

NX-SYS-2016 Specification



Document History

Version	Data	Description of Change
V1.0	May 5, 2022	Initial Release

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Electronic components and circuits are very sensitive to electrostatic discharge, although the company will do anti-static protection design on the main interface of the board when designing circuit board products, but it is difficult to do anti-static safety protection for all components and circuits. Therefore, it is recommended to follow ESD safety precautions when handling any circuit board component. ESD protection measures include but are not limited to the following:

- During transportation or storage, place the card in an ESD bag and do not take it out until installation.
- Release the static electricity before touching the board. Wear a discharge grounding wrist strap.
- Operate the circuit board only in electrostatic discharge safety area.
- Avoid moving circuit boards in carpeted areas.
- Avoid direct contact with electronic components on the board by edge contact.

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Chapter 1. Introduction

NX-SYS-2016 is collocation NVIDIA® Jetson™ Xavier NX series module Compact AI embedded Industrial computer. Deploy applications for Industry. The electrostatic safety protection design is carried out for the main interfaces ,High reliability power supply application scheme is adopted, The input power supply has overvoltage and reverse polarity protection functions ,Rich external interfaces ,All internal interface carrier devices adopt wide temperature model.

NX-SYS-2016 Large size heat sink , Red copper boss is used inside high-performance heat pipe for uniform heat design .It has good heat conduction and heat dissipation performance, The machine can adapt to higher ambient temperature.

NX-SYS-2016 Standard type can chose 1/3/5 Gigabit Ethernet, If need to increase USB3.0、SSD storage card、SATA、4G communication module、Video capture/output card、ADAC acquisition card、Multi serial card、Sound acquisition\output card、multi-function IO card ETC, Please contact our sales.

NVIDIA® Jetson Xavier™ NX, On 20W power provide 21 TOPS , 384 CUDA Cores、48 Tensor Cores、2 NVDLA engines, 6 ARM CPU core、8 GB 128-bit LPDDR4x 51.2GB/s Memory, can run multiple network models at the same time.

1.1 Product Specifications

- Factory pre-installed Xavier NX module
- One USB3.1 Type A Connector
- Two USB2.0 Type A Connector
- One Micro USB Connector
- Chose 1/3/5 Gigabit Ethernet (10/100/1000 BASE-T) RJ45 Connector
- One HDMI 2.0 Interface (MAX 6Gbps, 24bpp, 4096x2160@60Hz)
- 32GB ~ 1TB SSD Extended storage
- One micro TF Card Slot
- One Nano SIM Card Slot
- Automatically turn on after power on
- Board Reset、Recovery button
- One Board Receiving transmitter CAN bus interface
- Two RS-232 level serial port
- Three 3.3V Programmable GPIO, One 3.3V Strong driving ability Programmable GPO

- Size: 190mm×160mm×76.3mm
- Power: DC +9V~+24V
- Working temperature: -25~+65°C

1.2 Order Information

Model	Function
NX-SYS-2016	NVIDIA® Jetson™ Xavier NX series module Compact AI embedded Industrial computer.

Taobao Store Address: <https://shop333807435.taobao.com/>

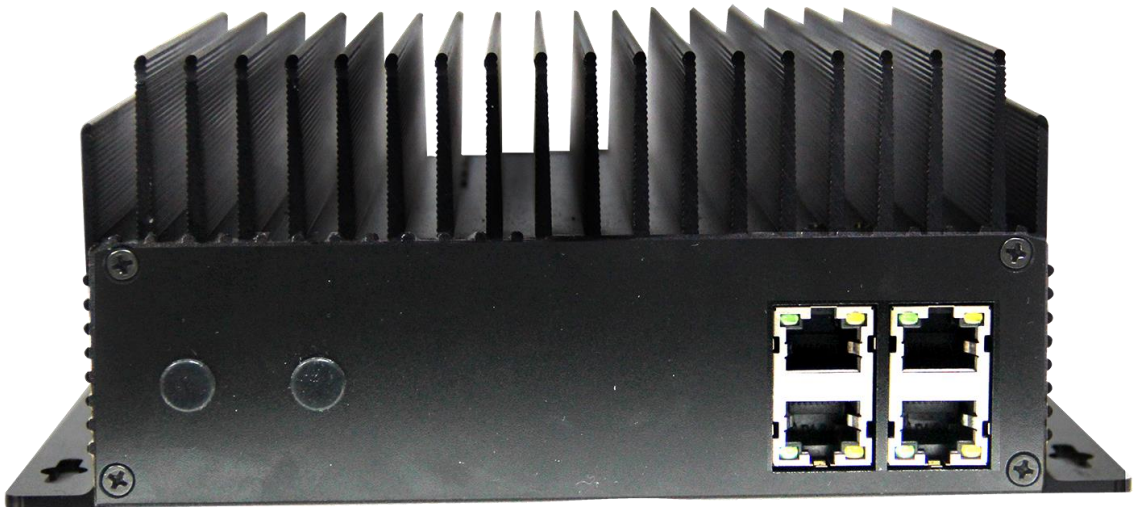
Jingdong Store Address: <https://mall.jd.com/index-11467104.html?from=pc>

Ali International Station Address: <https://plink-ai.en.alibaba.com/>

Chapter 2. Interface Function Description



NX-SYS-2016 Front interface indication diagram



NX-SYS-2016 Back interface indication diagram

2.1 Interface Function Description

Connector	Function Description																							
9-24V	Lockable power input terminal																							
OTG	Type-B Micro-USB interface , For system burning and OTG function output.																							
USB	Type A Single layer USB3.1 Standard connector、double layer USB2.0 Standard connector.																							
GigE	10/100/1000M RJ45 network interface																							
HDMI	Type A HDMI Display output interface																							
SIM	Nano SIM slot																							
TF	Micro TF slot																							
Power light	Power indicator																							
COM1	DB9 connector, RS232 Level standard serial port, Corresponding device file name: /dev/ttyTHS1																							
COM2	DB9 connector, RS232Level standard serial port, Corresponding device file name: /dev/ttyTHS0																							
GPIOs	multi-function IO, DB9 connector.																							
	<table border="1"> <thead> <tr> <th>引脚</th> <th>信号</th> <th>引脚</th> <th>信号</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+3.3V</td> <td>2</td> <td>CAN_L</td> </tr> <tr> <td>3</td> <td>CAN_H</td> <td>4</td> <td>GND</td> </tr> <tr> <td>5</td> <td>GND</td> <td>6</td> <td>GPO1</td> </tr> <tr> <td>7</td> <td>GPIO2</td> <td>8</td> <td>GPIO3</td> </tr> <tr> <td>9</td> <td>GPIO4</td> <td></td> <td></td> </tr> </tbody> </table> <p>Extended GPO1、GPIO2、GPIO3、GPIO4 sysfs Mapping number is: 436、422、268、393。GPIO High level voltage is 3.3V。GPO1 Only signal output IO, It can provide current that can directly light LED beads.</p>	引脚	信号	引脚	信号	1	+3.3V	2	CAN_L	3	CAN_H	4	GND	5	GND	6	GPO1	7	GPIO2	8	GPIO3	9	GPIO4	
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5	GND	6	GPO1																					
7	GPIO2	8	GPIO3																					
9	GPIO4																							

2.2 Recovery mode

Jetson core module can work in normal mode and Recovery mode, in which file system update, kernel update, Boot Loader update, BCT update and other operations can be performed.

To enter the Recovery mode, perform the following steps:

- (1) Turn off the system power supply.
- (2) Use a micro-USB cable to connect NX-SYS-2016's Micro USB port with Jetson's development host USB port.
- (3) Press and hold the RECOVERY button, plug in the system power supply, keep the button pressed for more than 3 seconds after the power is supplied, and then release the RECOVERY button.
- (4) The system enters Recovery mode, and you can perform subsequent operations.

Chapter 3. Mechanical Dimensions

