

# APAX-5580CDS

High-performance SoftLogic PC-based controller, empowered by CODESYS

NEW



EtherCAT PROFIBUS Ethernet/IP CANopen Modbus CODESYS



## Features

- Preinstalled CODESYS V3 Control RTE based on WES7
- Supports PLCopen IEC 61131-3 standard programming languages
- Full integration with all Advantech remote I/O module systems
- Two alternative display options through local VGA and web browser
- Supports real-time fieldbus protocol through onboard LAN port and iDoor technology: PROFINET, Ethernet/IP, EtherCAT, CANopen and Modbus

### APAX-5580 Control IPC

- Optimized system BIOS setting for real-time control
- DIN-rail fanless compact design
- Dual power input and relay output for alarm
- BIOS support One-Key-Recovery Option (APAXOKSD032AE-ES)
- 10 year lifetime RTC battery
- Supports 2MB MRAM for Retain memory (PCM-2300MR-AE)

## Introduction

Advantech's APAX-5580CDS series is a high performance control IPC with Core™i/Celeron® multi-core processor, Microsoft Windows embedded 7 Pro and CODESYS Control Runtime & Visualization. This PC-based control system allows users to develop their solutions by PLCopen IEC-61131-3 standard programming languages and flexible fieldbus options such as PROFINET, Ethernet/IP, EtherCAT, CANopen, and Modbus and provides local VGA and browser-based (HTML5) visualization to do on-site operation and remote diagnosis via your smart device. The APAX-5580 with CODESYS combines hardware and software flexibility and stability, to fulfill the needs of different control application.

## CODESYS Real-time SoftLogic Control Software

- **Development Tool** CODESYS V3
- **Language** PLCopen object-oriented IEC 61131-3 (FBD, LD, IL, ST, SFC)
- **Runtime** Control RTE  
Control RTE with Softmotion  
Control RTE with Softmotion CNC under Windows embedded 7 Pro 32/64 bit
- **Visualization** Target visualization (Local HMI through VGA)  
Web visualization (HTML5)
- **OPC Server** OPC DA
- **Protocol** EtherCAT MASTER  
PROFINET MASTER  
Ethernet/IP MASTER  
CANopen, MASTER  
Modbus/RTU  
Modbus/TCP
- **Software Support** Project Import to WebAccess/SCADA  
ODBC FBD for Direct Database Access

## APAX-5580 Open Control Platform

### General

- **Certification** CE, FCC, BSMI, UL
- **Dimensions(W x H x D)** 117 x 148.5 x 106 mm
- **Mounting** DIN-Rail, Wall mount
- **Power Requirement** 24V<sub>DC</sub> ± 20%
- **Power Consumption** 28W (Typical), 72W (Max)
- **OS** Windows Embedded 7 Pro 32/64 bit

### System

- **Processor** Intel Core i7-4650U 1.7GHz, 4MB L2  
Intel Core i3-4010U 1.7GHz, 3MB L2  
Intel Celeron 2980U 1.6GHz, 2MB L2
- **Memory** On-board 4GB (i7 with 8GB)  
2MB MRAM memory for Retain Variables (PCM-2300MR-AE)
- **Ethernet** Intel i210-IT GbE, 802.1 Qav, IEEE1588/802.1AS, 802.3az  
Intel i218-LM GbE, Intel AMT, IEEE1588/802.1AS, 802.3az
- **Storage** 1 x mSATA, 1 x SD

### I/O Interfaces

- **Serial Ports** 1 x RS-232/422/485, DB9, 50 ~ 115.2kbps
- **LAN Ports** 2 x RJ45, 10/100/1000 Mbps IEEE 802.3u 1000Base-T
- **USB Ports** 4 x USB Ports (2x USB2.0, 2x USB3.0 compliant)  
1 x internal USB
- **Display** 1 x VGA, support 1920 x 1080 @ 60 Hz 24bpp

## Ordering Information

- **CDS-APAX5580-R010A** APAX-5580-4C3AE, 32G, CODESYS RTE, no HMI
- **CDS-APAX5580-R023A** APAX-5580-433AE, 64G, CODESYS RTE, no HMI
- **CDS-APAX5580-R323A** APAX-5580-433AE, 64G, CODESYS RTE, TV\* and WV\*\*
- **CDS-APAX5580-R011B** APAX-5580-4C3AE w/ MRAM, 32G SSD, CODESYS RTE, no HMI
- **CDS-APAX5580-R111B** APAX-5580-4C3AE w/ MRAM, 32G SSD, CODESYS RTE, w/ TV
- **CDS-APAX5580-R311B** APAX-5580-4C3AE w/ MRAM, 32G SSD, CODESYS RTE, TV+WV
- **CDS-APAX5580-R321B** APAX-5580-4C3AE w/ MRAM, 64G SSD, CODESYS RTE, TV+WV
- **CDS-APAX5580-R324B** APAX-5580-433AE w/ MRAM, 64G SSD, CODESYS RTE, TV+WV
- **CDS-APAX5580-R328B** APAX-5580-474AE w/ MRAM, 64G SSD, CODESYS RTE, TV+WV
- **CDS-APAX5580-M124B** APAX-5580-433AE w/ MRAM, 64G SSD, CODESYS RTE SM, w/TV
- **CDS-APAX5580-M128B** APAX-5580-474AE w/ MRAM, 64G SSD, CODESYS RTE SM, w/TV
- **CDS-APAX5580-M224B** APAX-5580-433AE w/ MRAM, 64G SSD, CODESYS RTE SM, w/WV
- **CDS-APAX5580-M324B** APAX-5580-433AE w/ MRAM, 64G SSD, CODESYS RTE SM, TV+WV
- **CDS-APAX5580-M328B** APAX-5580-474AE w/ MRAM, 64G SSD, CODESYS RTE SM, TV+WV
- **CDS-APAX5580-C038B** APAX-5580-474AE w/ MRAM, 128G SSD, CODESYS RTE SM CNC, no HMI
- **CDS-APAX5580-C124B** APAX-5580-433AE w/ MRAM, 64G SSD, CODESYS RTE SM CNC, w/TV
- **CDS-APAX5580-C128B** APAX-5580-474AE w/ MRAM, 64G SSD, CODESYS RTE SM CNC, w/TV
- **CDS-APAX5580-C324B** APAX-5580-433AE w/ MRAM, 64G SSD, CODESYS RTE SM CNC, TV+WV
- **CDS-APAX5580-C328B** APAX-5580-474AE w/ MRAM, 64G SSD, CODESYS RTE SM CNC, TV+WV

\* TV = Target Visualization

\*\* WV = Web Visualization

**Note 1:** A is for V3.5 SP8, B is for V3.5 SP10

**Note 2:** R is for RTE only, M is for RTE with Softmotion, C is for RTE with Softmotion CNC

**Note 3:** CDS-APAX5580 is a Hardware / Software bundle Product, the configuration not in the list would be available by request.

## iDoor Modules for APAX-5435

- **PCM-24R2PE-AE** Intel i350, GbE, PoE IEEE 802.3af, PD, RJ45 x 2
- **PCM-2300MR-AE** MR4A16B MRAM, 2MByte (Option for Retain Variables)
- **PCM-26D2CA-AE** SJA1000 CANBus, CANopen, DB9 x 1
- **PCM-24S2WF-AE** 802.11 a/b/g/n 2T2R w/ BT4.0, Atheros AR9462
- **PCM-24S33G-AE** 6-band HSPA Cellular Module, SIM holder+GPS
- **PCM-26R2PN-MAE** Hilscher netX100 FieldBus, PROFINET, RJ45 x2
- **PCM-26R2EC-MAE** Hilscher netX100 FieldBus, ETHERCAT, RJ45 x2

## Expansion Modules

- **APAX-5402-E2A0AE** 2 PCIe expansion slots to support APAX-5490, APAX-5435, APAX-5430
- **APAX-5402L-E2A2AE** 2 Combo expansion slots PCIe and APAX IO (EtherIO)
- **APAX-5490-IP4AE** 4x RS-232/422/485 Communication Module
- **APAX-5435** APAX iDoor expansion Module
- **APAX-5430** APAX SATA interface Module

## Accessories

- **APAX-5343-AE** 72W, Power Supply for APAX-5580 (Support Dual Power)
- **PWR-244-AE** 96W AC to DC 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
- **UNO-IPS2730-AE** 18-36 V<sub>DC</sub> Input / 24V<sub>DC</sub> Output UPS Module
- **APAXOKSD032AE-ES** APAX One Key Recovery SD Card, 32G