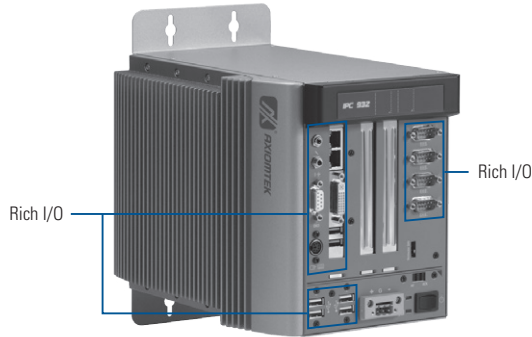


IPC932-230-FL-ECM

2-slot Fanless EtherCAT Master Controller System with 4th Generation Intel® Core™ i7/i5/i3 & Celeron® processors up to 3.3 GHz (Haswell/Haswell Refresh), Intel® Q87, PCIe and PCI Slots



Introduction

IPC932-230-FL-ECM EtherCAT controller is verified with IntervalZero EtherCAT Master middleware KingStar which is based on Acontis EtherCAT Master Stack and IntervalZero real-time extension RTX. With well-known Acontis EC-Master, it not only supports CoE, EoE, FoE and SoE enabling seamless integration with servo drives, but also offers Distributed Clocks function support for synchronization of all slave devices.

With IntervalZero Windows® real-time extension RTX that through a separate real-time scheduler transforms Windows 7 the general-purpose operating system into a fully functional RTOS that runs on multicore hardware, delivering deterministic time control to allow Master controller and Slave device communicating cycle time of 250 µs.

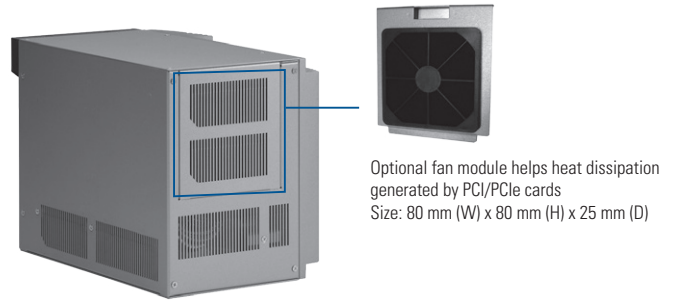
In a practice of 6-axis robotic arm, IPC932-230-FL-ECM along with KingStarIO 32bit is adopted as EtherCAT master controller to control slave devices - 6 set of Drive & motor - at cycle

Specifications

Standard Color	Sliver
Construction	Aluminum extrusion heavy-duty cold-rolled steel, IP30
System Board	SHB230DGGA
Processor System	CPU Level 4th Generation for Intel® Core™ i7/i5/i3 & Celeron® processors, up to 45W (Codename Haswell/Haswell Refresh)
	Max. Speed 3.3GHz
	Front Side Bus N/A
	Chipset Intel® Q87
System Memory	8 GB DDR3 DRAM recommended
I/O Interface (Front)	ATX power on/off switch 1 x 2-pin connector output for remote on/off switch 2 x USB 3.0 4 x USB 2.0 2 x RS-232 (COM 3/4) 2 x RS-232/422/485 (COM 1/2) 1 x EtherCAT port (Intel® i210) 1 x GbE LAN port (Intel® i217) 1 x DVI-I 1 x DIO (Female DB9 Connector) (4 IN and 4 OUT) 1 x PS/2 keyboard/mouse 1 x Audio (MIC-in/Line-out) 1 x AT/ATX Mode switch

Features

- 4th Generation Intel® Core™ i7/i5/i3 & Celeron® processor
- 1 EtherCAT port, 1 GbE LAN port
- Verified with IntervalZero EtherCAT solution KingStarIO32
- Support Acontis EtherCAT master stack
- Support IntervalZero Windows real-time extension RTX2012
- EtherCAT communication cycle 250 us
- I/Os including dual independent display, 4 COM, 2 GbE LAN, 2 USB 3.0, 4 USB 2.0
- Wide operation temperature -10°C ~ +50°C



▲ Rear view

Expansion Interface	HAB100: 1 PCIe x1 & 1 PCIe x4
Storage	2 x 2.5" SATA HDD, 1 x CFast™ socket
System Indicators	1 x power on/off, 1 x HDD
Power Supply	DC ATX 150W: Input: 10-30VDC Output: +5V@11A, +3.3V@5A, +12V@9A, -12V@-150mA, 5Vsb@2A AC-DC power adapter: Input: 90-264VAC Output: 19V@7.89A
Operation Temperature	-10°C ~ +50°C (+14°F ~ +122°F) with W.T. HDD or W.T. SSD or W.T. CFast™
Storage Temperature	-20°C ~ +80°C (-4°F ~ +176°F)
Humidity	10% ~ 90%, non-condensing
Dimensions	159.9 mm (6.36") (W) x 251.8 mm (10.02") (D) x 185 mm (7.2") (H)
Weight (net/gross)	6.2 kg (13.67 lb)/7.2 kg (15.87 lb)
Certification	CE compliance

**The maximum power rating for expansion slots at 50°C can not be exceeded the following values:
The maximum loading of +3.3V /1A and +5V/5A and +12V /3A <60W

Verified with Software

Operating System	Windows® Embedded Standard 7 32 bit
Windows Extension	IntervalZero Windows real-time extension RTX2012
Test Middleware	IntervalZero KingStarIO 32 bit
EtherCAT Master	Acontis EtherCAT Master stack 32 bit
EtherCAT Configurator	IntervalZero EtherCAT configurator

* All specifications and photos are subject to change without notice.

Ordering Information

IPC932-230-FL-ECM
(PN: E26G932XXX)

Support Acontis EtherCAT Master stack and IntervalZero RTX

AC Version

OVP (over voltage protection)
OTP (over temperature protection)
OPP (over power protection)
SCP (over circuit protection)

DC Version

OVP (over voltage protection)
SCP (short circuit protection)
OCP (over current protection)

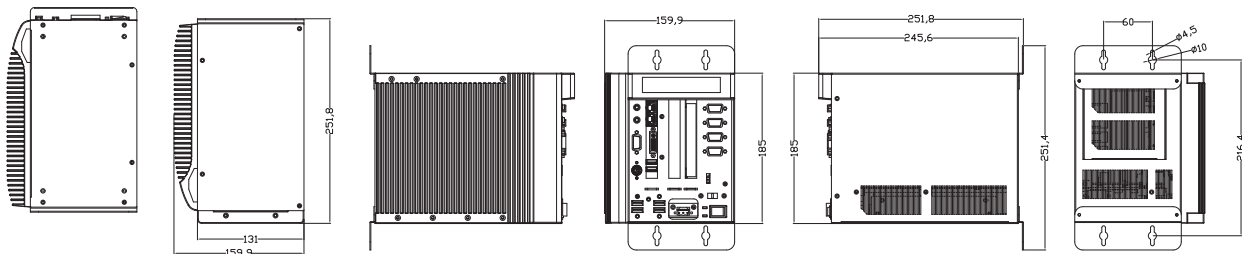
Optional Items

DDR3 SO-DIMM: 2 GB, 4 GB, 8 GB
CFast™: 2 GB, 4 GB, 8 GB
2.5" SATA HDD: 320 GB, 500 GB
IPC932-230-FL Fan module kit (E26G932104)
Y-Cable for CRT and DVI 150 mm (594826A0010E)
6P PS/2 KB+Mouse cable (59381560000E)

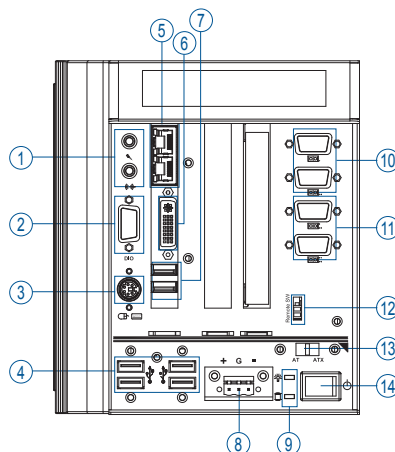
Packing List

IPC932-230-FL Series Unit x 1
Driver CD
Quick Manual
Wall Mount Bracket x 2
Screw pack x 1
Foot pad x 4
CPU Thermal Pad x 1
HDD Bracket x 2
HDD Mylar x 2
Terminal block x 1 (for DC version)
Remote power switch cable x 1

Dimensions



Front & Rear Metal Panel I/O Layout



1. Audio(MIC-in/Line-out)
2. Digital I/O
3. PS/2 keyboard/mouse
4. USB 2.0 x 4
5. Ethernet x 2
6. DVI-I
7. USB 3.0 x 2
8. Power connector (Phoenix plug)
9. LED for Power and HDD
10. RS-232/422/485 (COM 1/2)
11. RS-232 (COM 3/4)
12. Remote power switch
13. ATX/AT Mode switch
14. ATX Power switch

