



AT系列 可编程控制器



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阿尔法公众号

国产品牌大型设备PLC制造商

PLC manufacturer of domestic brand large equipment



国产品牌大型设备PLC制造商

PLC manufacturer of domestic brand large equipment

COMPANY PROFILE 企业简介

深圳市阿尔法电气有限公司

阿尔法创立于2000年，是专业从事工业自动化设备、新能源汽车动力总成系统及关键零部件研发、生产、销售与服务的国家高新技术企业。

公司总部位于广东省深圳市，华东基地位于浙江省嘉兴市，华中基地位于江西省宜春市，综合面积超过20万平方米。创立20年至今，阿尔法拥有多条自动化生产线，多个研发实验室及可靠性实验室，并通过ISO9001:2015质量体系认证。阿尔法公司不断引进国内外先进技术，与多家科研机构、高等院校建立联盟，以技术为先导专业创新，获得多项发明、外观设计及实用新型专利。

在工业自动化领域，致力于为机械设备客户提供整套解决方案，功能强大、控制灵活、性能优异。在机床、纺织、冶金、起重、油田、塑胶、化工、市政等行业已经广泛应用。目前主要产品有变频器、感应伺服、永磁同步电机、PLC、HMI、电梯一体化驱动器、电液伺服等。

在新能源汽车领域，矢志追求新能源汽车能源转化与利用效率关键技术，能全面涵盖新能源汽车应用的动力总成系统及其核心零部件制造商，拥有丰富的产品组合，包括电机控制器、电机、整车控制器、电池管理系统、车载充电机、DCDC电源、气泵电机控制器、转向助力电机控制器等。

Shenzhen Alpha Electric Co., Ltd.

Founded in 2000, Alpha is a country specializing in the R&D, production, sales and service of industrial automation equipment, new energy vehicle powertrain systems and key components high-tech enterprises.

The company is headquartered in Shenzhen, Guangdong Province, East China Base is located in Jiaxing City, Zhejiang Province, and Central China Base is located in Yichun City, Jiangxi Province, with a combined area of more than 200,000 square meters. Founded 20 years. To date, Alpha has multiple automated production lines, multiple R&D laboratories and reliability laboratories, and has passed ISO9001:2015 quality system certification. Alpha Corporation continues to introduce advanced technologies at home and abroad, establish alliances with many scientific research institutions and colleges and universities, take technology as the leading professional innovation, and obtain a number of inventions, designs and practical New patents.

In the field of industrial automation, we are committed to providing complete solutions for mechanical equipment customers, with powerful functions, flexible control and excellent performance. In machine tools, textiles, metallurgy, Heavy, oilfield, plastic, chemical, municipal and other industries have been widely used. At present, the main products are frequency converter, induction servo, permanent magnet synchronous motor, PLC, HMI, elevator one Integrated drive, electro-hydraulic servo, etc.

In the field of new energy vehicles, we are determined to pursue the key technologies of energy conversion and utilization efficiency of new energy vehicles, which can comprehensively cover the powertrain system and its nuclear application of new energy vehicles. Manufacturers of spare parts, with a rich product portfolio, including motor controllers, motors, vehicle controllers, battery management systems, car chargers, DCDC power supplies, Air pump motor controller, steering assist motor controller, etc.

ALPHA

品质彰显价值 服务传递真诚





COMPANY CULTURE 企业文化

经营理念：积累树人，专业创新

品牌理念：品质彰显价值，服务传递真诚

企业愿景：成为全球一流的自动化与新能源汽车动力总成产品与服务的供应商

价值观：构建以人的成长为核心的发展平台，实现企业与合作伙伴的可持续回报。

Business philosophy: accumulation of talents, professional innovation

Brand concept: quality shows value, service delivery is sincere

Corporate Vision: To become a world-class supplier of automation and new energy vehicle powertrain products and services

Value view: Build a development platform centered on human growth to achieve sustainable returns for companies and partners.



品质彰显价值 服务传递真诚



PRODUCT ADVANTAGES 产品优势

1. 阿尔法 AT 系列 PLC 核心算法采用 AR 技术, 产品运行稳定可靠。

1. The core algorithm of Alpha AT series PLC adopts German AR company technology, and the product runs stably and reliably

2. 应用层开发由中国本地团队完成, 使用更加灵活方便。

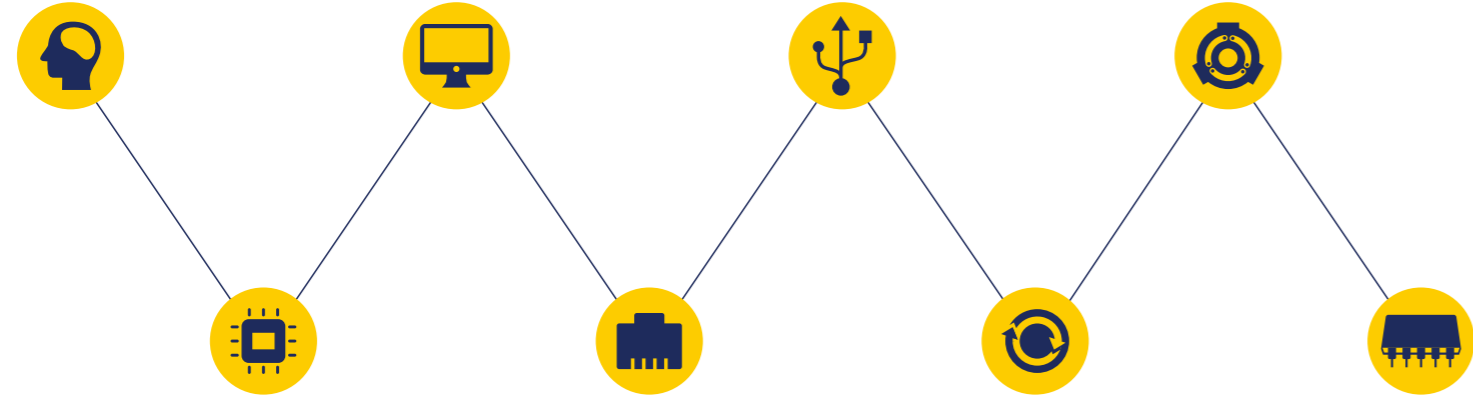
2. The development of application layer is accomplished by the local team in China, which is more flexible and convenient to use.

3. 灵活的通讯功能(支持 MODBUS RTU、MODBUS ASCII、自由口协议等多种通讯协议)使客户进行通讯扩展时更方便快捷。

3. Flexible communication functions (supporting MODBUS RTU, MODBUS ASCII, free-port protocol and other communication protocols) make it easier and faster for customers to extend their communication.

4. AT 3000 CPU 强大的运动控制功能最高可支持 100 轴的点位运动控制。

4. The powerful motion control function of AT 3000 CPU can support up to 100-axis point position motion control.



5. 多 CPU 协同工作充分利用并行 CPU 的高速处理和串行 MCU 的灵活使用, 系统更加灵活高速方便。强大的运算处理能力, 最快指令周期只有 0.01us。

5. Multi-cpu collaborative work makes full use of high-speed processing of parallel CPU and convenient and flexible use of serial MCU. The system is more flexible, high-speed and convenient. Powerful computing and processing capabilities, the fastest instruction cycle only 0.01us.

6. 多种总线接口, 强大的网络处理功能, 为客户实现工业 4.0 升级和工业信息采集实现提供了硬件接口。

6. Various bus interfaces and powerful network processing functions provide hardware interfaces for customers to realize industrial 4.0 upgrade and industrial information acquisition.

7. 最高 128kb 的程序存储空间和 30kb 的数据存储空间。数据空间和程序空间独立分开, 系统运行采用哈佛结构体系, 运行可靠保证速度。

7. Up to 128 KB of program storage space and 30 KB of data storage space. Data space and program space are separated independently. The system runs with Harvard structure system, which ensures reliable operation and speed.

8. 非易失型数据采用铁链式 EEROM, 有效防止长时间失电造成数据丢失的问题。

8. Chain EEROM is used for non-volatile data, which can effectively prevent data loss caused by long-term power loss.

THE FIRST LARGE-SCALE EQUIPMENT IN CHINA **PLC MANUFACTURERS**
国内首款大型设备 PLC 制造商



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IN CHINA **PLC MANUFACTURERS**
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小型PLC及相关系列模块型号构成如下
Small PLC and related series module is consist of the following types

AT - 100S - 20 - T
① ② ③ ④

①	企业名称标识 Enterprise Name Identification	Alpha Electric (阿尔法电气)	
②	系列名称 Series name	100S	经济型基本单元 Economic Basic Unit
		200S	增强型基本单元 Enhanced Basic Unit
		AD	温度控制模块、模拟量输入输出模块 Temperature Control Module and Analog Input and Output Module
③	IO点数 IO points	20	12入8出 12 in 8 out
		32	18入14出 18 in 14 out
		48	28入20出 28 in 20 out
		64	36入28出 36 in 28 out
		2114	4通道K型热电偶温度控制模块 4-channel K-type thermocouple temperature control module
		2214	4通道PT100型温度控制模块 4-Channel PT100 Temperature Control Module
		2324	8通道电压型模拟量输入输出模块 8-Channel Voltage Analog Input and Output Module
④	输出形式 Output form	T	晶体管输出 Transistor output
		R	继电器输出 Relay output
		T4	200S系列4轴基本单元 200S Series 4-Axis Basic Unit
		T8	200S系列8轴基本单元 200S Series 8-Axis Basic Unit
		(E)	扩展模块 Extension module

中型PLC及相关系列模块型号构成如下
The models of medium-size PLC and related series modules are as following

AT 3 0 0 0
① ② ③ ④ ⑤

①	企业名称标识 Enterprise Name Identification	Alpha Electric (阿尔法电气)	
②	系列名称及扩展名称 Enterprise Name Identification	3	3000系列 (中型PLC基本单元) 3000 Series (Basic Unit of Medium-sized PLC)
③	通讯方式 Series name	0	本地模块 Local module
		1	远程模块 Remote module
④	指定功能IO points	0	CPU基本单元 CPU Basic Unit
		1	通讯基本单元 Basic Communication Unit
		2	脉冲输出基本单元 Pulse output basic unit
		3	IO基本单元 IO Basic Unit
		4	特殊功能扩展模块 Special Function Extension Module
⑤	输出配置 Output form	0	16输入16输出 16 Input 16 Output
		1	16输入 16 input
		2	16输出 16 output
		4	4通道差分脉冲输出 4-Channel Differential Pulse Output
		8	8通道差分脉冲输出 8-Channel Differential Pulse Output

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ENHANCED SERIES

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通用型系列
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FUNCTION EXTENSION MODULES SERIES

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端子台选型
TERMINAL PLATFORM SELECTION

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触摸屏系列
TOUCH SCREEN SERIES

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视觉系统
VISION SYSTEM

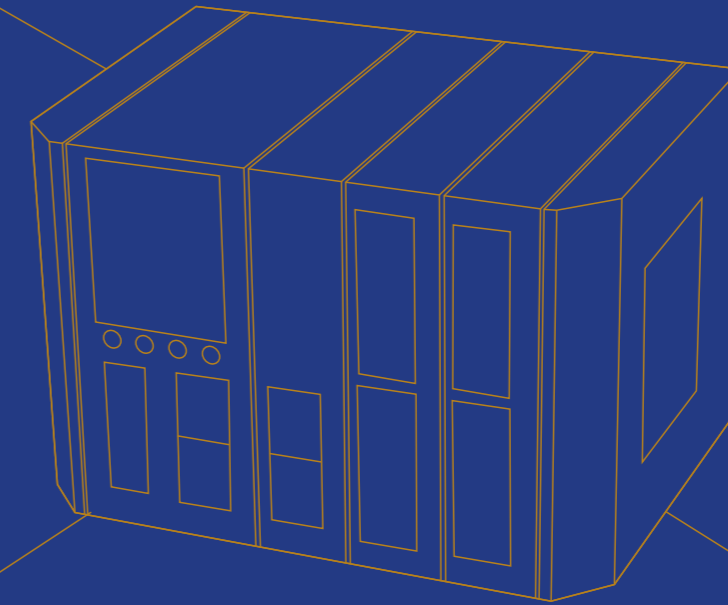
各型号功能配置总表 CONFIGURATION SHEET

全系列输入方式：NPN（模拟量模块除外）
FULL RANGE OF INPUT MODES: NPN (EXCEPT ANALOG MODULE)

型号/Model	IO点数/IO Points	输出类型/Output Type	脉冲通道数 Number of Pulse Channels	脉冲指令形态/Pulse Instruction Form
AT-100S-20T	12输入/8输出 12 Input/8 Output	晶体管 Transistor	2	脉冲+方向 Pulse + Direction
AT-100S-32T	18输入/14输出 18 Input/14 Output	晶体管 Transistor	2	脉冲+方向 Pulse + Direction
AT-100S-48T	28输入/20输出 28 Input/20 Output	晶体管 Transistor	2	脉冲+方向 Pulse + Direction
AT-100S-64T	36输入/28输出 36 Input/28 Output	晶体管 Transistor	/	
AT-100S-20R	12输入/8输出 12 Input/8 Output	继电器 Relay	2	脉冲+方向 Pulse + Direction
AT-100S-32R	18输入/14输出 18 Input/14 Output	继电器 Relay	2	脉冲+方向 Pulse + Direction
AT-100S-48R	28输入/20输出 28 Input/20 Output	继电器 Relay	2	脉冲+方向 Pulse + Direction
AT-100S-64R	36输入/28输出 36 Input/28 Output	继电器 Relay	/	
AT-200S-32T4	18输入/14输出 18 Input/14 Output	晶体管 Transistor	4	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT-200S-48T4	28输入/20输出 28 Input/20 Output	晶体管 Transistor	4	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT-200S-64T4	36输入/28输出 36 Input/28 Output	晶体管 Transistor	4	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT-200S-32T8	28输入/20输出 28 Input/20 Output	晶体管 Transistor	8	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT-200S-48T8	36输入/28输出 36 Input/28 Output	晶体管 Transistor	8	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT-200S-64T8	36输入/28输出 36 Input/28 Output	晶体管 Transistor	8	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT-AD-2114	/	PWM可变占空比 Variable Duty Cycle Of Pwm	/	/
AT-AD-2214	/	PWM可变占空比 Variable Duty Cycle Of Pwm	/	/
AT-AD-2314	/	/	/	/
AT3000	/	/	/	/
AT3010	/	/	/	/
AT3024	/	/	4	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT3028	/	/	8	脉冲+方向/CW+CCW/AB相正交 Pulse+Direction/CW+CCW/AB Phase Orthogonal
AT3030	16输入/16输出 16 Input/16 Output	晶体管 Transistor	/	/
AT3130	16输入/16输出 16 Input/16 Output	晶体管 Transistor	/	/
AT3131	16输入 16 input	/	/	/
AT3132	16输出 16 output	晶体管 Transistor	/	/

脉冲频率 Pulse frequency	模拟量 Analog quantity	高速计数/High speed count	通讯接口 communication interface	通讯协议 Communication protocol	扩展功能 Extended function
推挽100K Push-pull 100K	2*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
推挽100K Push-pull 100K	2*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
推挽100K Push-pull 100K	2*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
推挽100K Push-pull 100K	4*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
推挽100K Push-pull 100K	2*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
推挽100K Push-pull 100K	2*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
推挽100K Push-pull 100K	2*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
推挽100K Push-pull 100K	4*AD/2*DA	/	2*mini USB	RS232/RS485	AD系列 AD series
差分4M Differential 4M	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	1*mini USB/1*RJ45	RS232/RS485/ModBus-TCP/IP	/
差分4M Differential 4M	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	1*mini USB/1*RJ45	RS232/RS485/ModBus-TCP/IP	/
差分4M Differential 4M	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	1*mini USB/1*RJ45	RS232/RS485/ModBus-TCP/IP	/
差分4M Differential 4M	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	1*mini USB/1*RJ45	RS232/RS485/ModBus-TCP/IP	/
差分4M Differential 4M	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	1*mini USB/1*RJ45	RS232/RS485/ModBus-TCP/IP	/
差分4M Differential 4M	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	1*mini USB/1*RJ45	RS232/RS485/ModBus-TCP/IP	/
/	4*K型热电偶 4*K Thermocouple	/	/	RS485	/
/	4*PT100	/	/	RS485	/
/	4*AD/4*DA	/	/	RS485	/
/	/	/	1*miniUSB/1*RS485/2*RJ485	RS232/RS485/ModBus-TCP/IP	AD系列3000系列 AD Series 3000 Series
/	/	/	3*RJ45	ATBus/EtherCAT/ModBus-TCP/IP	3000系列远程模块 3000 Series Remote Modules
差分4M Differential 4M	/	/	2*SCSI	ATBus	3000系列本地模块 3000 Series Local Modules
差分4M Differential 4M	/	/	2*SCSI	ATBus	3000系列本地模块 3000 Series Local Modules
/	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	2*SCSI	ATBus	3000系列本地模块 3000 Series Local Modules
/	/	单相/AB相/ABZ三相 Single phase AB phase ABZ three phase	2*SCSI/2*RJ45	ATBus	3000系列远程模块 3000 Series Remote Modules
/	/	/	2*SCSI/2*RJ45	ATBus	3000系列远程模块 3000 Series Remote Modules
/	/	/	2*SCSI/2*RJ45	ATBus	3000系列远程模块 3000 Series Remote Modules

大型高速PLC LARGE HIGH SPEED PLC



◎ 性能规格/Performance Specification

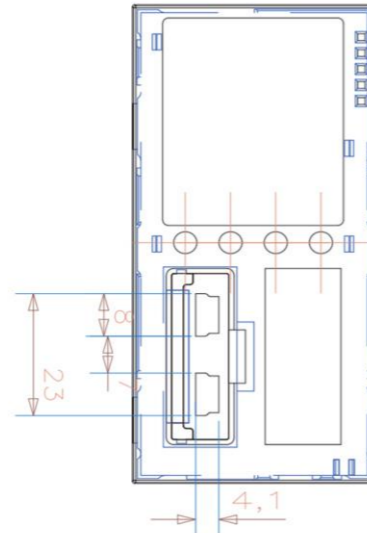
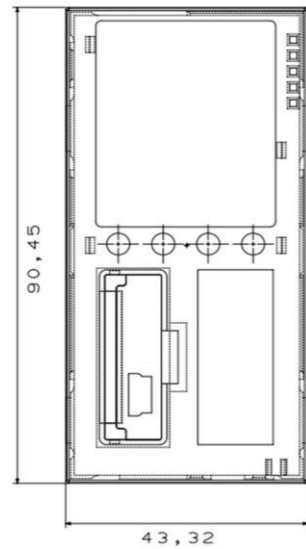
- 24V DC供电输入 (宽电压输入18V-36V)
- 1路RS232 串行编程口 (固定通讯格式 38400, E, 8, 1)
- 1路RS485通讯接口 (9600bps, 8bit, NONE, 1bit)
- 2路RJ45. MODBUS TCP 从机协议 (客户端和服务端可选)
- 程序空间128KByte • 用户数据空间30KByte
- 程序指令处理最快0.01us。 • 1.44真彩液晶可作为软元件的状态显示
- 四个功能按键可以作为显示的切换也可作为设定数据使用
- AT Bus内部总线协议可连接多种外设

- 24V DC power supply input (wide voltage input 18V-36V)
- 1RS232 Serial Programming Port (Fixed Communication Format 38400, E, 8, 1)
- 1-way RS485 communication interface (9600bps, 8bit, NONE, 1bit)
- The 2 way is RJ45. MODBUS TCP slave protocol (Client-side and server-side options)
- Program Space 128KByte • User Data Space 30KByte
- The fastest processing speed of program instruction is 0.01us
- 1.44 true color liquid crystal can be used as state display of soft components
- Four function keys can be used as display switching or setting data.
- ATBus internal bus protocol can connect multiple peripherals

AT3000

高速PLC主机

AT3000HIGH
SPEED PLC HOST



性能规格/Performance Specification

- 24V DC供电输入, 额定功率2W (宽电压输入18V~36V)
- 1路RS232 串行编程口 (固定通讯格式 38400, E, 8, 1)
- 1路RS485通讯接口 (9600bps, 8bit, NONE, 1bit)
- 2路RJ45. MODBUS TCP 从机协议 (客户端和服务端端可选)
- 程序空间128KByte • 用户数据空间30KByte
- 程序指令处理最快0.01us。 • 1.44真彩液晶可作为软元件的状态显示
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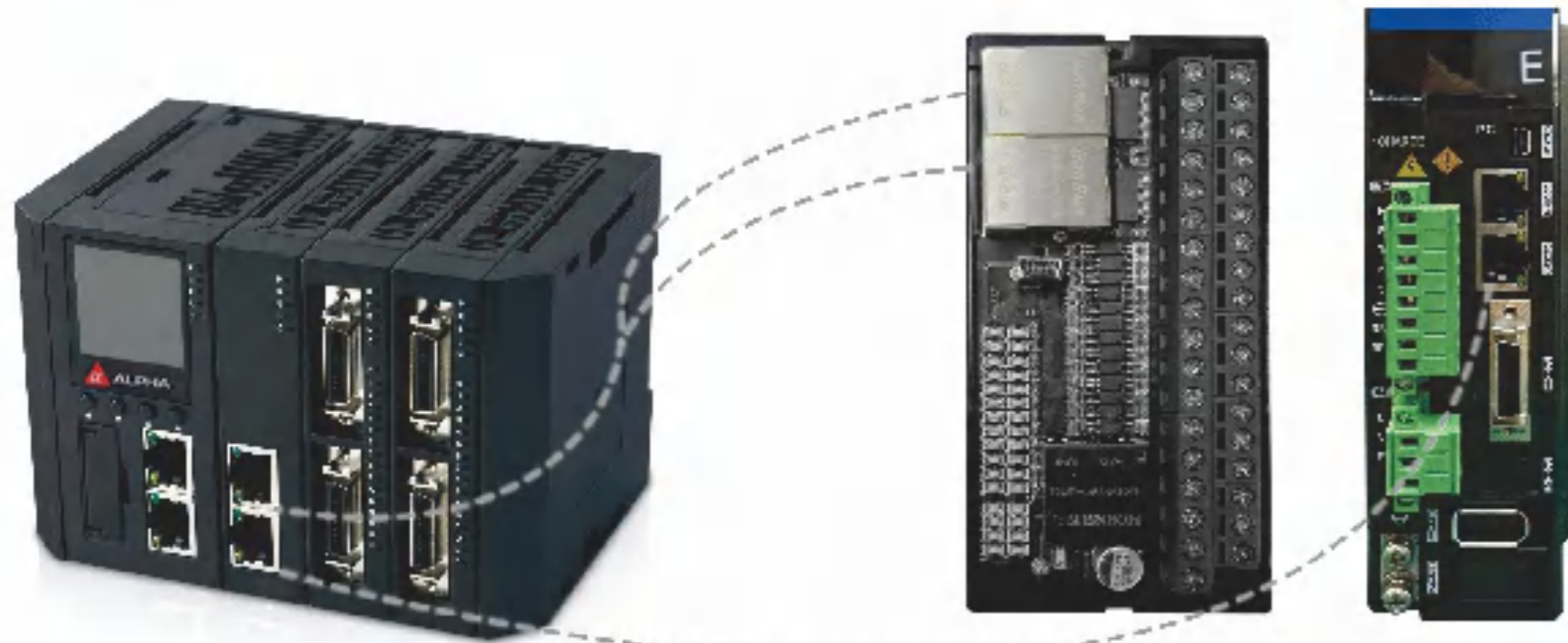
- 24V DC power supply input rated power 2 (wide voltage input 18V-36V)
- 1 RS232 Serial Programming Port (Fixed Communication Format 38400, E, 8, 1)
- 1-way RS485 communication interface (9600bps, 8bit, NONE, 1bit)
- The 2 way is RJ45. MODBUS TCP slave protocol (Client-side and server-side options)
- Program Space 128KByte • User Data Space 30KByte
- The fastest processing speed of program instruction is 0.01us
- 1.44 true color liquid crystal can be used as state display of soft components
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产品参数/Product parameters

项目/project		规格/Specifications	
编程语言 Programming language		梯形图语言、命令语 Ladder Diagram Language, Command Language	
程序内存容量 Program memory capacity		128K Byte (内置闪存) 128K Byte (built-in flash)	
指令数 Instruction number	时序指令 Timing command	45种	45 kinds
	应用指令 Application directive	166种	166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)		基本指令: ≤0.01	Basic instructions: ≤0.01
		应用指令: ≤0.1	Application instructions: ≤0.1
输入继电器 I Input Relay I		1024 Bit	1024 Bit
输出继电器 Q Output Relay Q		1024 Bit	1024 Bit
内部继电器 M Internal relay M		4096 Bit	4096 Bit
特殊继电器 SM Special relay SM		4096 Bit	4096 Bit
特殊寄存器 SR Special Register SR		256 Word	256 Word
定时器 timer	(100ms时基) T (100ms time base)T	256点 (T0~T255)	256 points (T0~T 255)
	(10ms时基) T (10ms time base)T	256点 (T256~T511)	256 points (T256~T511)
数据寄存器 Data Register	普通型 Ordinary type	8K Word	8K Word
	断电保持型 Power-off holding type	2K Word	2K Word
输入滤波器时间 Input filter time		可变 (无滤波器、3ms/3ms、10ms/10ms)	Variable (no filter, 3ms/3ms, 10ms/10ms)
扩展轴数量 Number of extended axes		100轴	100 axis
RS232接口 RS232 interface		编程口、通讯口 (固定通讯格式38400, E, 8, 1)	Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)
RS485接口 RS485 interface		通讯口 (9600bps, 8bit, NONE, 1bit)	Communication Port (9600bps, 8bit, NONE, 1bit)
RJ45接口 RJ45 interface		固定IP地址分别为 (192.168.1.4 / 192.168.1.5)	Fixed IP addresses were 192.168.1.4/192.168.1.5, respectively.

ETHERCAT

通信模块 COMMUNICATION MODULE

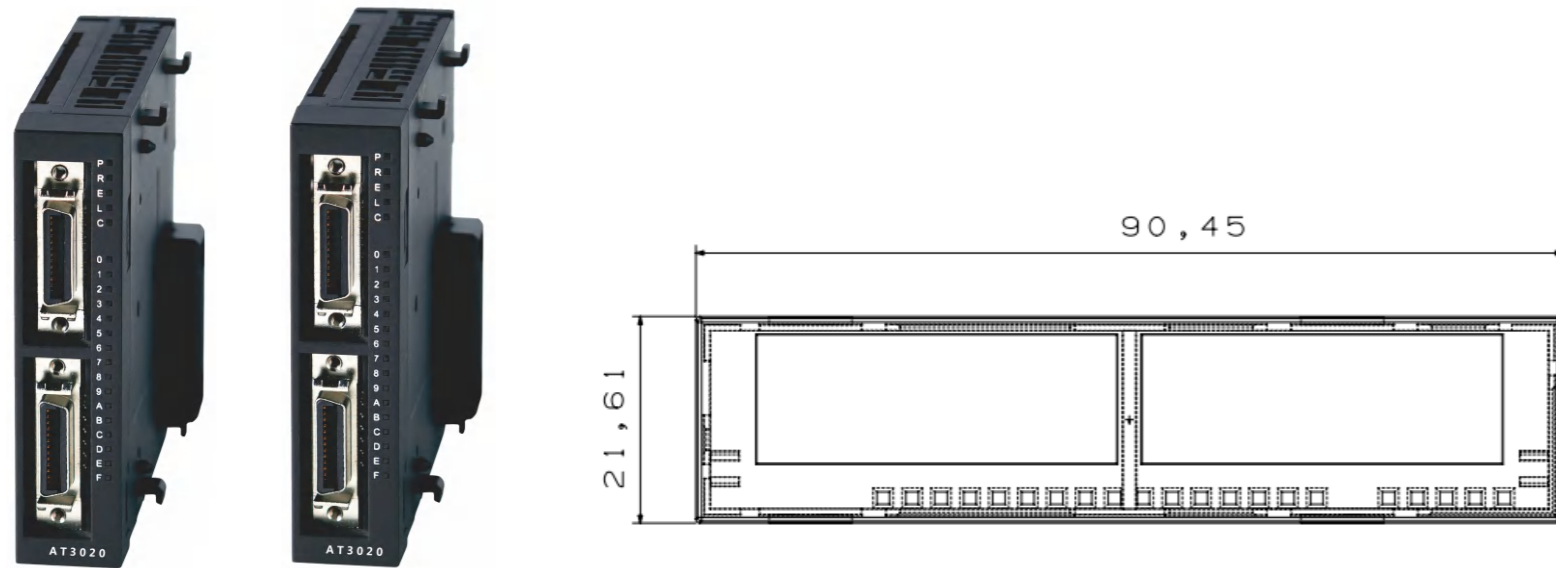


◎ 产品参数/Product Specification

项目/project	规格/Specifications
接口 Interface	RJ45*2 RJ45*2
通信速度 Communication speed	10Mbps 10Mbps
线缆长度 Cable extension distance	<=100m <=100m
通讯协议 1 communication protocol 1	ETHERCAT ETHERCAT
节点数 Node number	40 Forty
通讯协议 2 communication protocol 2	ATBUS ATBUS
节点数 Node number	20 Twenty

AT3024/3028

本地脉冲模块 AT3024/3028LOCAL PULSE MUDULE



性能规格/Performance Specification

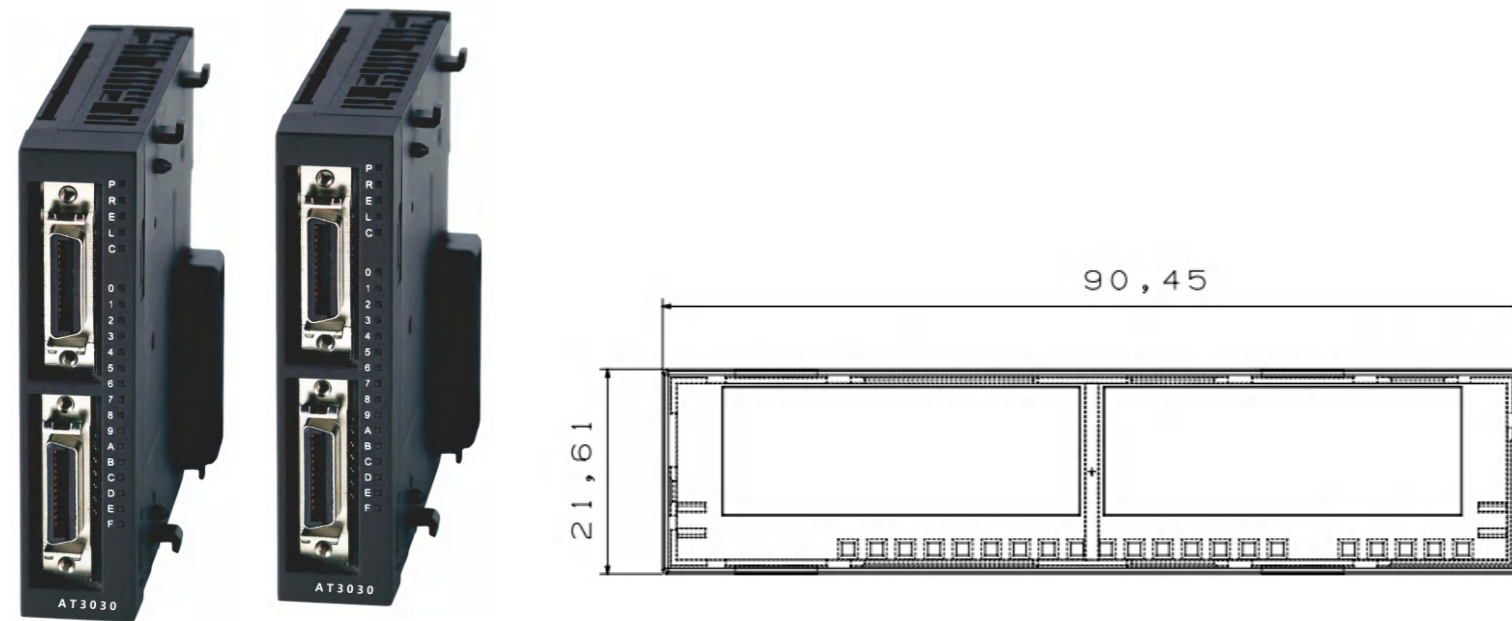
- 主CPU供电，无需单独接入电源，额定功率2W
- AT 3024: 4轴4MHz脉冲输出
- AT 3028: 8轴4MHz脉冲输出
- 脉冲类型: 差分输出
- 脉冲模式: 脉冲+方向、cw+ccw、AB相正交
- Main CPU power supply, without separate access to power supply, rated power 2W
- AT 3024:4 Axis 4MHz Pulse Output
- AT 3028:8 Axis 4MHz Pulse Output
- Pulse Type: Differential Output
- Pulse mode: pulse + direction, CW + ccw, AB phase orthogonal

产品参数/Product Specification

项目/project		规格/Specifications
输出类型 Type Of Output		差分输出 Differential output
控制方式 Control Mode		点位表控制 Point table control
控制轴数 Number Of Control Axes		AT 3024(4轴) / AT 3028(8轴) AT 3024(4axis) / AT 3028(8axis)
位置指令 Location instruction	指令单位 Command unit	脉冲 (对应增量、绝对) Pulse (corresponding increment, absolute)
	最大脉冲数 Maximum number of pulses	有符号32位 (-2147483648~+2147483627) Signed 32 bits (-2147483648~+2147483627)
速度指令 Speed command		1Hz~4MHz 1Hz~4MHz
加减速指令 Acceleration And Deceleration instructions	加减速方式 Acceleration and deceleration modes	S形加减速 S-shaped acceleration and deceleration
	加减速时间 Acceleration and deceleration time	0ms~32767ms (可设、单位1ms) 0ms~32767ms (settable, unit 1ms)
原点回归 Origin regression	回归速度 Regression speed	可设 Set up
	输入信号 Input signal	原点输入、限位 (+)、限位 (-) / 原点输入、限位 (+) Origin input, limit (+), limit (-)/Origin input, limit (+)
运行模式 Operation mode		点位表驱动 Point Tablet Driver
		原点回归 Origin regression
		JOG运行 JOG operation
		连续运行 Continuous operation
		实时变更频率 Real-time change frequency
输出模式 Output mode		无限输出 Infinite output
		脉冲+方向、cw+ccw、AB相正交 Pulse+Direction, Cw+ccw, AB Phase Orthogonal
其他功能 Other functions		内置原点信号 Built-in origin signal
		内置限位 (+)、限位 (-) Built-in Limit (+), Limit (-)
供电方式 Power supply mode		AT3000供给 AT3000 Supply

AT3030

本地IO模块 AT3030LOCAL PULSE MUDULE



性能规格/Performance Specification

- 主CPU供电，无需单独接入电源，额定功率2W
- 输入点：16
- 输出点：16
- 输出类型：晶体管输出
- Main CPU power supply, without separate access to power supply, rated power 2W
- Input point: 16
- Output point: 16
- Output type: transistor output

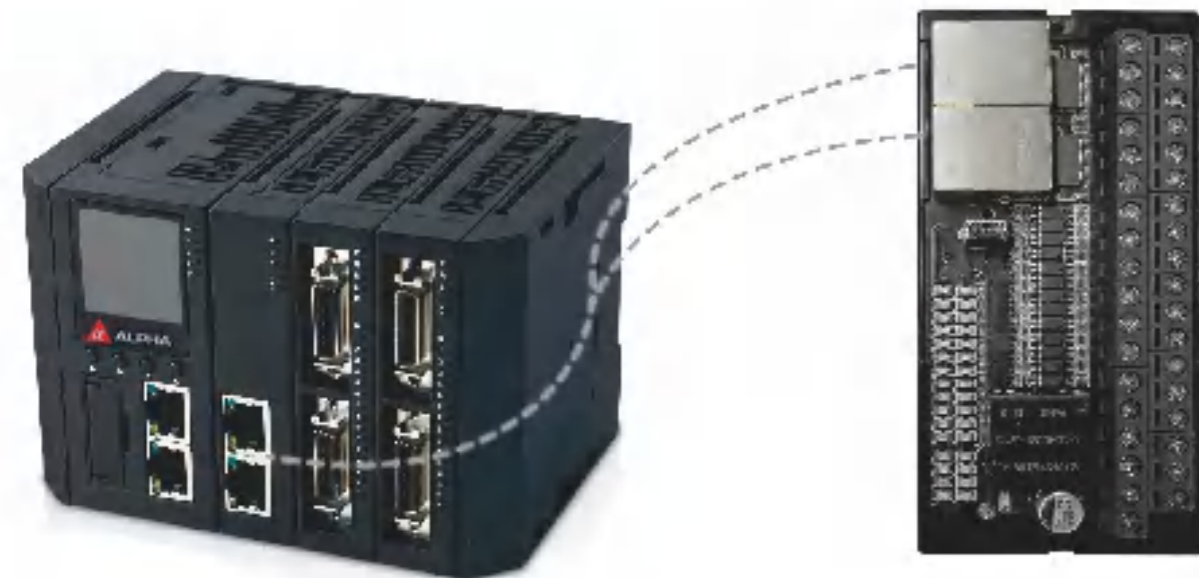
产品参数/Product Specification

项目/project		规格/Specifications
DC输入单元 DC input unit		
绝缘方式 Insulation mode		光耦合器 Optical coupler
额定输入电压 Rated input voltage		24V DC
额定输入电流 Rated input current		2.7mA
阻抗 impedance		8.2kΩ
最小ON电压/最小ON电流 Minimum ON Voltage/Minimum ON Current		19.2V/2.5mA
最大OFF电压/最大OFF电流 Maximum OFF Voltage/Maximum OFF Current		5V/1.5mA
响应时间 Response Time	OFF→ON	≤0.2ms
	ON→OFF	≤0.2ms
节点数 Node number		16
输入点数量 Number of input points		16
晶体管输出单元 Transistor Output Unit		
绝缘方式 Insulation mode		光耦合器 Optical coupler
输出类型 type of output		集电极开漏处理 Gathering Electrode Leakage Treatment
额定负载电压 Rated load voltage		24V
负载电压允许范围 Load Voltage Permissible Range		18V~30V
最大负载电流 Maximum load current		0.5A
最大冲击电流 Maximum impulse current		3A
OFF状态泄露电流 Leakage Current in OFF State		1μA
On状态最大压降 On state maximum pressure drop		0.5V
响应时间 Response Time	OFF→ON	≤0.1ms
	ON→OFF	≤0.3ms
外部链接方式 External link mode		24PIN连接器 24PIN Connector
节点数 Node number		16
输出点数量 Number of Output Points		16

AT3130

远程I/O模块

AT3130
REMOTE I/O MODULE



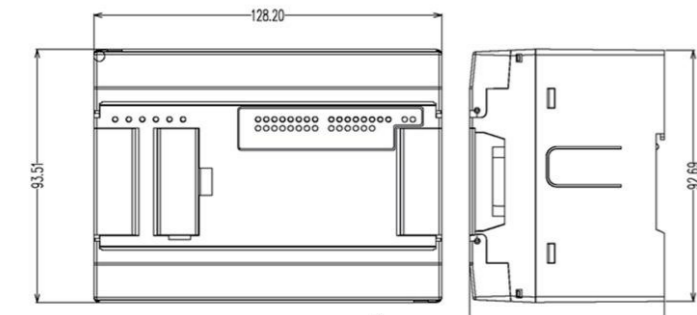
性能规格/Performance Specification

- 外接 DC 24V 供电, 额定功率 2W
- 输入点: 16
- 输出点: 16
- 输出类型: 晶体管输出
- External DC 24V power supply, rated power 2W
- Input point: 16
- Output point: 16
- Output type: transistor output

产品参数/Product Specification

项目/project	规格/Specifications	
DC输入单元 DC input unit		
绝缘方式 Insulation mode	光耦合器 Optical coupler	
额定输入电压 Rated input voltage	24V DC	
额定输入电流 Rated input current	2.7mA	
阻抗 impedance	8.2kΩ	
最小ON电压/最小ON电流 Minimum ON Voltage/Minimum ON Current	19.2V/2.5mA	
最大OFF电压/最大OFF电流 Maximum OFF Voltage/Maximum OFF Current	5V/1.5mA	
响应时间 Response Time	OFF→ON	≤0.2ms
	ON→OFF	≤0.2ms
晶体管输出单元 Transistor Output Unit		
绝缘方式 Insulation mode	光耦合器 Optical coupler	
输出类型 type of output	集电极开漏处理 Gathering Electrode Leakage Treatment	
额定负载电压 Rated load voltage	24V	
负载电压允许范围 Load Voltage Permissible Range	18V~30V	
最大负载电流 Maximum load current	0.5A	
最大冲击电流 Maximum impulse current	3A	
OFF状态泄露电流 Leakage Current in OFF State	1μA	
On状态最大压降 On state maximum pressure drop	0.5V	
响应时间 Response Time	OFF→ON	≤0.1ms
	ON→OFF	≤0.3ms
外部链接方式 External link mode	24PIN连接器 24PIN Connector	

AT-200S-32T(4/8)



性能规格/Performance Specification

- | | |
|---|---|
| <ul style="list-style-type: none"> 主机IO点数 (18输入、14输出) 增强型PLC主机 24V DC (宽电压输入18V-36V), 1A供电输入 4路可变频率, 差分输出 2路AB相高速输入 (4路单相、1路ABZ相) 1路RS232 串行编程口 (固定通讯格式38400, E, 8, 1) 1路RJ45. MODBUS TCP 从机协议 (客户端和服务端可选) 1路RS485串口通讯格式可设定。兼容MODBUS RTU、MODBUS、ASCII 主从协议和自由口协议 程序空间128000Byte 用户数据空间30000Byte | <ul style="list-style-type: none"> Host IO Points (18 Input, 14 Output) Enhanced PLC Host 24V DC (wide voltage input 18V-36V), 1A power supply input Four variable frequencies, differential output 2-way AB phase high-speed input (4-way single-phase, 1-way ABZ phase) 1 RS232 Serial Programming Port (Fixed Communication Format 38400, E, 8, 1) The 1 way is RJ45. MODBUS TCP slave protocol (optional for client and server) 1-way RS485 serial communication format can be set. Compatible with MODBUS RTU, MODBUS, ASCII master-slave protocol and free port protocol Program space 128000Byte User Data Space 30000Byte |
|---|---|

项目/project	规格/Specifications	
编程语言 Programing language	梯形图语言、命令语 Ladder Diagram Language, Command Language	
程序内存容量 Program memory capacity	128K Byte (内置闪存) 128K Byte (built-in flash)	
指令数 Instruction number	时序指令 Timing command	45种 45 kinds
	应用指令 Application directive	166种 166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)	基本指令: ≤0.01 Basic instructions: ≤0.01	
	应用指令: ≤0.1 Application instructions: ≤0.1	
输入继电器I Input Relay I	18 Bit	
输出继电器Q Output Relay Q	14 Bit	
内部继电器M Internal relay M	4096 Bit	
特殊继电器SM Special relay SM	4096 Bit	
特殊寄存器SR Special Register SR	256 Word	

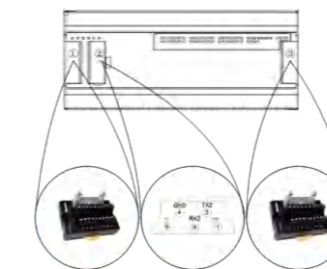
产品参数/Product Specification

项目/project	规格/Specifications	
定时器 Timer	(100ms时基) T (100ms time base)T	128点 (T0-T127) 128 points (T0-T127)
	(10ms时基) T (10ms time base)T	384点 (T128-T511) 384 points (T128-T511)
数据寄存器 Data Register	普通型 Ordinary type	8K Word 8K Word
	断电保持型 Power-off holding type	2K Word 2K Word
输入滤波器时间 Input filter time	可变 (无滤波器、3ms/3ms、10ms/10ms) / 缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms	
高速计数器 High Speed Counter	单相100KHZ 4点 (无符号32位) / AB相50KHZ 2点带符号32位 Single-phase 100KHZ 4-point (unsigned 32-bit)/AB phase 50KHZ 2-point signed 32-bit	
脉冲输出 Pulse output	AT-200S-32T4:通道4MHz/AT-200S-32T8:8通道4MHz AT-200S-32T4:Channel4MHz/AT-200S-32T8:8Channel 4MHz	
RS232接口 RS232 interface	编程口、通讯口 (固定通讯格式38400, E, 8, 1) Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)	
RS485接口 RS485 interface	兼容Modbus-RTU、Modbus-ASCII、自由口协议 Compatible with Modbus-RTU, Modbus-ASCII, Freeport Protocol	

AT-200S系列接口定义 AT-200S Series Interface Definitions

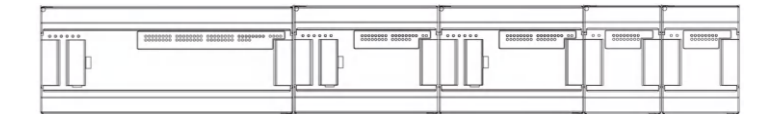
如右图所示 As shown on the right

- 1.13位本体脉冲输出接线端子台 (欧式通用20位)
- 2.U1端口 Mini USB 232通讯端口
- U2端口 RJ45 TCP通讯 (192.168.1.5)
- 1.13-bit bulk pulse output terminal (European universal 20-bit)
- 2.U1 Port Mini USB 232 Communication Port
- U2 port RJ45 TCP communication (192.168.1.5)



扩展设备/Extension Device

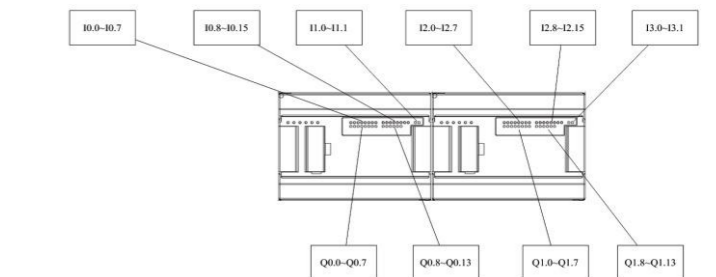
- 一个基本单元只能扩展1个I/O模块
- 使用扩展连接电缆接好基本单元和扩展模块之后, 扩展模块的PWR指示灯亮, 则扩展模块可正常使用。
- 本地扩展24V单独供电
- A basic unit can only extend one I/O module
- After connecting the basic unit and expansion module with the extended connection cable, the PWR indicator light of the expansion module is on, and the expansion module can be used normally.
- Local Extended 24V Separate Power Supply



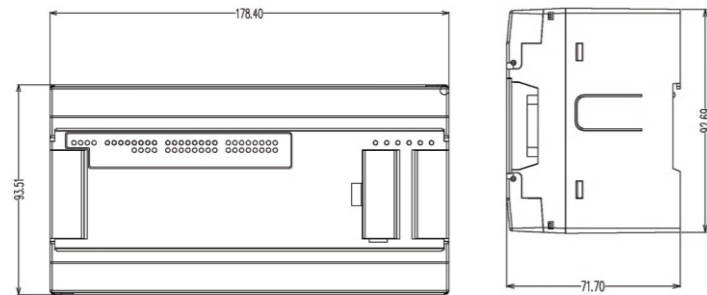
IO点排列/IO point alignment

IO点在排列的时候经常出现空点的情况, 例如: 2个 AT-200S-32T组合使用, 由于单个基本单元包括18个输入点和14个输出点, 由于18已经大于16, 地址空间已经占用了下一字, 所以第2个基本单元的起始地址从第3个字开始。

For example, two AT-200S-32T combinations are often used. Since a single basic unit consists of 18 input points and 14 output points, the address space of the second basic unit has occupied the next word since 18 has exceeded 16, so the starting address of the second basic unit begins with the third word.



AT-200S-48T(4/8)



性能规格/Performance Specification

- 主机IO点数 (28输入、20输出)
- AT-200S-48T4为4轴、AT-200S-48T8为8轴
- 24V DC (宽电压输入18V-36V), 1A供电输入
- 4路可变频率, 差分输出
- 2路AB相高速输入 (4路单相、1路ABZ相)
- 1路RS232 串行编程口 (固定通讯格式38400, E, 8, 1)
- 1路RJ45. MODBUS TCP 从机协议 (客户端和服务端可选)
- 1路RS485串口通讯格式可设定. 兼容MODBUS RTU、MODBUS、ASCII 主从协议和自由口协议
- 程序空间128000Byte
- 用户数据空间30000Byte
- Host IO Points (28 Input, 20 Output)
- AT-200S-48T4 is 4-axis and AT-200S-48T8 is 8-axis.
- 24V DC (wide voltage input 18V-36V), 1A power supply input
- Four variable frequencies, differential output
- 2-way AB phase high-speed input (4-way single-phase, 1-way ABZ phase)
- 1 RS232 Serial Programming Port (Fixed Communication Format 38400, E, 8, 1)
- The 1 way is RJ45. MODBUS TCP slave protocol (optional for client and server)
- 1-way RS485 serial communication format can be set. Compatible with MODBUS RTU, MODBUS, ASCII master-slave protocol and free port protocol
- Program space 128000Byte
- User Data Space 30000Byte

项目/project	规格/Specifications
编程语言 Programing language	梯形图语言、命令语 Ladder Diagram Language, Command Language
程序内存容量 Program memory capacity	128K Byte (内置闪存) 128K Byte (built-in flash)
指令数 Instruction number	时序指令 Timing command 45种 45 kinds
	应用指令 Application directive 166种 166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)	基本指令: ≤ 0.01 Basic instructions: ≤ 0.01 应用指令: ≤ 0.1 Application instructions: ≤ 0.1
输入继电器I Input Relay I	28 Bit
输出继电器Q Output Relay Q	20 Bit
内部继电器M Internal relay M	4096 Bit
特殊继电器SM Special relay SM	4096 Bit
特殊寄存器SR Special Register SR	256 Word

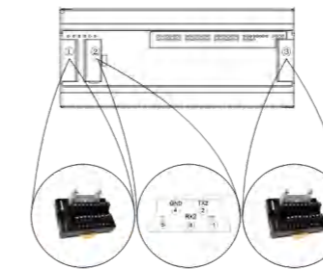
产品参数/Product Specification

项目/project	规格/Specifications
定时器 Timer	(100ms时基) T (100ms time base)T 128点 (T0-T127) 128 points (T0-T127)
	(10ms时基) T (10ms time base)T 384点 (T128-T511) 384 points (T128-T511)
数据寄存器 Data Register	普通型 Ordinary type 8K Word 8K Word
	断电保持型 Power-off holding type 2K Word 2K Word
输入滤波器时间 Input filter time	可变 (无滤波器、3ms/3ms、10ms/10ms) / 缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms
高速计数器 High Speed Counter	单相100KHZ 4点 (无符号32位) / AB相50KHZ 2点带符号32位 Single-phase 100KHZ 4-point (unsigned 32-bit)/AB phase 50KHZ 2-point signed 32-bit
脉冲输出 Pulse output	AT-200S-48T4:通道4MHz/AT-200S-48T8:8通道4MHz AT-200S-48T4:Channel4MHz/AT-200S-48T8:8Channel 4MHz
RS232接口 RS232 interface	编程口、通讯口 (固定通讯格式38400, E, 8, 1) Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)
RS485接口 RS485 interface	兼容Modbus-RTU、Modbus-ASCII、自由口协议 Compatible with Modbus-RTU, Modbus-ASCII, Freeport Protocol

AT-200S系列接口定义 AT-200S Series Interface Definitions

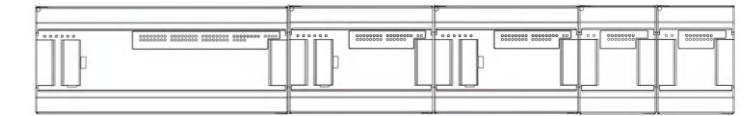
如右图所示 As shown on the right

1. 13位本体脉冲输出接线端子台 (欧式通用20位)
2. U1端口 Mini USB 232通讯端口
- U2端口 RJ45 TCP通讯 (192.168.1.5)
1. 13-bit bulk pulse output terminal (European universal 20-bit)
2. U1 Port Mini USB 232 Communication Port
- U2 port RJ45 TCP communication (192.168.1.5)



扩展设备/Extension Device

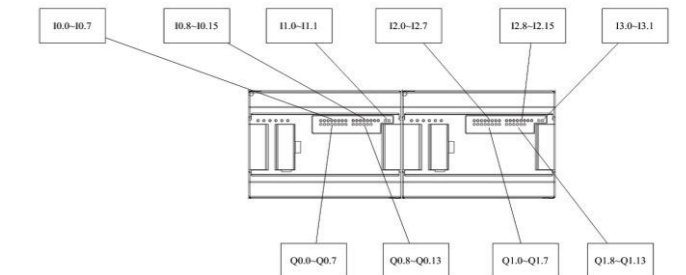
- 一个基本单元只能扩展1个I/O模块
- 使用扩展连接电缆接好基本单元和扩展模块之后, 扩展模块的PWR指示灯亮, 则扩展模块可正常使用。
- 本地扩展24V单独供电
- A basic unit can only extend one I/O module
- After connecting the basic unit and expansion module with the extended connection cable, the PWR indicator light of the expansion module is on, and the expansion module can be used normally.
- Local Extended 24V Separate Power Supply



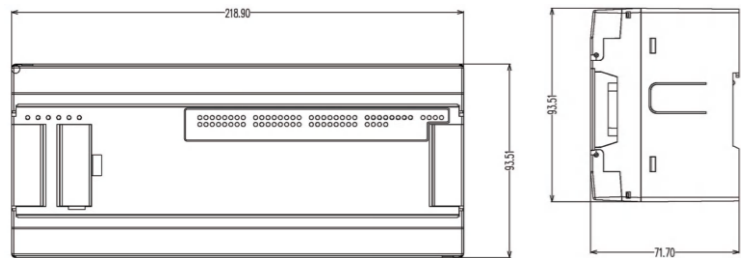
IO点排列/IO point alignment

IO点在排列的时候经常出现空点的情况, 例如: 2个AT-200S-32T组合使用, 由于单个基本单元包括18个输入点和14个输出点, 由于18已经大于16, 地址空间已经占用了下一字, 所以第2个基本单元的起始地址从第3个字开始。

For example, two AT-200S-32T combinations are often used. Since a single basic unit consists of 18 input points and 14 output points, the address space of the second basic unit has occupied the next word since 18 has exceeded 16, so the starting address of the second basic unit begins with the third word.



AT-200S-64T(4/8)



性能规格/Performance Specification

- 主机I/O点数 (36输入、28输出)
- AT-200S-64T4为4轴、AT-200S-64T8为8轴
- 24V DC (宽电压输入18V-36V), 1A供电输入
- 4路可变频率, 差分输出
- 2路AB相高速输入 (4路单相、1路ABZ相)
- 1路RS232 串行编程口 (固定通讯格式38400, E, 8, 1)
- 1路RJ45. MODBUS TCP 从机协议 (客户端和服务端可选)
- 1路RS485串口通讯格式可设定。兼容MODBUS RTU、MODBUS、ASCII 主从协议和自由口协议
- 程序空间128000Byte
- 用户数据空间30000Byte
- Host IO Points (36 Input, 28 Output)
- AT-200S-64T4 is 4-axis and AT-200S-64T8 is 8-axis.
- 24V DC (wide voltage input 18V-36V), 1A power supply input
- Four variable frequencies, differential output
- 2-way AB phase high-speed input (4-way single-phase, 1-way ABZ phase)
- 1 RS232 Serial Programming Port (Fixed Communication Format 38400, E, 8, 1)
- The 1 way is RJ45. MODBUS TCP slave protocol (optional for client and server)
- 1-way RS485 serial communication format can be set. Compatible with MODBUS RTU, MODBUS, ASCII master-slave protocol and free port protocol
- Program space 128000Byte
- User Data Space 30000Byte

项目/project	规格/Specifications	
编程语言 Programing language	梯形图语言、命令语 Ladder Diagram Language, Command Language	
程序内存容量 Program memory capacity	128K Byte (内置闪存) 128K Byte (built-in flash)	
指令数 Instruction number	时序指令 Timing command	45种 45 kinds
	应用指令 Application directive	166种 166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)	基本指令: ≤0.01 Basic instructions: ≤0.01 应用指令: ≤0.1 Application instructions: ≤0.1	
输入继电器I Input Relay I	36 Bit	
输出继电器Q Output Relay Q	28Bit	
内部继电器M Internal relay M	4096 Bit	
特殊继电器SM Special relay SM	4096 Bit	
特殊寄存器SR Special Register SR	256 Word	

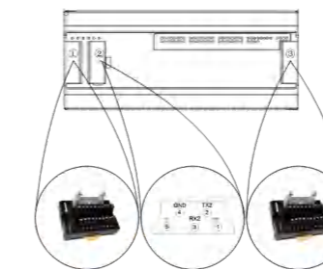
产品参数/Product Specification

项目/project	规格/Specifications	
定时器 Timer	(100ms时基) T (100ms time base)T	128点 (T0-T127) 128 points (T0-T127)
	(10ms时基) T (10ms time base)T	384点 (T128-T511) 384 points (T128-T511)
数据寄存器 Data Register	普通型 Ordinary type	8K Word 8K Word
	断电保持型 Power-off holding type	2K Word 2K Word
输入滤波器时间 Input filter time	可变 (无滤波器、3ms/3ms、10ms/10ms) / 缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms	
高速计数器 High Speed Counter	单相100KHZ 4点 (无符号32位) / AB相50KHZ 2点带符号32位 Single-phase 100KHZ 4-point (unsigned 32-bit)/AB phase 50KHZ 2-point signed 32-bit	
脉冲输出 Pulse output	AT-200S-64T4:通道4MHz/AT-200S-64T8:8通道4MHz AT-200S-64T4:Channel4MHz/AT-200S-64T8:8Channel 4MHz	
RS232接口 RS232 interface	编程口、通讯口 (固定通讯格式38400, E, 8, 1) Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)	
RS485接口 RS485 interface	兼容Modbus-RTU、Modbus-ASCII、自由口协议 Compatible with Modbus-RTU, Modbus-ASCII, Freeport Protocol	

AT-200S系列接口定义 AT-200S Series Interface Definitions

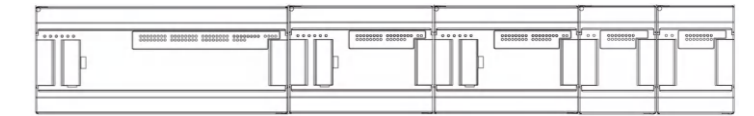
如右图所示 As shown on the right

- 1.13位本体脉冲输出接线端子台 (欧式通用20位)
- 2.U1端口 Mini USB 232通讯端口
- U2端口 RJ45 TCP通讯 (192.168.1.5)
- 1.13-bit bulk pulse output terminal (European universal 20-bit)
- 2.U1 Port Mini USB 232 Communication Port
- U2 port RJ45 TCP communication (192.168.1.5)



扩展设备/Extension Device

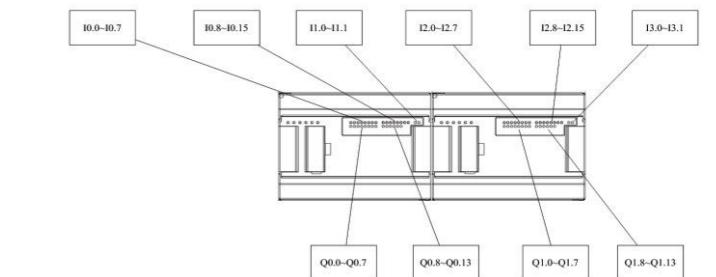
- 一个基本单元只能扩展1个I/O模块
- 使用扩展连接电缆接好基本单元和扩展模块之后, 扩展模块的PWR指示灯亮, 则扩展模块可正常使用。
- 本地扩展24V单独供电
- A basic unit can only extend one I/O module
- After connecting the basic unit and expansion module with the extended connection cable, the PWR indicator light of the expansion module is on, and the expansion module can be used normally.
- Local Extended 24V Separate Power Supply



IO点排列/IO point alignment

IO点在排列的时候经常出现空点的情况, 例如: 2个 AT-200S-32T组合使用, 由于单个基本单元包括18个输入点和14个输出点, 由于18已经大于16, 地址空间已经占用了下一字, 所以第2个基本单元的起始地址从第3个字开始。

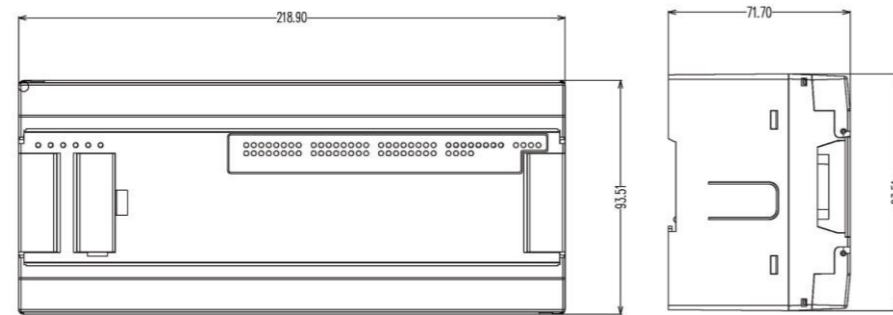
For example, two AT-200S-32T combinations are often used. Since a single basic unit consists of 18 input points and 14 output points, the address space of the second basic unit has occupied the next word since 18 has exceeded 16, so the starting address of the second basic unit begins with the third word.



AT-200S-64T4(E)

200S系列扩展

AT-200S-64T4(E)
200S Series Extensions



性能规格/Performance Specification

- I/O点数 (36输入、28输出)
- 24V DC (宽电压输入18V-36V), 1A供电输入
- I/O Points (36 Inputs, 28 Outputs)
- 24V DC (wide voltage input 18V-36V), 1A power supply input

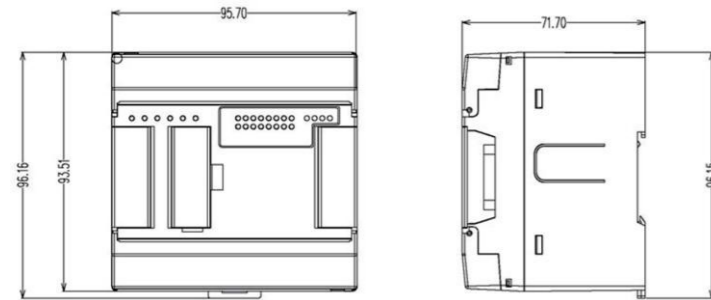
产品参数/Product Specification

项目/project	规格/Specifications
电源规格 Power specification	24V DC (宽电压输入18V-36V), 1A供电输入 24V DC (wide voltage input 18V-36V), 1A power supply input
输入继电器 Input Relay I	36 Bit 36 Bit
输出继电器Q Output Relay Q	28 Bit 28 Bit
输入滤波器时间 Input filter time	可变 (无滤波器、3ms/3ms、10ms/10ms)/缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms
连接方式 Connection mode	网口直连 Direct connection
CPU搭配 CPU Collocation	AT - 200 S-32T4/AT - 200 S-48T4/AT - 200 S-64T4/AT - 200 S - 48T8/AT - 200 S - 64T8

AT-100S-20T/R

PLC主机硬件资源

AT-100S-20T/R PLC HOST
HARDWARE RESOURCES



性能规格/Performance Specification

主机带有2路24位的模拟量输入、2路12位的模拟量输出、2路RS232串口、2路RS485串口。RS485串口兼容多种协议格式主从可选择。

- 2路推挽式PWM高速100KHZ高速脉冲输出
- 12输入、8输出
- 24V DC (宽电压输入18V~36V), 1A供电输入
- 2路12位精度0~10V的DA输出
- 2路24位精度0~10V的DA输入
- 2路RS232串行编程口 (固定通讯格式38400, E, 8, 1)
- 2路RS485串口通讯格式可设定。兼容MODBUS RTU、MODBUS、ASCII主从协议和自由口协议
- 程序空间32000Byte
- 用户数据空间16000Byte
- Two Push-pull PWM High Speed 100KHZ High Speed Pulse Output
- 12 Input and 8 Output
- 24V DC (wide voltage input 18V-36V), 1A power supply input
- DA Output with 2-way 12-bit Accuracy of 0-10V
- 2-way 24-bit precision 0-10V DA input
- 2-way RS232 serial programming interface (fixed communication format 38400, E, 8, 1)
- 2-way RS485 serial communication format can be set. Compatible with MODBUS RTU, MODBUS, ASCII master-slave protocol and free port protocol
- Program space 32000Byte
- 16 000 Byte User Data Space

项目/project	规格/Specifications	
编程语言 Programing language	梯形图语言、命令语 Ladder Diagram Language, Command Language	
程序内存容量 Program memory capacity	32000Byte (内置闪存) 32000Byte (built-in flash)	
指令数 Instruction number	时序指令 Timing command	45种 45 kinds
	应用指令 Application directive	166种 166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)	基本指令: ≤0.44~ Basic instructions: ≤0.44~	
	应用指令: ≤2.19~ Application instructions: ≤2.19~	
输入继电器I Input Relay I	12 Bit	
输出继电器Q Output Relay Q	8 Bit	
内部继电器M Internal relay M	2048 Bit	
特殊继电器SM Special relay SM	256 Bit	
特殊寄存器SR Special Register SR	128 Word	

产品参数/Product Specification

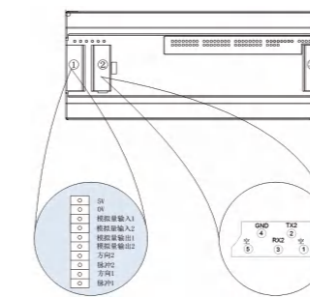
项目/project	规格/Specifications	
定时器 Timer	(100ms时基) T (100ms time base)T	64点 (T0~T63) 64 points (T0~T63)
	(10ms时基) T (10ms time base)T	64点 (T64~T127) 64 points (T64~T127)
数据寄存器 Data Register	普通型 Ordinary type	2K Word 2K Word
	断电保持型 Power-off holding type	2K Word 2K Word
输入滤波器时间 Input filter time	可变 (无滤波器, 3ms/3ms, 10ms/10ms) / 缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms	
脉冲输出 Pulse output	2相100kHz (AT-100S-64T/R除外) Two-phase 100kHz (excluding AT-100S-64T/R)	
模拟量输入输出 Analog Input and Output	2相0~10V电压输入 / 2相0~10V电压输出 2-Phase 0~10V Voltage Input/2-Phase 0~10V Voltage Output	
RS232接口 RS232 interface	编程口、通讯口 (固定通讯格式38400, E, 8, 1) Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)	
RS485接口 RS485 interface	兼容Modbus-RTU、Modbus-ASCII、自由口协议 Compatible with Modbus-RTU, Modbus-ASCII, Freeport Protocol	

AT-100S系列接口定义 AT-100S Series Interface Definitions

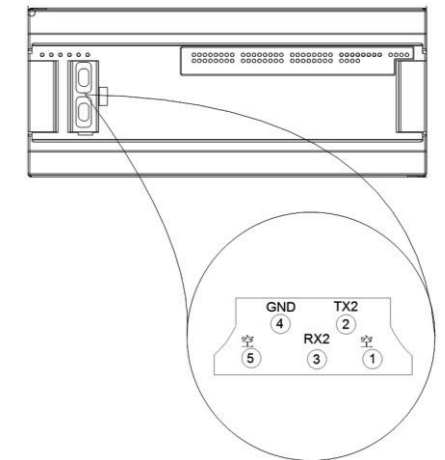
如右图所示 As shown on the right

- 左侧10PIN的接线端子排
- 2*Mini USB接口端口定义
- 空, 不支持本地扩展

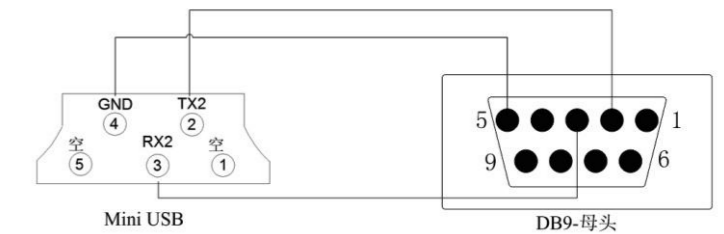
Terminal row of left 10PIN
2*Mini USB Interface Port Definition
No support for local extension



通讯接口定义/Communication Interface Definition



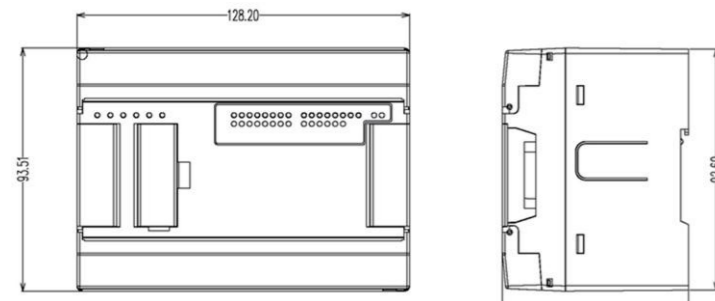
编程电缆 /Programming cable



AT-100S-32T/R

PLC主机硬件资源

AT-100S-32T/R PLC HOST
HARDWARE RESOURCES



性能规格/Performance Specification

主机带有2路24位的模拟量输入、2路12位的模拟量输出、2路RS232串口、2路RS485串口。RS485串口兼容多种协议格式主从可选择。

- 2路推挽式PWM高速100KHZ高速脉冲输出
- 18输入、12输出
- 24V DC (宽电压输入18V-36V), 1A供电输入
- 2路12位精度0-10V的DA输出
- 2路24位精度0-10V的DA输入
- 2路RS232串行编程口 (固定通讯格式38400, E, 8, 1)
- 2路RS485串口通讯格式可设定。兼容MODBUS RTU、MODBUS、ASCII主从协议和自由口协议
- 程序空间32000Byte
- 用户数据空间16000Byte
- Two Push-pull PWM High Speed 100KHZ High Speed Pulse Output
- 18 Input and 12 Output
- 24V DC (wide voltage input 18V-36V), 1A power supply input
- DA Output with 2-way 12-bit Accuracy of 0-10V
- 2-way 24-bit precision 0-10V DA input
- 2-way RS232 serial programming interface (fixed communication format 38400, E, 8, 1)
- 2-way RS485 serial communication format can be set. Compatible with MODBUS RTU, MODBUS, ASCII master-slave protocol and free port protocol
- Program space 32000Byte
- 16 000 Byte User Data Space

项目/project	规格/Specifications	
编程语言 Programing language	梯形图语言、命令语 Ladder Diagram Language, Command Language	
程序内存容量 Program memory capacity	32000Byte (内置闪存) 32000Byte (built-in flash)	
指令数 Instruction number	时序指令 Timing command	45种 45 kinds
	应用指令 Application directive	166种 166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)	基本指令: ≤0.44~ Basic instructions: ≤0.44~	
	应用指令: ≤2.19~ Application instructions: ≤2.19~	
输入继电器I Input Relay I	18 Bit	
输出继电器Q Output Relay Q	12 Bit	
内部继电器M Internal relay M	2048 Bit	
特殊继电器SM Special relay SM	256 Bit	
特殊寄存器SR Special Register SR	128 Word	

产品参数/Product Specification

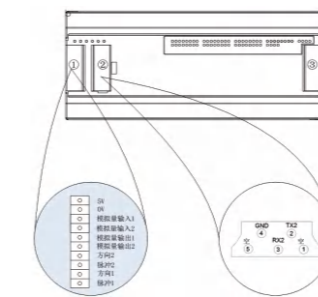
项目/project	规格/Specifications	
定时器 Timer	(100ms时基) T (100ms time base)T	64点 (T0~T63) 64 points (T0~T63)
	(10ms时基) T (10ms time base)T	64点 (T64~T127) 64 points (T64~T127)
数据寄存器 Data Register	普通型 Ordinary type	2K Word 2K Word
	断电保持型 Power-off holding type	2K Word 2K Word
输入滤波器时间 Input filter time	可变 (无滤波器、3ms/3ms、10ms/10ms) / 缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms	
脉冲输出 Pulse output	2相100kHz (AT-100S-64T/R除外) Two-phase 100kHz (excluding AT-100S-64T/R)	
模拟量输入输出 Analog Input and Output	2相0-10V电压输入 / 2相0-10V电压输出 2-Phase 0-10V Voltage Input/2-Phase 0-10V Voltage Output	
RS232接口 RS232 interface	编程口、通讯口 (固定通讯格式38400, E, 8, 1) Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)	
RS485接口 RS485 interface	兼容Modbus-RTU、Modbus-ASCII、自由口协议 Compatible with Modbus-RTU, Modbus-ASCII, Freeport Protocol	

AT-100S系列接口定义 AT-100S Series Interface Definitions

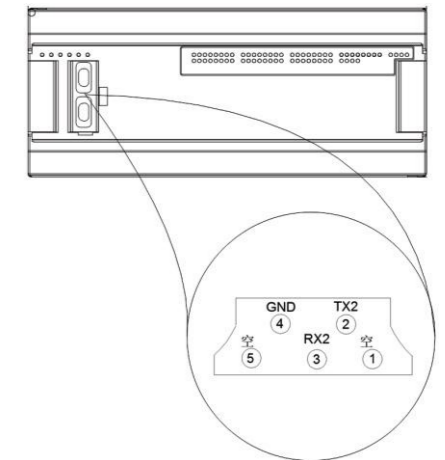
如右图所示 As shown on the right

1. 左侧10PIN的接线端子排
2. 2*Mini USB接口端口定义
3. 空, 不支持本地扩展

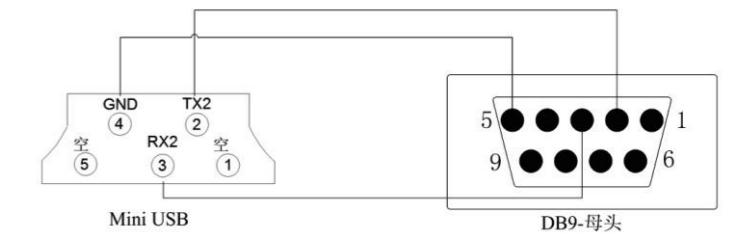
Terminal row of left 10PIN
2*Mini USB Interface Port Definition
No support for local extension



通讯接口定义/Communication Interface Definition

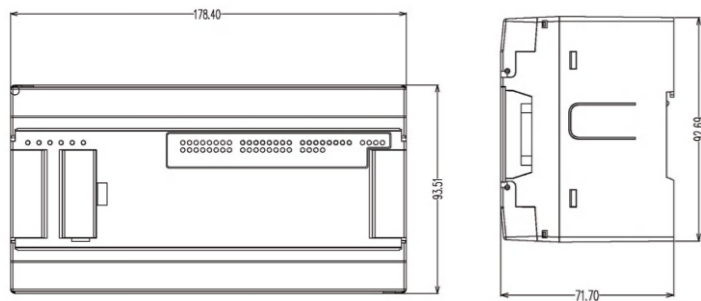


编程电缆 /Programming cable



AT-100S-48T/R

PLC主机硬件资源 AT-100S-48T/R PLC HOST HARDWARE RESOURCES



性能规格/Performance Specification

主机带有2路24位的模拟量输入、2路12位的模拟量输出、2路RS232串口、2路RS485串口。RS485串口兼容多种协议格式主从可选择。

- 2路推挽式PWM高速100KHZ高速脉冲输出
- 28输入、20输出
- 24V DC (宽电压输入18V~36V), 1A供电输入
- 2路12位精度0~10V的DA输出
- 2路24位精度0~10V的DA输入
- 2路RS232串行编程口 (固定通讯格式38400, E, 8, 1)
- 2路RS485串口通讯格式可设定。兼容MODBUS RTU、MODBUS、ASCII主从协议和自由口协议
- 程序空间32000Byte
- 用户数据空间16000Byte
- Two Push-pull PWM High Speed 100KHZ High Speed Pulse Output
- 28 Input and 20 Output
- 24V DC (wide voltage input 18V-36V), 1A power supply input
- DA Output with 2-way 12-bit Accuracy of 0-10V
- 2-way 24-bit precision 0-10V DA input
- 2-way RS232 serial programming interface (fixed communication format 38400, E, 8, 1)
- 2-way RS485 serial communication format can be set. Compatible with MODBUS RTU, MODBUS, ASCII master-slave protocol and free port protocol
- Program space 32000Byte
- 16 000 Byte User Data Space

项目/project	规格/Specifications	
编程语言 Programing language	梯形图语言、命令语 Ladder Diagram Language, Command Language	
程序内存容量 Program memory capacity	32000Byte (内置闪存) 32000Byte (built-in flash)	
指令数 Instruction number	时序指令 Timing command	45种 45 kinds
	应用指令 Application directive	166种 166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)	基本指令: ≤0.44~ Basic instructions: ≤0.44~	
	应用指令: ≤2.19~ Application instructions: ≤2.19~	
输入继电器I Input Relay I	28 Bit	
输出继电器Q Output Relay Q	20 Bit	
内部继电器M Internal relay M	2048 Bit	
特殊继电器SM Special relay SM	256 Bit	
特殊寄存器SR Special Register SR	128 Word	

产品参数/Product Specification

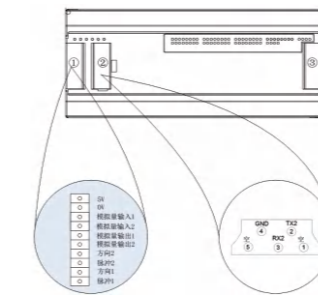
项目/project	规格/Specifications	
定时器 Timer	(100ms时基) T (100ms time base)T	64点 (T0~T63) 64 points (T0~T63)
	(10ms时基) T (10ms time base)T	64点 (T64~T127) 64 points (T64~T127)
数据寄存器 Data Register	普通型 Ordinary type	2K Word 2K Word
	断电保持型 Power-off holding type	2K Word 2K Word
输入滤波器时间 Input filter time	可变 (无滤波器, 3ms/3ms, 10ms/10ms) / 缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms	
脉冲输出 Pulse output	2相100kHz (AT-100S-64T/R除外) Two-phase 100kHz (excluding AT-100S-64T/R)	
模拟量输入输出 Analog Input and Output	2相0~10V电压输入 / 2相0~10V电压输出 2-Phase 0-10V Voltage Input/2-Phase 0-10V Voltage Output	
RS232接口 RS232 interface	编程口、通讯口 (固定通讯格式38400, E, 8, 1) Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)	
RS485接口 RS485 interface	兼容Modbus-RTU、Modbus-ASCII、自由口协议 Compatible with Modbus-RTU, Modbus-ASCII, Freeport Protocol	

AT-100S系列接口定义 AT-100S Series Interface Definitions

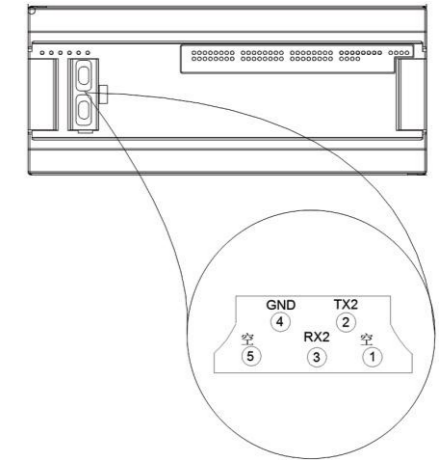
如右图所示 As shown on the right

- 左侧10PIN的接线端子排
- 2*Mini USB接口端口定义
- 空, 不支持本地扩展

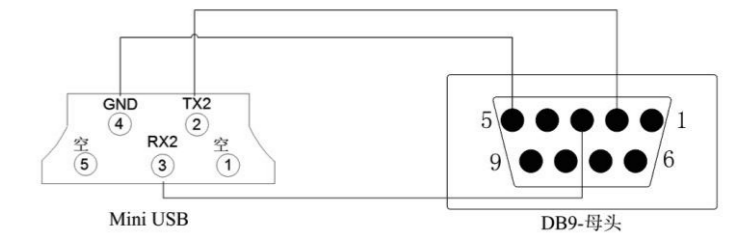
Terminal row of left 10PIN
2*Mini USB Interface Port Definition
No support for local extension



通讯接口定义/Communication Interface Definition



编程电缆 /Programming cable



AT-100S-64T/R

PLC主机硬件资源 AT-100S-64T/R PLC HOST HARDWARE RESOURCES

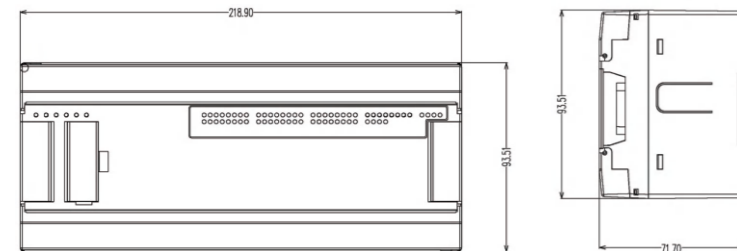


性能规格/Performance Specification

主机带有4路24位的模拟量输入，2路12位的模拟量输出、2路RS232串口、2路RS485串口。RS485串口兼容多种协议格式主从可选择。

- | | |
|--|---|
| <ul style="list-style-type: none"> • 36输入、28输出 • 24V DC (宽电压输入18V-36V)，1A供电输入 • 2路12位精度0-10V的D/A输出 • 4路24位精度0-10V的A/D输入 • 2路RS232串行编程口 (固定通讯格式38400, E, 8, 1) • 2路RS485串口通讯格式可设定。兼容MODBUS RTU、MODBUS、ASCII主从协议和自由口协议 • 程序空间32000Byte • 用户数据空间16000Byte | <ul style="list-style-type: none"> • 36 Input, 28 Output • 24V DC (wide voltage input 18V-36V), 1A power supply input • D/A Output with 2-way 12-bit Accuracy of 0-10V • 4-way 24-bit precision 0-10V A/D input • 2-way RS232 serial programming interface (fixed communication format 38400, E, 8, 1) • 2-way RS485 serial communication format can be set. Compatible with MODBUS RTU, MODBUS, ASCII master-slave protocol and free port protocol • Program space 32000Byte • 16 000 Byte User Data Space |
|--|---|

项目/project	规格/Specifications	
编程语言 Programing language	梯形图语言、命令语 Ladder Diagram Language, Command Language	
程序内存容量 Program memory capacity	32000Byte (内置闪存) 32000Byte (built-in flash)	
指令数 Instruction number	时序指令 Timing command	45种 45 kinds
	应用指令 Application directive	166种 166 kinds
指令处理速度 (单位: us) Instruction processing speed (unit: us)	基本指令: ≤0.44~ Basic instructions: ≤0.44~ 应用指令: ≤2.19~ Application instructions: ≤2.19~	
输入继电器I Input Relay I	36 Bit	
输出继电器Q Output Relay Q	28 Bit	
内部继电器M Internal relay M	2048 Bit	
特殊继电器SM Special relay SM	256 Bit	
特殊寄存器SR Special Register SR	128 Word	



产品参数/Product Specification

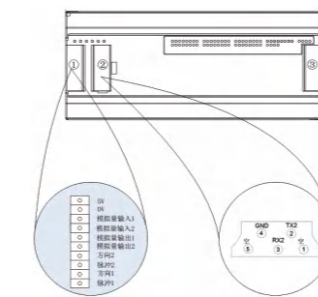
项目/project	规格/Specifications	
定时器 Timer	(100ms时基) T (100ms time base)T	64点 (T0~T63) 64 points (T0~T63)
	(10ms时基) T (10ms time base)T	64点 (T64~T127) 64 points (T64~T127)
数据寄存器 Data Register	普通型 Ordinary type	2K Word 2K Word
	断电保持型 Power-off holding type	2K Word 2K Word
输入滤波器时间 Input filter time	可变 (无滤波器、3ms/3ms、10ms/10ms) / 缺省值3ms/3ms Variable (no filter, 3ms/3ms, 10ms/10ms)/default value 3ms/3ms	
模拟量输入输出 Analog Input and Output	4通道0-10V电压输入、2通道0-10V电压输出 4-Channel 0-10V Voltage Input and 2-Channel 0-10V Voltage Output	
RS232接口 RS232 interface	编程口、通讯口 (固定通讯格式38400, E, 8, 1) Programming Port and Communication Port (Fixed Communication Format 38400, E, 8, 1)	
RS485接口 RS485 interface	兼容Modbus-RTU、Modbus-ASCII、自由口协议 Compatible with Modbus-RTU, Modbus-ASCII, Freeport Protocol	

AT-100S系列接口定义 AT-100S Series Interface Definitions

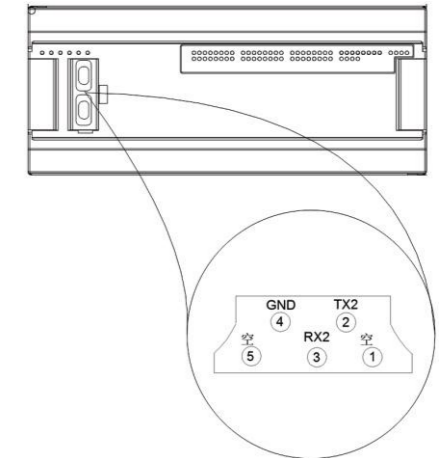
如右图所示 As shown on the right

1. 左侧10PIN的接线端子排
2. 2*Mini USB接口端口定义
3. 空, 不支持本地扩展

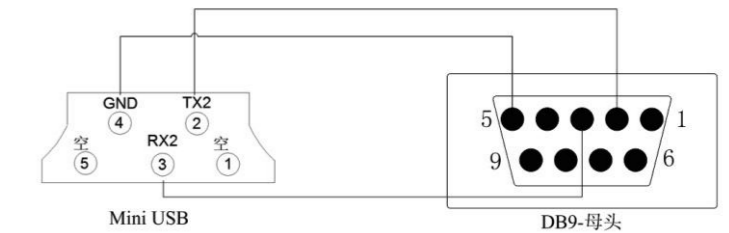
Terminal row of left 10PIN
2* Mini USB Interface Port Definition
No support for local extension



通讯接口定义/Communication Interface Definition

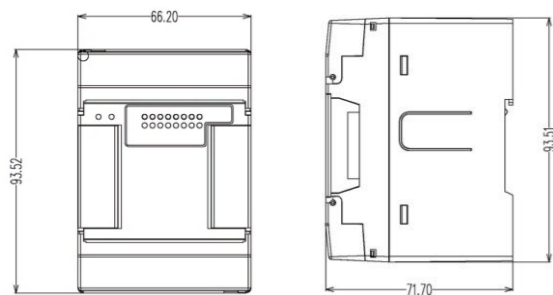


编程电缆 /Programming cable



AT-AD-2114/2116 K型热电偶温度控制模块

AT-AD-2114/2116 K-TYPE THERMOCOUPLE
THERMOCOUPLE TEMPERATURE CONTROL MODULE



◎ 产品参数/Product Specification

项目/project		规格/Specifications
输入点数 Input points		AT-AD-2114: 4CH (非隔离) / AT-AD-2116: 16CH (非隔离) 4CH (non-isolated)
输入范围 Input range		0.0℃~1380.0℃
数字转换值 Digital Conversion Value	通常时 Usually when	0~13800
	断线时 When broken	13800或以上 13800 or more
	数据准备时 Data preparation	13800
分辨率 Resolving power		0.1℃
采样周期 sampling period		100ms/1ch
综合精度 Comprehensive accuracy		±0.5%F.S以下+冷触点误差: 1.5℃ (0℃~+55℃) Error of (+0.5%F.S) below + Cold contact: 1.5℃(0~+55℃)
输入阻抗 Input impedance		344 kΩ
外部链接方式 External link mode		连接器式端子台 Connector terminal
输出方式 Output mode		PWM可变占空比输出 PWM Variable Duty Ratio Output
通讯 communication	波特率 baud rate	9600
	数据格式 data format	8-N-1
供电电压 Power supply voltage		24V

◎ 拨码开关定义/Definition of Dial Switch

温度控制模块: AT-AD-2114、AT-AD-2214

模拟量模块 AT-AD-2324接口定义如下图所示:

①: 平拨式8位拨码开关, 符合8421码定义, 用于定义模块的ID号: ID号=1时, 1#脚位→ON; ID号=3时, 1#、2#脚位→ON。

模块ID = $\sum_{n=1}^8 2^{(6-n)}$ * 拨码开关状态

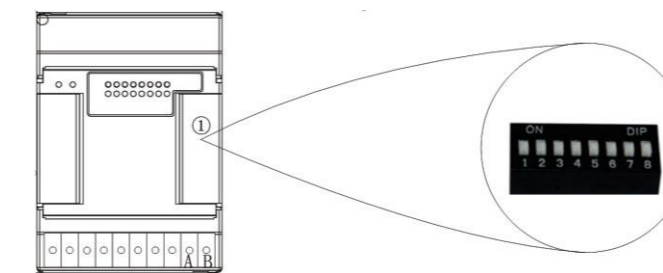
②: RS485接线端口: A: RS485+, B: RS485-。

Temperature control module: AT-AD-2114, AT-AD-2214

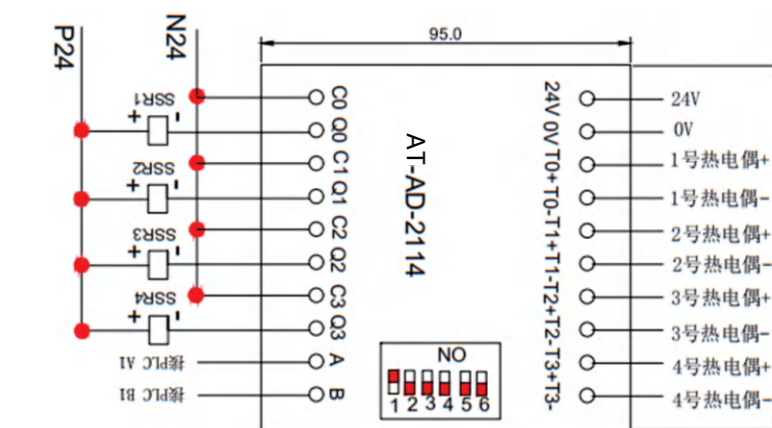
The interface definition of analog module AT-AD-2324 is as follows:

(1) Flat-dial 8-bit dial switch, which conforms to the definition of 8421 code, is used to define the ID number of the module: when ID number = 1, 1# foot ON; ID = 3, 1#, 2# foot ON.

(2) RS485 port: A: Rs485+, B: RS485-.

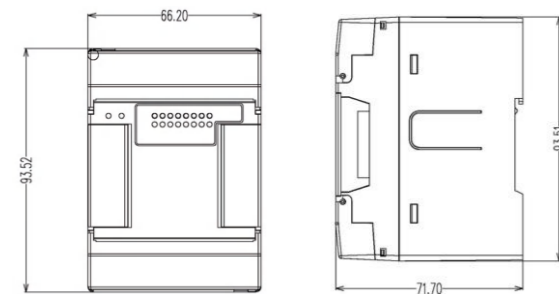


◎ 接口定义/Interface Definition



AT-AD-2114/2116 PT100型温度控制模块

AT-AD-2214 PT100 TEMPERATURE CONTROL MODULE



产品参数/Product Specification

项目/project		规格/Specifications
输入点数 Input points		AT-AD-2214: 4CH (相互绝缘) / AT-AD-2216: 16CH (相互绝缘) AT-AD-2214:4CH (mutual insulation) / AT-AD-2216:16CH (mutual insulation)
输入范围 Input range		0.0℃~300.0℃
数字转换值 Digital Conversion Value	通常时 Usually when	0~3000
	断线时 When broken	3000或以上 3000 or more
	数据准备时 Data preparation	3000
分辨率 Resolving power		0.1℃
采样周期 sampling period		100ms/1ch
综合精度 Comprehensive accuracy		±0.5%F.S以下 (0℃~+55℃) Less than (+0.5%F.S) (0~+55℃)
输入阻抗 Input impedance		344 kΩ
外部链接方式 External link mode		连接器式端子台 Connector terminal
输出方式 Output mode		PWM可变占空比输出 PWM Variable Duty Ratio Output
通讯 communication	波特率 baud rate	9600
	数据格式 data format	8-N-1
供电电压 Power supply voltage		24V

拨码开关定义/Definition of Dial Switch

温度控制模块: AT-AD-2114、ARS-AD-2214

模拟量模块 AT-AD-2324接口定义如下图所示:

①: 平拨式8位拨码开关, 符合8421码定义, 用于定义模块的ID号: ID号=1时, 1#脚位→ON; ID号=3时, 1#、2#脚位→ON。

模块ID = $\sum_{n=1}^8 2^{(6-n)}$ * 拨码开关状态

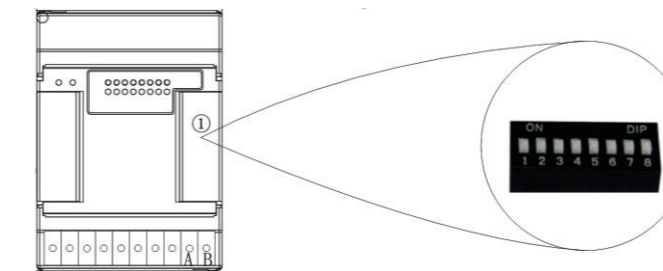
②: RS485接线端口: A: RS485+, B: RS485-。

Temperature control module: AT-AD-2114, AT-AD-2214

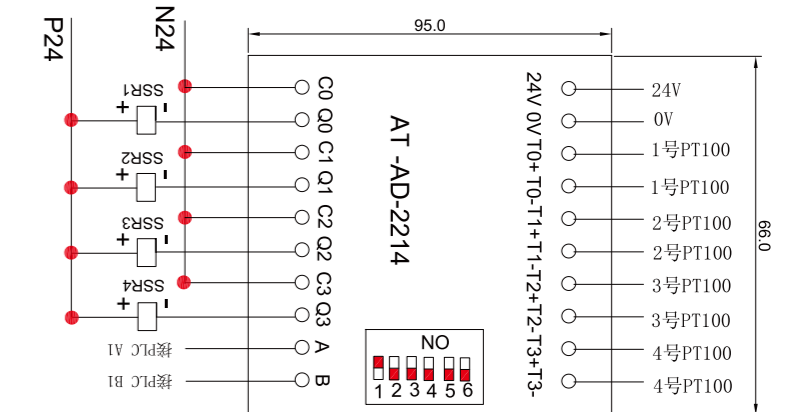
The interface definition of analog module ARS-AD-2324 is as follows:

(1) Flat-dial 8-bit dial switch, which conforms to the definition of 8421 code, is used to define the ID number of the module: when ID number = 1, 1# foot ON; ID = 3, 1#, 2# foot ON.

(2) RS485 port: A: Rs485+, B: RS485-.



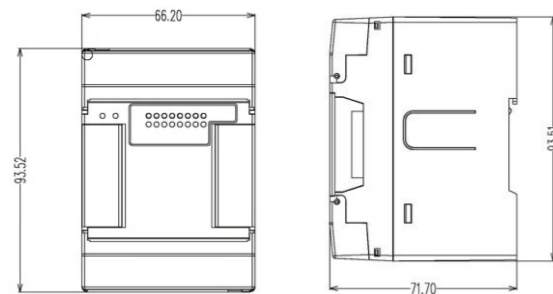
接口定义/Interface Definition



AT-AD-2324

8通道模拟量输入输出模块

AT-AD-2324 8-CHANNEL ANALOG
INPUT AND OUTPUT MODULE



产品参数/Product Specification

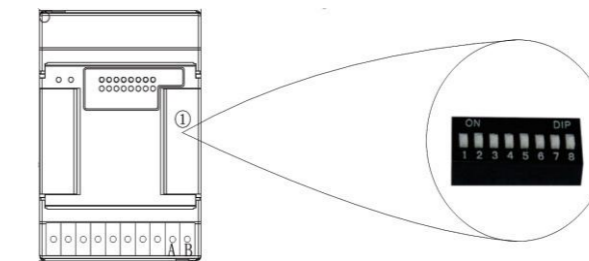
项目/project	规格/Specifications	
输出规格 Output specification		
输入点数 Input points	输入4CH / 输出4CH Input 4CH/Output 4CH	
输出范围 Output range	电压 Voltage	0V~10V 0V~10V
	电流 Electric current	0~20mA 0~20mA
数字设定值 Digital Settings	0~10000 0~10000	
分辨率 Resolving power	1/10000 (12位精度) 1/10000 (12-bit accuracy)	
转换速度 Conversion speed	1ms/ch 1ms/ch	
综合精度 Comprehensive accuracy	±0.5%F.S以下 (0℃~+55℃) Less than (+0.5%F.S) (0℃~+55℃)	
输出阻抗 Output impedance	0.5kΩ (电压输出) 0.5K (Voltage Output)	
输出最大电流 Output maximum current	10mA (电压输出) 10mA (Voltage Output)	
输出容许负载电阻 Output Allowable Load Resistance	600Ω以下 (电流输出) Below 600_ (current output)	
外部链接方式 External link mode	连接器式端子台 Connector terminal	
供电电压 Power supply voltage	24V	

产品参数/Product parameters

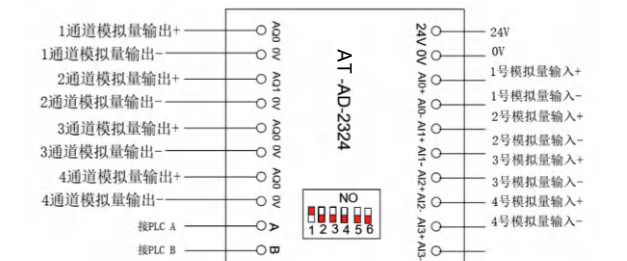
项目/project	规格/Specifications	
输入规格		
输入点数 Input points		输入4CH / 输出4CH Input 4CH/Output 4CH
输入范围 Input range	电压 Voltage	0V~10V 0V~10V
	电流 Electric current	0~20mA 0~20mA
数字采集值 Digital acquisition value	0~10000 0~10000	
分辨率 Resolving power	1/10000 (24位精度) 1/10000 (24-bit accuracy)	
转换速度 Conversion speed	1ms/ch 1ms/ch	
综合精度 Comprehensive accuracy	±0.5%F.S以下 (0℃~+55℃) Less than (+0.5%F.S) (0℃~+55℃)	
输出阻抗 Output impedance	100MΩ (电压输出) 100M (Voltage Output)	
输出最大电流 Output maximum current	10mA (电压输出) 10mA (Voltage Output)	
输出容许负载电阻 Output Allowable Load Resistance	600Ω以下 (电流输出) Below 600_ (current output)	
外部链接方式 External link mode		
连接器式端子台 Connector terminal		9600 Nine thousand and six hundred
通讯 communication	波特率 baud rate	9600
	数据格式 data format	8-N-1 8-N-1

拨码开关定义/Definition of Dial Switch

温度控制模块: AT-AD-2114、AT-AD-2214
模拟量模块 AT-AD-2324接口定义如下图所示:
①: 平拨式8位拨码开关, 符合8421码定义, 用于定义模块的ID号:
ID号=1时, 1#脚位→ON; ID号=3时, 1#、2#脚位→ON。
模块ID = $\sum_{n=1}^8 2^{(6-n)} * \text{拨码开关状态}$
②: RS485接线端口: A: RS485+, B: RS485-。
Temperature control module: ARS-AD-2114, ARS-AD-2214
The interface definition of analog module ARS-AD-2324 is as follows:
(1) Flat-dial 8-bit dial switch, which conforms to the definition of 8421 code, is used to define the ID number of the module: when ID number = 1, 1# foot ON; ID = 3, 1#, 2# foot ON.
(2) RS485 port: A: Rs485+, B: RS485-.



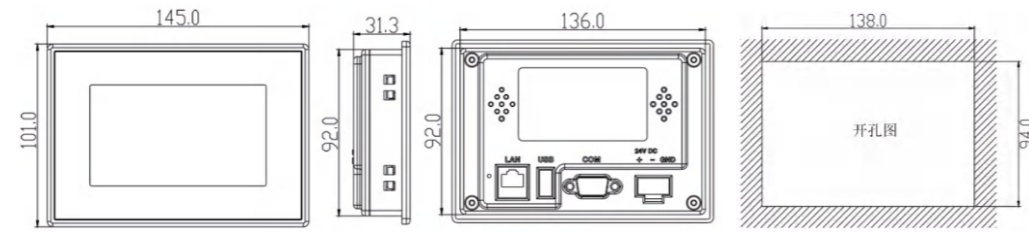
接口定义/Interface Definition



AP430T



AP430T 是一款以先进的Cortex-A8 CPU为核心（主频1.0G）的高性能嵌入式一体化人机界面。该产品设计采用4.3英寸高亮LED液晶显示器（分辨率480*272），四线电阻式触摸屏（分辨率4096*4096）。支持WIN CE6.0，同时预装CORWARE V3.0工业组态软件。



外部接口/External Interface

接口说明/Interface specification



串口引脚定义/Serial pin definition

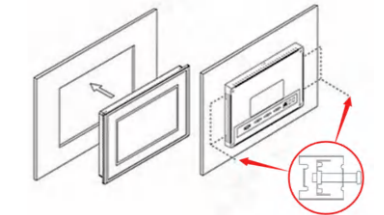
PORT口	接口/Interface	PIN	引脚定义/Pin definition
COM	COM1	2	Rs232 RXD
		3	RS232 TXD
		5	GND
	COM2	7	RS485 +
		8	Rs485 -

产品参数/Product specification

项目/project	规格/Specifications
液晶屏 LCD screen	4.3寸TFT液晶屏、LED背光、颜色65535 4.3 inch TFT LCD screen, LED backlight, color 65535
分辨率 Distinguishing rate	480*272 480*272
显示亮度 Display brightness	250cd/m2 250cd/m2
CPU CPU	ARM Cortex A8, 主频1.0G ARM Cortex A8, Main Frequency 1.0G
内存 Internal storage	256M DDRII RAM 256M DDRII RAM
触摸屏 Touch screen	四线电阻式，点动100万次以上 Four-wire resistance type, more than one million times
存储设备 storage device	256M NAND FLASH 256M NAND FLASH
SD卡扩展 SD card extension	可选，最大可扩展32G Optional, maximum scalability 32G
接口 Interface	1*RS232、1*RS485、1*USB 2.0、1*LAN(AT7043S无网口) 1*RS232, 1*RS485, 1*USB 2.0, 1*LAN (AT7043S without network ports)
实时时钟 Real time clock	有 Yes
蜂鸣器 Buzzer	有 Yes
重量 Weight	0.54 Kg 0.54 Kg
防护等级 Protection level	IP 65(前面板) IP 65 (front panel)
耐压测试 Hi-Pot	500V AC 1分钟 500V AC 1 minute
抗干扰性 Anti-interference	工频磁场干扰度5级，磁场强度100A/m Power frequency magnetic field interference level 5, magnetic field intensity 100A/m

挂钩安装说明/Installation instructions for hooks

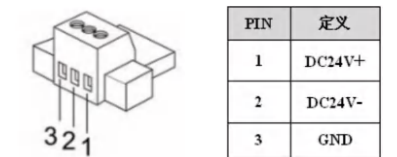
- 1.将TPC放置于安装槽内
- 2.将挂钩勾脚放于TPC侧面安装孔内，用十字起拧紧螺丝，安装完成。



电源连接/Power connection

- 1: 将DC24V电源线剥线后插入电源插头接线端子中；
- 2: 使用一字螺丝刀将电源插头螺丝锁紧；
- 3: 将电源插头插入产品的电源插座。

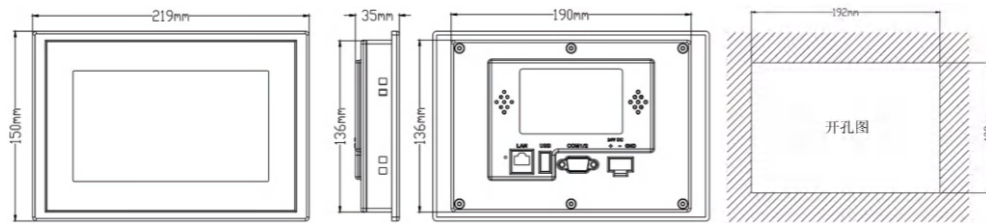
电源插头示意图及引脚定义如下



AP700LK

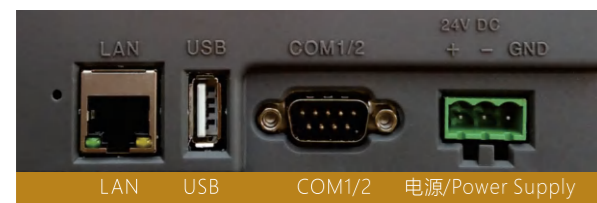


AP700LK 是一款以先进的Cortex-A8 CPU为核心（主频1.0G）的高性能嵌入式一体化人机界面。该产品设计采用7英寸高亮LED液晶显示器（分辨率800*480），四线电阻式触摸屏（分辨率4096*4096）。支持WIN CE6.0，同时预装CORWARE V3.0工业组态软件。



外部接口/External Interface

接口说明/Interface specification



串口引脚定义/Serial pin definition

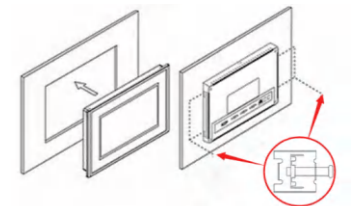
PORT口	接口/Interface	PIN	引脚定义/Pin definition
COM	COM1	2	RS232 RXD
		3	RS232 TXD
		5	GND
	COM2	7	RS485 +
		8	RS485 -

产品参数/Product specification

项目/project	规格/Specifications
液晶屏 LCD screen	7寸TFT液晶屏、LED背光、颜色65535 7 inch TFT LCD screen, LED backlight, color 65535
分辨率 Distinguishing rate	800*480 800*480
显示亮度 Display brightness	350cd/m2 350cd/m2
CPU CPU	ARM Cortex A8, 主频1.0G ARM Cortex A8, Main Frequency 1.0G
内存 Internal storage	256M DDRII RAM 256M DDRII RAM
触摸屏 Touch screen	四线电阻式，点动100万次以上 Four-wire resistance type, more than one million times
存储设备 storage device	256M NAND FLASH 256M NAND FLASH
SD卡扩展 SD card extension	可选，最大可扩展32G Optional, maximum scalability 32G
接口 Interface	1*RS232、1*RS485、1*USB 2.0、1*LAN(AT7070S无网口) 1*RS232, 1*RS485, 1*USB 2.0, 1*LAN (AT7070S without network ports)
实时时钟 Real time clock	有 Yes
蜂鸣器 Buzzer	有 Yes
重量 Weight	1.04 Kg 1.04 Kg
防护等级 Protection level	IP 65(前面板) IP 65 (front panel)
耐压测试 Hi-Pot	500V AC 1分钟 500V AC 1 minute
抗干扰性 Anti-interference	工频磁场干扰度5级，磁场强度100A/m Power frequency magnetic field interference level 5, magnetic field intensity 100A/m

挂钩安装说明/Installation instructions for hooks

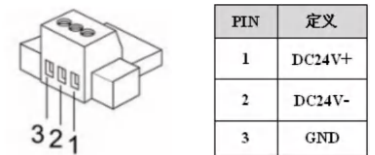
- 1.将TPC放置于安装槽内
- 2.将挂钩勾脚放于TPC侧面安装孔内，用十字起拧紧螺丝，安装完成。



电源连接/Power connection

- 1: 将DC24V电源线剥线后插入电源插头接线端子中；
- 2: 使用一字螺丝刀将电源插头螺丝锁紧；
- 3: 将电源插头插入产品的电源插座。

电源插头示意图及引脚定义如下

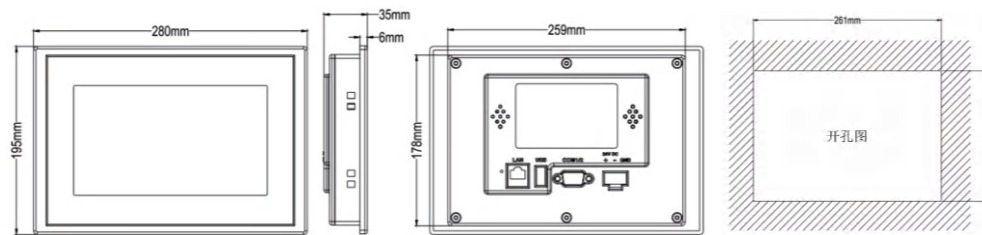


PIN	定义
1	DC24V+
2	DC24V-
3	GND

AP102EL



AP102EL 是一款以先进的Cortex-A8 CPU为核心（主频1.0G）的高性能嵌入式一体化人机界面。该产品设计采用10.2英寸高亮LED液晶显示器（分辨率1024*600），四线电阻式触摸屏（分辨率4096*4096）。支持WIN CE6.0, 同时预装CORWARE V3.0工业组态软件。



外部接口/External Interface

接口说明/Interface specification



串口引脚定义/Serial pin definition

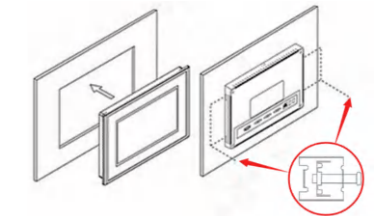
PORT口	接口/Interface	PIN	引脚定义/Pin definition
COM	COM1	2	Rs232 RXD
		3	RS232 TXD
		5	GND
	COM2	7	RS485 +
		8	Rs485 -

产品参数/Product specification

项目/project	规格/Specifications
液晶屏 LCD screen	10.1寸TFT液晶屏、LED背光、颜色65535 10.1 inch TFT LCD screen, LED backlight, color 65535
分辨率 Distinguishing rate	1024*600 1024*600
显示亮度 Display brightness	180cd/m2 180cd/m2
CPU CPU	ARM Cortex A8, 主频1.0G ARM Cortex A8, Main Frequency 1.0G
内存 Internal storage	256M DDRII RAM 256M DDRII RAM
触摸屏 Touch screen	四线电阻式, 点动100万次以上 Four-wire resistance type, more than one million times
存储设备 storage device	256M NAND FLASH 256M NAND FLASH
SD卡扩展 SD card extension	可选, 最大可扩展32G Optional, maximum scalability 32G
接口 Interface	1*RS232、1*RS485、1*USB 2.0、1*LAN(AT7101S无网口) 1*RS232, 1*RS485, 1*USB 2.0, 1*LAN (AT7101S without network ports)
实时时钟 Real time clock	有 Yes
蜂鸣器 Buzzer	有 Yes
重量 Weight	1.5Kg 1.5Kg
防护等级 Protection level	IP 65(前面板) IP 65 (front panel)
耐压测试 Hi-Pot	500V AC 1分钟 500V AC 1 minute
抗干扰性 Anti-interference	工频磁场干扰度5级, 磁场强度100A/m Power frequency magnetic field interference level 5, magnetic field intensity 100A/m

挂钩安装说明/Installation instructions for hooks

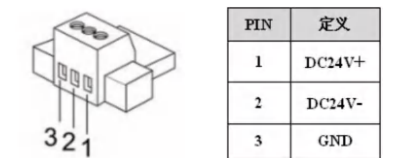
- 1.将TPC放置于安装槽内
- 2.将挂钩勾脚放于TPC侧面安装孔内, 用十字起拧紧螺丝, 安装完成。



电源连接/Power connection

- 1: 将DC24V电源线剥线后插入电源插头接线端子中;
- 2: 使用一字螺丝刀将电源插头螺丝锁紧;
- 3: 将电源插头插入产品的电源插座。

电源插头示意图及引脚定义如下



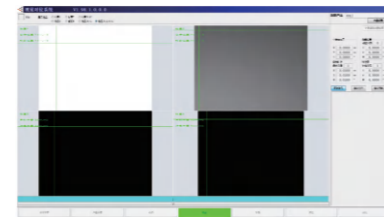
PIN	定义
1	DC24V+
2	DC24V-
3	GND

视觉系统

vision system

公司长期专注于机器视觉技术在智能制造领域的应用，致力于探索机器视觉技术与运动控制技术在智能制造领域的深度整合方案，应用领域覆盖LCD, PCB, 触摸屏, 锂电池, 激光加工, 新能源等多个行业。并且已经在京东方, 风华, 天马, 华星光电, 纬创, TPK, 伯恩, 业成等工厂大量应用, 产品涉及iPhone系列, iWatch系列, oppo手机, vivo手机, 小米手机等。VS系列视觉软件系统涉及引导(上下mark对位, 定位), 测量, 检测三个大方面, 且可以为客户提供定制化服务。

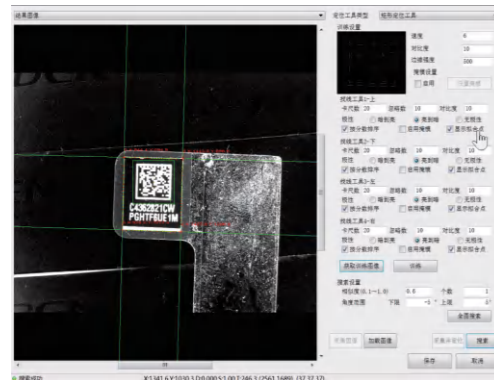
The company has long focused on the application of machine vision technology in the field of intelligent manufacturing, and is committed to exploring the deep integration of machine vision technology and motion control technology in the field of intelligent manufacturing. The application area covers LCD, PCB, touch screen, lithium battery, laser processing, new energy and other industries. And has been widely used in Beijing Oriental, Fenghua, Tianma, Huaxing Photoelectric, Weichuang, TPK, Burn, Yicheng and other factories. The products involve the iPhone series, iWatch series, oppo mobile phone, vivo mobile phone, millet mobile phone and so on. VS series visual software system involves three major aspects: guidance (up and down mark alignment, positioning), measurement and detection, and can provide customized services for customers.



视觉系统介绍/Introduction of Visual System

我司视觉系统由C++编译，能够在底层优化算法，响应更快，效率更高。搭载多种检测工具，有着极强的适应性，能够适应光照不均匀变化，产品颜色不均匀变化，产品有脏污，边缘形状缩放变化大，边缘模糊，边缘纹理丰富等各种复杂情况，显著降低抛料。很多检测工具采用了粗定位+精检测的策略，能够在视野中准确定位精确测量，在精度和效率找到了很好的平衡。

Our vision system is compiled by C++. It can optimize the algorithm at the bottom level. It has faster response and higher efficiency. It is equipped with a variety of detection tools, with strong adaptability, can adapt to uneven changes in light, uneven changes in product color, dirty products, large changes in edge shape, blurred edges, rich edge texture and other complex situations, significantly reducing throwing. Many detection tools adopt the strategy of rough positioning + fine detection, which can accurately locate and measure in a large field of vision, and find a good balance between accuracy and efficiency.



引导类 Boot class

引导类应用是非常重要的机器视觉应用。视觉系统通过相机拍摄产品并定位mark或特征点所在位置，引导设备的机械手臂或者平台移动到指定位置后，设备对产品进行压合，贴附，切割或者是其他加工，也可以是上下料这种简单操作。视觉引导是高精度生产加工设备实现完全自动化的必由之路，视觉系统相比较人工或者机械，能够大幅度提高设备的精度和效率，降低设备的异常报警次数。

Guided application is a very important kind of machine vision application. The visual system takes pictures of the product by camera and locates the mark or feature point. After guiding the mechanical arm or platform of the equipment to move to the designated position, the equipment can press, attach, cut or other processing on the product. It can also be a simple operation of loading and unloading. Visual guidance is the only way to achieve complete automation of high-precision production and processing equipment. Compared with manual or mechanical, visual system can greatly improve the accuracy and efficiency of equipment and reduce the number of abnormal alarms.

测量/检测类 Measurement/Detection Category

测量/检测类应用在工业生产中的发挥着越来越重要的作用。近年来，视觉系统正在渐渐替代传统工艺中的人工质检。并由于系统具有高效率，低成本的特点，部分质检流程由离线检测转变为在线检测。当产品出现异常时，生产线能够“自己”报警，且更加及时和准确。这极大提高了设备稳定的性和生产厂商的品质控制能力。视觉系统能够紧密的结合MES系统，使得每一个产品都“有迹可循”，技术人员即便不在现场，也可以通过数据分析出设备的历史生产状态。当生产出现问题时，技术人员能够更快更准的定位问题点，及时调整设备状态。

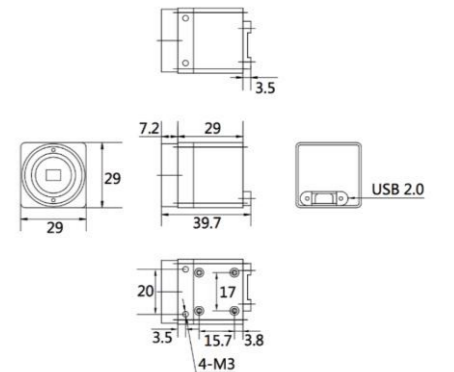
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工业相机VS-U2系列 VS-U2 Series of Industrial Cameras



- 结构紧凑，坚固耐用 • Mini USB2.0接口 • 30万, 130万 • 价格极具竞争力
- Compact and durable structure • Mini USB 2.0 Interface • 300,000, 1.3 million • Prices are highly competitive

型号 vision system	分辨率 Resolving power	帧率 frame rate	传感器类型 Sensor type	像元尺寸 pixel size
VS-A0040B-60U2	752(H) x 480(V)	60	1/3" 帧曝光CMOS	6.0 μm
VS-A0130J-30U2	1292(H) x 964(V)	30	1/3" CCD	3.75 μm
VS-A0130D-30U2	1280(H) x 1024(V)	30	1/1.8" CMOS	5.2 μm



工业相机VS-U3系列 VS-U3 Series of Industrial Cameras



- 结构紧凑，坚固耐用 • USB3.0接口 • 130万-2000万像素 • 价格极具竞争力
- Compact and durable structure • USB3.0 interface • 1.3-20 million pixels • Prices are highly competitive

型号 vision system	分辨率 Resolving power	帧率 frame rate	传感器类型 Sensor type	像元尺寸 pixel size
VS-B130F-90U3	1280(H) x 1024(V)	90	1/2" 全局曝光 CMOS	4.8 μm
VS-A0500H-14U3	2592(H) x 1944(V)	14	1/2.5" 帧曝光 CMOS	2.2 μm
VS-C0600D-60U3	3088(H) x 2064(V)	60	1/1.8" 帧曝光 CMOS	2.4 μm
VS-A1070G-14U3	3856(H) x 2764(V)	14	1/2.3" 帧曝光 CMOS	1.67 μm
VS-A2018R-19U3	5496(H) x 3672(V)	19	1" 帧曝光 CMOS	2.4 μm

