APAX-5580CDS

**High-performance SoftLogic PC-based controller, empowered by 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™/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
- **Visualization**: Target visualization (Local HMI through VGA)
- **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**: 24VDC ± 20%
- **Power Consumption**: 28W (Typical), 72W (Max)
- **OS**: Windows Embedded 7 Pro

**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

All product specifications are subject to change without notice.
Last updated: 12-Oct-2017
### 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-M234B**  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/TW
- **CDS-APAX5580-C128B**  APAX-5580-474AE w/ MRAM, 64G SSD, CODESYS RTE SM CNC, w/TW
- **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, P0, RJ45 x 2  
- **PCM-2300MR-AE**  MR41618 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 Vdc input / 24Vdc Output UPS Module  
- **APAXOKSD032AE-ES**  APAX One Key Recovery SD Card, 32G