATX Power 20P		
Environment	Operating Temperature	0 ~ 60°C Note: Thermal w/ Airflow:0.7m/s	
	Operating Humidity	10 ~ 90%, non-condensing	
	Storage Temperature	-20 ~ 80°C	
Form Factor	Storage Humidity	10 ~ 90%, non-condensing	
	Dimensions	170 x 170 mm (Mini-ITX)	
Certification	Weight	0.37 kg	
	EMC	FCC, CE, RCM, VCCI, BSMI	
Software Platform	OS Support	Windows 7 (32/64-bit) Windows 8.1 (64-bit) Windows 10 (64-bit) Linux Fedora 23 Linux Ubuntu 15.10	

Optional Item

Part Number	Description
K14-1018003-V03	COM port cable, 300mm
K1B-3008012-E06	USB 2.0 Cable, 330mm