

AMAX-7580

DIN Rail IPC Controller



Features

- Intel 13th Gen Core i7/i5/i3 Processor with 8GB DDR5 memory
- Port isolation for 8 x DI, 8 x DO, 4 x COM
- Supports 2*M.2 M key 2280 NVMe SSD storage (support RAID), and M.2 E Key 2230 wi-fi modules
- Modular design for optional iDoor extension
- Onboard TPM 2.0 provides hardware-based security
- IEC 61010-2 standard compliant
- Real-time BIOS optimization
- CODESYS Pre-Licensed

Introduction

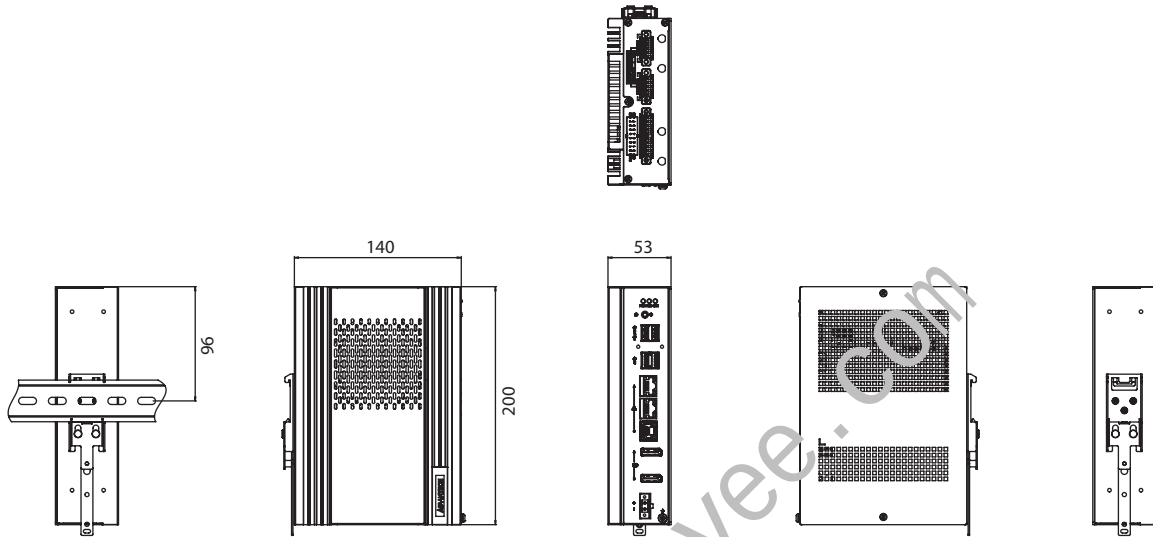
Advantech AMAX series is designed for all IoT control requirements. Our entire product range is built on cutting-edge computing technology, providing the essential value for IoT connectivity. With an optimized real-time control system (1ms latency with low jitter) for CODESYS integration and data retention design during power outages, AMAX delivers a diverse array of control systems in various form factors tailored to meet the demands of different application scenarios.

Specifications

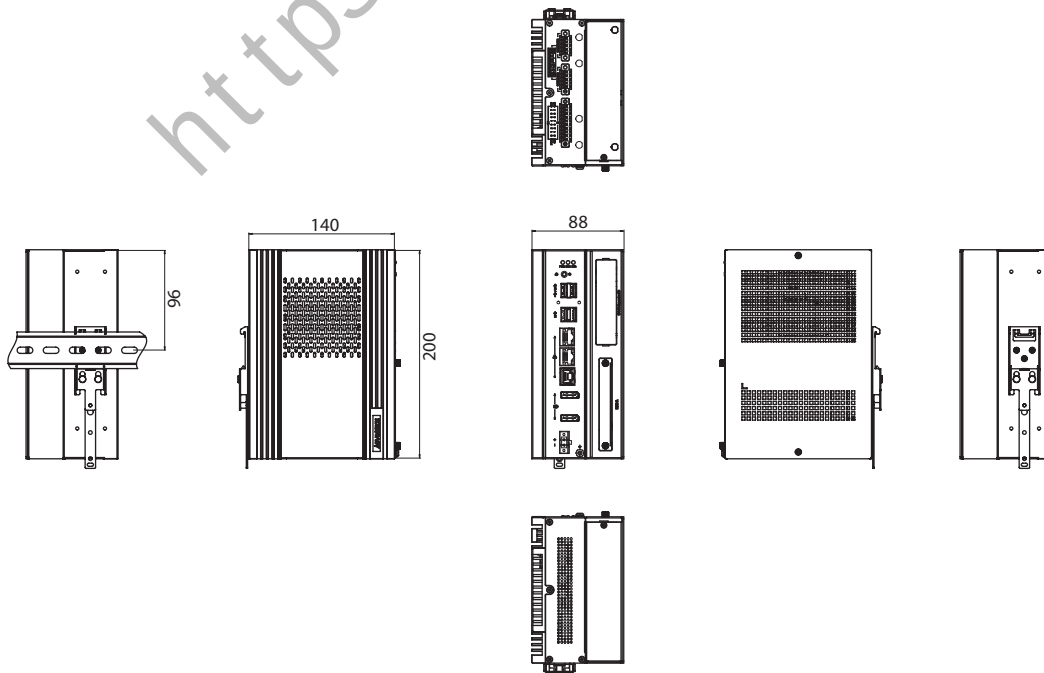
SoftPLC	Runtime Version	CODESYS V3.5 SP16 CODESYS V3.5 SP18 CODESYS V3.5 SP20	CODESYS Linux Control V4
	Visualization	Target Visualization (Local HMI) Web Visualization (Web Browser)	Target Visualization (Local HMI) Web Visualization (Web Browser)
	Motion Control	SoftMotion CNC Robotic (optional from AMAX-75x0-BT0)	SoftMotion CNC Robotic(optional from AMAX-75x0-BT0)
	Ind. Ethernet Fieldbus Support	EtherCAT MainDevice PROFINET IO-Controller EtherNet/IP Scanner (IEC/CIFX) MODBUS/TCP Server (Slave) and Client (Master)	EtherCAT MainDevice MODBUS/TCP Server (Slave) and Client (Master)**
	Ind. Fieldbus Support	MODBUS/RTU Client (Master) PROFIBUS Master & CANopen Master	**
	Uplink Communication	OPC UA Server(CODESYS), ODBC(CODESYS) MQTT (Sparkplug) via CODESYS Agent from Advantech	OPC UA Server(CODESYS)
	Motion Control Benchmark	EtherCAT, CSP mode, PTP, 64axis 250us achievable	EtherCAT, CSP mode, PTP, 64axis 250us achievable
System Hardware	BIOS	Real-time optimize BIOS	
	Processor	Intel® Core™ i7-1365UE 1.7GHz, 2P8E, 12MB SmartCache Intel® Core™ i5-1335UE 1.3GHz, 2P8E, 12MB SmartCache Intel® Core™ i3-1315UE, 1.2GHz, 2P6E, 10MB SmartCache	
	Memory	SO-DIMM 8GB, 1 x slot optional	
	Ethernet	Intel® i219-LM GbE(LAN A) Intel® i226-IT GbE(LAN B/C)	
	LED Indicators	LEDs for Power, RUN (CODESYS program run)	
	Storage(Flash)	M.2 M key NVME optional	
	Retain Memory	2MB	
	Expansion	PCIe x 4 extension module 1 x iDoor & 1 x 2.5" SSD extension module	
I/O Interfaces	Local Digital IO	8DI/8DO, isolated 2500VDC	
	Serial Ports	4 x RS-232/422/485 (Terminal), 50 ~ 115.2kbps, isolated 2500Vdc	
	LAN Ports	1 x 10/100/1000BASE-T Fast Ethernet (RJ45) 2 x 10/100/1000/2500BASE-T Fast Ethernet (RJ45)	
	USB Ports	2 x USB 3.2 (Gen2), 1 x USB 3.2 (Gen1), 1 x USB 2.0	
	Display	2 x DP 1.4, up to 3840 x 2160 (4K) @ 60 Hz	
	Grounding Protection	Chassis grounding	
	Power Connector	1 x 2 Pins	
General	Power Requirement	10~36Vdc	
	Power Consumption	41W (typical), 63W (max.)	
	OS Support	Win10 LTSC 2021 LTSC 64bits Win11	AdvLinux V4 (Ubuntu 22)
	Enclosure	Aluminum Alloy housing	
	Mounting	DIN-rail	
	Weight (Net)	Approx. 1.8kg	
	Dimensions (W x H x D)	53 x 200 x 140 mm	
	Certification	CE, FCC, UL 61010-2-201, CCC, BSMI	
Environment	Operating Temperature	-20 ~ 60°C (-4 ~ 140°F)	
	Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)	
	Relative Humidity	10 ~ 95% RH @ 40°C, non-condensing	
	Shock Protection	Operating, IEC 60068-2-27, 50G, half sine, 11ms	
	Vibration Protection	Operating, IEC 60068-2-64, 2Grms, random, 5 ~ 500Hz, 1hr/axis (SSD)	

Dimensions

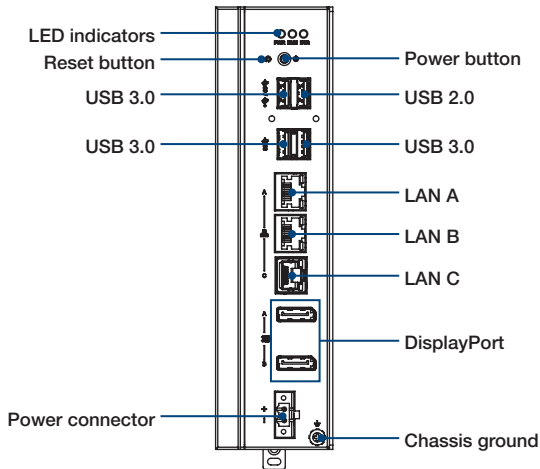
Unit: mm



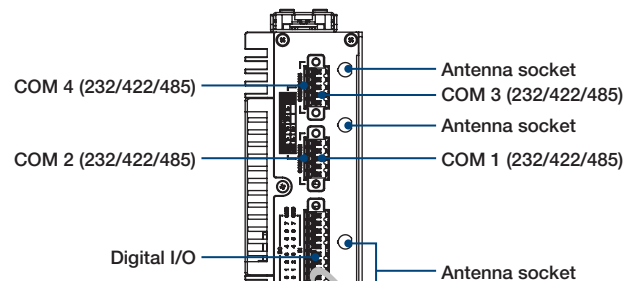
(With optional extension kit)



Front I/O



Top I/O



Ordering Information

- **AMAX-7580-100D3A** I3-1315UE,1.2GHz, 8G DDR5,3LAN4COM8DIO, WCDS
- **AMAX-7580-102D3A** I3-1315UE,1.2GHz, 8G DDR5,3LAN4COM8DIO, WCDS+TW
- **AMAX-7580-106D3A** I3-1315UE,1.2GHz, 8G DDR5,3LAN4COM8DIO, WCDS+TWS
- **AMAX-7580-100D5A** I5-1335UE,1.3GHz, 8G DDR5,3LAN4COM8DIO, WCDS
- **AMAX-7580-102D5A** I5-1335UE,1.3GHz, 8G DDR5,3LAN4COM8DIO, WCDS+TW
- **AMAX-7580-106D5A** I5-1335UE,1.3GHz, 8G DDR5,3LAN4COM8DIO, WCDS+TWS
- **AMAX-7580-100D7A** I7-1365UE,1.7GHz, 8G DDR5,3LAN4COM8DIO, WCDS
- **AMAX-7580-102D7A** I7-1365UE,1.7GHz, 8G DDR5,3LAN4COM8DIO, WCDS+TW
- **AMAX-7580-106D7A** I7-1365UE,1.7GHz, 8G DDR5,3LAN4COM8DIO, WCDS+TWS

Extension Kit

- **UNO-148-IS2EA** Extension kit with 1 x iDoor slot + 2.5" SSD/HDD Storage slot
- **UNO-148-P11EB** Extension kit with 1 x PCIe x4 slot

(Refer to the extension kit datasheet for more details)

Embedded OS

- **20701WLH1S0001** Img W11 LTSC x64 v7.01 B005 for UNO-148_V2 High
- **20701WLV1S0001** Img W11 LTSC x64 v7.01 B005 for UNO-148_V2 Value
- **20701WX1HS0011** Img W10 LTSC x64 v6.09 B013 for UNO-148_V2 High
- **20701WX1VS0011** Img W10 LTSC x64 v6.09 B013 for UNO-148_V2 Value
- **20701U22DS0005** Image AdvLinuxTu-IOTG_x64 V4.0.6 for UNO1 series

Optional Accessories

DIN-12V Power Supply

- **96PSD-A120W24-MN** A/D 100 ~ 240V, 120W, 24V NDR DIN rail
- **PSD-A120W24** DIN rail A/D 100 ~ 240V, 120W, 24V

Adapter & Power Cable

- **96PSA-A120W24T2-4** Adaptor A/D 100-240V 120W 19V C14 cord end 62368
- **1702002600** Power cable US plug, 1.8 M (industrial grade)
- **1702002605** Power cable EU plug, 1.8 M (industrial grade)
- **1702031801** Power cable UK plug, 1.8 M (industrial grade)
- **1700000596-11** Power cable China/Australia plug, 1.8 M (industrial grade)

System Fan kit

- **98R1U148201** UNO-148 V2-FAN KIT

Thermal kit

- **98R1U148200** Thermal kit for UNO-148V2 add-on NVME
(recommend: 256GB/above with 0.7 m/s airflow or any capacity w/o airflow)
- **98R1U148202** Thermal kit for UNO-148V2 2nd RAM(16GB/below)
- **98R1U148203** Thermal kit for UNO-148V2 2nd RAM(32GB/above)

Extension kit



Advantech offers an optional second-stack extension kit for expanding the system functionalities

UNO-148-IS2EA

2nd Stack extension kit with 1 x iDoor slot + 1 x 2.5" SSD/HDD slot



Specifications

General	
Ports	1 x iDoor Slot 1 x 2.5 SSD/HDD
Interface (signal)	mPCIe (PCIe / USB2.0) 2.5"SSD/HDD (SATA)
Dimensions (W x D x H)	35 x 140 x 200 mm / 1.4 x 5.5 x 7.8 in
Weight	0.4 kg (0.8 lb)

Ordering Information

Part Number	Description
UNO-148-IS2EA	UNO-148 2nd-stack extension kit with 1 x iDoor + 1 x 2.5" SSDHDD

Supported iDoor Modules

iDoor Industrial Fieldbus Communication	
PCM-24D2R4-AE	2-port isolated CANBus mPCIe, CANopen, DB9
PCM-26D1DB-MAE/SAE	1-port Hilscher netX100 FieldBus mPCIe, PROFIBUS, DB9, Master/Slave
PCM-26R2PN-MAE/SAE	2-Port Hilscher netX100 FieldBus mPCIe, PROFINET, RJ45, Master/Slave
PCM-26R2EC-MAE/SAE	2-port Hilscher netX100 FieldBus mPCIe, EtherCAT, RJ45, Master/Slave
PCM-26R2EI-MAE/SAE	2-port Hilscher netX100 FieldBus mPCIe, EtherNet/IP, RJ45, Master/Slave
Industrial I/O & Peripheral	
PCM-24D2R4-BE	2-port isolated RS-422/485, mPCIe, DB9
PCM-24D2R2-BE	2-port isolated RS-232, mPCIe, DB9
PCM-24D4R4-BE	4-port non-isolated RS-422/485 mPCIe, DB37 cable
PCM-24D4R2-BE	4-port non-isolated RS-232 mPCIe, DB37 cable
PCM-24R1TP-BE	1-port Gigabit Ethernet, Intel® i225, mPCIe, RJ45
PCM-34R1TP-AE	1-port Gigabit Ethernet, Intel® i225, M.2 B+M key (3042, PCIe*1), RJ45
PCM-24R2PE-AE	2-port Gigabit Ethernet, IEEE 802.3af (PoE)- compliant, mPCIe, RJ45
PCM-24R2GL-AE	2-port Gigabit Ethernet, Intel® i350, mPCIe, RJ45
PCM-34R2GL-AE	2-port Gigabit Ethernet, Intel® i350, M.2 B+M key (2242, PCIe*1), RJ45
PCM-27D24DI-AE	24-channel isolated digital I/O with counter mPCIe, DB37
PCM-37D24DI-AE	24-channel isolated digital I/O, M.2 B+M key (3042, PCIe*1), DB37
PCM-2300MR-AE	MR4A16B, MRAM, 2 MB, mPCIe
PCM-2300MR-BE	MR4A16B, MRAM, 4 MB, mPCIe
PCM-23U1DG-CE	USB slot w/ lock for USB dongle, half-size mPCIe
PCM-24U2U3-BE	2-port USB 3.0, mPCIe, USB-A type
iDoor Wired/Wireless Communication	
PCM-24S2WF-CE	Wi-Fi 802.11 a/b/g/n 2T2R w/Bluetooth 5.0, M.2/mPCIe, antennas
PCM-24S34G-CE	LTE/HSPA+/GPRS and GPS, full-size mPCIe, 4G/GPS antennas

Extension kit



Advantech offers an optional second-stack extension kit for expanding the system functionalities

UNO-148-P11EB

Second-stack extension kit with 1 x PCIe x4 expansion kit



Specifications

General	
Ports	1 x PCIe x4 slot
Dimensions (W x D x H)	35 x 140 x 200mm (1.4 x 5.5 x 7.9 in)
Weight	0.5 kg/1.1 lb

Notes

1. When UNO-148-P11EB is installed, the PCIe signals of the mPCIe port (Mini1) and SATA signals of the M.2 B-key (CN14) socket are occupied by the expansion kit and cannot be used.
2. Because of the power used by PCIe x4, the recommended power input for UNO-148 is 24 V_{DC} (±20%).

Ordering Information

Part Number	Description
UNO-148-P11EB	UNO-148 Second-stack Extension kit, 1 PCIe x4 slot