APAX-5580CDS

High performance SoftLogic PC-based controller, empowered by CODESYS

NEW

EtherCAT™ PROFINET® EtherNet/IP™ CANopen Modbus CODESYS

RoHS COMPLIANT 2002/95/EC CE FCC

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 indicator
- One button system recovery
- 10 year lifetime RTC battery
- Supports 2MB MRAM

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.

Specifications

General

- **Certification** CE, FCC
- **Dimensions (W x H x D)** 117 x 148.5 x 106 mm
- **Form Factor** Regular Size
- **Enclosure** Aluminum Housing
- **Mounting** DIN-Rail, Wall mount
- **Weight (Net)** 1.8 kg (4.0 lbs)
- **Power Requirement** 24 V_{DC} ± 20%
- **Power Consumption** 28 W (Typical), 72 W(Max)
- **OS Support** Microsoft® Windows 7/8, Linux Kernel 3.X

System Hardware

- **BIOS** AMI UEFI 128Mbit Flash BIOS
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec
- **Processor** Intel® Core™ i7-4650U ULT 1.7GHz Haswell Dual Core, 4MB L2
  Intel® Core™ i3-4010U ULT 1.7GHz Haswell Dual Core, 3MB L2
  Intel® Celeron 2980U ULT 1.6GHz Haswell Dual Core, 2MB L2
- **System Chip** Integrated Intel 8 Series Chipset
- **Memory** On-board 4GB (8GB optional)
- **Graphics Engine** Intel® HD Graphics 5000/4400
- **Ethernet** Intel® i210-IT GbE, 802.1Qav, IEEE1588/802.1AS, 802.3az
  Intel® i218-LM GbE, Intel® AMT, IEEE1588/802.1AS, 802.3az
- **LED Indicators** LEDs for Power, battery, LAN (Active, Status), Tx/Rx and HDD
- **Storage** 1 x mSATA, 1 x SD, 1 x SD (for OS backup)
- **Expansion** 1 x Full-size mPCIe slot, 1 x Half-size mPCIe slot, mPCIe 2.0

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 Fast Ethernet
- **USB Ports** 4 x USB Ports (2 x USB 2.0, 2 x USB 3.0 compliant) 1 x internal USB
- **Display** 1 x VGA, supports 1920 X 1080 @ 60 Hz 24 bpp
- **Audio** Line-Out
- **Power Connector** Dual power input and UPS support
- **Grounding Protection** Chassis Grounding
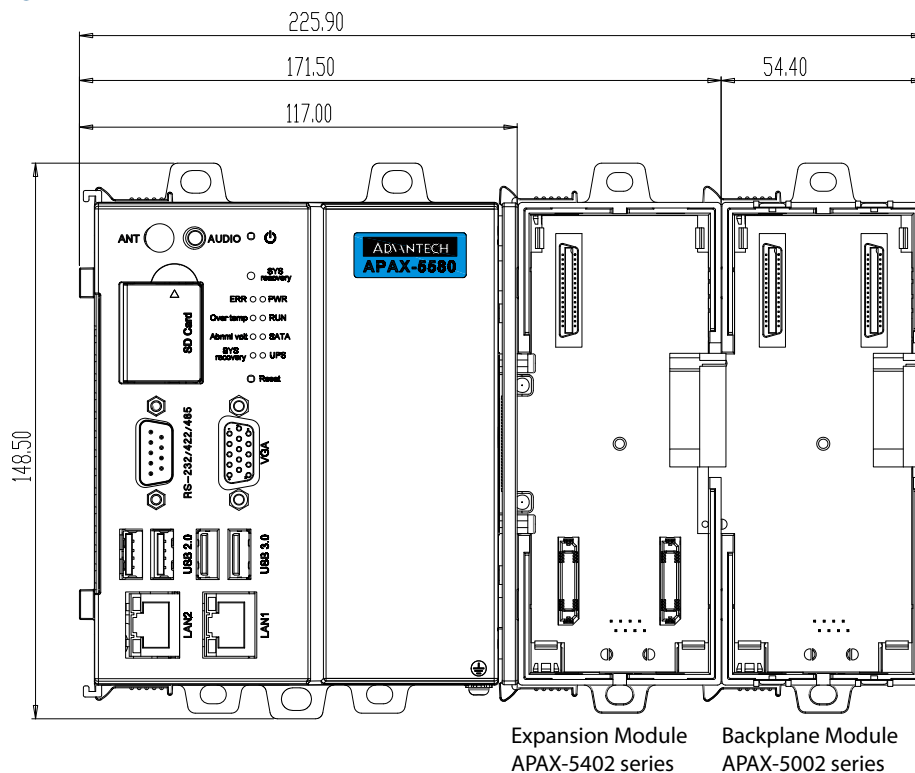
Environment

- **Operating Temperature** -10 ~ 60°C (-4 ~ 140°F) @ 5 ~ 85% RH with 0.7m/s airflow
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Relative Humidity** 10 ~ 95% RH @ 40°C, non-condensing
- **Shock Protection** Operating, IEC 60068-2-27, 50G, half sine, 11 ms
- **Vibration Protection** Operating, IEC 60068-2-64, 2 Grms, random, 5 ~ 500 Hz, 1hr/axis (mSATA)

Real-time SoftLogic Control Software

- **Development Tool** CODESYS V3
- **Runtime** Control RTE, Softmotion
- **OPC Server** OPC DA
- **Protocol** EtherCAT MASTER
  PROFINET MASTER
  Ethernet/IP MASTER
  CANOPEN MASTER
  Modbus/RTU
  Modbus/TCP
- **Visualization** Target, Web(powered by HTML5)

All product specifications are subject to change without notice

Date updated: 31-Mar-2016

Dimensions

Unit: mm

Expansion Module
APAX-5402 series

Backplane Module
APAX-5002 series

Ordering Information

- **CDS-APAX5580-R023A**   APAX-5580-433AE with CODESYS RTE, no HMI
- **CDS-APAX5580-R320A**   APAX-5580-433AE with CODESYS RTE, TV* and WV**
- **CDS-APAX5580-M120A**   APAX-5580-433AE woth CODESYS Softmotion w/ TV*

*   TV = Target Visualization

**   WV = Web Visualization

Note: Other configurations available on request

iDoor Modules by APAX-5435

- **PCM-24R2PE-AE**   Intel i350, GbE, PoE IEEE 802.3af, PD, RJ45 x 2
- **PCM-2300MR-AE**   MR4A16B, 2MByte
- **PCM-26D1PB-AE**   Hilscher netX100 FieldBus, ProfiBus, DB9 x 1
- **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

Accessories

- **APAX-5343-AE**   AC-to-DC APAX Power Supply
- **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
- **MSQF-SMSM4-XG-S8E**   SQFlash 820 series mSATA MLC 16/32/64/128G (-40~85°C)

Expansion Modules

- **APAX-5402-E2A0AE**   2 expansion slots to support APAX-5490, APAX-5435, APAX-5430
- **APAX-5402-E2A1AE**   2 expansion slots with APAX bus
- **APAX-5490-IP4AE**   4x RS-232/422/485 Communication Module
- **APAX-5435**   APAX iDoor expansion Module
- **APAX-5430**   APAX SATA interface Module