

AMAX-PT700

Intel Atom Panel Controller



Features

- Computing Box powered by Intel® Atom™ X6425E with DDR4 SODIMM slot (up to 32GB)
- Multiple sized front panel module offering with P-Cap multi-touch sensor (12.1" & 19" w/ robust 5-wire resistive touch)
- 1 x M.2 Key-E 2230 for WIFI + BT module
- 1 x M.2 Key-M 2280 for SATA SSD
- 1 x 2.5" SATA SSD expansion
- 2 x 2.5 Gb LAN
- Supports TPM2.0 hardware security
- Wide Temp. Support. Range -20~60 °C (Atom™ X6425E)
- 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

Model		AMAX-PT700	AMAX-PT700
Part Number		AMAX-PT700-102X6A AMAX-PT700-106X6A	AMAX-PT700-202X6A AMAX-PT700-206X6A
Description		Intel® ATOM™ Panel Controller	Intel® ATOM™ Panel Controller
SoftLogic	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-PT700-BTO)	SoftMotion CNC Robotic(optional from AMAX-PT700-BTO)
	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 1ms achievable	EtherCAT, CSP mode, PTP, 64axis 1ms achievable
Sysem Hardware	BIOS	Real-time optimize BIOS	
	Processor	Intel® Atom™ x6425E 2.0GHz, Quad core, 1.5MB L2	
	Memory	1 x DDR4 3200 SO-DIMM optional	
	Ethernet	Intel® i226-IT GbE(LAN A/B)	
	LED Indicators	-	
	Storage(Flash)	M.2 M key SATA SSD optional	
	Retain Memory	2MB	
	Expansion	1 x M.2 E key 2230 (PCIe/USB2.0)	
I/O Interfaces	Local Digital IO	-	
	Serial Ports	2 x RS-232/422/485 (DB9), 50 ~ 115.2kbps	
	LAN Ports	2 x 10/100/1000/2500BASE-T Fast Ethernet (RJ45)	
	USB Ports	3 x USB 3.2 Gen2 , 1 x USB 2.0	
	Display	1 x DP 1.4a, up to 4096 x 2160 @ 60Hz	
	Grounding Protection	Chassis grounding	
	Power Connector	1 x 3 Pins	

Specifications (Cont.)

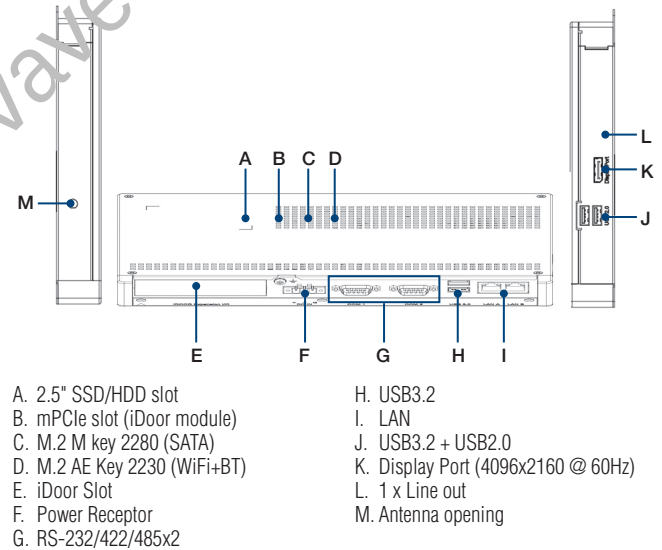
General	Power Requirement	24 V _{DC} ± 20%
	Power Consumption	-
	OS Support	Win10 LTSC 2021 LTSC 64bit AdvLinuxTU-IOTG_x64 V3 (Ubuntu 20) AdvLinuxTU-IOTG_x64 V4 (Ubuntu 22)
	Enclosure	Aluminum Alloy housing
	Mounting	- VESA Mount, Wall or Panel Mount - VESA mount required TPC-5000T-VMKE
	Weight (Net)	Approx.2.1kg
	Dimensions (W x H x D)	269 x 203 x 30 mm
	Certification	CE, FCC Class A, CB/UL
Environment	Operating Temperature	-20°C~60°C (SATA SSD)
	Storage Temperature	-30~70 °C (-22~158 °F)
	Relative Humidity	10 ~ 95% RH @ 40°C, non-condensing
	Shock Protection	-
	Vibration Protection	-

Power Consumption with Panel Module

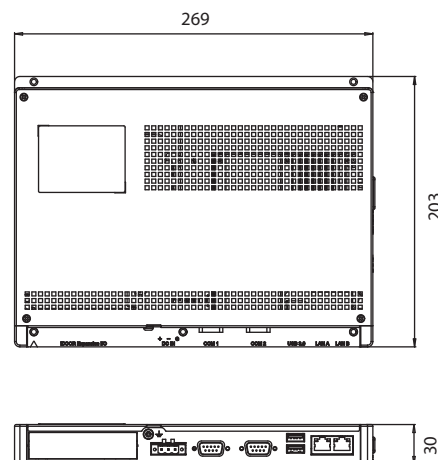
Item	Power Consumption		Screen Size	Resolution	Luminance	Aspect Ratio
	Typ.	Max.				
TPC-B300	21W	50W	N/A	N/A	NA	N/A
w/ FPM-D12T-CE	33W	62W	12.1"	1024x768	600 ntis	4:3
w/ FPM-D12T-HE	35W	64W	12.1"	1024x768	1000 ntis	
w/ FPM-D15T-CE	30W	59W	15"	1024x768	300 ntis	
w/ FPM-D15T-HE	45W	74W	15"	1024x768	1800 ntis	5:4
w/ FPM-D17T-CE	37W	66W	17"	1280x1024	350 ntis	
w/ FPM-D19T-CE	35W	64W	19"	1280x1024	350 ntis	
w/ FPM-D15W-FCE	37W	66W	15.6"	1920x1080	450 ntis	16:9
w/ FPM-D15W-FHE	46W	75W	15.6"	1920x1080	1200 ntis	
w/ FPM-D18W-FCE	38W	67W	18.5"	1920x1080	350 ntis	
w/ FPM-D21W-CE	33W	62W	21.5"	1920x1080	250 ntis	
w/ FPM-D21W-HE	63W	92W	21.5"	1920x1080	1400 ntis	
w/ FPM-D24W-HE	42W	71W	23.8"	1920x1080	350 ntis	

*Please find below the Ordering Information for the Panel Module.

Rear View



Dimensions



Unit: mm

Ordering Information

- **AMAX-PT700-102X6A** TPC-B300 Box Module Atom X6425E (12W), WCDS+TW
- **AMAX-PT700-106X6A** TPC-B300 Box Module Atom X6425E (12W), WCDS+TWS

Panel Module P/N	FPM-D12T-CE	FPM-D12T-HE	FPM-D15T-CE	FPM-D15T-HE	FPM-D17T-CE	FPM-D19T-CE
Description	12.1" XGA TFT LED LCD	12.1" XGA TFT LED LCD High Brightness 1000 nits	15" XGA TFT LED LCD	15" XGA TFT LED LCD High Brightness 1800 nits	17" SXGA TFT LED LCD	19" SXGA TFT LED LCD

Panel Module P/N	FPM-D15W-FCE	FPM-D15W-FHE	FPM-D18W-FCE	FPM-D21W-CE	FPM-D21W-HE	FPM-D24W-CE
Description	15.6" FHD TFT LED LCD	15.6" FHD TFT LED LCD High Brightness 1200 nits	18.5" HD TFT LED LCD	18.5" FHD TFT LED LCD	18.5" FHD TFT LED LCD High brightness 1400 nits	23.8" FHD TFT LED LCD

Note: Display modules cannot work independently. A computing box (TPC-B200/300/510/600) is compulsory to operate the display module.

Packing List

Item	Part No.	Depiction	Qty
Grounding cable	1703011001-11	A Cable G-TEM 4.3 100CM C=GR/Y	1
Plug-In Block	1652007930-01	Plug-In Block 1x3P/5.08mm/PA66/F/V	1
Warranty	2190000902	CARDBOARD-WARRANTY REV. A2	1
BOX Fix Screw	1930000686	Screw M3x5L S/S D=5 H=1.3 (2+) ST Ni NK	5
iDoor Screw	1930002161	Screw M3x4.0(10.0)L R/S D=5.3 H=2.2+ ST BZn	2
HDD Screw	1930001361	Screw M3x4L S/S D=5 H=1.2 (2+) ST Ni NK	4
CPU Thermal Pad (Celeron J6412)	1990031130N010	Thermal pad 25x14.7x0.5 K=13 TP PG80B	1
CPU Thermal Pad (Atom X6425E)	1990040910N000	Thermal pad for TPC-B300 PG80B 32X21X0.5 K=13	1
DDR Thermal Pad	1990021846N000	Thermal pad 55x19.5x1.0 K=6 GR-Hm SPC-1840WP	1
M.2 Thermal Pad	1990008165N010	Thermal pad 64x21.5x1.5mm K=2.5 GR25A-OHUNO-3282	1
M.2 Key-E Thermal Pad	1990035990N000	Thermal pad 22x22x1.5mm K=2.5 TP eApus-PG25A	1

Optional Accessories

Part Number	Description
TPC-WLAN-A1	M.2 AE, Intel AX210, Wifi6+ BT 5.3, 2T2R,w/Antenna, -40~85°C
96PSA-A120W24T2-4	ADP A/D 100-240V/120W 24V C14 CORD END 62368
96PSA-A150W24T2-4	A/D 100-240V/150W 24V W/PFC C14 TERMINAL 62368
TPC-5000T-VMKE	TPC Series VESA mount kit for FPM-D Series
1702002600	Power cable (US) 1.8 M
1702002605	Power cable (EU) 1.8 M
1702031801	Power cable (UK) 1.8 M
1700000596	Power cable (CN/AU) 1.8 M

Embedded OS

- **20701WX1ES0004** Img WIN10 LTSC V6.08 B059 TPC-B300 Entry
- **20701WLE1S0001** Img WIN11 LTSC V7.01 B002 TPC-B300 Entry
- **20701U22DS0003** Image AdvLinuxTu-IOTG_x64 V4.0.6 for ATPC series
- **20701A10NS0003** Img Android14 x86 for TPC-B300

iDoor Modules

- **PCM-24D2R2-BE** Isolated RS-232, DB9 x 2, (USB type)
- **PCM-24D2R4-BE** Isolated RS-422/485, DB9 x 2, (USB type)
- **PCM-24D4R2-BE** Non-Isolated RS-232, DB37 x 1 (USB Type)
- **PCM-24D4R4-BE** Non-Isolated RS-422/485, DB37 x 1 (USB Type)
- **PCM-27D24DI-AE** Digital I/O, 16 DI / 8 DO, Isolation, DB37 x 1
- **PCM-24R2GL-AE** 2 Port Giga LAN Intel i350 PCIe mini card
- **PCM-24U2U3-BE** PCM-24U2U3, 2-Port USB 3.0, mPCIe
- **PCM-29R1TX-AE** 1-Port iLink(TX) long-distance display transmitter with RJ45
- **PCM-26D2CA-BE** SJA1000 CANBus, Lattice, CANOpen, DB9 x 2
- **PCM-26D2CA-BE** SJA1000 CANBus, Lattice, CANOpen, DB9 x 2
- ***PCM-23C1CF-CE** 1 slot Cfast iDoor for CFast with PWR cable

*(1700032697-01 the CFast Power cable for PCM-23C1CF-CE)

Application Software



CODESYS Control RTE

The product CODESYS Control RTE SL is a real-time software PLC designed for PC-based industrial controllers running on Windows. It features its own real-time kernel, ensuring deterministic behavior with jitter values in the microsecond range without needing additional hardware components or operating system extensions. This makes it ideal for applications requiring precise timing and reliability. The system supports various fieldbuses, including CANopen, EtherCAT, and Modbus, and can be extended with options like SoftMotion and WebVisu. With CODESYS Control RTE SL, users can leverage the powerful IEC 61131-3 development environment to create robust and efficient automation solutions.

Interface

- OPCUA Server
- ODBC
- MQTT from Advantech Agent

Fieldbus Support

- EtherCAT MainDevice
- PROFINET IO-Controller
- EtherNet/IP Scanner (IEC/CIFX)
- MODBUS/TCP Server (Slave) and Client (Master)
- MODBUS/RTU Client (Master)
- PROFIBUS Master
- CANopen Master

CODESYS Linux Control

CODESYS Linux Control is a versatile and robust operating system tailored for industrial automation applications. Leveraging the stability and flexibility of Linux, this platform supports a wide range of hardware and software configurations, making it suitable for diverse control tasks. It offers real-time capabilities through PREEMPT-RT patches, ensuring low-latency and deterministic performance. CODESYS Linux Control integrates seamlessly with CODESYS, providing a powerful environment for developing and deploying automation solutions. With extensive support for networking, security, and various industrial protocols, CODESYS Linux Control is an excellent choice for building scalable and reliable control systems.

Interface

- OPCUA Server

Fieldbus Support

- EtherCAT MainDevice
- MODBUS/TCP Server (Slave) and Client (Master)
- MODBUS/RTU Client (Master)
- CANopen Master

AMAX-PT700 Photo

