

AMAX-658 AMAX-637

Integrated PC-Based SoftPLC & SoftMotion CODESYS-Ready Edge Controller



Features

- CODESYS Control Real Time Engine (RTE) & Visualization (Target & Web)
- Optimized BIOS adjustment & Embedded O.S. for real-time control
- SoftPLC support a 50 μ s processing cycle time
- IEC-61131-3 PLC language supported (FBD, LD, IL, ST, SFC)
- Achieve 64-axis motion control with 1 ms cycle time
- Upstream connection easy achieve IT/OT integration (MQTT, OPC UA & ODBC)
- EtherCAT, ProfiNet, Ethernet/IP and Modbus TCP/RTU ready for control
- CANopen and Profibus optional by iDoor expansion module
- SoftMotion or CNC Robotics module license remote upgrade from Advantech WISE-PaaS marketplace or CODESYS store
- Advantech Data Connect (ADC) Library provide flexible & high speed data connected with 3rd party application software through Symbols (PLC Handler) & Shared Memory (C/C++/C#)

Introduction

AMAX-658 & AMAX-637 are PC-Based edge controllers powered by CODESYS, the software PLC of control kernel with Industrial Ethernet and Fieldbus for OT applications. The IEC-61131-3 language support allows engineers to easily catch up on PLC programming, SoftMotion & CNC Robotics modules fitting various motion control. To offer complete control solutions to the market, Advantech also provides flexible expansion modules like Industrial Ethernet I/O, Peripheral I/O, Slices I/O or Distributed I/O.

To ensure easier access to the data with IT-OT integration, the uplink capability supports MQTT, OPC UA and ODBC (database). The add-on platform portal utility self-diagnostic function make edge controller more reliable, and users can leverage Advantech WISE-PaaS function for field-side machinery management to enhance productivity and flexibility on equipment.

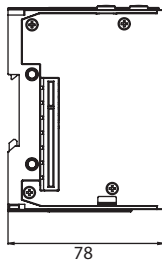
Specification

Category	Modular Controller			Cabinet Controller
Product Model	AMAX-658			AMAX-637
Part Number	AMAX-658-6CCW00A	AMAX-658-65CW00A	AMAX-658-67CW00A	AMAX-637-E1CW00A
Operating System	Microsoft Embeddd Windows 10 LTSC (64bit)			
Power Inputs	DC24V \pm 20%			DC10-36V
CPU	Intel® Celeron®	Intel® Core™ i5	Intel® Core™ i7	Intel® ATOM™
Memory	4GB DDR4	8GB DDR4	8GB DDR4	8GB DDR4
Retain Memory	2 MB MRAM			
Display Size & Type	1 x VGA (1920x1200 @ 60 Hz), 1 x HDMI (4096x2160 @ 24 Hz)			2 x DP (4096x2306 @ 60 Hz)
Storage	128 GB SSD	128 GB SSD	128 GB SSD	128 GB SSD
Local I/Os	2 x RS-232 / 422 / 485(D-sub)			8 Digital Input(Wet/Dry) 8 Digital Output(Sink) 2 x RS-232 / 422 / 485(TB)
LAN	2 x RJ45, 10/100/1000 Mbps IEEE 802.3u 1000BASE-T			
Expansion	AMAX-5000 Series Flexible Slices I/O Expansion Modules (Right-Side) AMAX-5400 Series PCIe Interface Expansion Modules (Lefth-Side)			1 x Full-size mPCIe (iDoor) 1 x 2.5" SSD/HDD Slot
Operating Temperature	-10 ~ 60°C (-4 ~ 140°F)			-40 ~ 70 °C (-40 ~158°F)
Control SoftLogic	CODESYS V3.5 SP16 Control RTE SL + Visualization (Target & Web) SoftMotion & CNC Robotic (Optional-Upgrade from Advantech Marketplace)			
Uplink	OPC UA, MQTT, ODBC (Database)			
Industrial Ethernet	EtherCAT, EtherNet/IP, ProfiNet, Modbus TCP			
Industrial Fieldbus	CANOpen (optional), Profibus (optional), Modbus RTU			

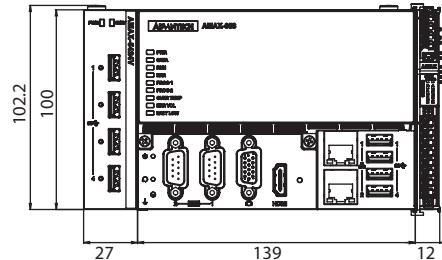
Dimensions

Unit: mm

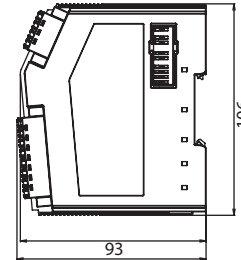
AMAX-658



AMAX-5400 Expansion

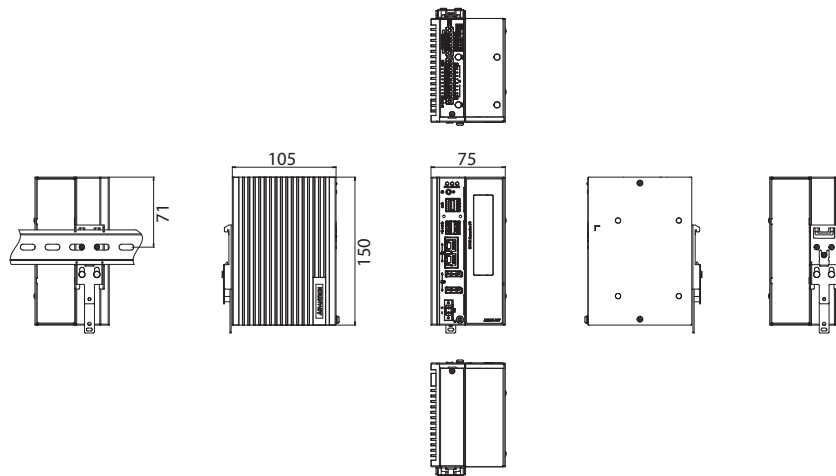


AMAX-658 Controller with Expansion Installation



AMAX-5000 EtherCAT Slice IO

AMAX-637



Order Information

- **AMAX-658-6CCW00A** Intel® Celeron, 128G, Win10, CDS RTE & Visu Ready
- **AMAX-658-65CW00A** Intel® Core™ i5, 128G, Win10, CDS RTE & Visu Ready
- **AMAX-658-67CW00A** Intel® Core™ i7, 128G, Win10, CDS RTE & Visu Ready
- **AMAX-637-E1CW00A** Intel® ATOM, 128G, Win10, CDS RTE & Visu Ready

- **AMAX-5051T** 2-Ch timestamp, 6-ch w/o timestamp DI
- **AMAX-5056T** 2-Ch timestamp DO
- **AMAX-5017H** 4-Ch 10KHz High speed AI
- **AMAX-5081** 1-Ch TTL/RS-422 Encoder/Counter

EtherCAT IO Modules

AMAX-5000 EtherCAT Coupler

- **AMAX-5074** EtherCAT coupler module
- **AMAX-5079** EtherCAT extension module

AMAX-5000 EtherCAT Module

- **AMAX-5001** Smart Power Input module with 4-Ch DI
- **AMAX-5015** 4-Ch RTD (2/3 wire)
- **AMAX-5017V** 6-Ch Voltage AI, multi-gain 16-bit
- **AMAX-5017C** 6-Ch Current AI, 0-20/4-20mA 16-bit
- **AMAX-5018** 6-Ch T/C, J,K,T,E,R,S,B, mV, Open detect
- **AMAX-5024** 4-Ch AO multi-gain, 16-bit
- **AMAX-5051** 8-Ch Iso. DI
- **AMAX-5052** 16-Ch Iso. DI
- **AMAX-5056** 8-Ch Iso. DO sink type
- **AMAX-5056SO** 8-Ch Iso. DO source type
- **AMAX-5057** 16-Ch Iso. DO sink type
- **AMAX-5057SO** 16-Ch Iso. DO source type
- **AMAX-5080** 2-Ch Counter/Encoder 32-bit

PCIe Expansion Modules (for AMAX-658)

AMAX-5400 Series Expansion Module

- **AMAX-5400E** PCIe-mini card with SIM card slot
- **AMAX-5410** 2 x GigE expansion module
- **AMAX-5410P** 2 x PoE expansion module
- **AMAX-5424V** 4 x USB 3.0 with full bandwidth
- **AMAX-5490** 2 x isolated RS-232/422/485
- **AMAX-5495** 2 x CAN module

Accessories

DIN-Rail Type AC to DC Power Supply

- **96PSD-A60W24-MM** A/D 100-240V 60W 24V MDR DIN RAIL
- **96PSD-A120W24-MN** A/D 100-240V 120W 24V NDR DIN RAIL
- **96PSD-A240W24-MN** A/D 100-240V 240W 24V NDR DIN RAIL