JetBox 9430(-w)
User Manual

Hardware

0.0.1

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Acknowledgments

Table of Content

Chapter 1 Overview

The advantage of adopting Korenix JetBox series is ready-to-use. Korenix is devoted to improve the usability of embedded computer in industrial domain. Besides operating system, Korenix provides device drivers, protocol stacks, system utilities, supporting services and daemons to make system integration simple. Further, Korenix provides application development toolkits for users to build up their own applications easily.

The stylish JetBox 9400 series is an industrial layer-3 router with power-over-Ethernet technology and Linux computing. It is a gateway to connect different network groups (Ethernet, fieldbus, serial or IO control) in a complex networking architecture and manage peripherals at the front-end site through its Linux programs or Java applications. It is reliable (network redundancy, system recovery) and robust (passive cooling, protected against the dusts and spills, shock & vibration resistance) to adopt in severe industrial vertical markets, such as transportation, substation, or hazardous environment.

Chapter 2 Hardware Specification

Feature	JetBox9430
Processor	Intel Xscale IXP435 667 MHz
Boot memory	512KB Flash
System flash	32MB (25MB for Linux image, 2MB reserved for system, 5MB for users)
System memory	128MB DDR2 RAM
RTC	Battery backup external RTC
Battery	3V Li-Battery (DIP type)
HW Watchdog timer	Generates a time-out system reset, 1 sec
Reset Button	x1
Storage	SD card slot x1 CF card slot x1
Ethernet	10/100 Base-Tx RJ45 x5 Built-in 15KV ESD protection of all signals
USB Host	USB v2.0 Host Port x3
DIO	DIO x8 (configured by users, default: DI)
Console	3-pin header (RS232 interface)
LED per Ethernet port (on the port)	Link/ Activity (Green on/ Green blinking)
LED per unit	Power on/ off (Green on/ off) x1
Power Switch	x1
Power input	DC 12~48V
Power Consumption	25W
OS support	Embedded Linux 2.6.20
Net Weight	900g
Dimensions	160(H) x 112(W) x 56(D) mm
Construction	Rugged aluminum alloy chassis, IP31 protection
Color	Silver
Mounting	DIN rail

| Feature	JetBox9430
Operating Temp.	-40℃ ~ 80℃, 5 to 95% RH (JetBox9430-w)
Storage Temp.	-40℃ ~ 80℃, 5 to 95% RH
Regulation	FCC class A, CE, UL EN55022 class A EN55024 EN61000-3-2, 3 EN61000-4-2, 3, 4, 5, 6, 8, 11 IEC60950
Shock	IEC60068-2-27 (50g peak acceleration)
Vibration	IEC60068-2-6 (5g/ 10~150Hz/ operating)
MTBF	Greater than 200,000 hours@25℃

Chapter 3 Hardware Feature

3-1 Mechanical Outline
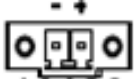
JetBox9430 appearance

JetBox9430 mechanical outline
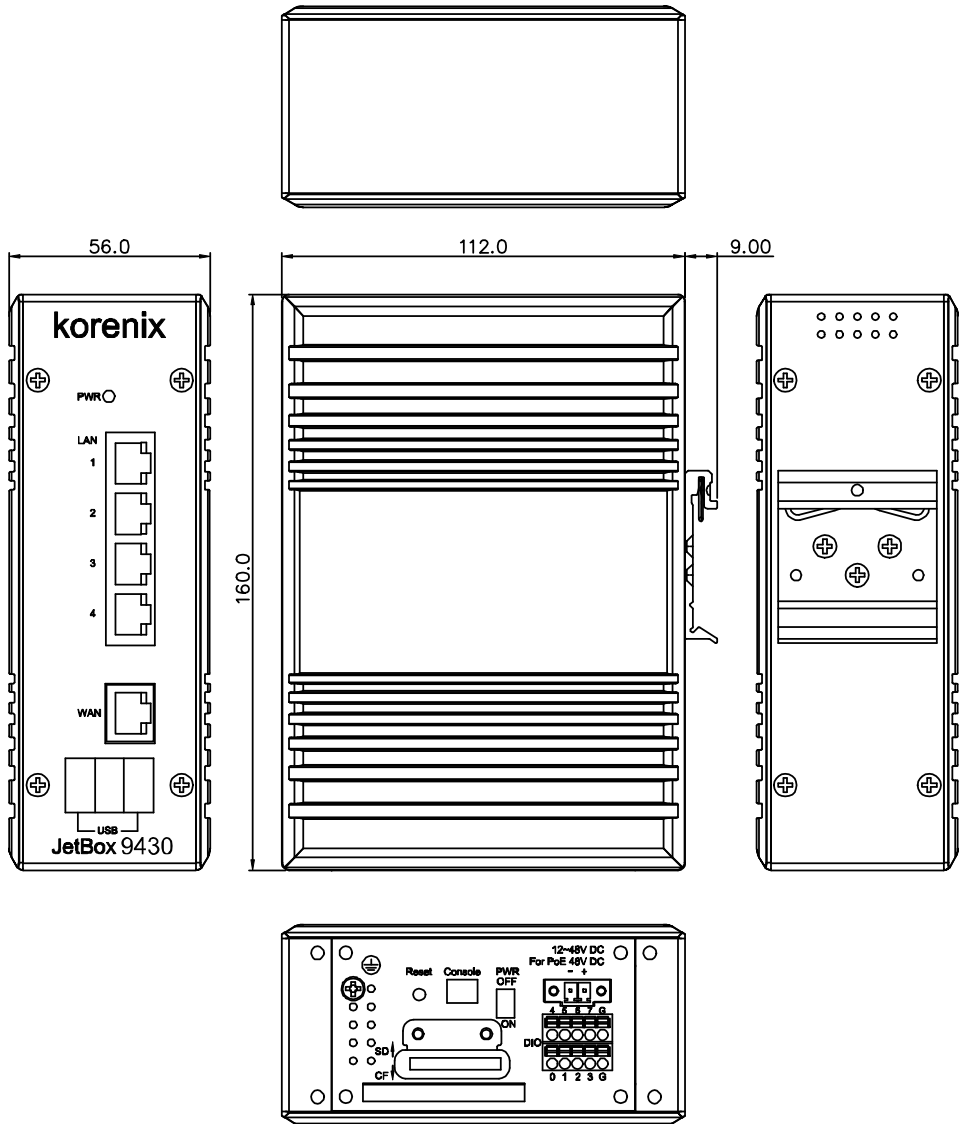
3-2　Power Connectors

3-2-1　Power connector

The JetBox comes with a Phoenix connector that carries a 12~48 VDC external power input.

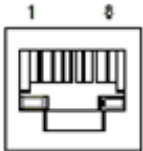| Pin	Power Signal Name
1	VCC
2	GND

3-2-2　Power on/off switch

This switch is used to turn the system power on or off.
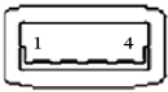
3-3　I/O Connectors

3-3-1　Ethernet (RJ45)

Standard RJ-45 jack sockets.

Pin	10/100 BaseT Signal Name
1	RX+
2	RX-
3	TX+
4	**P48V (only for PoE port)**
5	**P48V (only for PoE port)**
6	TX-
7	**N48V (only for PoE port)**
8	**N48V (only for PoE port)**

3-3-2 USB

USB type "A" female connectors for USB peripherals

Pin	USB Signal Name
1	VCC
2	DATA-
3	DATA+
4	GND

3-3-3 Console

The JetBox provides one Console port 3-pin connector for debug use.
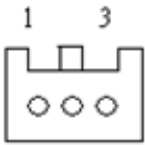
	Console
1	TXD
2	RXD
3	GND

3-3-4 Reset button

This button is used to reset the CPU causing the system reboot or reset to the factory default.
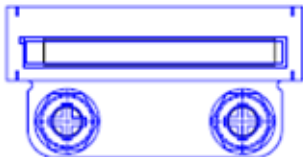
Press 3 seconds for system reboot.

Press 7 seconds to reset the JetBox to the factory default.

3-3-5 CF card slot

This socket is used for the type I/II CF Card and reserved for system extension.
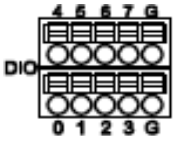
3-3-6 SD card slot

This socket is used for a SD Card and is for the users' applications. There is a external blanket to cover the SD card slot.
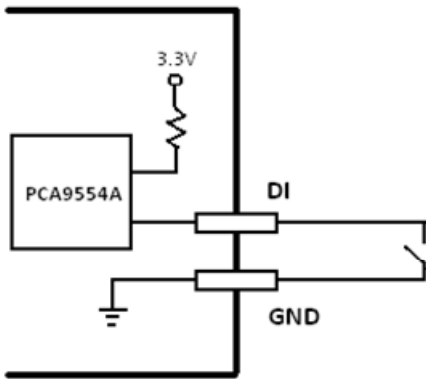
3-3-7 Digital IO

The JetBox supports 8 digital channels and users can configure them as digital outputs or digital inputs. Following is the connector pin assignments. (The default setting is digital input)
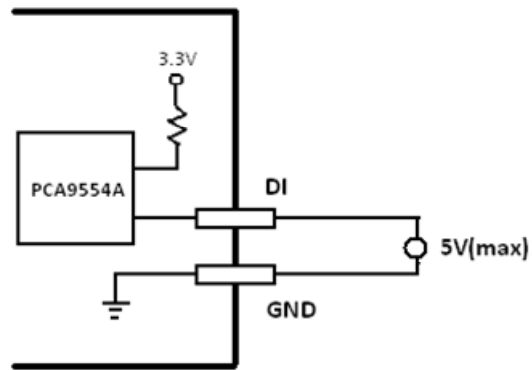

Digital input

Below figures show 2 ways to use digital input function. The digital input channels can support max. 5V.
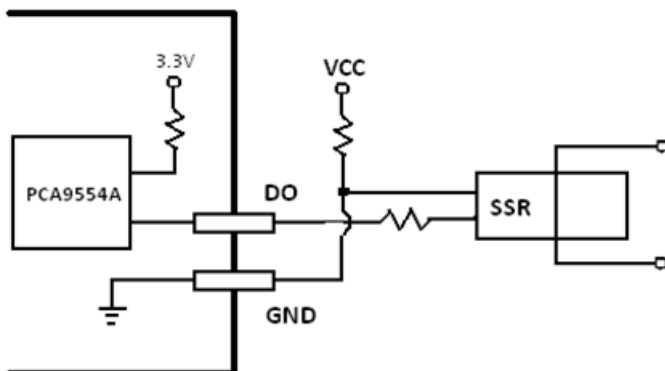
Dry connect for digital input   **Wet connect for digital input**

Digital Output

Below figure shows how to use digital output function. The digital output channels can support max. 3.3V.

3-4   Indicators

3-4-1 Power LED per unit

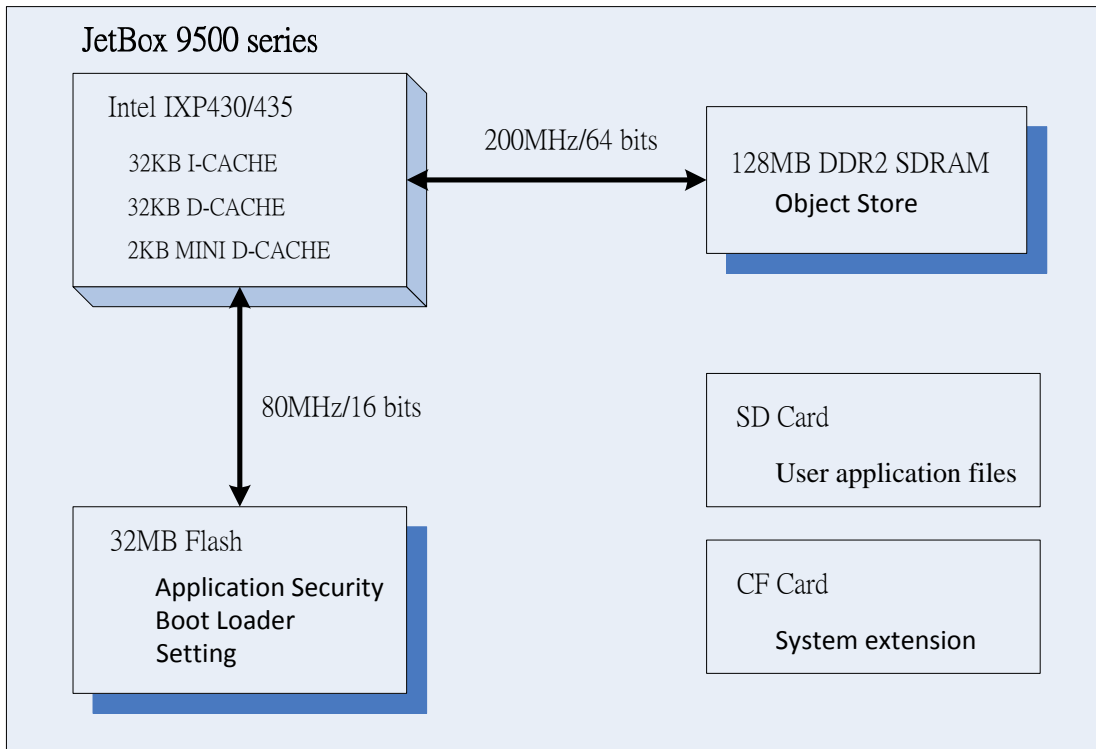This LED indicator is used to indicate the power on / off status.

Power on/off: Green on/ off

3-4-2 Ethernet LED on the port

The LED indicators show their Active/Link status (Green on/ blinking) and Col/Fdx status (Yellow on/ blinking).

3-4-3 System Memory

The following figure shows the memory architecture of the JetBox.

32MB Flash

There is 32M Byte of Flash ROM for the Boot Loader program.

128MB DDR2 RAM

The JetBox supports 128 MB of DDR2 SDRAM. The DDR2 SDRAM is arranged for Linux 2.6 Object Store and applications.

Chapter 4 System Login

Users can enter the JetBox Linux environment via the user name: root and no password is required.

login : root

password : (none)

Chapter 5 Appendix

5-1 Customer Service

Korenix Technology Co., Ltd.

Business service: sales@korenixembedded.com, sales@korenix.com

Customer service: koreCARE@korenix.com

Web Site: http://www.korenixembedded.com, http://www.korenix.com