AIoT0-W680

Intel® W680 Standard ATX Industrial Motherboard
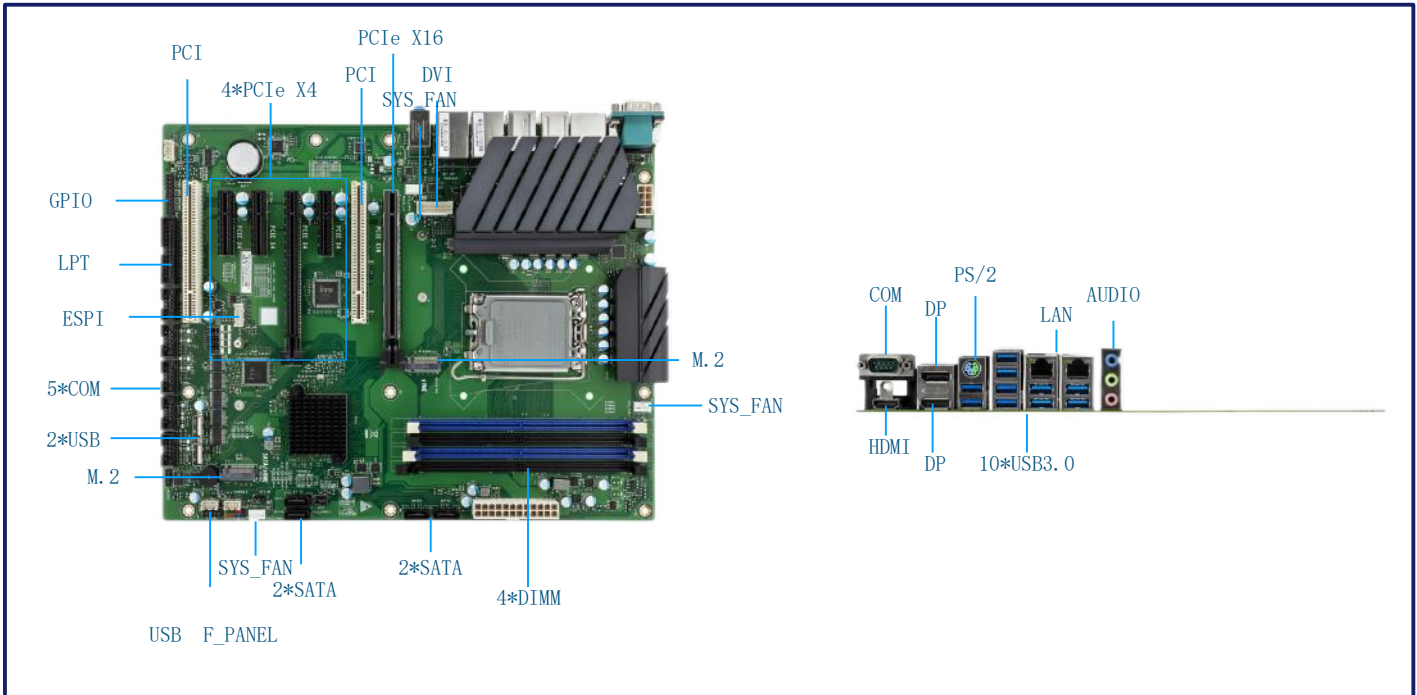

- Intel LGA1700 socket for 12th&13th generation i9/i7/i5/i3/G series CPUs, TDP 125W
- 4*DDR5U-DIMM slots for up to 128GB capacity
- 5*PC1e for up to 22 Gigabit Ethernet Ports
- 10*USB3.2 ports for connecting HD video devices
- 2*DP+HDMI+DVI-D/4*SATA/2*GbE/14*USB/6*COM/1*PC/6*PCIe
- High Tg and wide temperature PCB material for stability under wide temperature environment
- Industrial grade surge protection to ensure the stability and reliability
- Intel network chips for high-speed and stable data transmission
- Optimized interface and expansion slot layout effectively avoids interference
- Support high-performance GPU cards with PCIe 5.0 for AI deep learning and machine vision applications.
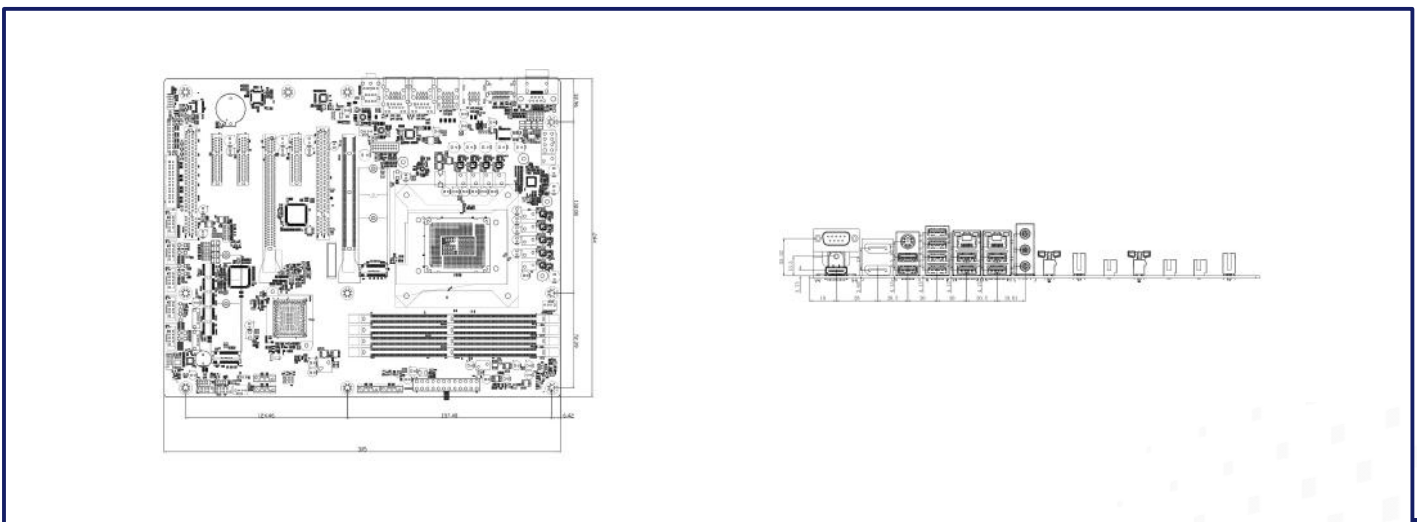
01 Specifications

Processor	Intel LGA1700 socket Gen12&13 i9/i7/i5/i3/G series, TDP 125W
Chipset	Intel® W680 with vPro
Memory	4*DDR5 UDIMM slots for up to 128GB capacity 12th CPU for 2*DDR5-4800 or 4*DDR5-4000; 13th CPU for 2*DDR5-5600 or 4*DDR5-4000.
Graphics Controller	Integrated Intel CPU graphics controller (depending on the installed CPU)
Display Port	2*DP+HDMI+DVI-D, with independent quad-display mode. HDMI：3840*2160@60Hz DP：5120*2160@60Hz DVI-D：1920*1080@60Hz
Storage	4*SATA 3.0 (6 Gb/s) Ports 2*M.2 2242/2280 Key-M, Nvme supported (M2-KEYM2, SATA/Nvme adaptive supported)
Audio	MIC-In, Speaker-Out, Line-In
Network	2*Intel High-speed Ethernet Port: LAN1: i226-V (2.5Gb); LAN2: i219V (1G)
USB	10*USB3.2 Type A (2*Gen2 , 8*Gen1) 2*USB2.0 with on-board vertical insert for USB Dongle; 2*USB2.0 with pin insert
LPT	1*LPT
COM	6*COM (COM1&2 for RS232/422/485, COM3-6 for RS232)
PS2	1*PS/2
GPIO	1*16bit GPIO for power input and ground, +5V
eSPI	1*eSPI（2x6Pin wafer for 4*RS232 or 4*RS422/485 expension)
TPM/TCM	On-board encryption chip SLB9670VQ2.0, compatible with TPM2.0
Power Supply	ATX Power Supply, supports ATX/AT power switch mode
Expansion	1*PCIe x16 slot with PCIe 5.0 for up to 64GB/s 1*PCIe x16 slot with PCIe 4.0 for up to 8GB/s 1*PCIe x4 slot with PCIe 4.0 for up to 8GB/s 2*PCIe x4 slot with PCIe 3.0 for up to 4GB/s 2*Standard PCI slots (32bit)
Operating Environment	Temperature: -10℃ ~ 60℃; Humidity: 10% ~ 85%; Atmospheric Pressure: 85~105kPa
Storage Environment	Temperature: -40℃ ~ 85℃; Humidity: 5% ~ 95%(40℃); Atmospheric Pressure: 85~105kPa
Watch Dog	1-255 sec/min
BIOS	AMI UEFI BIOS
OS	Win10 x64, Win11 x64, Linux Ubuntu 22.04
PCB Appearance	PCB coated with green solder mask
PCB Dimensions	305mm X 244mm

02 Product View

PCI
PCIe X16
4*PCIe X4
PCI
DVI
SYS_FAN
GPIO
LPT
ESPI
5*COM
2*USB
M. 2
SYS_FAN
2*SATA
2*SATA
4*DIMM
USB   F_PANEL
M. 2
SYS_FAN

COM
PS/2
DP
LAN
AUDIO
HDMI
DP
10*USB3. 0

03 Dimensions

04 Product Selection

Model	Chip	Memory	Display	Storage	USB3	USB2	COM	LAN	PCI	PCIe
AIoT0-W680	W680	4 DDR5	4(4)	4SATA	10	4	6	2	2PCI	5PCIe