

WA-CT Control Series

PC-Based Panel Controller with CODESYS Control Runtime and Visualization

NEW



EtherCAT PROFIBUS EtherNet/IP CANopen Modbus CODESYS

Intel Acronis WISE-PaaS/RMM iDoor CCC CE FCC UL

Introduction

The WA-CT Control series is a complete application-ready-package that includes a PC-based panel controller with 15.6/18.5" widescreen TFT LCD and multi-touch panel, high-performance Intel® Core™ i multi-core processor, 128GB SSD, 2 MB MRAM, Microsoft Windows Embedded 7 Pro, and CODESYS Control Runtime and Visualization. This provides users with an open control solution and PC-based real-time control system, while enabling onsite visualized HMI operation and real-time PLC or PLC/Softmotion control with flexible fieldbus options such as PROFINET, EtherCAT, EtherNet/IP, CANopen, and Modbus TCP/RTU.

This PC-based panel controller also features an anti-scratch surface of 7H hardness and MRAM for retaining operation data in harsh environments. Additionally, the stability and flexibility of the software and hardware ensure that the solution can support diverse control applications in vertical industries.

Contents of the Open Control Application-Ready-Package for Industry 4.0

- PC-based Panel controller
- 128GB SSD and 2MB MRAM
- Microsoft Windows Embedded 7 Pro (32 bit)
- CODESYS Control Runtime and Visualization

Open Control Solution Specifications

One Open Controller for all Control Systems

- Supports the main fieldbus configurations 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 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

Open Control Application-Ready-Package Solution with PC-Based Panel Controller

- Industrial 15.6"/18.5" TFT LCD Panel with 50K Lifetime LED backlight
- True-flat 16:9 wide screen with PCT multi-touch and IP66 protection
- Powerful Intel Core-i multi-core CPU dedicated for control and HMI
- 128 GB SSD installed and 2MB MRAM retained control data value
- Microsoft Windows Embedded 7 Pro 32-bit installed
- Supports iDoor technology providing flexible I/O expansion and wireless communication options

CODESYS Control Runtime and Visualization

- Preinstalled CODESYS Control Runtime & Visualization
- Enables real-time PLC or PLC/Softmotion control with main Fieldbuses: PROFINET, EtherCAT, EtherNet/IP and CANopen
- Supports object-oriented IEC-61131-3 standard programming languages
- Displays and operates the same control HMI program both on Panel Controller and other visualization clients

Visualized Control of Field Operations and Remote Mobile Clients

- Smoothly operates on-site HMI control on projected capacitive touch panel
- 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 Environments

- Includes MRAM retaining data values during unexpected power interruption
- Rugged fanless panel PC with a backlight life of up to 50,000 hours
- Touch screen passed 36 million touches test at single point
- True-flat touch screen designed with IP66 front protection
- Easy installation by panel mounting
- Supports remote system status monitoring by WISE-PaaS/RMM
- Approved Certifications: BSMI, CCC, CE, FCC Class A, UL
- Wide operating temperature

Configuration Options

Series	Operator Panel Controller	
Part Number	WA-CT1581W-3RHE5AE	WA-CT1881W-3RHE5AE
Platform	TPC-1581WP-433AE	TPC-1881WP-433AE
Operating System	Microsoft Windows Embedded 7 Pro (32 bit)	
Control Software	CODESYS V3.5 SP8 Control RTE & Visualization	
Aspect Ratio	16:9	
CPU	Intel® Core™ i3-4010U dual-core 1.7 GHz	
Processing Times	Bit operation (3.654 μs) Word operation (3.672 μs) REAL operation (6.263 μs)	Bit operation (3.654 μs) Word operation (3.672 μs) REAL operation (6.263 μs)
Memory	4 GB of DDR3L	
Backup Memory	2MB MRAM	
Display Size/Type	15.6" WXGA TFT LED LCD	18.5" WXGA TFT LED LCD
Max. Resolution	1366 x 768	
Backlight MTBF	50,000 hrs	
Touchscreen	Projected capacitive	
Storage	128GB SSD	
Expansion Slots	1 x CFast slot	
Mounting	Panel	
Network (LAN)	2 x 10/100/1000 Base-T (LANB: Intel® i210)	
I/O	1 x RS-232, 1 x RS-232/422/485, 1 x USB 3.0, 2 x HDMI, 1 x Line Out	
DC Power Input (Voltage)	24 V _{DC} ± 20%	
Ingress Protection	IP66-rated front panel	
Operating Temperature	0 ~ 55°C	
Storage Temperature	-20 ~ 60°C	
Dimensions (W x D x H)	419.7 x 269 x 56.7 mm	
Certification	BSMI, CCC, CE, FCC, UL	

Note: For Softmotion control, contact Advantech for further information.

Ordering Information

- **WA-CT1581W-3RHE5AE** TPC-1581WP-433AE, Control RTE & Visua., 128G SSD, MRAM, WES7P
- **WA-CT1881W-3RHE5AE** TPC-1881WP-433AE, Control RTE & Visua., 128G SSD, MRAM, WES7P

Accessories

- **96PSA-A150W24T2** 100-240V 150W 24V Power Adapter
- **1702002600** Power Cable US Plug 1.8 M
- **1702002605** Power Cable EU Plug 1.8 M
- **1702031801** Power Cable UK Plug 1.8 M
- **1700000596** Power Cable China/Australia Plug 1.8 M