

WA-CU Control Series

PC-based Cabinet Controller with CODESYS Control Runtime & Visualization

NEW



EtherCAT EtherNet/IP CANopen Modbus CODESYS



Introduction

The WA-CU Controller series is a complete application-ready-package which includes a PC-based Cabinet Controller with high performance Intel Atom/Core-i multi-core processor, DIN-rail fanless compact form factor design, 128GB SSD, 2MB MRAM, Microsoft Windows embedded 7 Pro and CODESYS Control Runtime & Visualization. This allows users to easily achieve an open control solution, the PC-based real-time control system, enabling real-time PLC or PLC/Softmotion control with flexible Fieldbus options such as PROFINET, EtherCAT, EtherNet/IP, CANopen, Modbus TCP/RTU and providing the visualization in parallel on different HMI clients. It also features with MRAM retaining the data values and dual-power input avoiding causing operating failure from unexpected power interruption. The software/hardware flexibility and stability of PC-based Cabinet Controller is able to fulfill various control applications in vertical industries.

Ready-to-go Open Control Solution Package enabling Industry 4.0 includes:

- PC-based Cabinet Controller
- 128GB SSD and 2MB MRAM
- Microsoft Windows embedded 7 Pro 32bit
- CODESYS Control Runtime & Visualization

Open Control Solutions Specifications

One Open Controller for all Control Systems

- Supports main Fieldbuses configurators and portable protocol stacks:
 - PROFINET (Master)
 - EtherCAT (Master)
 - EtherNet/IP (Master)
 - CANopen
 - Modbus TCP (Server/Client)
 - Modbus RTU (Master)
- Flexible in selecting the object-oriented IEC 61131-3 (FBD, LD, IL, ST, SFC) standard programming languages
- Integrated Control Runtime & Visualization allow user to develop the HMI screen in parallel to the IEC 61131-3 program
- Easy hardware configuration by iDoor technology implement for flexible I/O expansion and wireless communication options

High Performance CPU for Real-time Control Applications

- Intel Atom/Core-i multi-core level CPU both for entry and high performance requirements
- The multi-core CPU distributes PLC Runtime, Visualization and other tasks to dedicated cores.
- Optimized system BIOS setting guarantees the consistent CPU clock rate for real-time control

Features

Enable Open Control Solution by Application-Ready-Package including:

PC-based Cabinet Controller

- Powerful Intel Atom/Core-i multi-core CPU dedicated for control and HMI
- DIN-rail fanless compact design with less maintenance effort
- 2MB MRAM retained control data value
- 128 GB SSD installed
- Microsoft Windows Embedded 7 Pro 32-bit installed
- Supports iDoor technology providing flexible I/O and wireless options

CODESYS Control Runtime & Visualization

- Preinstalled CODESYS Control Runtime & Visualization
- Supports real-time PLC/Softmotion control with main Fieldbuses: PROFINET, EtherCAT, EtherNet/IP, CANopen and Modbus
- Supports PLCopen IEC-61131-3 standard programming languages
- Displays and operates the same control program on different visualization clients

Visualized Control on Field side Operation and Remote Mobile Clients

- Creates Visualized HMI on extended touch panel for on-site operation
- Supports browser-based (HTML5) visualization enabling remote operating on iOS/Android mobile devices
- The complete visualization screens can be deposited into library and reused as IEC 61131-3 function blocks

Reliable Controller Design for harsh environment

- Includes MRAM retaining data values and dual-power input avoiding causing operating failure from unexpected power interruption
- DIN-rail mounting fanless compact design for higher reliability and less maintenance effort
- Supports remote system status monitoring by WISE-PaaS/RMM
- Approved Certifications: BSMI, CCC, CE, FCC Class A, UL
- Wide operating temperature

Configuration Options

Series	Visualized Cabinet Controller	
Ordering P/N	WA-CU1372G-ERHE5AE	WA-CU1483G-3RHE5AE
Platform	UNO-1372G-E3AE	UNO-1483G-434AE
Operating System	Microsoft Windows Embedded 7 Pro (32 bit)	
Control Software*	CODESYS V3.5 SP7 Control RTE & Visualization	
Form Factor (Front-accessible I/O)	Small size	Regular size
CPU	Intel Atom E3845 Quad-core 1.91 GHz	Intel Core i3-4010U Dual-core 1.7 GHz
Processing times	Bit operation (3.654 μ s)	Bit operation (3.654 μ s)
	Word operation (3.672 μ s)	Word operation (3.672 μ s)
	REAL operation (6.263 μ s)	REAL operation (6.263 μ s)
Memory	4GB DDR3L	8GB DDR3L
Backup Memory	2MB MRAM	
Display Type	HDMI: 1920 x 1080 @ 60Hz	DP: 1920 x 1080 @ 60Hz
	VGA: 1920 x 1200 @ 60Hz	VGA: 1920 x 1200 @ 60Hz
Storage	128GB SSD	
Diagnostics LED	System Power x 3, RTC status x 1, HDD x 1, COM x 2, PL x 1	System Power x 3, RTC status x 1, HDD x 1, COM x 3
Expansion Slots	Full-size Mini PCIe x 1	PCIe x 1
	mSATA x 1	Full-size Mini PCIe/mSATA x 1 Half-size Mini PCIe x 1
Mounting	DIN-rail, Wall	
Network(LAN)	10/100/1000 Base-T x 3 (LAN A/B: Intel i210)	10/100/1000 Base-T x 4 (LAN B/C/D: Intel i210)
	RS-232 x 1 RS-422/485 x 1 USB 2.0 x 2 USB 3.0 x 1 4-ch DI/O Line-out x 1	RS-232 x 1 RS-422/485 x 2 USB 2.0 x 2 USB 3.0 x 2 4-ch DI/O Line-in/out x 1
iDoor Expansion	iDoor x 1	
Dual DC Power Input (Voltage)	10~36 VDC	12/24 VDC \pm 20%
Operating Temperature	-20 ~ 60°C	
Storage Temperature	-40 ~ 85°C	
Dimensions (W x D x H)	85 x 139 x 152 mm	106 x 139 x 198 mm
Certification	CE, FCC, UL, CCC, BSMI	

* For Softmotion control, contact Advantech for further ordering information

Ordering Information

- **WA-CU1372G-ERHE5AE** UNO-1372G-E3AE, Control RTE & Visua., 128G SSD, MRAM, WES7P
- **WA-CU1483G-3RHE5AE** UNO-1483G-434AE, Control RTE & Visua., 128G SSD, MRAM, WES7P

Accessories

- **PWR-247-CE** 100-240V 60W 24V 2.5A Power Supply for WA-CU1372G
- **96PSA-A90W190T-1** 100-240V 90W 19V Power Supply for WA-CU1483G
- **1702002600** Power Cable US Plug 1.8 M for WA-CU1372G
- **1702002605** Power Cable EU Plug 1.8 M for WA-CU1372G
- **1702031801** Power Cable UK Plug 1.8 M for WA-CU1372G
- **1700000596** Power Cable China/Australia Plug 1.8 M for WA-CU1372G
- **1700001524** Power cable 3-pin US type 1.8 M for WA-CU1483G
- **170203183C** Power cable 3-pin EU type 1.8 M for WA-CU1483G
- **170203180A** Power cable 3-pin UK type 1.8 M for WA-CU1483G

Selected iDoor Modules

- **PCM-26D2CA-AE** SJA1000 CANBus, CANOpen, DB9 x 2
- **PCM-24D2R2-AE** OXPcLe-952 UART, Isolated RS-232, DB9 x 2
- **PCM-24D2R4-AE** OXPcLe-952 UART, Isolated RS-422/485, DB9 x 2
- **PCM-24D4R2-AE** OXPcLe-954 UART, Non-Isolated RS-232, DB37 x 1
- **PCM-24D4R4-AE** OXPcLe-954 UART, Non-Isolated RS-422/485, DB37 x 1
- **PCM-24U2U3-AE** USB 3.0, mPCIe, USB-A type x 2
- **PCM-24S2WF-AE** 802.11 a/b/g/n 2T2R w/ Bluetooth4.0, Half-size mPCIe
- **PCM-24R1TP-AE** Intel® 82574L, GbE, RJ45 x 1
- **PCM-24R2GL-AE** Intel® i350 Gigabit Ethernet, mPCIe, RJ45 x 2