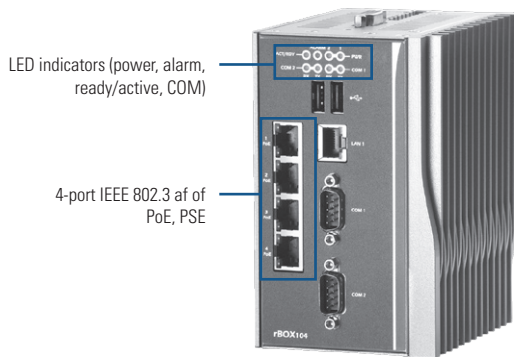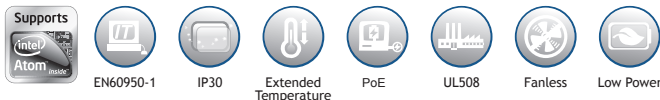# rBOX104

Robust Din-rail Fanless Embedded System with Intel® Atom™ Processor Z510PT/ Z520PT up to 1.33 GHz, Intel® US15WPT Chipset and 4-port PoE

LED indicators (power, alarm, ready/active, COM)

4-port IEEE 802.3 af of PoE, PSE

▲ Front view

| Supports Intel Atom inside | EN60950-1 | IP30 | Extended Temperature | PoE | UL508 | Fanless | Low Power |

Features

- Fanless and cableless design
- Supports Intel® Atom™ processor Z510PT 1.1 GHz or Z520PT 1.33 GHz
- Wide temperature operation of -40°C ~ +70°C
- 4-port IEEE802.3af Power over Ethernet (PoE) Power Sourcing Equipment (PSE)
- 1 isolated 10/100/1000Mbps Ethernet
- 2 watchdog timer
- LED indicators
- SNMP V1/V2c
- Supports one CompactFlash™, one SD card (optional)
- 2 power paths with terminal block and 48VDC
- Supports AXView monitoring software package

Din-rail kit   ▲ Rear view

Introduction

rBOX104 din-rail fanless embedded field controller supports extra low power Intel® Atom™ processors Z510PT and Z520PT with extended temperature range of -40°C to 70°C for use in extreme operating environments.

The fanless design increases reliability, extends MTTR, and ultimately reduces maintenance efforts. Front accessible I/O cabling is very convenient for wiring and maintenance. The rBOX104 Din-rail computer features a redundant Ethernet LAN connection for greater availability and reliability. Supporting Power-over-Ethernet on ports 1 to 4, the rBOX104 Din-rail computer can power IEEE802.3af compliant devices and transmit data simultaneously, which helps save wiring costs and makes it ideally suited for outdoor applications such as PoE IP camera, PoE Access Point and intercoms. Two power paths input minimize the risk of data loss in the event of a single power failure. The rBOX104 Din-rail computer meets Safety Agency requirements and has passed heavy industrial EMI/EMS testing.

The ready-to-run rBOX104 equipped with AXView monitoring software is a total solution for intelligent transportation systems, power plant automation, intelligent transportation systems, facility monitoring systems, IP video surveillance, APs, intercoms, and more.

Specifications

Standard Color	Sliver-Black
Construction	Extruded aluminum and heary-duty steel, IP30
CPU	Intel® Atom™ processor Z510PT 1.1 GHz or Z520PT 1.33 GHz
System Memory	1 x 200-pin DDR2 SO-DIMM max. up to 2 GB
System I/O Outlet	Serial Port	2 x RS-232/422/485 (COM 1/2) (isolated COM as option) Interface select by software or BIOS Supports Auto Flow Control in RS-485 mode ESD protection 15 KV Serial port speed up to 115.2kbps
	LAN	1 x 10/100/1000Mbps Ethernet Magnetic isolation protection 1.5 KV
	PoE	4 x PoE (IEEE802.3af) Magnetic isolation protection 1.5 KV

System I/O Outlet	USB	2 x USB2.0 USB power distribution control by software
	VGA	1 x DB15 connector
	Power Input	2 x DC power input with terminal block
	Alarm Contact	One relay output with current 0.5A @30VDC
Watchdog Timer	2 WDT WDT 1: one step is 1 sec, 255 levels WDT 2: one step is 250ms, 255 levels	
LEDs	System	Power, Alarm, Ready/Active, COM(TXD,RXD)
	Alarm	DC PWR1 or PWR2 is lost (default) User define event
Storage	Supports 1 x CompactFlash™ Supports 1 x SD card up to 32 GB (optional)	
Installation	Din-rail, wall mount	
Power Supply	2 power paths	
	Power Input Range	48VDC
	Power Protection	DC Version: OVP (over voltage protection) UVP (under voltage protection) Reverse protection
	Power Consumption (PoE port link up)	With no load on 2 USB ports: 1.70A @ 48V, 81.6W With full load on 2 USB ports: 1.81A @ 48V, 86.88W
Operating Temperature	-40°C ~ +70°C (-40°F ~ +158°F)	
Storage Temperature	-45°C ~ +85°C (-49°F ~ +185°F)	
Humidity	5% ~ 95%	
Weight (net/gross)	1.38 kg (3 lb)/1.72 kg (3.78 lb)	
Dimensions	81 mm (3.18") (W) x 110 mm (4.33") (D) x 135 mm (5.31") (H)	
EOS Support	XPE, WinCE, Linux, Windows® 7 Embedded	
ISO	Manufactured in an ISO9001 facility	

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

Specifications

Safety Compliance	UL508, UL60950-1 Heavy Industrial CE, including: EN60950-1, IEC60950-1
EMI Compliance	FCC Part 18 Heavy Industrial CE, including: EN61000-6-4, EN61000-3-2, EN61000-3-3

EMS Compliance	Heavy Industrial CE, including:
	EN61000-6-2
	EN61000-4-2 (ESD standards)
	* Contact: +/- 6 KV; criteria B
	* Air: +/- 8 KV; criteria B
	EN61000-4-3 (radiated RFI standards)
	* 10V/m, 80 to 1000 MHz; 80% AM criteria A
	EN61000-4-4 (burst standards)
	* Signal ports: +/- 2 KV; criteria B
	* DC power ports: +/- 2 KV; criteria B
	EN61000-4-5 (surge standards)
	* Signal ports: +/- 1 KV; line-to-line; criteria B
	* DC power ports: +/- 0.5 KV; line-to-earth; criteria B
	EN61000-4-6 (induced RFI standards)
	* Signal ports: 10 Vrms @ 0.15 ~ 80 MHz; 80% AM
	  criteria A
	* DC power ports: 10 Vrms @ 0.15 ~ 80 MHz; 80% AM
	  criteria A
	EN61000-4-8 (magnetic field standards)
	* 30 A/m @ 50, 60 Hz; criteria A

Environmental Test Compliance	IEC60068-2-6 Fc (vibration resistance) 5 g @ 10 ~ 150 Hz, amplitude 0.35 mm (operation/storage/transport) IEC60068-2-27 Ea (shock) 25 g @ 11 ms (half-sine shock pulse; operation); 50 g @ 11 ms (half-sine shock pulse; storage/transport) IEC60068-2-32 Ed (free fall) 1 M (3.281ft.)

Ordering Information

Standard

rBOX104-FL 1.1G	Robust Din-rail fanless embedded system with Intel® Atom™ processor Z510PT 1.1 GHz and 4 PoE (-40°C ~ +70°C)
rBOX104-FL 1.33G	Robust Din-rail fanless embedded system with Intel® Atom™ processor Z520PT 1.33 GHz and 4 PoE (-40°C ~ +70°C)

Optional

DDR2 SODIMM	1 GB ~ 2 GB (with W.T. memory)
DDR2 SODIMM	1 GB ~ 2 GB (with 0°C ~ +85°C memory; operating temperature: 0°C ~ +70°C)
CompactFlash™	2 GB or above (with W.T. CF)
Wall mount kit	

*Specifications and certifications are based on options and may vary.

Overview

Embedded Systems

Embedded Systems for Transportation

Embedded Field Controllers

Embedded MicroBoxes

Industrial Barebone Systems

Industrial Chassis

Backplanes

Power Supplies

Peripherals & Accessories

Dimensions