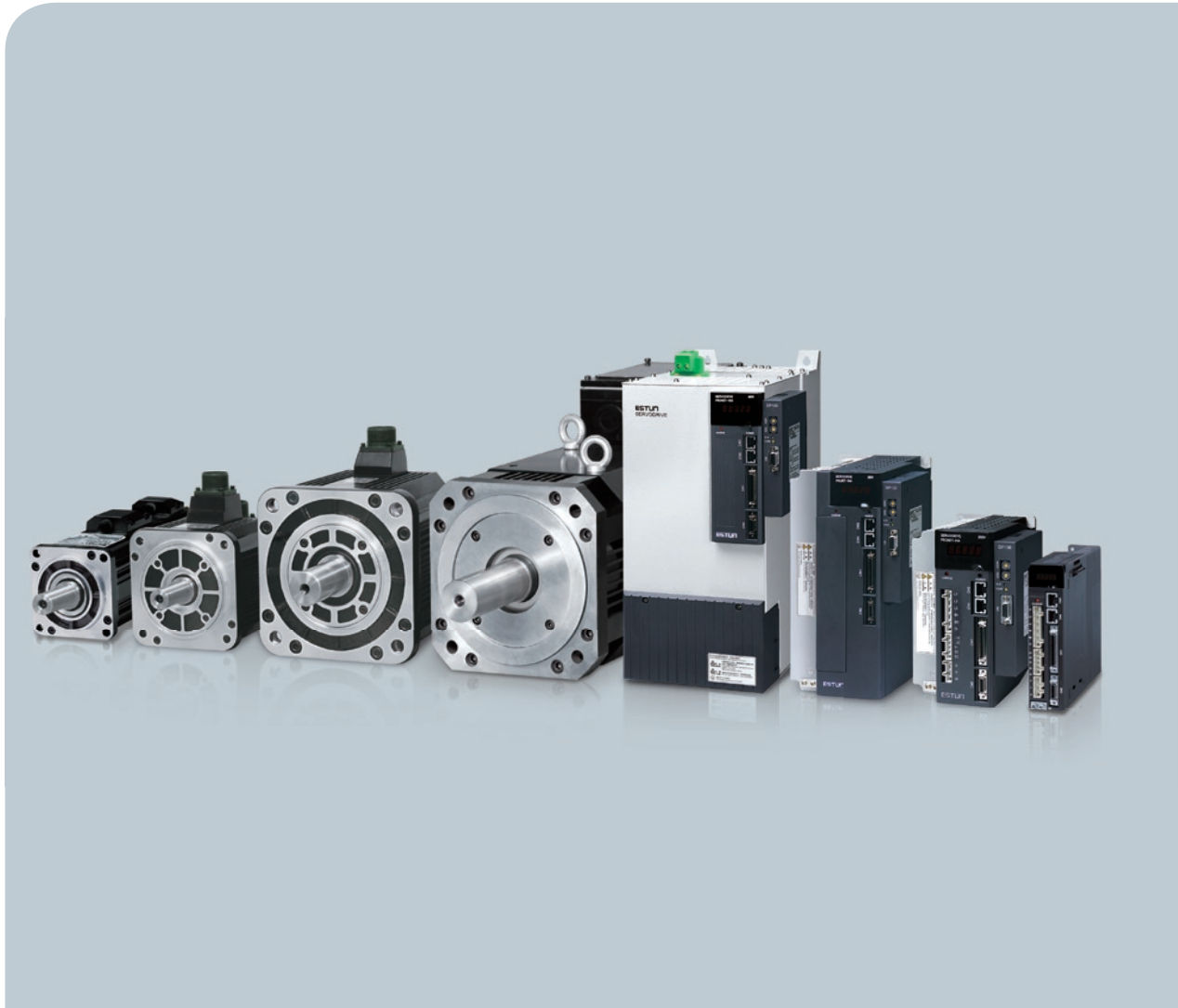


ESTUN



ProNet

系列全数字式交流伺服系统

All Digital AC Servo Systems



埃斯顿自动化专注于运动控制领域高端产品的开发、生产和销售，现为国家重点支持的交流伺服系统研发和生产基地。本公司精心研制的全数字式交流伺服系统拥有完全自主知识产权，广泛应用于数控机床、纺织机械、包装机械、印刷机械、木工机械、自动化生产线、电液混合注塑机以及全电动注塑等众多工业控制领域，现已与国内外众多机械制造商建立了长期的战略合作关系，成为其运动控制产品的首选合作伙伴。

As a national support prior AC servo system research, development and production base, Estun Automation is devoted to R&D, manufacturing and sales of high-end products in the realm of motion control. We are holding completely with self-owned IPR technology of our AC servo systems which can be applied in CNC machine, textile machine, packing machine, printing machine, wood-working machine, robotization production line, electro-hydraulic hybrid-driven and fully electrical injection moulding machine, etc. Now, Estun has established long-term strategy cooperation with many prestigious machine manufacturers and become their first cooperation option for motion control products home and abroad.



南京埃斯顿自动控制技术有限公司
ESTUN AUTOMATION TECHNOLOGY CO.,LTD

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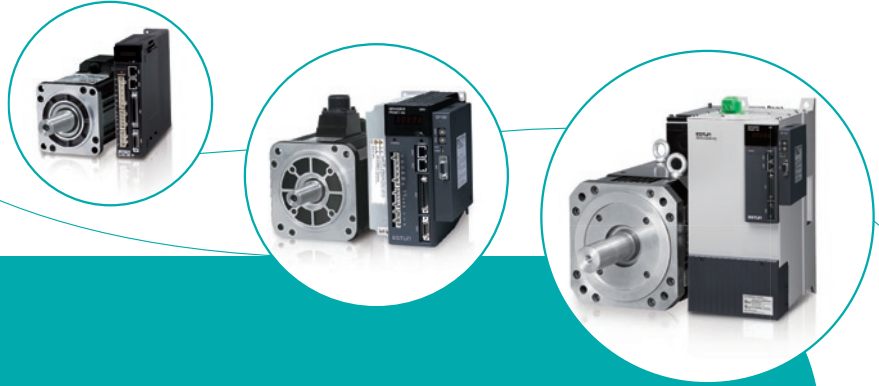
概述

General Introduction

ProNet系列交流伺服系统

ProNet Series AC Servo System

产品特性 / Features



- 宽范围、多型号：0.2Kw~22Kw
 - 电流前馈控制，加速度前馈控制：高响应
 - 自动调整增益，在线实时检测负载惯量：设置简便
 - 多种反馈接口：17位串行编码器，2500P/R编码器，旋转变压器
 - 丰富的通信功能：CANopen, EtherCAT, POWERLINK, PROFIBUS, Modbus
 - ProNet-E系列：极具市场竞争力
 - 通用伺服：广泛应用在数控机床、刨槽机械、木工机械、包装机械、纺织机械、印刷机械、机械手、医疗机械、玉石加工机械、3D影院座椅、汽车仿真机械等
 - 三相400V供电可用于1Kw~22Kw
 - 低频率振动抑制功能，低速运动时性能出色
 - 位置控制模式下回零方式
 - 电子齿轮比动态切换功能
-
- **Wide range, various models : 0.2kW ~ 22kW**
 - **Current forward feedback control, acceleration forward-feed : high responsiveness**
 - **Auto tuning function, online real time load inertia inspecting : simple setting**
 - **Multiple feedback options : 17bits serials encoder, 2500P/R encoder, resolver**
 - **Various communication protocols : CANopen, EtherCAT, POWERLINK, PROFIBUS, Modbus**
 - **ProNet-E series : huge market competitiveness**
 - **Universal servo : widely used in various industries covering CNC machine tool, router machine, wood making machine, packing machine, textile machine, printing machine, robot arm, medical machine, jewelry making machine, 3D cinema chair, car simulating machine, etc.**
 - **Three phase 400V power supply models are available from 1kW to 22kW**
 - **Low frequency vibration suppression function,with excellent performance at low speed movement**
 - **Homing function available under position control mode**
 - **Dynamic electronic gear ratio switching function**

典型应用 / Typical application

- 电子设备
- 机床设备（车床、铣床、磨床、加工中心等）
- 包装机械（枕式包装机、封扣包装机、液体灌装机等）
- 纺织机械（绉绣机、经编机、横编织机等）
- 印刷机械（凹版印刷机、平版印刷机、凸版印刷机等）
- 机器人（机械手、工业机器人等）
-
- Electronic devices
- CNC machine (lathe, milling machine, grinder, machining center, etc.)
- Packaging machine(pillow type packaging machine, seal packaging machine, liquid filling machine, etc.)
- Textile machine(quilting machine, tricot machine, cross knitting machine, etc.)
- Printing machine (gravure printing machine, flat-bed printing machine, letterpress printer, etc.)
- Robot (manipulator, industrial robotics, etc.)
- ...

型号对照表 / Model Comparison Table

| 伺服电机 Servo Motor | | | | 伺服驱动器 Servo Drive (ProNet) | | | 伺服驱动器 Servo Drive (ProNet-E) | | | |
|--------------------------|---------------|------------------|----------|----------------------------|-------------|-------------|------------------------------|--------------|--------------|--------------|
| 系列 Series | | 功率 Power | 型号 Model | 单相交流 200VAC | 三相交流 200VAC | 三相交流 400VAC | 单相交流 200VAC | 三相交流 200VAC | 三相交流 400VAC | |
| 中惯量 Medium Inertia | 小功率 Small | EMJ 3000r/min | 0.2kW | EMJ-02 | ProNet-02A | | | ProNet-E-02A | | |
| | | | 0.4kW | EMJ-04 | ProNet-04A | | | ProNet-E-04A | | |
| | | | 0.75kW | EMJ-08 | | ProNet-08A | | | ProNet-E-08A | |
| | | | 1.0kW | EMJ-10 | | ProNet-10A | | | ProNet-E-10A | |
| | 中功率 Medium | EMG 2000r/min | 1.0kW | EMG-10 | | ProNet-10A | ProNet-10D | | ProNet-E-10A | ProNet-E-10D |
| | | | 1.5kW | EMG-15 | | ProNet-15A | ProNet-15D | | ProNet-E-15A | ProNet-E-15D |
| | | | 2.0kW | EMG-20 | | ProNet-20A | ProNet-20D | | ProNet-E-20A | ProNet-E-20D |
| | | | 3.0kW | EMG-30 | | ProNet-30A | ProNet-30D | | ProNet-E-30A | ProNet-E-30D |
| | | | 5.0kW | EMG-50 | | ProNet-50A | ProNet-50D | | ProNet-E-50A | ProNet-E-50D |
| | 大功率 Large | EMB 1500r/min | 7.5kW | EMB-75 | | | ProNet-75D | | | |
| | | | 11kW | EMB-1A | | | ProNet-1AD | | | |
| | | | 15kW | EMB-1E | | | ProNet-1ED | | | |
| | | | 22kW | EMB-2B | | | ProNet-2BD | | | |

伺服驱动器型号

Servo Drive Specification

型号说明 / Specification Description

ProNet-10

ProNet型伺服驱动器
ProNet Servo Drive

额定功率
Rated Power

A

功率电压
Power Voltage

M

控制形态
Control Style

A-D

编码器接口
Encoder Interface

扩展模块
Extended Module

| 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. |
|------------|-------------|------------|-------------|------------|---|------------|--|------------|-------------|
| 02 | 0.2kW | A | 200VAC | M | 用于控制速度、 转矩、位置 Speed Control, Torque Control, Position Control | A | 17位串行 编码器 17 Bits Serial Encoder | -D | DP100 |
| 04 | 0.4kW | D | 400VAC | E | 用于控制速度、 转矩、位置 (支 持扩展模块) Speed Control, Torque Control, Position Control (Support Extended Module) | B | 旋转变 压器 Resolver | -E | EC100 |
| 08 | 0.75kW | | | | | | | -P | PL100 |
| 10 | 1.0kW | | | | | | | | |
| 15 | 1.5kW | | | | | | | | |
| 20 | 2.0kW | | | | | | | | |
| 30 | 3.0kW | | | | | | | | |
| 50 | 5.0kW | | | | | | | | |
| 75 | 7.5kW | | | | | | | | |
| 1A | 11kW | | | | | | | | |
| 1E | 15kW | | | | | | | | |
| 2B | 22kW | | | | | | | | |

备注：ProNet-□□□E□默认支持扩展模块AE100
Notes: ProNet-□□□E□Support AE100 module

ProNet-E-10

ProNet-E型伺服驱动器
ProNet-E Servo Drive

额定功率
Rated Power

A

功率电压
Power Voltage

| 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. |
|------------|-------------|------------|-------------|
| 02 | 0.2kW | A | 200VAC |
| 04 | 0.4kW | D | 400VAC |
| 08 | 0.75kW | | |
| 10 | 1.0kW | | |
| 15 | 1.5kW | | |
| 20 | 2.0kW | | |
| 30 | 3.0kW | | |
| 50 | 5.0kW | | |

备注：

- ① ProNet-E 系列只配合使用增量省线型式编码器 (2500P/R)
- ② ProNet-E 系列不支持扩展模块

Notes:

- ① ProNet-E is only equipped with wire-saving incremental encoder (2500P/R).
- ② ProNet-E does not support extended module.



额定值 / Ratings

| 伺服驱动器 型号 Servo Drive Model | ProNet- | 02A | 04A | 08A | 10A | 10D | 15A | 15D | 20D | 30D | 50D | 20A | 30A | 50A | 75D | 1AD | 1ED | 2BD |
|---|-----------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| | ProNet-E- | 02A | 04A | 08A | 10A | 10D | 15A | 15D | 20D | 30D | 50D | 20A | 30A | 50A | | | | |
| 适用伺服 电机型号 Applicable Servo Motors Model | EMJ- | 02 | 04A | 08A | 10A | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | EMG- | - | - | - | 10A | 10D | 15A | 15D | 20D | 30D | 50D | 20A | 30A | 50A | - | - | - | - |
| | EMB- | - | - | - | - | - | - | - | - | - | - | - | - | - | 75D | 1AD | 1ED | 2BD |
| 连续输出电流(Arms) Continuous Output Current | | 1.4 | 2.8 | 4.0 | 6.0 | 3.2 | 9.0 | 5.0 | 6.4 | 9.0 | 15.0 | 12.0 | 18.0 | 28.0 | 18.0 | 28.0 | 38.0 | 55.0 |
| 最大输出电流(Arms) Max. Output Current | | 4.2 | 8.4 | 12.0 | 18.0 | 9.6 | 28.0 | 15.0 | 19.2 | 27.0 | 45.0 | 42.0 | 56.0 | 84.0 | 48.0 | 65.0 | 100.0 | 128.0 |
| 主电源设备容量(kVA) Main Input Power Supply Capacity | | 0.5 | 0.9 | 1.3 | 1.8 | 1.8 | 2.5 | 2.8 | 3.5 | 5.0 | 8.2 | 3.5 | 4.5 | 7.5 | 12.0 | 18.0 | 22.0 | 32.0 |
| 24V开关电源设备容量(W) DC24V Power Supply Capacity | | - | - | - | - | 30.0 | - | 30.0 | 30.0 | 45.0 | 45.0 | - | - | - | 45.0 | - | - | - |

规格 / Specification

| 项目 Items | | 规格 Specifications | |
|---------------------------------|--|---|---|
| 输入电源 Input Power Supply | 主电路 Main Circuit | 200V | 单相 200~230VAC Single-phase 200 to 230VAC 50/60Hz (0.2kW-0.4kW) |
| | | | 三相 200~230VAC Three-phase 200 to 230VAC 50/60Hz (0.75kW-5.0kW) |
| | | 400V | 三相 380~480VAC 50/60Hz Three-phase 380 to 480VAC 50/60Hz (1.0kW-7.5kW) |
| | | | 三相 380~440VAC 50/60Hz Three-phase 380 to 440VAC 50/60Hz (11kW-22kW) |
| | 控制电路 Control circuit | 200V | 单相 200~230VAC 50/60Hz Single-phase 200 to 230VAC 50/60Hz (0.2kW-5.0kW) |
| | | 400V | 24VDC(1.0kW-7.5kW) 单相 380~440VAC 50/60Hz Single-phase 380 to 440VAC 50/60Hz (11kW-22kW) |
| 控制方式 Control Method | | SVPWM控制 SVPWM Control | |
| 反馈 Feedback | | 串行编码器: 131072P/R Serial Encoder: 131072P/R 旋转变压器 Resolver 省线式增量编码器(2500P/R) Wire-saving Incremental Encoder (2500P/R) | |
| 使用条件 Operating Conditions | 使用温度 / 保存温度 Ambient / Storage Temperature | | 使用温度: -20~+55°C, 保存温度: -25~+55°C (在短时间内, 不超过24h, 可达70°C) Ambient Temperature: -20 to +55°C, Storage Temperature: -25 to +55°C(70°C in less than 24h) |
| | 使用湿度 / 保存湿度 Ambient / Storage Humidity | | 5%~95% (不结露) 5%~95% (no condensation) |
| | 海拔高度 Elevation | | 1000m以下 1000m or less |
| | 耐振动 / 耐冲击 Vibration / Impact Resistance | | 耐振动: 4.9m/s ² , 耐冲击: 19.6m/s ² Vibration Resistance: 4.9m/s ² , Impact Resistance: 19.6m/s ² |
| 构造 Configuration | | 基座安装 Base-mounted | |
| 性能 Performance | 速度控制范围 Speed Control Range | | 1:5000 |
| | 速度变动率 Speed Regulation | 负载变动率 Load Regulation | 0~100%负载时: ±0.01%以下(额定转速下) 0 to 100% load: ±0.01% max. (at rated speed) |
| | | 电压变动率 Voltage Regulation | 额定电压±10%: 0% (额定转速下) Rated voltage, ±10%: 0% (at rated speed) |
| | | 温度变动率 Temperature Regulation | 25±25°C: ±0.1%以下(额定转速下) 25±25°C: ±0.1% max. (at rated speed) |
| 转矩控制 Torque Control | 模拟量输入 信号 Analog Input | 指令电压 Reference Voltage | ±10VDC / 额定转矩 (可在±0~10VDC范围内设定) 最大输入电压: ±12V ±10VDC at rated torque (variable setting range: ±0 to 10VDC) Max. input voltage: ±12V |
| | | 输入阻抗 Input Impedance | 约10MΩ以上 About 10MΩ min. |
| | 回路时间参数 Circuit Time Constant | 10μs | |

| 项目 Items | | | 规格 Specifications |
|---|--|---|--|
| 速度控制 Speed Control | 模拟量输入信号 Analog Input | 指令电压 Reference Voltage | ±10VDC / 额定转速 (可在±0~10VDC范围内设定) 最大输入电压: ±12V ±10VDC at rated torque (variable setting range: ±0 to 10VDC) Max. input voltage: ±12V |
| | | 输入阻抗 Input Impedance | 约10MΩ以上 About 10MΩ min. |
| | | 回路时间参数 Circuit Time Constant | 10μs |
| | 设定速度指令 Set Speed Reference | 速度选择 Speed Selection | 可选择第1~7速度 Speed 1 to 7 selection |
| 功能 Function | 软启动设定 Soft Start Setting | 0~10s (可分别设定加速和减速) 0 to 10s (can be set individually for acceleration and deceleration) | |
| 位置控制 Position Control | 指令脉冲 Reference Pulse | 种类 Type | 可在符号+脉冲列、CCW+CW、90°相位差2相脉冲 (A相+B相) 之中任选一种 Sign+pulse train, CCW+CW pulse train, or 90° phase difference 2-phase pulse (phase A + phase B) |
| | | 形式 Form | 非绝缘线驱动 (约+5V), 集电极开路 Non-insulated line driver (+5V level), open collector |
| | | 频率 Frequency | x1倍频: 4Mpps x1 multiplier: 4Mpps x2倍频: 2Mpps x2 multiplier: 2Mpps x4倍频: 1Mpps x4 multiplier: 1Mpps 集电极开路: 200kpps Open collector: 200kpps 发生占空比偏差时频率会下降 Frequencies drop when the dutues have errors |
| | 设定位置指令 Set Position Reference | 位置设定 Position Setting | 可设定16个位置节点 Can set 16 position reference |
| 输入输出信号 I/O Signals | 编码器分频脉冲输出 Encoder Output Pulses | | A相、B相、C相: 线驱动输出 Phase A, phaseB, phase C: line driver output 分频脉冲数: 可任意分频 The number of dividing pulse: Any setting ratio is available |
| | 顺序输入信号 Sequence Input | 通道数 Number of Channels | 8通道 8 channels |
| | | 功能 Function | 可进行各种信号的分配、正负逻辑的变更: 伺服使能(/S-ON), 比例控制(/P-CON), 报警复位(/ALM-RST), 位置偏差清零(/CLR), 正转驱动禁止(P-OT), 反转驱动禁止(N-OT), 正转电流限制(/P-CL), 反转电流限制(/N-CL) Signal allocations and positive/negative logics can be modified: Servo ON (/S-ON), P control (/P-CON), alarm reset (/ALM-RST), clear error pulse (/CLR), forward run prohibited (P-OT), reverse run prohibited (N-OT), forward torque limit (/P-CL), reverse torque limit (/N-CL) |
| | 顺序输出信号 Sequence Output | 通道数 Number of Channels | 4通道 4 channels |
| 功能 Function | | 伺服报警(ALM)可进行各种信号的分配、正负逻辑的变更: 定位完成(/COIN), 速度一致(/V-CMP), 电机旋转检测(/TGON), 伺服准备就绪(/S-RDY), 转矩限制输出(/CLT), 制动器联锁(/BK), 编码器C脉冲(/PGC), 超程信号(/OT) Servo alarm (ALM) Signal allocations and positive/negative logics can be modified: Positioning completion (/COIN), speed agree detection (/V-CMP), motor rotation detection (/TGON), servo ready (/S-RDY), torque limit detection (/CLT), brake interlock (/BK), encoder C pulse (/PGC), over travel signal (/OT) | |
| 再生处理功能 Regenerative Processing Functions | 0.75kW~7.5kW: 内置再生电阻; 11kW~22kW: 外置再生电阻 0.75kW to 7.5kW: built-in regenerative resistor; 11kW to 22kW: External regenerative resistor | | |
| 保护功能 Protective Functions | 过电流、过电压、欠电压、过负载、再生故障、超速等等 Overcurrent, overvoltage, low voltage, overload, regeneration error, overspeed, etc. | | |
| 辅助功能 Utility Functions | 报警记录、JOG运行、惯量识别等 Alarm trace back, JOG operation, Inertia detections, etc. | | |
| 显示功能 Display Functions | CHARGE (红色)、POWER (绿色)、7段LEDx5个 (内置数字式操作器功能) CHARGE (red), POWER (green), 7-segment LEDx5 (Bulit-in digital operator function) | | |
| 通信功能 Communications | RS-485通信端口, 采用MODBUS协议; RS-485 communication port, MODBUS protocol; CAN通信端口, 采用CANOpen协议; CAN communication port, CANOpen protocol; EtherCAT通讯模块, 采用CiA402协议; EtherCAT communication module, CiA402 protocol; POWERLINK通讯模块, 采用CiA402协议; POWERLINK communication module, CiA402 protocol; PROFIBUS通讯模块, 采用PROFIdrive协议; PROFIBUS communication module, PROFIdrive protocol. | | |

通讯 Communication


EtherCAT




EtherCAT Module

- 高速的通讯速度
- 精确的多轴同步控制
- 革新传统的总线控制
- High communication speed
- Precise multiple axis synchronous control
- Revolution of traditional field bus control

| 项目 Items | 规格 Specifications |
|--|---|
| 适用的通讯标准 Communication standard | IEC 61158 Type12, IEC 61800-7 CiA402 Drive Profile |
| 物理层 Physical layer | 100BASE-TX (IEEE802.3) |
| 总线连接 Bus connection | CN4 (RJ45): EtherCAT Signal IN CN5 (RJ45): EtherCAT Signal OUT |
| 线缆 Cable | 5类双绞线 Class-5 twisted pair cable |
| 通信距离 Communication distance | 节点间距离100米以内 Nod space: within 100 meters |
| SyncManager | SM0: 输出邮箱, SM1: 输入邮箱 SM0: output mailbox, SM1: input mailbox SM2: 输出过程数据, SM3: 输入过程数据 SM2: output proces data, SM3: input process data |
| FMMU | FMMU0: 映射到过程数据 (RxPDO) 输出区域 FMMU0: mapping to process data (RxPDO) Receiving area FMMU1: 映射到过程数据 (TxPDO) 发送区域 FMMU1: mapping to process data (TxPDO) Transmitting area FMMU2: 映射到邮箱状态 FMMU2: mapping to mailbox status |
| EtherCAT Commands (Data Link Layer) | APRD, FPRD, BRD, LRD, APWR, FPWR, BWR, LWR, ARMW, FRMW Note: APRW, FPRW, BRW, LRW Commands are not supported |
| PDO 数据 PDO data | 动态PDO映射 Dynamic PDO mapping |
| Mailbox (CoE) | 紧急事件, SDO请求、响应, SDO信息 Emergency event, SDO request, response, SDO information 注: 不支持TxPDO/RxPDO与远程TxPDO/RxPDO Note: do not support TxPDO/RxPDO and remote TxPDO/RxPDO |
| 分布式时钟 (DC) Differential clock (DC) | Free-run, DC模式 (可通过配置激活) Free-run, DC mode (set active in confi gur ation) 支持的DC周期: 250us-8ms Supported DC period: 250us-8ms |
| SII | 256 bytes (只读) 256 bytes (read - only) |
| LED指示灯 LED Indicator | EtherCAT 系统指示灯 (SYS) × 1 EtherCAT System indicator (SYS) × 1 EtherCAT 运行指示灯 (RUN) × 1 EtherCAT Run indicator (RUN) × 1 EtherCAT 错误指示灯 (ERR) × 1 EhterCAT Error indicator (ERR) × 1 |
| CiA402 Drive Profile | 回零模式、规约位置控制模式、位置插补控制模式、规约速度控制模式、循环同步位置模式 Homing mode, Profile position mode, Interpolated position mode Profile velocity mode, Cyclic synchronous position mode |



工业自动化市场存在着很多基于现场总线通讯的应用。DP100模块是一个PROFIBUS DP 现场总线模块，DP100可以将其它PROFIBUS产品连接到埃斯顿ProNet伺服驱动器，以低廉的工程费用提供现场总线连接。

There are many applications based on profibus communication in industrial automation market. DP100 module is a PROFIBUS DP module, which can connect the other PROFIBUS products with ESTUN ProNet servo drive, and the project cost of providing profibus connection is low.

| 项目 Items | 规格 Specifications |
|--------------------------------|---|
| 适用的通讯标准 Communication standard | PROFIBUS-DP,PROFIDRIVE |
| 物理层 Physical layer | RS-485 transmission |
| 总线连接 Bus connection | CN5 (DB9) |
| 线缆 Cable | RS-485 cable with D type |
| 波特率 Baud rate | 自动识别总线传输波特率 Automatic identification of bus transmission baud rate 通讯速率范围 Communication distance: 9.6Kbps~12Mbps 传输速率范围 Transmission distance: 100m~1200m |
| 数据交换 Data exchange | 循环数据交换、非循环数据交换 Cyclic data exchange and Acyclic data exchange |
| LED指示灯 LED indicator | ALM, COMM |
| 地址设置 Address setting | ADDH, ADDL |

POWERLINK

POWERLINK技术在ProNet系列驱动器中的应用提升了产品性能等级，同时也扩展了系统的应用范围。POWERLINK是一项开源技术（Open Source Technology），它不受平台限制，它是CANopen Over Ethernet，这使得原有基于CANopen的应用得到继承，保护了原有客户程序的同时提升了性能等级，并且POWERLINK驱动器具有高速的实时响应能力，250 μs的响应能力使得对于高速同步、高精度定位控制、电子齿轮同步等应用更为良好的支持。

POWERLINK technology applied in ProNet series drives leads to improved performances and expanded application fields. POWERLINK is open source technology and has no platform limit. It is CANopen over Ethernet, which has inherited all former applications based on CANopen. Customer programs are protected and performance level is increased. POWERLINK drive provides fast and realtime response ability of 250μs, which definitely gives better support for applications like high speed synchronization, high speed positioning control and electronic gear, etc.

| 项目 Items | 规格 Specifications |
|--------------------------------|---|
| 适用的通讯标准 Communication standard | IEC 61784-2, IEC 61800-7 CiA402 Drive Profile |
| 物理层 Physical layer | 100BASE-TX (IEEE802.3) |
| 总线连接 Bus connection | CN5 (RJ45): POWERLINK Signal IN/OUT CN6 (RJ45): POWERLINK Signal IN/OUT |
| 线缆 Cable | 5类双绞线 Class-5 twisted pair cables |
| PDO data | Dynamic PDO mapping |
| LED指示灯 LED indicator | POWERLINK System indicator (SYS) ×1 POWERLINK Run indicator (RUN) ×1 POWERLINK Error indicator (ERR) ×1 |
| 通讯模式 Communication Mode | 回零模式、规约位置控制模式、规约速度控制模式、位置插补控制模式 Homing mode、Profile position mode、Profile velocity mode Position interpolation mode |

CANopen



ProNet系列驱动器拥有标准CAN总线接口，很容易集成到分布式控制系统中。

Standard CAN bus interfaces are available in ProNet series servo drives, which makes it easy to get integrated into a distributed control system.

| 项目 Items | 规格 Specifications |
|--------------------------------|--|
| 适用的通讯标准 Communication standard | CiA-DS301 CiA402 Drive Profile |
| 物理层 Physical layer | ISO 11898-2 CiA 303-1 |
| 总线连接 Bus connection | CN3 (RJ45): Signal IN CN4 (RJ45): Signal OUT |
| 线缆 Cable | 双绞线 Twisted pair cable |
| 波特率 Baud rate | 50Kbps, 100Kbps, 125Kbps, 250Kbps, 500Kbps, 1Mbps |
| COB | SDO, PDO, SYNC, EMCY, NMT, Heartbeat |
| 通讯模式 Communication mode | 回零模式、速度控制模式、位置控制模式、位置插补控制模式 Homing mode, speed control mode, position control mode, position interpolation mode |
| PDO数据 PDO data | Dynamic PDO mapping, 2 sending PDO, 2 receiving PDO |

Modbus



ProNet型驱动器具有RS-485接口的MODBUS通讯功能，使用此功能可修改参数以及监视伺服驱动器状态等。

ProNet series servo drives provide the Modbus communication function with RS-485 interface, which can be used to easily set parameters or to perform monitoring operations and so on.

| 项目 Items | 规格 Specifications |
|--------------------------------|--|
| 适用的通讯标准 Communication standard | Modbus |
| 物理层 Physical layer | RS-485 transmission |
| 总线连接 Bus connection | CN3 (RJ45): Signal IN CN4(RJ45): Signal OUT |
| 线缆 Cable | 双绞线 Twisted pair cable |
| 波特率 Baud rate | 4800bps, 9600bps, 19200bps |
| 通讯模式 Communication Mode | ASCII, RTU |

伺服电机型号

Servo Motor Specification

EMJ Model

产品特性 / Features

- 中惯量
- 峰值转矩达到额定转矩的300%
- 种类多样 (0.2kW~1.0kW、带制动器等)
- 最高转速4500r/min可进行高速运行
- 配备17位增量式/绝对值编码器，可选配省线式增量编码器 (2500P/R)
- Mediu inertia
- Peak torque up to 300% of rated torque
- Various models (0.2kW~1.0kW, with brake, etc.)
- Run at speed of up to 4500r/min
- Mounted 17 bits incremental / absolute encoder, Optional mounted wire-saving incremental encoder (2500P/R)

用途事例 / Application

- 贴片机
- 印刷电路板打孔机
- 机械手
- 搬运机械
- 纺织机械
- SMM (surface mounting machine)
- Pcb puncher machine
- Robot arm
- Handing machinery
- Textile machinery



型号说明 / Specification Description

EMJ - 08 A P B 1 1 -WR

EMJ型伺服电机
EMJ Model
Servo Motor

额定输出功率
Rated Output
Power

电源电压
Power
Voltage

编码器
Encoder

设计顺序
Designing
Sequence

轴端
Shaft End

选购件
Opition Parts

插头
Connector

| 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | |
|------------|-------------|------------|-------------|------------|--|------------|-----------------------------------|------------|--|------------|--|---|
| 02 | 0.2kW | A | 200VAC | D | 增量式编码器: 131072P/R Incremental Encoder: 131072P/R | A, B | 设计 顺序 Designing Sequence | 1 | 平直, 不带键 (标准) Flat, Without Keys (Standard) | 1 | 不带选购件 None | 普通插头, 则省略 Standard Connector WR 防水插头 (仅用于 增量省线 型) Water proof Connector (Incremental Wire-saving Type: 2500P/R) |
| 04 | 0.4kW | | | S | 绝对值编码器: 131072P/R Absolute Encoder: 131072P/R | | | 2 | 平直,带键, 带螺纹 Flat, With Keys, With Screw Thread | 2 | 带油封 With Oil Seal | |
| 08 | 0.75kW | | | R | 旋转变压器 Resolver | | | 3 | 带制动器 (DC24V) With Brake (DC24V) | 3 | 带制动器 (DC24V) With Brake (DC24V) | |
| 10 | 1.0kW | | | P | 增量省线型: 2500P/R Incremental Wire-saving Type: 2500P/R | | | 4 | 带油封,带制动器 (DC24V) With Oil Seal, With Brake (DC24V) | 4 | 带油封,带制动器 (DC24V) With Oil Seal, With Brake (DC24V) | |

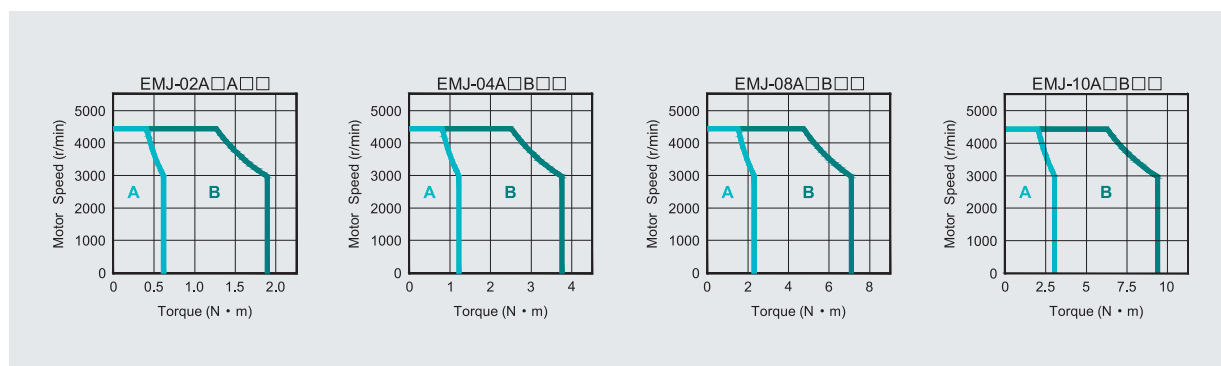
额定值和规格 / Rated Value and Specification

| 电压 Voltage | | 200VAC | | | | |
|----------------------------------|---|---|-------------|-------------|-------------|--|
| 伺服电机型号 Servo Motor Model | EMJ- | 02A□A□□ | 04A□B□□ | 08A□B□□ | 10A□B□□ | |
| 额定输出功率 Rated Output Power | kW | 0.2 | 0.4 | 0.75 | 1.0 | |
| 额定转矩 Rated Torque | N.m | 0.64 | 1.27 | 2.39 | 3.18 | |
| 瞬间最大转矩 Instantaneous Peak Torque | N.m | 1.91 | 3.82 | 7.16 | 9.55 | |
| 额定电流 Rated Current | Arms | 1.4 | 2.8 | 4.0 | 5.3 | |
| 瞬间最大电流 Instantaneous Max Current | Arms | 4.2 | 8.4 | 12.0 | 15.9 | |
| 额定转速 Rated Speed | r/min | 3000 | | | | |
| 最高转速 Max. Speed | r/min | 4500 | | | | |
| 转子转动惯量 Rotor Moment of Inertia | X10 ⁻⁴ kg·m ² | 0.19 (0.23) | 0.31 (0.35) | 1.35 (1.47) | 1.74 (1.87) | |
| 制动器额定电压 Brake Rated Voltage | DC24V±10% | | | | | |
| 制动器额定功率 Brake Rated Power | W | 7.2 | | 11.5 | | |
| 制动器保持转矩 Brake Holding Torque | N.m | 1.3 | | 3.2 | | |
| 编码器 Encoder | 标准 Standard | 增量式编码器: 131072P/R Incremental Encoder: 131072P/R | | | | |
| | 选项 Options | 绝对值编码器: 131072P/R Absolute Encoder: 131072P/R 省线式增量编码器 (2500P/R) Wire-saving Incremental Encoder (2500P/R) 旋转变压器 Resolver | | | | |
| 耐热等级 Insulation Class | F | | | | | |
| 环境温度 Ambient Temperature | 0 ~ +40°C(不结冻) 0 to +40°C (no freezing) | | | | | |
| 环境湿度 Ambient Humidity | 20%~80% RH(不结露) 20% to 80% RH (non-condensing) | | | | | |
| 抗振性能 Vibration | 49m/s ² | | | | | |
| 保护方式 Enclosure | 全封闭, 自冷, IP65 (如果不配油封, 则排除轴伸端; 如果不配防水插头, 则排除连接器。) Totally Enclosed, Self-cooled, IP65 (Except for shaft opening, when not equipped with oil seal; Except for connectors, when not equipped with waterproof connectors.) | | | | | |

(注): 括号内的数值表示的是带制动器电机的值。

(Note): The values in parentheses are for servo motors with holding brakes.

转矩-转速特性 / Torque-Speed Feature



A: 连续工作区域 B: 反复工作区域

A: Continuous Working Area B: Repeatedly Working Area

EMG Model

产品特性 / Features

- 用于高速驱动各种机械的进给轴
- 种类多样 (1.0kW~5.0kW、带制动器等)
- 配备17位增量式/绝对值编码器，可选配旋转变压器或省线式增量编码器 (2500P/R)
- 标准配置为IP65
- Be used to drive the feed shaft of various machinery
- Various products (1.0kW~5.0kW, with brake, etc.)
- Mounted 17 bits incremental / absolute encoder, Optional mounted resolver or wire-saving incremental encoder (2500P/R)
- Standard configuration is IP65

用途事例 / Application

- 机床
- 搬运机械
- 食品加工机械
- 纺织机械
- Machine tools
- Handling machinery
- Foodstuff processing machinery
- Textile machinery



型号说明 / Specification Description

EMG - 10 A D A 1 1

EMG型伺服电机 额定输出功率 电源电压 编码器 设计顺序 轴端 选购件
 EMG Model Rated Output Power Encoder Designing Shaft End Option Parts
 Servo Motor Power Voltage Sequence

| 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. |
|------------|-------------|------------|-------------|------------|---|------------|-----------------------------------|------------|--|
| 10 | 1.0kW | A | 200VAC | D | 增量式编码器: 131072P/R Incremental Encoder: | A | 设计 顺序 Designing Sequence | 1 | 平直,不带键 (标准) Flat, Without Keys (Standard) |
| 15 | 1.5kW | D | 400VAC | S | 绝对值编码器: 131072P/R Absolute Encoder: | | | 2 | 平直,带 键,带螺纹 Flat, With Keys With Screw Thread |
| 20 | 2.0kW | | | R | 旋转变压器 Resolver | | | 3 | 带制动器 (DC24V) With Brake (DC24V) |
| 30 | 3.0kW | | | P | 增量省线型: 2500P/R Incremental Wire-saving Type:2500P/R | | | 4 | 带油封,带制动器 (DC24V) With Oil Seal, With Brake (DC24V) |
| 50 | 5.0kW | | | | | | | | |

注意：1. EMG-30□□A□□,EMG-50□□A□□不配增量式编码器。

2. 所有EMG-□□□DA□□均不带制动器。

Notes: 1. The EMG-30□□A□□, EMG-50□□A□□ servo motors are not mounted the incremental encoder.

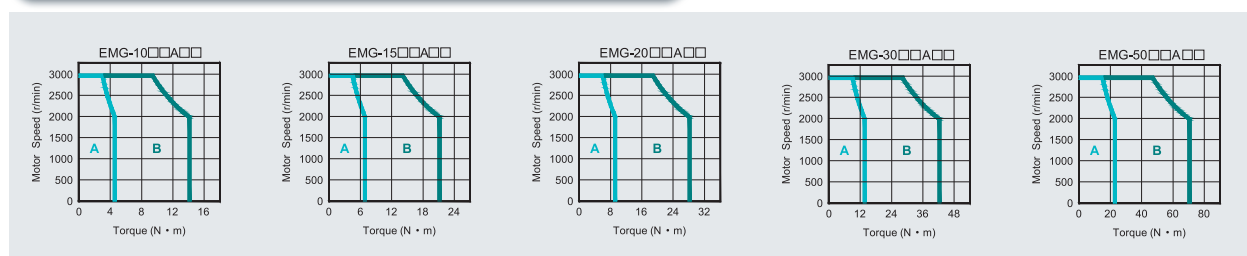
2. There is no brake in EMG-□□□DA□□ servo motor.

额定值和规格 / Rated Value and Specification

| 电压 Voltage | | 200VAC / 400VAC | | | | | | | | | | |
|-----------------------------------|-------------------------------------|---|---------|-------------|---------|-------------|---------|--|---------|-------------|---------|--|
| 伺服电机型号 Servo Motor Model | EMG- | 10A□A□□ | 10D□A□□ | 15A□A□□ | 15D□A□□ | 20A□A□□ | 20D□A□□ | 30A□A□□ | 30D□A□□ | 50A□A□□ | 50D□A□□ | |
| 额定输出功率 Rated Output Power | kW | 1.0 | 1.0 | 1.5 | 1.5 | 2.0 | 2.0 | 3.0 | 3.0 | 5.0 | 5.0 | |
| 额定转矩 Rated Torque | N.m | 4.78 | 4.78 | 7.16 | 7.16 | 9.55 | 9.55 | 14.3 | 14.3 | 23.9 | 23.9 | |
| 瞬间最大转矩 Instantaneous Peak Torque | N.m | 14.3 | 14.3 | 21.5 | 21.5 | 28.7 | 28.7 | 43.0 | 43.0 | 71.6 | 71.6 | |
| 额定电流 Rated Current | Arms | 6.0 | 3.2 | 9.0 | 5.0 | 12.0 | 6.4 | 18.0 | 8.8 | 28.0 | 15.0 | |
| 瞬间最大电流 Instantaneous Max. Current | Arms | 18.0 | 9.6 | 27.0 | 15.0 | 36.0 | 19.2 | 54.0 | 26.4 | 84.0 | 45.0 | |
| 额定转速 Rated Speed | r/min | 2000 | | | | | | | | | | |
| 最高转速 Max. Speed | r/min | 3000 | | | | | | | | | | |
| 转子转动惯量 Rotor Moment of Inertia | X10 ⁻⁴ kg·m ² | 10.0 (10.6) | | 14.5 (15.1) | | 19.0 (19.6) | | 41.3 (44.5) | | 65.7 (68.9) | | |
| 制动器额定电压 Brake Rated Voltage | | DC24V±10% | | | | | | | | | | |
| 制动器额定功率 Brake Rated Power | W | 19 | | | | | 35 | | | | | |
| 制动器保持转矩 Brake Holding Torque | N.m | 10 | | | | | 40 | | | | | |
| 编码器 Encoder | 标准 Standard | 增量式编码器: 131072P/R Incremental Encoder: 131072P/R | | | | | | 绝对值编码器: 131072P/R Absolute Encoder: 131072P/R | | | | |
| | 选项 Options | 绝对值编码器: 131072P/R Absolute Encoder: 131072P/R 旋转变压器 Resolver | | | | | | 旋转变压器 Resolver | | | | |
| | | 省线式增量编码器 (2500P/R) Wire-saving Incremental Encoder (2500P/R) | | | | | | | | | | |
| 耐热等级 Insulation Class | | F | | | | | | | | | | |
| 环境温度 Ambient Temperature | | 0 ~ +40°C (不结冻) 0 to +40°C (No freezing) | | | | | | | | | | |
| 环境湿度 Ambient Humidity | | 20%~80% RH (不结露) 20% to 80% RH (Non-condensing) | | | | | | | | | | |
| 抗振性能 Vibration | | 24.5m/s ² | | | | | | | | | | |
| 保护方式 Enclosure | | 全封闭, 自冷, IP65 (如果不配油封, 则排除轴伸端。) Totally Enclosed, Self-cooled, IP65 (Except for shaft opening, when not equipped with oil seal.) | | | | | | | | | | |

(注) 括号内的数值表示的是带制动器电机的值。
(Note) The values in parentheses are for servo motors with holding brakes.

转矩-转速特性 / Torque-Speed Feature



A: 连续工作区域 B: 反复工作区域
A: Continuous Working Area B: Repeatedly Working Area

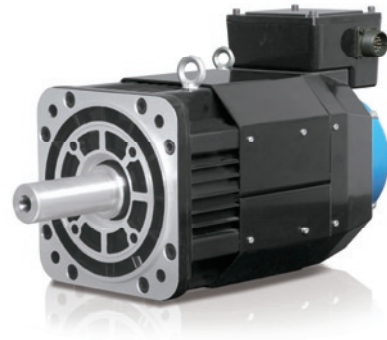
EMB Model

产品特性 / Features

- 电源电压400V
- 用于驱动各种机械的进给轴
- 种类多样 (7.5kW~22kW, 带制动器等)
- 配备17位绝对值编码器, 可选配旋转变压器
- 温度传感器
- Power supply voltage: 400V
- Driving of feed shafts for various machinery
- Various products (7.5kW~22kW, with brake, etc.)
- Mounted 17 bits absolute encoder, Optional mounted resolver
- Temperature sensor

用途事例 / Application

- 机床
- 搬运机械
- 食品加工机械
- 纺织机械
- Machine tools
- Handling machinery
- Foodstuff processing machinery
- Textile machinery



型号说明 / Specification Description

| | | | | | | |
|--------------------------------------|---------------------------------|--------------------------|----------------|-------------------------------|-----------------|---------------------|
| EMB-1E D S A 1 1 | | | | | | |
| EMB型伺服电机 EMB Model Servo Motor | 额定输出功率 Rated Output Power | 电源电压 Power Voltage | 编码器 Encoder | 设计顺序 Designing Sequence | 轴端 Shaft End | 选购件 Option Parts |

| 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. | 记号 Sign | 规格 Spec. |
|------------|-------------|------------|-------------|------------|---|------------|-----------------------------------|------------|--|
| 75 | 7.5kW | D | 400VAC | S | 绝对值编码器: 131072P/R Absolute Encoder: 131072P/R | A | 设计 顺序 Designing Sequence | 1 | 平直,不带键 (标准) Flat, Without Keys (Standard) |
| 1A | 11.0kW | | | R | 旋转变压器 Resolver | | | 2 | 平直,带键, 带螺纹 Flat, With Keys With Screw Thread |
| 1E | 15.0kW | | | | | | | 3 | 带制动器 (DC24V) With Brake (DC24V) |
| 2B | 22.0kW | | | | | | | 4 | 带油封,带制动器 (DC24V) With Oil Seal, With Brake (DC24V) |

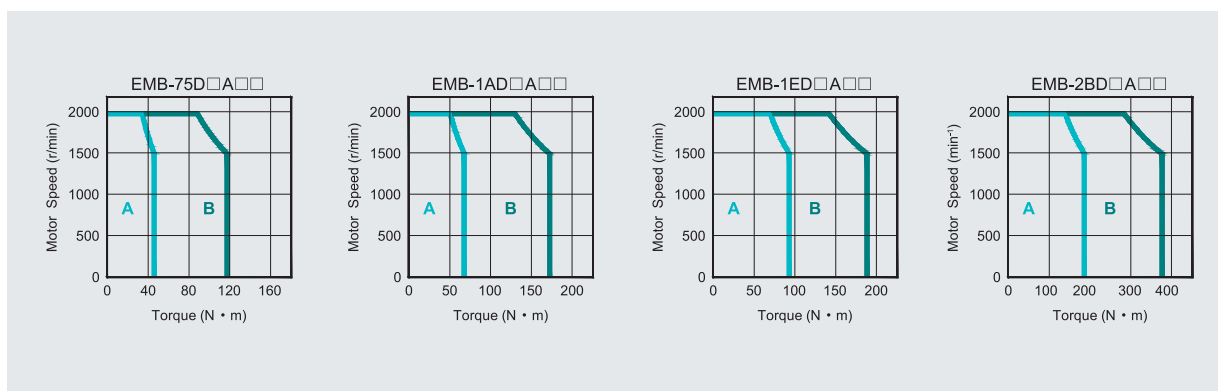
额定值和规格 / Rated Value and Specification

| 电压 Voltage | | | 400VAC | | | |
|-----------------------------------|---|--|--|---------------|---------------|---------|
| 伺服电机型号 Servo Motor Model | EMB- | | 75D□A□□ | 1AD□A□□ | 1ED□A□□ | 2BD□A□□ |
| 额定输出功率 Rated Output Power | kW | | 7.5 | 11.0 | 15.0 | 22.0 |
| 额定转矩 Rated Torque | N.m | | 47.8 | 70.0 | 95.5 | 140.0 |
| 瞬间最大转矩 Instantaneous Peak Torque | N.m | | 143.4 | 175 | 191 | 350 |
| 额定电流 Rated Current | Arms | | 18.0 | 28.0 | 38.0 | 52.0 |
| 瞬间最大电流 Instantaneous Max. Current | Arms | | 56.0 | 70.0 | 84.0 | 130 |
| 额定转速 Rated Speed | r/min | | 1500 | | | |
| 最高转速 Max. Speed | r/min | | 2000 | | | |
| 转子转动惯量 Rotor Moment of Inertia | $\times 10^{-4} \text{kg}\cdot\text{m}^2$ | | 186.2 (193.6) | 271.6 (278.9) | 338.8 (346.1) | 576.62 |
| 制动器额定电压 Brake Rated Voltage | | | DC24V \pm 10% | | | |
| 制动器额定功率 Brake Rated Power | W | | 90 | | | |
| 制动器保持转矩 Brake Holding Torque | N.m | | 100 | | | |
| 编码器 Encoder | 标准 Standard | | 绝对值编码器: 131072P/R Absolute Encoder: 131072P/R | | | |
| | 选项 Options | | 旋转变压器 Resolver | | | |
| 耐热等级 Insulation Class | | | F | | | |
| 环境温度 Ambient Temperature | | | 0 ~ +40°C (不结冻) 0 to +40°C (No freezing) | | | |
| 环境湿度 Ambient Humidity | | | 20%~80% RH (不结露) 20% to 80% RH (Non-condensing) | | | |
| 抗振性能 Vibration | | | 24.5m/s ² | | | |
| 保护方式 Enclosure | | | 全封闭, 强制风冷, IP44 (如果不配油封, 则排除轴伸端。) Totally Enclosed, Forced-air Cooling, IP44 (Except for shaft opening, when not equipped with oil seal.) 风扇部位的防护等级为IP20 IP20 for cooling fan | | | |

(注) 括号内的数值表示的是带制动器电机的值。

(Note) The values in parentheses are for servo motors with holding brakes.

转矩-转速特性 / Torque-Speed Feature



A: 连续工作区域

A: Continuous Working Area

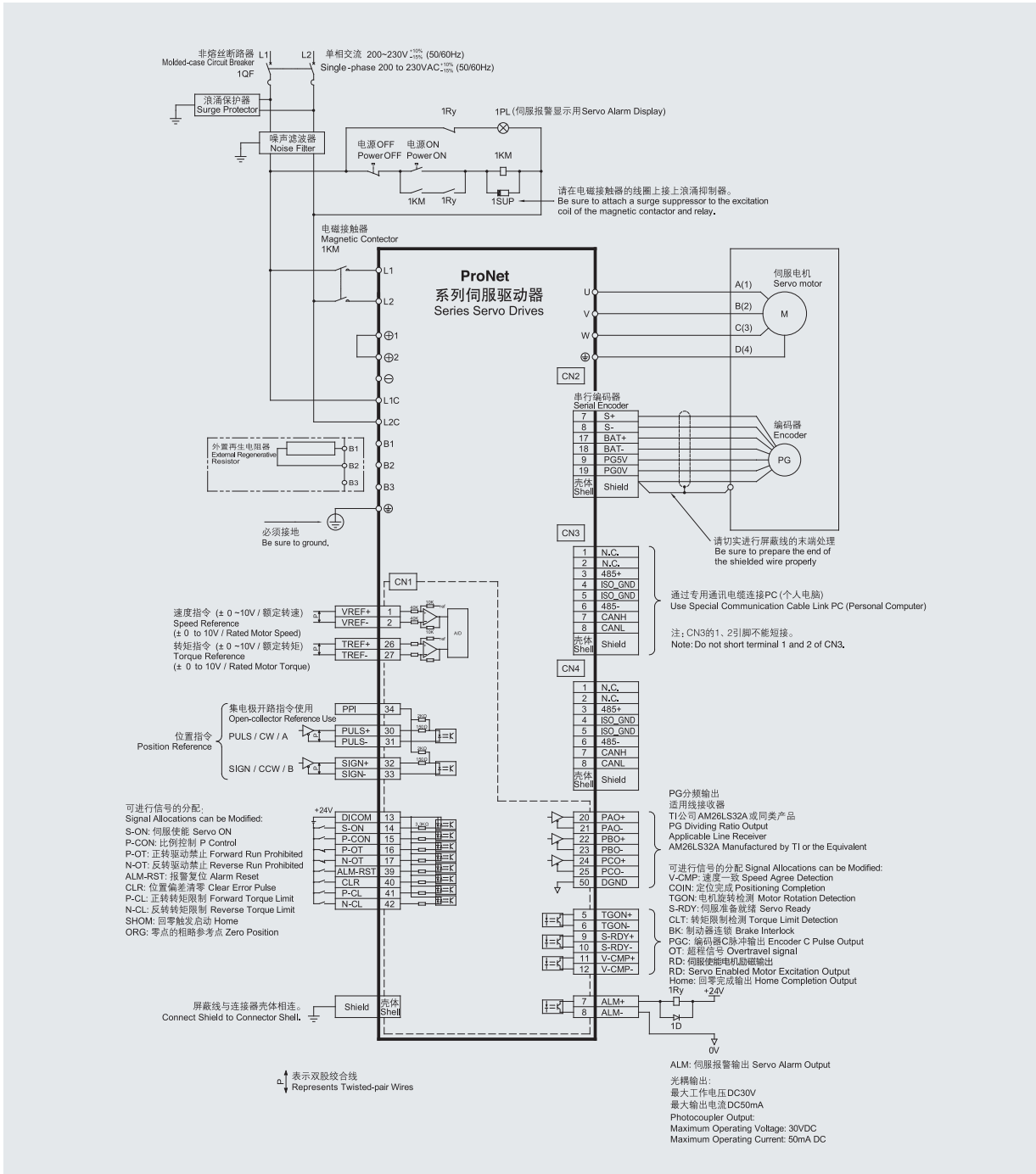
B: 反复工作区域

B: Repeatedly Working Area

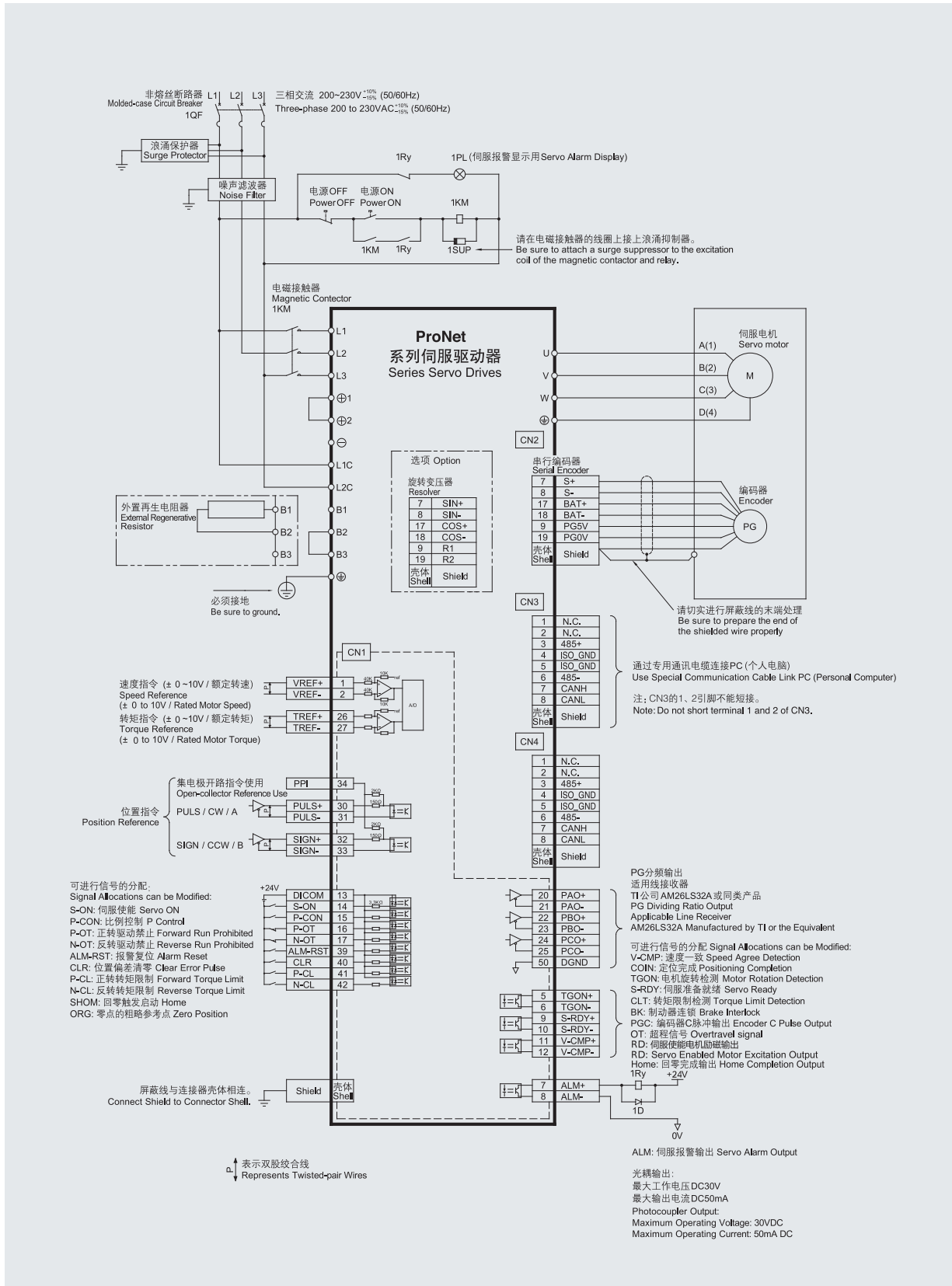
接线图

Connection

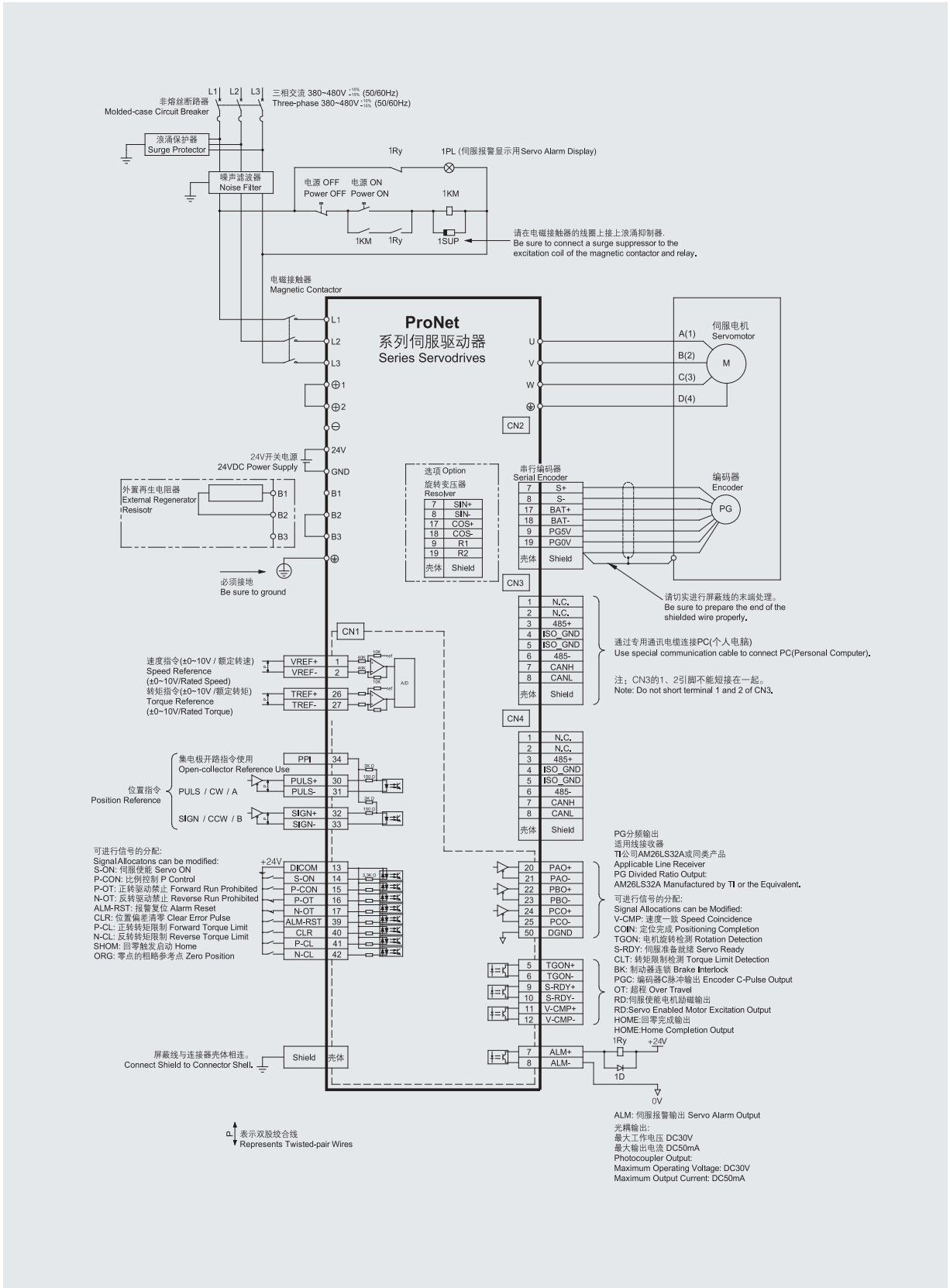
单相200VAC(ProNet-02A~04A) / Single-phase 200VAC (ProNet-02A to 04A)



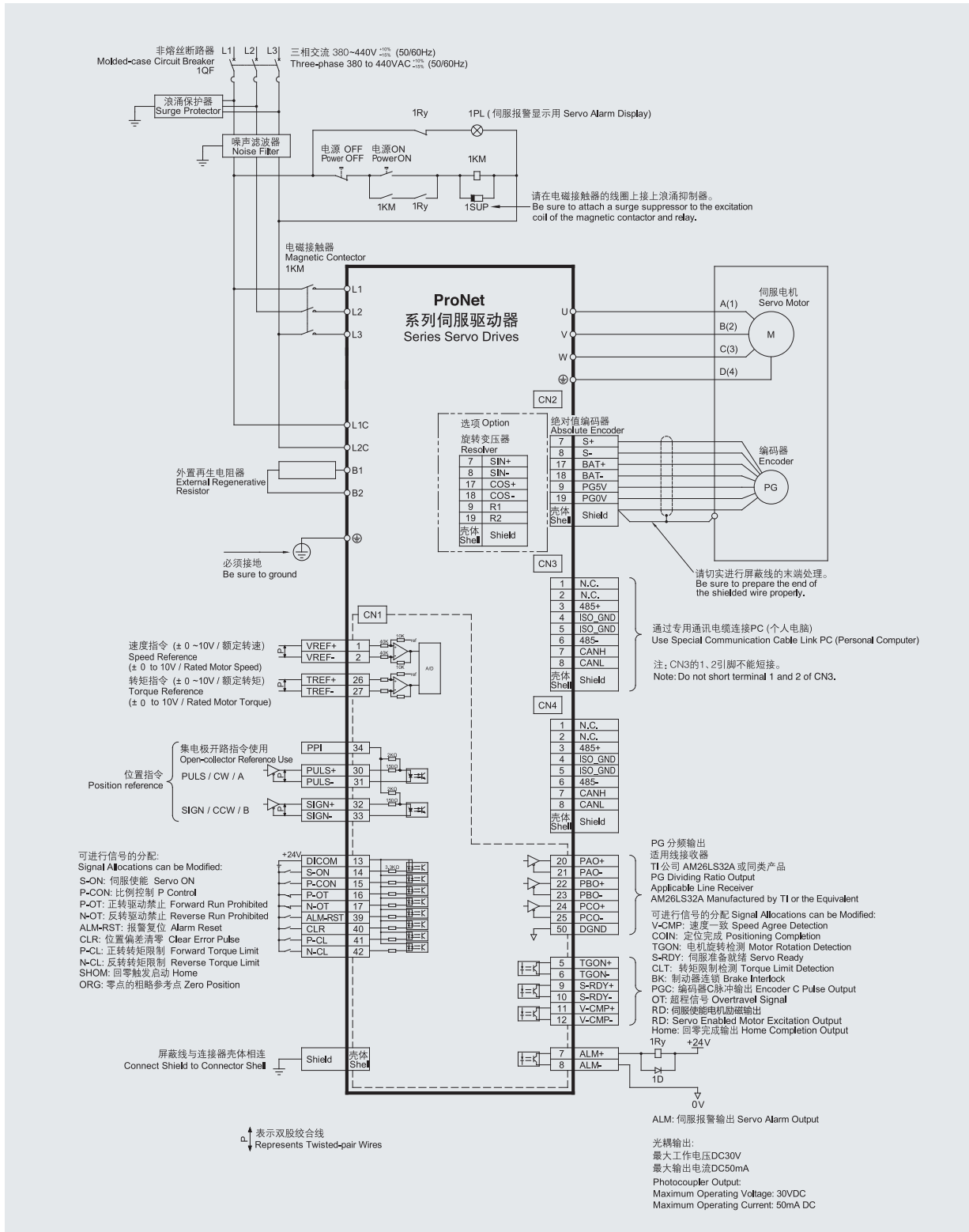
三相200VAC(ProNet-08A~50A) / Three-phase 200VAC (ProNet-08A to 50A)



三相400VAC(ProNet-10D~75D) / Three-phase 400VAC(ProNet-10D~75D)



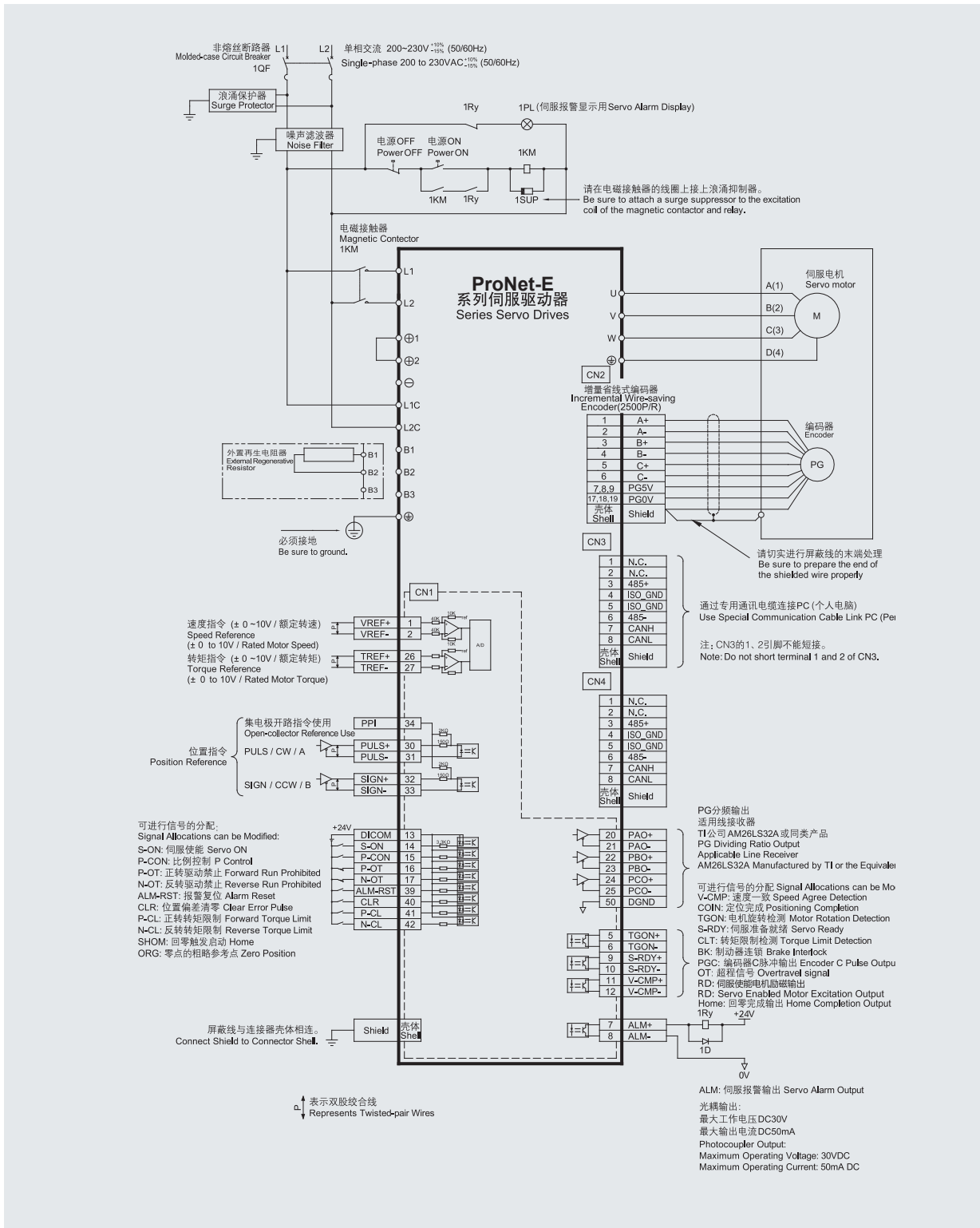
三相400VAC(ProNet-1AD~2BD) / Three-phase 400VAC (ProNet-1AD to 2BD)



备注: ① ProNet-1AD的伺服驱动器, 外接再生电阻器建议选用规格为: 2000W/18R。
 ② ProNet-1ED的伺服驱动器, 外接再生电阻器建议选用规格为: 3000W/11R。
 ③ ProNet-2BD的伺服驱动器, 外接再生电阻器建议选用规格为: 4000W/9R。

Notes: ① External regenerative resistor for ProNet-1AD is provided by customer. The model of 2000W/18R resistor is recommended.
 ② External regenerative resistor for ProNet-1ED is provided by customer. The model of 3000W/11R resistor is recommended.
 ③ External regenerative resistor for ProNet-2BD is provided by customer. The model of 4000W/9R resistor is recommended.

单相200VAC (ProNet-E-02A to 04A) / Single-phase 200VAC (ProNet-E-02A to 04A)



注意: ① ProNet-E-02A~04A型号的驱动器L1、L2以及L1C、L2C端子的接线方法与其它型号的驱动器不同, 接线时请注意驱动器上的具体引脚定义。

② ProNet-E-02A~04A型号的驱动器, 外置再生电阻器建议选用电阻型号: ASQ60W50ΩKGO。

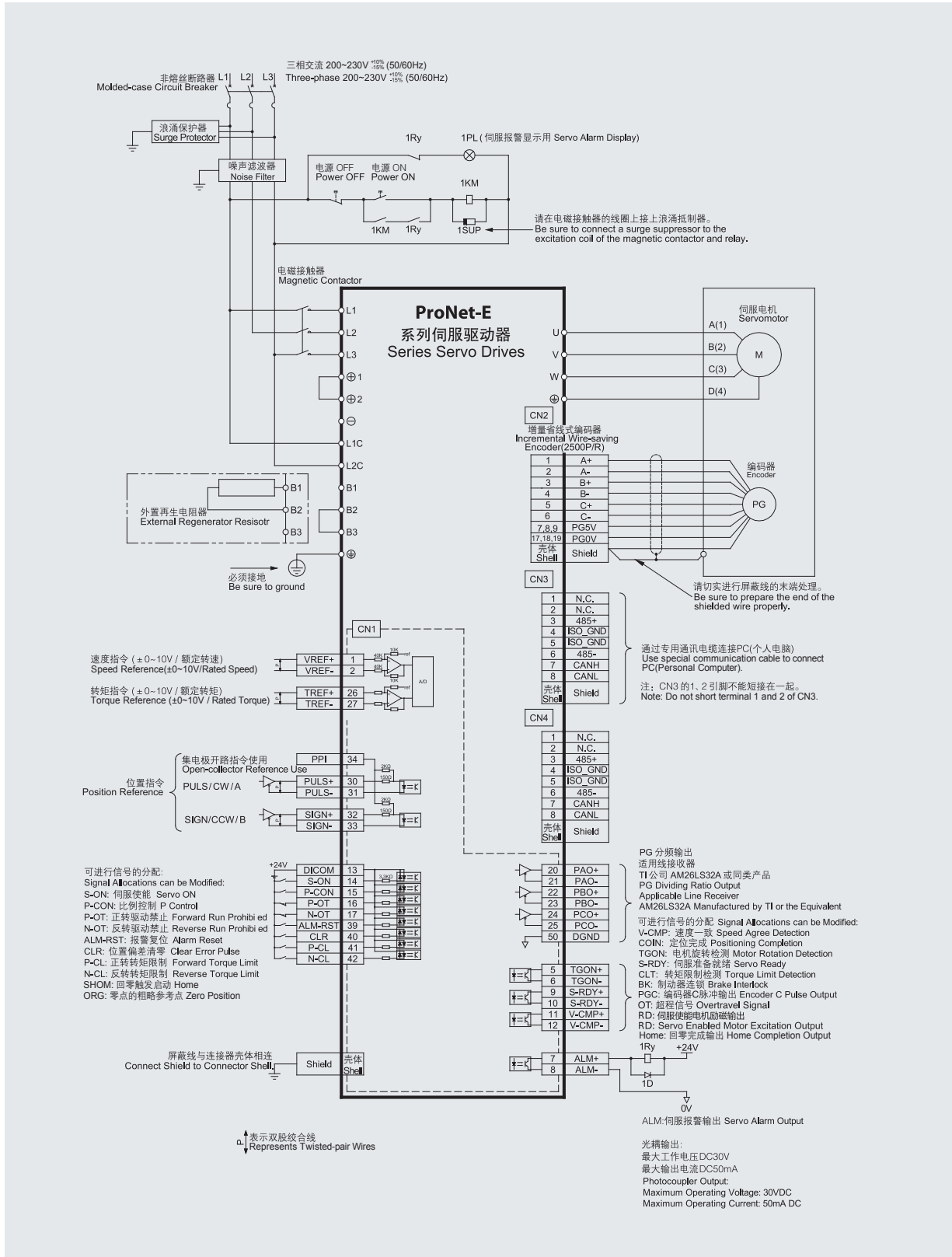
③ ProNet-E-02A~04A型号的驱动器使用外接再生电阻器时需将参数Pn521由“1”改成“0”。

Notes: ① The L1, L2 and L1C, L2C terminals wiring method of ProNet-E 02/04 servo drives is different from other ProNet series servo drives. Please note the specific terminal definition while wiring.

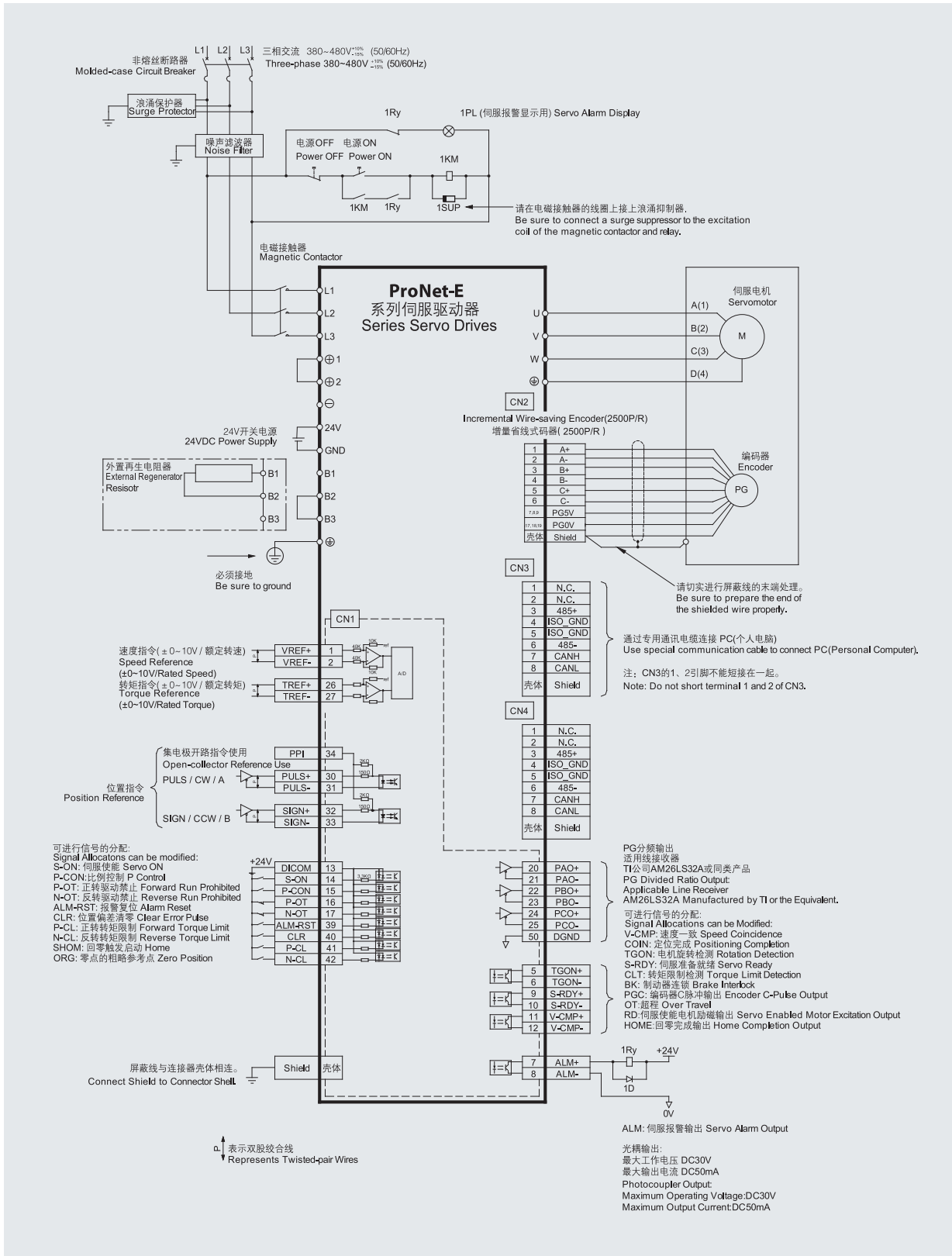
② External regenerative resistor for ProNet-E-02/04 is provided by customer, the model of ASQ60W50ΩKGO resistor is recommended.

③ Change Pn521 from "1" to "0" when using the external regenerative resistor in ProNet-E-02/04 servo drives.

三相200VAC (ProNet-E-08A to 50A) / Three-phase 200VAC (ProNet-E-08A to 50A)



三相400VAC (ProNet-E-10D ~50D) / Three-phase 400VAC (ProNet-E-10D ~50D)

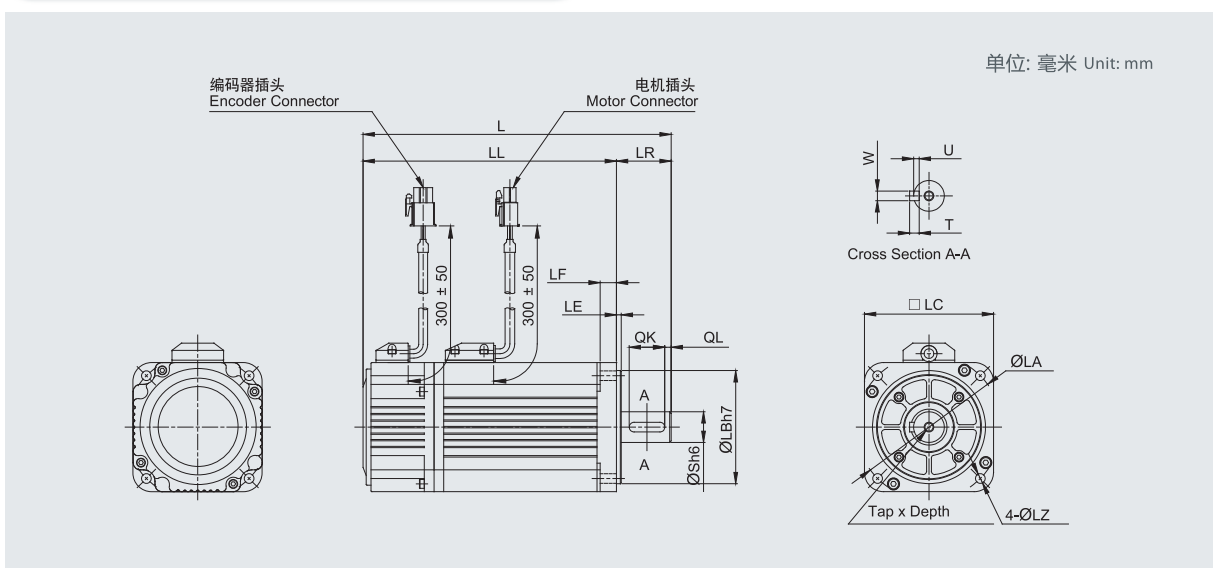


外形尺寸

Dimension

伺服电机 Servo Drive

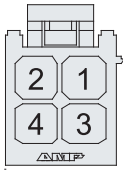
EMJ外形尺寸 / EMJ Dimension



| 型号 Model EMJ- | L | LL | 外形尺寸 Dimension | | | | | | | S | 螺纹孔×深度 Tap×Depth | 键 Key | | | | |
|---------------------|----------|----------|----------------|----|----|----|----|----|-----|----|---------------------|-------|----|---|-----|---|
| | | | LR | LE | LF | LC | LA | LB | LZ | | | QK | QL | W | T | U |
| 02□P/R | 141(181) | 111(151) | 30 | 3 | 6 | 60 | 70 | 50 | 5.5 | 14 | M5×10L | 16 | 4 | 5 | 5 | 3 |
| 02□D | 141(171) | 111(141) | | | | | | | | | | | | | | |
| 02□S | 154(194) | 124(164) | | | | | | | | | | | | | | |
| 04□P/R | 161(201) | 131(171) | | | | | | | | | | | | | | |
| 04□D | 161(191) | 131(161) | 35 | 9 | 80 | 90 | 70 | 70 | 6 | 19 | M6×15L | 22 | 6 | 6 | 3.5 | |
| 04□S | 174(214) | 144(184) | | | | | | | | | | | | | | |
| 08□P/R | 173(216) | 138(181) | | | | | | | | | | | | | | |
| 08□D | 173(213) | 138(178) | | | | | | | | | | | | | | |
| 08□S | 186(229) | 151(194) | 35 | 9 | 80 | 90 | 70 | 70 | 6 | 19 | M6×15L | 22 | 6 | 6 | 3.5 | |
| 10□P/R | 191(234) | 156(199) | | | | | | | | | | | | | | |
| 10□D | 191(231) | 156(196) | | | | | | | | | | | | | | |
| 10□S | 204(247) | 169(212) | | | | | | | | | | | | | | |

(注) 括号内的数值表示的是带制动器电机的尺寸。
(Note) The dimension in parentheses are for servo motors with holding brakes.

EMJ-02/04/08/10□P型电机插头接线规格
Motor Connector Specification for EMJ-02/04/08/10□P



- 插头 Plug: 172167-1(AMP)
- 插针 Pin: 170360-1(AMP)

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|------------------|
| 1 | U | 红 Red |
| 2 | V | 蓝 Blue |
| 3 | W | 白 White |
| 4 | FG | 绿/黄 Green/Yellow |

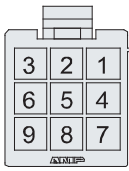
EMJ-02/04/08/10□P型制动器插头接线规格
Brake Connector Specification for EMJ-02/04/08/10□P



- 插头 Plug: 172165-1(AMP)
- 插针 Pin: 170360-1(AMP)

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|-------------|
| 1 | B1 | 蓝 Blue |
| 2 | B2 | 白 White |

EMJ-02/04/08/10□P型编码器插头接线规格
Encoder Connector Specification for EMJ-02/04/08/10□P

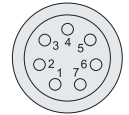


- 插头 Plug: 172169-1(AMP)
- 插针 Pin: 170359-3(AMP)

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|------------------|
| 1 | A+ | 蓝 Blue |
| 2 | B+ | 绿 Green |
| 3 | C+ | 黄 Yellow |
| 4 | A- | 蓝/黑 Blue/Black |
| 5 | B- | 绿/黑 Green/Black |
| 6 | C- | 黄/黑 Yellow/Black |
| 7 | PG5V | 红 Red |
| 8 | PG0V | 黑 Black |
| 9 | FG | 屏蔽 Shield |

EMJ-02/04/08/10□D/S/R型编码器插头接线规格
Encoder Connector Specification for EMJ-02/04/08/10□D/S/R

- 插头 Plug: CGRSD-7BFMA-SL8001
增量式/绝对值编码器
Incremental / Absolute Encoder
- 旋转变压器
Resolver

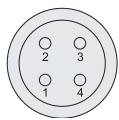


| 针号 Pin No. | 信号 Signal | 颜色 Color | 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|-----------------|---------------|--------------|-------------|
| 1 | S+ | 蓝 Blue | 1 | SIN+ | 黄 Yellow |
| 2 | S- | 蓝/黑 Blue/Black | 2 | SIN- | 蓝 Blue |
| 3 | BAT+ | 棕 Brown | 3 | COS+ | 红 Red |
| 4 | BAT- | 棕/黑 Brown/Black | 4 | COS- | 黑 Black |
| 5 | PG5V | 红 Red | 5 | Ref+ | 橙 Orange |
| 6 | PG0V | 黑 Black | 6 | Ref- | 白 White |
| 7 | FG | 屏蔽 Shield | 7 | FG | 屏蔽 Shield |

★注意：增量式编码器无BAT+，BAT-信号。
Note : There are no BAT+,BAT- signal in incremental encoder.

EMJ-02/04/08/10□P防水型（选配）电机插头接线规格
Motor Connector Specification for EMJ-02/04/08/10□P-Waterproof (option)

EMJ-02/04/08/10□D/S/R型电机插头接线规格
Motor Connector Specification for EMJ-02/04/08/10□D/S/R

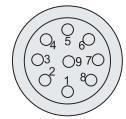


- 插头 Plug: CGRSB-4BFMA-SL8001

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|------------------|
| 1 | U | 红 Red |
| 2 | V | 蓝 Blue |
| 3 | W | 白 White |
| 4 | FG | 绿/黄 Green/Yellow |

EMJ-02/04/08/10□P防水型（选配）编码器插头接线规格
Encoder Connector Specification for EMJ-02/04/08/10□P-Waterproof(option)

增量省线式编码器
Incremental Encoder(Wire-saving)

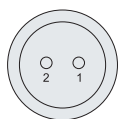


- 插头 Plug: CGRSD-9BFMA-SL8001

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|------------------|
| 1 | A+ | 蓝 Blue |
| 2 | B- | 蓝/黑 Blue/Black |
| 3 | C+ | 绿 Green |
| 4 | A- | 绿/黑 Green/Black |
| 5 | B- | 黄 Yellow |
| 6 | C- | 黄/黑 Yellow/Black |
| 7 | PG5V | 红 Red |
| 8 | PG0V | 黑 Black |
| 9 | FG | 屏蔽 Shield |

EMJ-02/04/08/10□P防水型（选配）制动器插头接线规格
Brake Connector Specification for EMJ-02/04/08/10□P-Waterproof(option)

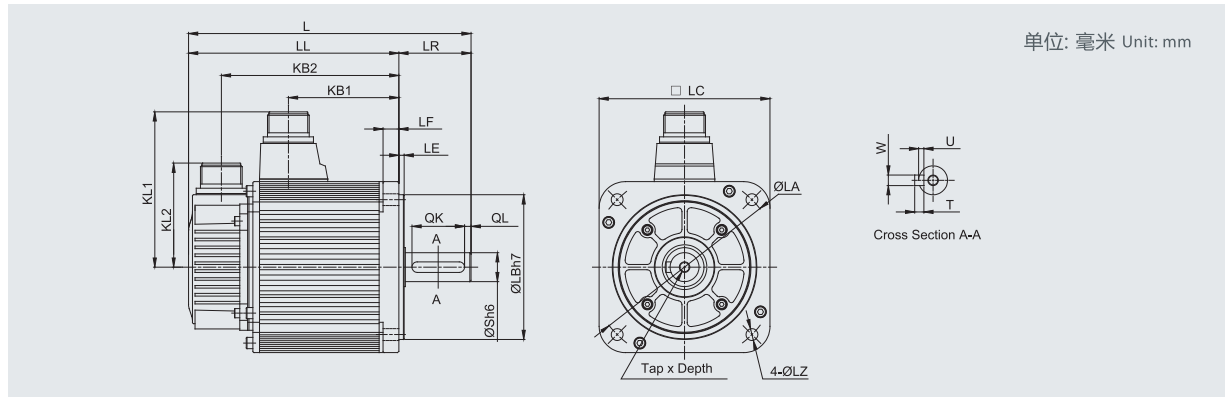
EMJ-02/04/08/10□D/S/R制动器插头接线规格
Brake Connector Specification for EMJ-02/04/08/10□D/S/R



- 插头 Plug: CGRSB-2BFMA-SL8001

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|-------------|
| 1 | B1 | 蓝 Blue |
| 2 | B2 | 黑 White |

EMG外形尺寸 / EMG Dimension



| 型号 Model EMG- | L | LL | KB1 | KB2 | KL1 | KL2 | 外形尺寸 Dimension | | | | | | S | 螺纹孔×深度 Tap×Depth | 键 Key | | | | | |
|------------------|------------|------------|-----|------------|-----|-----|----------------|-----|----|-----|-----|-------|------|---------------------|--------|----|----|----|---|---|
| | | | | | | | LR | LE | LF | LC | LA | LB | | | LZ | QK | QL | W | T | U |
| 10□P/S/R | 215(269.5) | 160(214.5) | 84 | 135(189.5) | 118 | 79 | 55 | 4 | 12 | 130 | 145 | 110 | 9 | 22 | M6×20L | 40 | 5 | 8 | 7 | 4 |
| 10□D | 215(272) | 160(217) | 84 | 135(192) | 118 | 79 | 55 | 4 | 12 | 130 | 145 | 110 | 9 | 22 | M6×20L | 40 | 5 | 8 | 7 | 4 |
| 15□P/S/R | 240(294.5) | 185(239.5) | 109 | 160(214.5) | 118 | 79 | 55 | 4 | 12 | 130 | 145 | 110 | 9 | 22 | M6×20L | 40 | 5 | 8 | 7 | 4 |
| 15□D | 240(297) | 185(242) | 109 | 160(217) | 118 | 79 | 55 | 4 | 12 | 130 | 145 | 110 | 9 | 22 | M6×20L | 40 | 5 | 8 | 7 | 4 |
| 20□P/S/R | 265(319.5) | 210(264.5) | 134 | 185(239.5) | 118 | 79 | 55 | 4 | 12 | 130 | 145 | 110 | 9 | 22 | M6×20L | 40 | 5 | 8 | 7 | 4 |
| 20□D | 265(322) | 210(267) | 134 | 185(242) | 118 | 79 | 55 | 4 | 12 | 130 | 145 | 110 | 9 | 22 | M6×20L | 40 | 5 | 8 | 7 | 4 |
| 30□□ | 307(378) | 228(299) | 143 | 203(274) | 140 | 79 | 79 | 3.2 | 18 | 180 | 200 | 114.3 | 13.5 | 35 | M8×16L | 55 | 6 | 10 | 8 | 5 |
| 50□□ | 357(428) | 278(349) | 183 | 253(324) | 140 | 79 | 79 | 3.2 | 18 | 180 | 200 | 114.3 | 13.5 | 35 | M8×16L | 55 | 6 | 10 | 8 | 5 |

(注) 括号内的数值表示的是带制动器电机的尺寸。
(Note) The dimension in parentheses are for servo motors with holding brakes.

电机连接器接线规格
Motor Connector Specification

- 插座 Receptacle:
MS3102A20-4P (LC=130)
MS3102A22-22P (LC=180)
- 插头 Plug:
MS3108B20-4S (LC=130)
MS3108B22-22S (LC=180)
- 电缆夹 Cable Clamp:
MS3057-12A



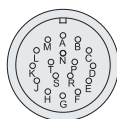
制动器连接器接线规格
Brake Connector Specification

- 插座 Receptacle:
MS3102A10SL-3P
- 插头 Plug:
MS3106A10SL-3S
- 电缆夹 Cable Clamp:
MS3057-4A



编码器连接器接线规格
Encoder Connector Specification

- 插座 Receptacle: MS3102A20-29P
- 插头 Plug: MS3108B20-29S
- 电缆夹 Cable Clamp: MS3057-12A



增量式/绝对值编码器
Incremental / Absolute Encoder

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|-----------------|
| K | S+ | 蓝 Blue |
| L | S- | 蓝/黑 Blue/Black |
| ★T | BAT+ | 棕 Brown |
| ★S | BAT- | 棕/黑 Brown/Black |
| H | PG5V | 红 Red |
| G | PG0V | 黑 Black |
| J | FG | 屏蔽 Shield |

旋转变压器 Resolver

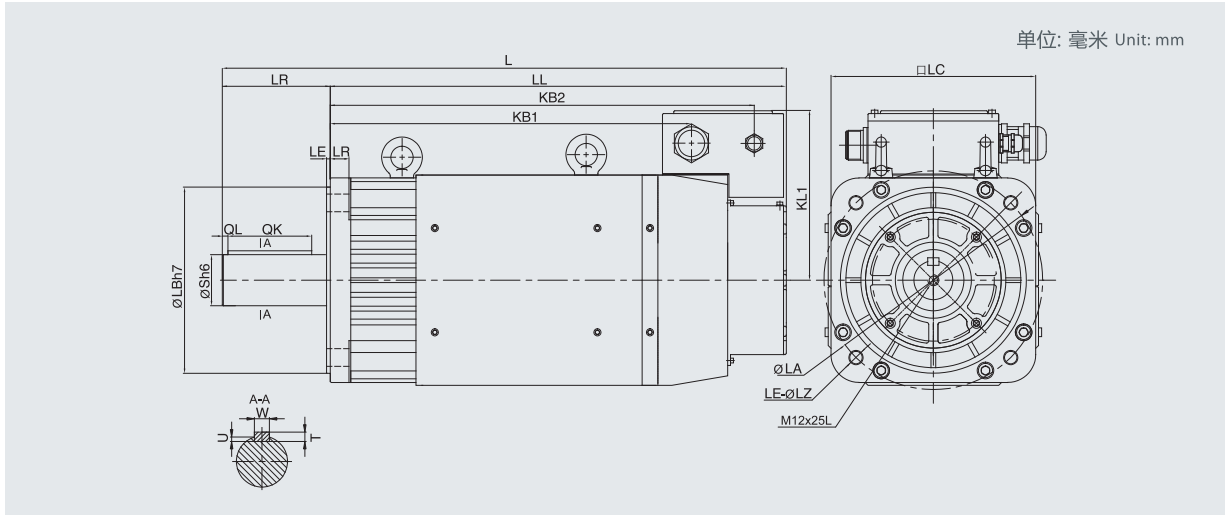
| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|------------------|
| K | SIN+ | 黄 Yellow |
| L | SIN- | 蓝 Blue |
| T | COS+ | 红 Red |
| S | COS- | 黑 Black |
| H | R1 | 红/白 Red/White |
| G | R2 | 黄/白 Yellow/White |
| J | FG | 屏蔽 Shield |

Incremental Encoder 2500P/R

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|------------------|
| A | A+ | 蓝 Blue |
| B | A- | 蓝/黑 Blue/Black |
| C | B+ | 绿 Green |
| D | B- | 绿/黑 Green/Black |
| E | C+ | 黄 Yellow |
| F | C- | 黄/黑 Yellow/Black |
| G | PG0V | 黑 Black |
| H | FG5V | 红 Red |
| J | FG | 屏蔽 Shield |

★ (Note) There are no BAT+, BAT- signal in incremental encoder.

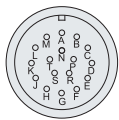
EMB外形尺寸 / EMB Dimension



| 型号 Model EMB- | L | LL | KB1 | KB2 | KL1 | 外形尺寸 Dimension | | | | | | | S | 螺纹孔×深度 Tap×Depth | 键 Key | | | | |
|---------------------|--------------|--------------|--------------|--------------|-----|----------------|----|----|-----|-----|-----|------|----|---------------------|-------|----|----|----|---|
| | | | | | | LR | LE | LF | LC | LA | LB | LZ | | | QK | QL | W | T | U |
| 75D□□ | 530 (625) | 414 (509) | 366 (461) | 302 (397) | 184 | 116 | 4 | 20 | 220 | 235 | 200 | 13.5 | 42 | M16×32L | 90 | 6 | 12 | 8 | 5 |
| 1AD□□ | 580 (675) | 464 (559) | 416 (511) | 352 (447) | 184 | 116 | 4 | 20 | 220 | 235 | 200 | 13.5 | 42 | M16×32L | 90 | 6 | 12 | 8 | 5 |
| 1ED□□ | 615 (710) | 499 (594) | 451 (546) | 387 (482) | 184 | 116 | 4 | 20 | 220 | 235 | 200 | 13.5 | 55 | M20×40L | 90 | 6 | 16 | 10 | 6 |
| 2BD□□ | 720 | 572 | 432 | 523 | 250 | 145 | 5 | 30 | 280 | 300 | 250 | 19 | 60 | M12×25L | 128 | 6 | 18 | 11 | 7 |

(注) 括号内的数值表示的是带制动器电机的尺寸。

(Note) The dimension in parentheses are for servo motors with holding brakes.



编码器连接器接线规格

Encoder Connector Specification

- 插座 Receptacle: MS3102A20-29P
- 插头 Plug: MS3108B20-29S
- 电缆夹 Cable Clamp: MS3057-12A

绝对值编码器

Absolute Encoder

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|-----------------|
| K | S+ | 蓝 Blue |
| L | S- | 蓝/黑 Blue/Black |
| T | BAT+ | 棕 Brown |
| S | BAT- | 棕/黑 Brown/Black |
| H | PG5V | 红 Red |
| G | PG0V | 黑 Black |
| J | FG | 屏蔽 Shield |

旋转变压器

Resolver

| 针号 Pin No. | 信号 Signal | 颜色 Color |
|---------------|--------------|------------------|
| K | SIN+ | 黄 Yellow |
| L | SIN- | 蓝 Blue |
| T | COS+ | 红 Red |
| S | COS- | 黑 Black |
| H | R1 | 红/白 Red/White |
| G | R2 | 黄/白 Yellow/White |
| J | FG | 屏蔽 Shield |
| N | Sensor1 | |
| R | Sensor2 | |

制动器连接器接线规格

Brake Connector Specification

- 插座 Receptacle:
MS3102A10SL-3P
- 插头 Plug:
MS3106A10SL-3S
- 电缆夹 Cable Clamp:
MS3057-4A

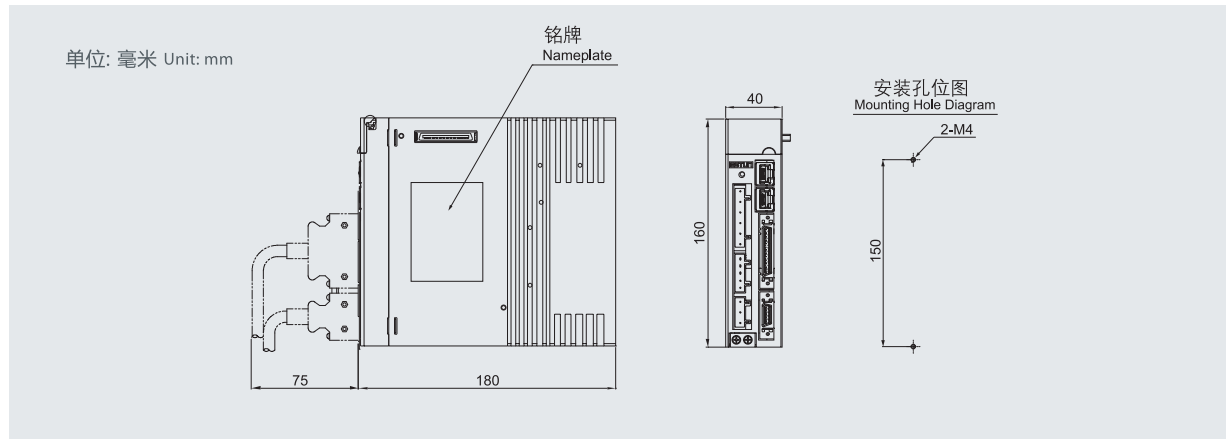


| 针号 Pin No. | 信号 Signal |
|---------------|--------------|
| A | B1 |
| B | B2 |
| C | - |

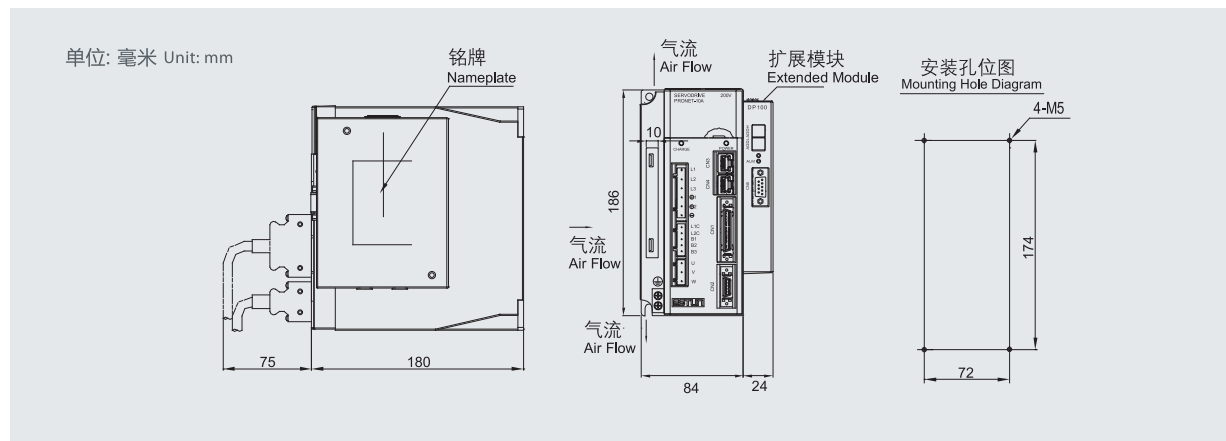
伺服驱动器

Servo Drive

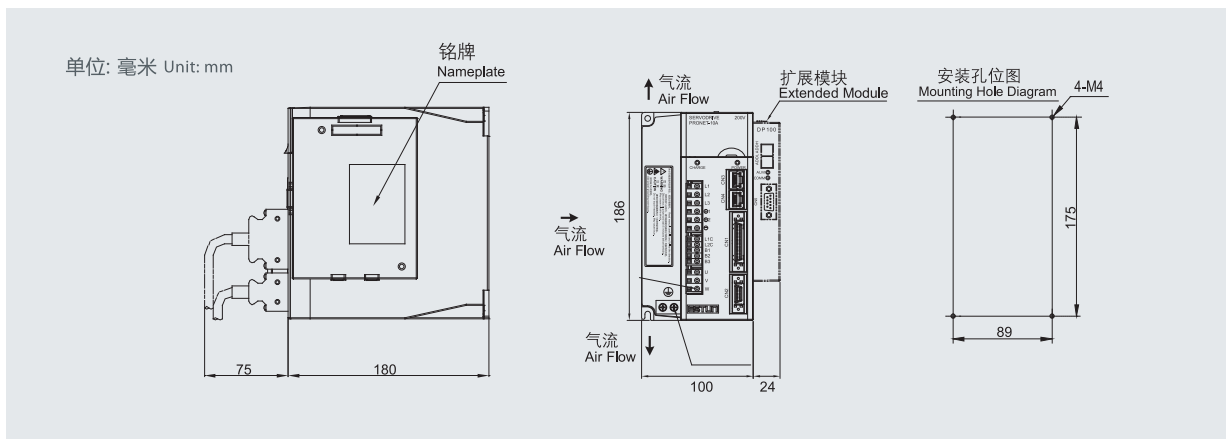
ProNet-02A/04A ProNet-E-02A/04A



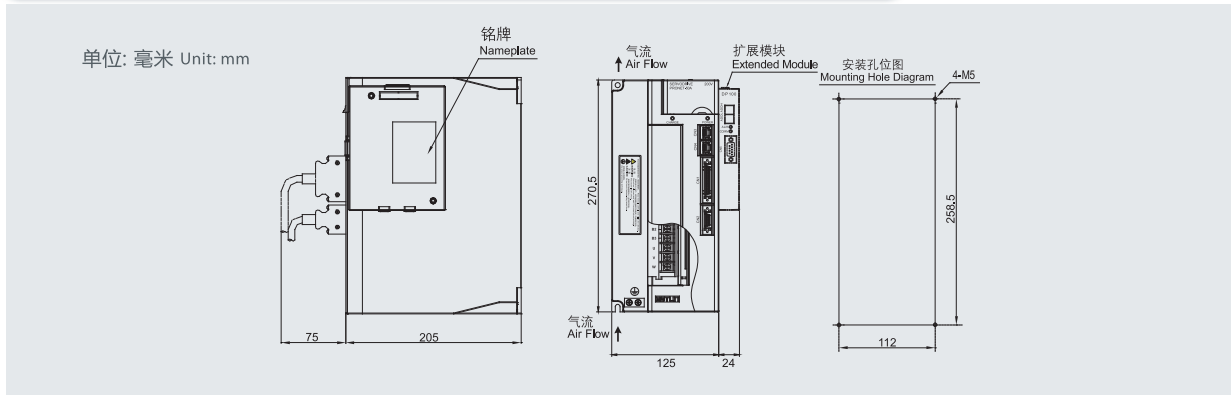
ProNet-08A/10A ProNet-E-08A/10A



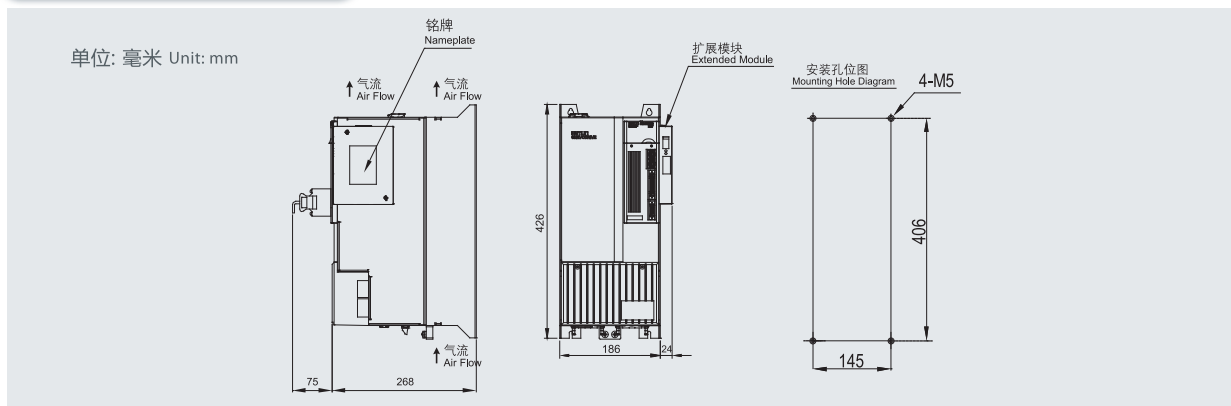
ProNet-10D/15A/15D/20A/20D ProNet-E-10D/15A/15D/20A/20D



ProNet-30A/30D/50A/50D/75D ProNet-E-30A/30D /50A /50D



ProNet-1AD/1ED/2BD



配件 Accessories

电缆选型/Selecting Cables

| 名称 Name | 型号 Model | 规格 Specifications | |
|--|------------|-------------------|--|
| 连接器套件 Connector Kit | CN1 | EC-CN1-50 | |
| | CN2 | EC-CN2-20 | |
| 通讯电缆 Communication Cables | CN3 | PSC-CC24-XX | |
| 串行编码器电缆 Serial Encoder Cables | EMJ | PSP-JE24-XX | |
| | | PAP-JE24-XX | |
| | EMG EMB | PSP-GA24-XX | |
| | | PAP-GA24-XX | |
| 省线式增量编码器电缆 Wire-saving Incremental Encoder Cables | EMJ | BMP-JE24-XX | |
| | | BMP-JB24-XX | |
| | EMG | BMP-GA24-XX | |

| | | | |
|----------------------------|---|-------------------|--|
| 旋转变压器电缆 Resolver Cables | EMG EMB | PRP-GA24-XX | |
| 动力电缆 Power Cables | EMJ | PDM-JE18-XX | |
| | | PDM-JB18-XX | |
| | EMG-10A EMG-15A EMG-10D EMG-15D EMG-20D | PDM-GA16-XX | |
| | EMG-20A | PDM-GA14-XX(V100) | |
| | EMG-30A EMG-50A EMG-30D EMG-50D | PDM-GD12-XX | |

外围装置选型/Selecting Peripheral Devices

| 伺服驱动器 Servo Drive (ProNet) | 伺服驱动器 Servo Drive (ProNet-E) | 主电路电压 Main Circuit Voltage | 内置再生电阻器规格 Specifications for Internal Regenerative Resistor | 再生电阻器最小值 Min.Allowable Resistance | 三相滤波器额定输入 电流最小值 Min. Rated Input Current for Three- phase Filters | 断路器最小额定 电流 Min. Rated Current for Circuit Breaker |
|------------------------------------|--------------------------------------|----------------------------------|--|---|---|---|
| ProNet-02A | ProNet-E-02A | 200-230VAC | 50Ω/60W外接 External connection | 25Ω | — | 10A |
| ProNet-04A | ProNet-E-04A | 200-230VAC | 50Ω/60W外接 External connection | 25Ω | — | 10A |
| ProNet-08A | ProNet-E-08A | 200-230VAC | 50Ω/60W | 25Ω | — | 25A |
| ProNet-10A | ProNet-E-10A | 200-230VAC | 50Ω/60W | 25Ω | — | 25A |
| ProNet-15A | ProNet-E-15A | 200-230VAC | 60Ω/80W | 25Ω | — | 35A |
| ProNet-20A | ProNet-E-20A | 200-230VAC | 60Ω/80W | 25Ω | — | 55A |
| ProNet-30A | ProNet-E-30A | 200-230VAC | 10Ω/300W | 10Ω | 27A | 70A |
| ProNet-50A | ProNet-E-50A | 200-230VAC | 10Ω/300W | 10Ω | 42A | 100A |
| ProNet-10D | ProNet-E-10D | 380-480VAC | 200Ω/80W | 50Ω | — | 12A |
| ProNet-15D | ProNet-E-15D | 380-480VAC | 200Ω/80W | 50Ω | — | 20A |
| ProNet-20D | ProNet-E-20D | 380-480VAC | 200Ω/80W | 40Ω | — | 24A |
| ProNet-30D | ProNet-E-30D | 380-480VAC | 40Ω/300W | 35Ω | 14A | 33A |
| ProNet-50D | ProNet-E-50D | 380-480VAC | 40Ω/300W | 20Ω | 23A | 55A |
| ProNet-75D | | 380-480VAC | 40Ω/300W | 20Ω | 27A | 60A |
| ProNet-1AD | | 380-440VAC | 20Ω/1.5KW外接 External connection | 17Ω | 42A | 80A |
| ProNet-1ED | | 380-440VAC | 15Ω/1.5KW外接 External connection | 12Ω | 57A | 120A |
| ProNet-2BD | | 380-440VAC | 10Ω/3KW = 2 × 20Ω/1.5KW 并联外接 External parallel connection | 8Ω | 82A | 160A |



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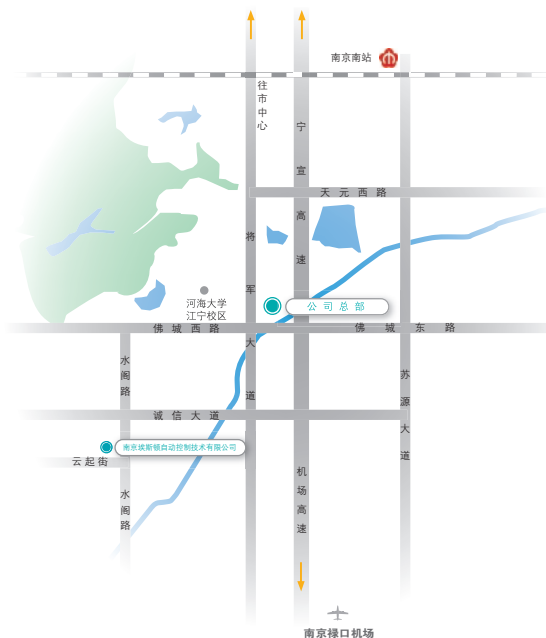
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Version: ProNet-1307A

内容如有更改，恕不另行通知。