ARES-1980

Fanless embedded controller with Intel® Core® i7/i5/i3
11th Gen. processor

BRESSNER
A ONE STOP SYSTEMS COMPANY

Features

- Intel® Core® 11th Gen. i7 / i5 / i3 CPU
- 2x DDR4 SO-DIMM, support 3,200MHz SDRAM up to 64GB
- System-on-a-chip (SoC)
- Compatible with Hailo-8™ M.2 AI accelerator
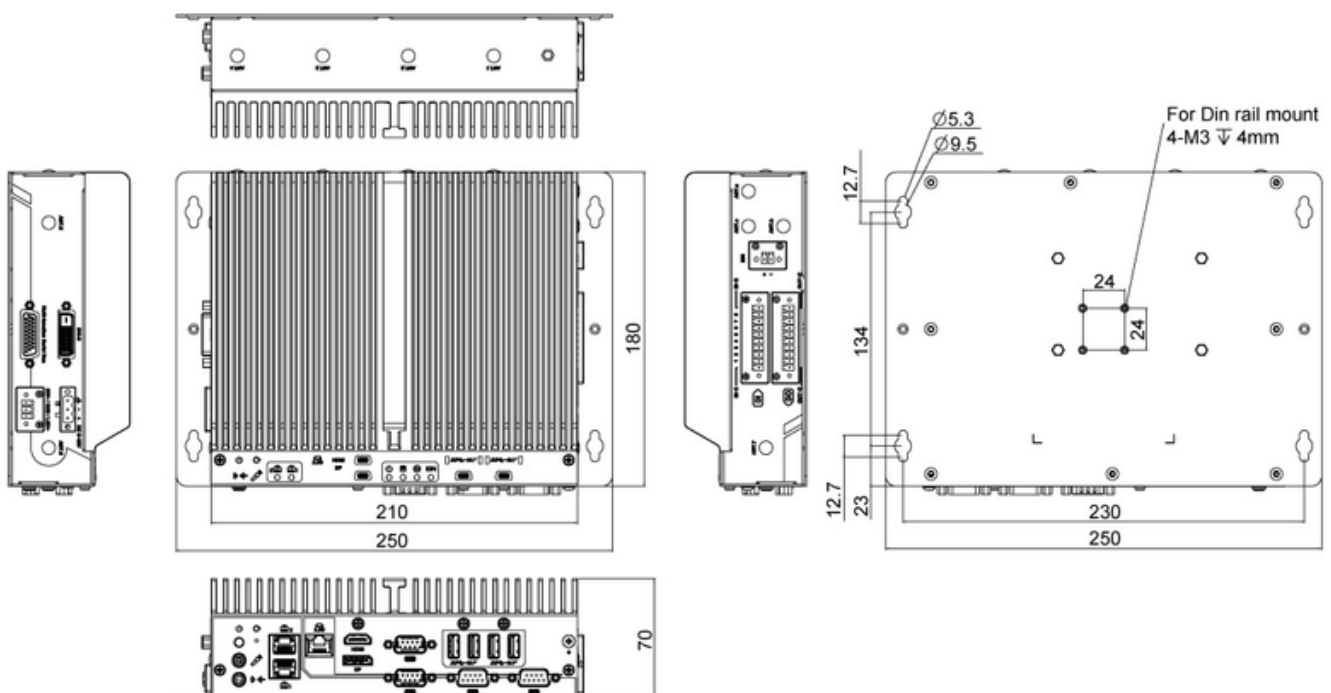- Supports 5G (Sub-6G) module

ARES-1980 – Industrial embedded controller with high-speed I/O

The ARES-1980 redefines the standards for compact embedded controllers, elevating production efficiency to new heights. This innovative device is equipped with Intel's Tiger Lake processors of the 11th generation, providing outstanding computational power. The performance capabilities of the embedded PC enable a faster resolution rate for image processing cameras, significantly contributing to increased productivity in industrial environments.

Featuring a wide range of I/O interfaces and connectivity options, the ARES-1980 is highly versatile. In addition to its four COM ports (RS-232), the device boasts a 2.5GbE LAN and two PoE ports, allowing flexible integration into various systems. Furthermore, the embedded controller provides eight digital input and output ports for expanded connectivity. Four USB 3.2 Gen2 ports facilitate high-speed data transfers at up to 10 Gbps.

The impressive versatility of the ARES-1980 is evident in its ability to simultaneously connect three monitors via HDMI, DisplayPort, and DVI. This feature makes it particularly suitable for applications requiring a multi-monitor configuration.

Thanks to its combination of processor power, wireless functionality, and a wide range of input and output options within a compact and robust housing, the ARES-1980 is the ideal choice for various applications. Whether in intelligent transportation systems, multimedia applications, or factory automation, this embedded controller stands out for its performance and reliability. The system sets new standards for embedded systems and is the key to a more efficient and advanced production environment.

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Specifications	ARES-1980
SYSTEM	
CPU	Soldered onboard Intel® i7/ i5/ i3 processor (Default: i5 CPU Tiger Lake-U) AI processor: Hailo-8™ AI Processor, up to 26 Tera-Operations Per Second (TOPS) with typical power consumption: 2.5W *FPS of Hailo-8 is 2.5 times better than Orin Nano 4GB
Chipset	System-on-a-Chip (SoC) LAN chipset: 2 x Intel® i211AT PCIe controller 1 x Intel® 225LM PCIe controller (iAMT support w/ i5/i7 skus)
Graphics	Intel® Iris® Xe Graphics
RAM	2 x 260-pin DDR4 SO-DIMM socket, supporting 3200MHz SDRAM up to 64GB
Storage	1 x M.2 M-Key 2242/2280 (PCIe Gen III x4 + SATA III) 1 x 2.5" HDD/SSD tray (SATA III + SATA PWR connector)
Watchdog	1~255 levels reset
Expansions	1x full mPCIe slot (PCIe x1+ USB2.0, Full size) w/ 1x SIM card slot 1x M.2 B-Key 2242/3042/3052 (PCIe x2 + USB3.0) w/ 2x SIM card slots
Operating System	Windows 10 IoT, Ubuntu 20.04
INTERFACE	
Ethernet	3x RJ-45 ports for Gigabit Ethernet
USB	4 x USB-A 3.2 Gen2 (2 w/ independent full speed) 1 x USB-A 2.0 onboard for encryption dongle (type-A)
COM	2x RS232 (DB-9 male connector) 2x RS232(Default)/422/485 (RI/5V/12V) (DB-9 male connector/ switch via BIOS)
Digital I/O	8x DI & 8 x DO with 1.5kV isolation
Video	1 x HDMI 2.0b, up to 3840×2160@60Hz 1 x DisplayPort 1.4, up to 3840×2160@60Hz 1 x DVI-D, up to 1920×1080@60Hz
Audio	1 x Mic-in & 1 x Line out
Other	Multi-Serial Bus: I22C/SPI/UART/GPIO (w/ 3.3 or 5V) via DB-15 10x antenna holes are reserved
ENVIRONMENTAL	
Chassis	Sheet Metal + Aluminum Alloy
Cooling	Fanless
Power Supply	Power Input: DC 9 ~ 36V (3-pin terminal block: V+, V-, GND); max. power consumption 120W
Remote Control & LED	1 x 3-pin terminal block for remote control and PWR LED output Power Ignition: IGN +/-
Operating Temperature	-20 ~ 60°C
Storage Temperature	-40 ~ 70°C
Vibration / Shock Resistance	Vibration with SSD: 5~500Hz 3Grms X,Y,Z Achsen, according to IEC 60068-2-64 Shock: 40G peak acceleration (11 m sec. duration), operation w/ SSD 80G peak acceleration (11 m sec. duration), non-operation w/ SSD According to IEC 60068-2-27
Humidity	10 ~ 95% bei 60°C (non-condensing)
Dimensions	210 (W) x 180 (D) x 70 (H) mm
Weight	3.7 kg
Mounting	Wallmount or DIN-Rail or VESA mount (optional w/ CTOS bracket)
Certifications	CE/FCC Class A

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Ordering Information	Nuvo-9166GC
MODEL NO.	
ARES-1980-1155G4E (BTO)	ARES-1980 w/ i3-1155G4E, 2*DDR4, 4*COM, 4*USB3.2 Gen2, 1*onboard USB2.0, 2*PoE, 1*2.5GbE LAN, 1*HDMI, 1*DVI-D, 1*DP, 1*mPCIE slot, 1*M.2 B-Key, 1*M.2 M-Key, 1*2.5" SSD/HDD tray, 1*M.2 E-Key, 2*SIM, 1*Multi Serial BUS, 8*DI+8*DO, 1*MIC-in and 1*Line-out
ARES-1980-1145G7E (BTO)	ARES-1980 w/ i5-1145G7E, 2*DDR4, 4*COM, 4*USB3.2 Gen2, 1*onboard USB2.0, 2*PoE, 1*2.5GbE LAN, 1*HDMI, 1*DVI-D, 1*DP, 1*mPCIE slot, 1*M.2 B-Key, 1*M.2 M-Key, 1*2.5" SSD/HDD tray, 1*M.2 E-Key, 2*SIM, 1*Multi Serial BUS, 8*DI+8*DO, 1*MIC-in and 1*Line-out
ARES-1980-1185G7E (BTO)	ARES-1980 w/ i7-1185G7E, 2*DDR4, 4*COM, 4*USB3.2 Gen2, 1*onboard USB2.0, 2*PoE, 1*2.5GbE LAN, 1*HDMI, 1*DVI-D, 1*DP, 1*mPCIE slot, 1*M.2 B-Key, 1*M.2 M-Key, 1*2.5" SSD/HDD tray, 1*M.2 E-Key, 2*SIM, 1*Multi Serial BUS, 8*DI+8*DO, 1*MIC-in and 1*Line-out
OPTIONAL ACCESSORIES	
PAC-120W6B-FSP-ES	19V/6.3A, 120W AC/DC adapter kit
WIFI-AT4550	Atheros QCNFA324 mPCIe Wi-Fi+BT Module Kit (w/ 2 x 30cm RF Cable)
ANT-D11	1 x Wi-Fi Dual-band 2.4G/5G antenna
ANT-H11	1 x 2dBi HSUPA Antenna Kit
LTE-4450	Quectel EG25-G mPCIe LTE Cat 4 Module Kit (for Global, w/ 1 x 25cm RF Cable)
MM-4C-4G/8G/16G DIMM Memory	4G/8G/16G DDR4 Memory

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