

MIC-770 V2

Compact Fanless System with 10th Gen Intel® Xeon®/Core™ i CPU Socket (LGA 1200)

NEW



Features

- Intel® 10th Gen Xeon®/Core™ i CPU socket-type (LGA1200) with Intel® W480E/H420E chipset
- Wide operating temperature (-10 ~ 60 °C)
- VGA and HDMI output
- 2 x GigaLAN, 2 x USB 3.2 (Gen2) and 6 x USB 3.2 (Gen1)
- 2 x RS-232/422/485 and 4 x RS232 serial ports (Optional)
- 1 x 2.5" HDD/SSD, and 1 x mSATA
- 9 ~ 36 V_{DC} input power range
- IP40 dust proof for deployment in harsh environment
- Supports FlexIO and iDoor technology, flexible configure additional HDMI, DVI, Comport, DIO, Remote switch IO
- Supports Advantech i-Modules
- Supports Advantech SUSI-API and embedded software APIs
- Supports Intel® vPro™/AMT and TPM technologies
- Advantech iBMC remote out-of-band power management solution with WISE-DeviceOn
- Microsoft Azure PnP, AWS IoT Greengrass, Ubuntu Certified



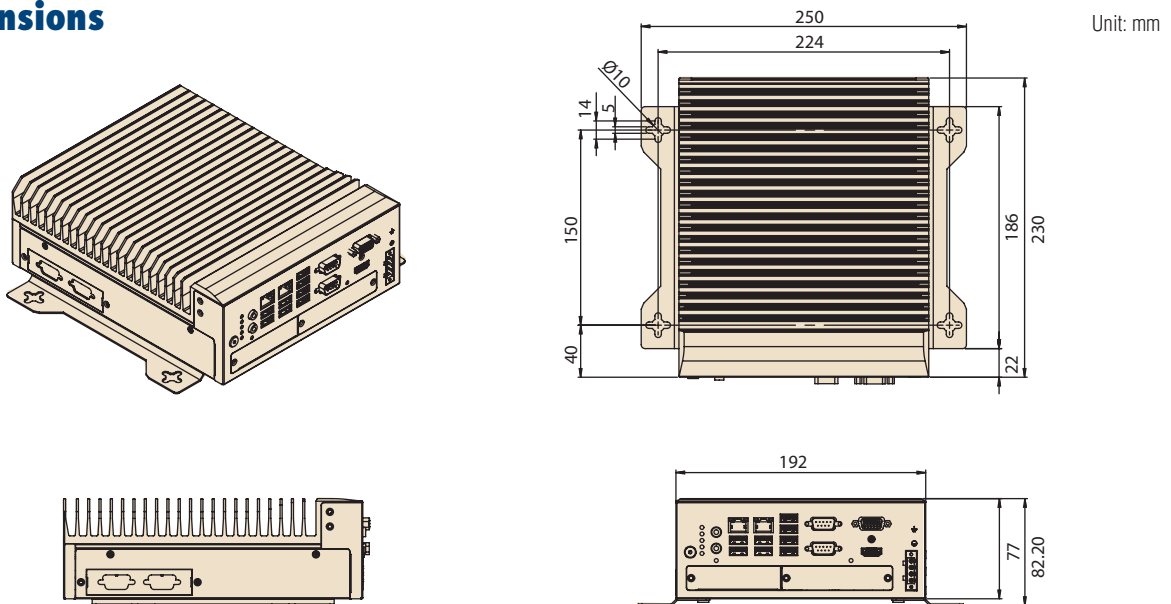
Specifications

| | | | | | | | | | | | |
|---|--|--|-----------|-----------|------------|--------------|--------------|------------|----------|----------|--|
| 10 th Generation Processor (TDP 35W) | CPU | W-1290TE* | W-1270TE* | W-1250TE* | i9-10900TE | i7-10700TE | i5-10500TE | i3-10100TE | G6400TE | G5900TE | |
| | Core/Thread number | 10/20 | 8/16 | 6/12 | 10/20 | 8/16 | 6/12 | 4/8 | 2/4 | 2/2 | |
| | Base Frequency | 1.80 GHz | 2.00 GHz | 2.40 GHz | 1.80 GHz | 2.00 GHz | 2.30 GHz | 2.30 GHz | 3.20 GHz | 3.00 GHz | |
| | Max Turbo Frequency | 4.50 GHz | 4.40 GHz | 3.80 GHz | 4.50 GHz | 4.40 GHz | 3.70 GHz | 3.60 GHz | | | |
| | L3 Cache | 20 MB | 16 MB | 12 MB | 20 MB | 16 MB | 12 MB | 6 MB | 4 MB | 2 MB | |
| | Temperature | -10 ~ 60 °C (w/ industrial wide-temp SSD, 0.7m/s air flow) | | | | | | | | | |
| | Chipset | W480E/H420E *Xeon CPU supported by W480E SKU. G6400TE/G5900TE CPU supported by H420E only. | | | | | | | | | |
| BIOS | AMI SPI Flash 256Mb for W480E SKU, 128Mb for H420E SKU | | | | | | | | | | |
| 10 th Generation Processor (TDP 65W) | CPU | i9-10900E | i7-10700E | i5-10500E | i3-10100E | G6400E (58W) | G5900E (58W) | | | | |
| | Core/Thread number | 10/20 | 8/16 | 6/12 | 4/8 | 2/4 | 2/2 | | | | |
| | Base Frequency | 2.80 GHz | 2.90 GHz | 3.10 GHz | 3.20 GHz | 3.80 GHz | 3.20 GHz | | | | |
| | Max Turbo Frequency | 4.70 GHz | 4.50 GHz | 4.20 GHz | 3.80 GHz | | | | | | |
| | L3 Cache | 20 MB | 16 MB | 12 MB | 6 MB | 4 MB | 2 MB | | | | |
| | Temperature | -10 ~ 50 °C (w/ industrial wide-temp SSD, 0.7m/s air flow) | | | | | | | | | |
| | Chipset | W480E/H420E *G6400E/G5900E CPU supported by H420E only. | | | | | | | | | |
| BIOS | AMI SPI Flash 256Mb for W480E SKU, 128Mb for H420E SKU | | | | | | | | | | |
| Memory | Technology | Dual-channel DDR4 2933/2666 MHz (W480E SKU with W and i3 CPU supports ECC) | | | | | | | | | |
| | Socket | 2 x 260-pin DDR4 SODIMM (up to 32GB per socket) | | | | | | | | | |
| | Maximum Capacity | 64GB | | | | | | | | | |
| Display | Chipset | Xeon and Core i: Intel® HD Graphics 630, supports DirectX 12 Pentium/Celeron: Intel® HD Graphics 610, supports DirectX 12 | | | | | | | | | |
| | VGA | 1 x DB15, up to 1920 x 1200 maximum resolution | | | | | | | | | |
| | HDMI | 1 x HDMI, up to 3840 x 2160 @30Hz (with Flex I/O for 2nd HDMI, 1 x DVI or 1 x DP) | | | | | | | | | |
| | Multiple Display | W480E: 3 x independent displays (third display output via Flex I/O) H420E: 2 x independent displays | | | | | | | | | |
| Ethernet | Controller | W480E LAN1: Intel® I219LM, LAN2: Intel® i210IT (iBMC supported) H420E LAN1: Intel® I219V, LAN2: Intel® i210IT | | | | | | | | | |
| | Interface | 2 x RJ45 | | | | | | | | | |
| Storage | HDD | 1 x 2.5" HDD/SSD (up to 2 x 2.5" SSD by optional kit; 2 x 3.5" HDD by i-Module) | | | | | | | | | |
| | mSATA | 1 | | | | | | | | | |
| | RAID | 0/1/5/10 (W480E SKU only) | | | | | | | | | |
| | SATA Conn. | W480E: 3 x SATA signal, 3 x SATA power H420E: 2 x SATA signal, 2 x SATA power | | | | | | | | | |
| I/O | USB | W480E: 2 x USB3.2 (Gen2), 6 x USB3.2 (Gen1), 1 x USB 2.0 (Internal) H420E: 4 x USB3.2 (Gen1), 4 x USB2.0 | | | | | | | | | |
| | Serial Port | 2 x DB9, RS-232/422/485 support auto flow control; 4 x RS-232 (Optional) | | | | | | | | | |
| | Audio | 2 (1 x line out and 1 x mic in) | | | | | | | | | |
| Expansion | Module | Supports Advantech i-Modules | | | | | | | | | |
| | Mini PCIe/mSATA | W480E: 1 x mini PCIe (via Nano-SIM), 1 x mini PCIe/mSATA H420E: 1 x mini PCIe (via Nano-SIM), 1 x mSATA | | | | | | | | | |
| LED and Switch | LED | 2 (1 x Storage and 1 x Power), 4 for COM1 TX/RX and COM2 TX/RX | | | | | | | | | |
| | Button | 1 x Power on/off switch | | | | | | | | | |
| | Remote Switch | Yes, 2pin terminal block (Optional) | | | | | | | | | |

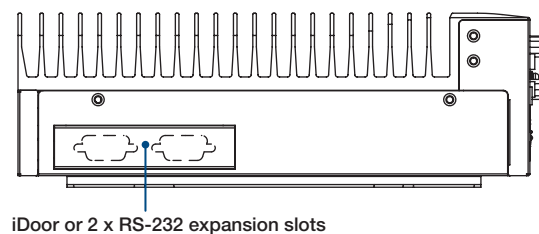
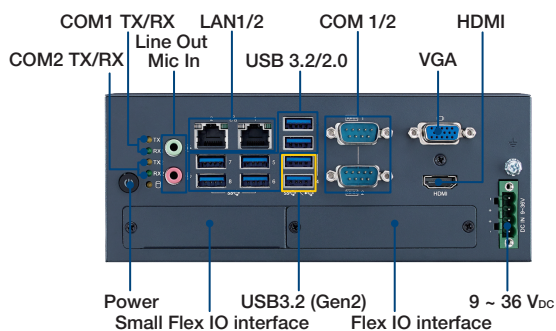
Specifications (Cont.)

| | | | | |
|----------------|--|--|---|------------------------------|
| Power | Type | ATX/AT | | |
| | Input Voltage | 9 ~ 36 V _{DC} | | |
| | Power consumption | Typical: 35.3W Maximum: 112W | | |
| Watchdog Timer | Output | System reset | | |
| | Interval | Programmable 1 ~ 255 sec/min | | |
| Environment | Temperature | 65W CPU w/ industrial wide Temp. SSD -10 ~ 50 °C with 0.7 m/s air flow | 35W CPU w/ industrial wide Temp. SSD -10 ~ 60 °C with 0.7 m/s air flow | Non-operating -40 ~ 85 °C |
| | Humidity | 95% @ 40 °C (non-condensing) | | |
| | Vibration | With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis With 2.5" HDD: 1 Grms @ 5 ~ 500 Hz, random, 1 hr/axis | 2G | |
| | Shock | With SSD: 20G, IEC-68-2-27, half-sine wave, 11 ms duration | | 50G 11 ms |
| Mechanical | Dimensions (W x H x D) | 77 x 192 x 230 mm (3.07" x 7.55" x 9.05") | | |
| | Weight | 2.8 kg (6.17 lbs) | | |
| | Installation | Desktop/wall mount | | |
| Certifications | EMC | CE/FCC Class A, CCC, BSMI | | |
| | Safety | CB/UL, CCC, BSMI, RED Compliance Note: RED Compliance is bundled with MIC-770W-20A1 (standard unit), EXM-CMPF1-M2E01E (Mini-PCIe to M.2 adapter), and EWM-W192K1 (Intel WiFi-AC9260 M.2 2230 module+cable+antenna), i-Module is not included. EWM-W192K1 includes Module: EWM-W192M201E*1, Cable: 1750007965-01*2, and Dipole antenna: 1750008717-01*2. | | |
| OS Support | Windows 10, Windows 10 IoT, Linux OS, Ubuntu 20.04 | | | |

Dimensions



Front View



Ordering Information

| Part Number | VGA | HDMI | 2.5" HDD/SSD | mSATA | USB3.2 (Gen2) | USB3.2 (Gen1) | USB 2.0 | GbE | COM | PCIe | Power |
|---------------|-----|------|--------------|-------|---------------|---------------|---------|-----|-----------------------|----------------------|-----------------------|
| MIC-770W-20A1 | 1 | 1 | 1 | 1 | 2 | 6 | 0 | 2 | 2, up to 6 (Optional) | i-Module (optional) | 9 ~ 36V _{DC} |
| MIC-770H-20A1 | 1 | 1 | 1 | 1 | 0 | 4 | 4 | 2 | 2, up to 6 (Optional) | i-Module (optional)* | 9 ~ 36V _{DC} |

*MIC-770H does not support MIC-75M40, MIC-75M20-01 and MIC-75G30

Packing List

| Part Number | Description | Quantity |
|----------------|--------------------------------------|----------|
| MIC-770 V2 | MIC-770 V2 barebone system | 1 |
| 2041077030 | MIC-770 V2 startup manual (EN+TC+SC) | 1 |
| 1652003234 | 4-pin Phoenix power connector | 1 |
| 1960070543T005 | 2 x Mounting bracket | 2 |
| 1700013095-01 | SATA cable | 1 |
| 1700024372-01 | SATA power cable | 1 |
| 2170000093-01 | CPU thermal grease | 1 |
| 1990019498N000 | RAM thermal pad | 2 |

Optional i-Modules*

| Part Number | Description |
|------------------|---|
| MIC-75M10-00A2 | 1-slot expansion module (1 x PCIe) |
| MIC-75M11-00A2 | 2-slot expansion module (1 x PCIe and 1 x PCI slots) |
| MIC-75M13-00A2 | 4-slot expansion module (1 x PCIe and 3 x PCI slots) |
| MIC-75M20-00C1 | 2-slot expansion module (2 x PCIe slots) |
| MIC-75M20-01A2** | 2-slot expansion module (2 x PCIe slots) |
| MIC-75M40-00A2** | 4-slot expansion module (4 x PCIe slots) |
| MIC-75G20-10A2 | GPU card expansion module (2 x PCIe and 2 x removable 2.5" storage bay) |
| MIC-75G30-00A2** | Dual GPU card expansion module (3 x PCIe and 2 x removable 2.5" storage bay, 1 x HDMI, 1 x DP) |
| MIC-75GF10-00A1 | MXM GPU expansion module (1 x MXM, 1 x PCIe and 2 x removable 2.5" storage bay, 1 x HDMI, 3 x DP) |
| MIC-75S00-00A1 | 2 x removable 2.5" storage bay |
| MIC-75S20-00A2 | 2-slot expansion storage module (2 x PCIe and 2 x removable 2.5" storage bay) |
| 98R17520301 | 2 x 3.5" HDD kit |

*Please refer to i-Module datasheet for more detail.

** W480E SKU only

Embedded OS

| Part Number | Description |
|----------------|--|
| 20706WX9HS0120 | img MIC-770V2H Win10 IoT Ent 2019 64b 1809, High End |
| 20706WX9VS0124 | img MIC-770V2H Win10 IoT Ent 2019 64b 1809, Value |
| 20706WX9ES0134 | img MIC-770V2H Win10 IoT Ent 2019 64b 1809, Entry |
| 20706WX9HS0121 | img MIC-770V2W Win10 IoT Ent 2019 64b 1809, High End |
| 20706WX9VS0125 | img MIC-770V2W Win10 IoT Ent 2019 64b 1809, Value |
| 20706WX9ES0135 | img MIC-770V2W Win10 IoT Ent 2019 64b 1809, Entry |
| 20706U20DS0015 | img Ubun20.4 MIC-770V2W 64b 2004 ENU |

Optional Accessories

| Part Number | Description |
|---------------------|---|
| Adaptor | |
| 96PSA-A230W24P4-3* | ADP A/D 100-240V 230W 24V C14 TERMINAL BLOCK 4P |
| 96PSA-A150W19P4-3 | ADP A/D 100-240V 150W 19V C14 TERMINAL BLOCK 4P |
| 1702002600 | Power cord (USA) UL/CSA, 3-pin, 10A, 125V, 1.83 M, 180 D |
| 1700000237-31 | Power Cord PSE 3P 12A 125V 183cm |
| 1702002605 | Power Cord (EU), 3-pin, 10A, 250V 1.83M, 90D |
| Din Rail PSU | |
| 96PSD-A240W24-MN | A/D 100-240V 240W 24V NDR DIN RAIL |
| 1700031170-01 | DC-DC power cord, A cable TEM*4/TEM*4 UL2464 18AWG 150cm |
| 1700029720-01 | AC-DC power cord (US), M cable AC CONN 3P 183cm |
| 1700030520-01 | AC-DC power cord (CN), M cable conn 3P CCC 10A 250V 150cm |
| 1700034561-01 | AC-DC power cord (EU), M cable Type E 3P/TEMx3 80CM |

* Please use 230W adaptor when i-Module is added.

Note:

- MIC-770 V2 supports Advantech iDoor modules (both MOS and PCM series), excluding the PoE model.
- The **PCM** series module requires a bracket (P/N: **1960065854N001**) that must be ordered separately.

Optional Flex I/O* & Kits

| Part Number | Description |
|-----------------------------|--|
| Flex I/O | |
| AIIS-DIO32-00A1E** | AIIS GPIO module (32 bit) |
| PCA-TPM-00B1E | TPM 2.0 module |
| 98R17500001 | MIC DVI FIO |
| 98R17500101 | MIC HDMI/Remote power on/off FIO |
| 98R17500301 | MIC HDMI kit FIO |
| 98R17500401 | MIC Remote power on/off FIO |
| 98R17500601 | MIC COMport kit FIO |
| 98R17500701 | MIC Remote power on/off kit for SFIO |
| 98R17500801 | MIC Reset/Remote power on/off/5VDC kit FIO |
| 98R17500901 | MIC GPIO kit FIO |
| 98R17501001 | MIC DP kit FIO |
| Advanced Flex I/O*** | |
| 98910770301 | MIC NVMe + 4 LAN Advanced FIO |
| 98910770401 | MIC NVMe Advanced FIO |
| 98910770501 | MIC 4 PoE Advanced FIO |
| Storage Kit | |
| 98R1752010E | 2nd 2.5" HDD/SSD kit (used in 2-slot i-Module) |
| 98R1752020E | 2 x 2.5" SSD kit (7mm thick SSD, used insides of MIC-770 V2) |
| Mounting Kit | |
| 98R17500210 | MIC Din Rail Mounting kit |
| 98R17500501 | MIC Wall Mounting kit |

* Please refer to Flex I/O datasheet for more detail.

** AIIS-DIO32 requires a DB37 bracket (P/N: 1960068787N002)

*** W480E SKU only