

纺织行业专用系统解决方案

Dedicated Textile Machinery Solutions

创变·精彩



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服务与技术支持APP

深圳市汇川技术股份有限公司

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V5.0

资料编码 L6210070

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公司简介

About Inovance



汇川苏州二期厂区
Suzhou Inovance Headquarters Phase II

深圳市汇川技术股份有限公司专注于工业自动化控制和新能源相关产品的研发、生产和销售，定位服务于中高端设备制造商，以拥有自主知识产权的工业自动化技术为基础，在经营过程中坚持进口替代、行业营销、为细分市场客户提供整体解决方案的经营模式，实现企业价值与客户价值共同成长。

经过15年的发展，公司已经从单一的变频器供应商发展成机电液综合产品及解决方案供应商。目前公司主要产品包括：①服务于智能装备领域的工业自动化产品，包括各种变频器、伺服系统、控制系统、工业视觉系统、传感器、高性能电机、高精密丝杠等核心部件及机电液一体化解决方案；②服务于工业机器人领域的核心部件、整机及解决方案，包括机器人专用控制系统、伺服系统、视觉系统、高精密丝杠、SCARA机器人、六关节机器人等；③服务于新能源汽车领域的动力总成产品，包括各种电机控制器、辅助动力系统、高性能电机、DC/DC电源及动力总成系统等；④服务于轨

Shenzhen Inovance Technology Co., Ltd., dedicated to R&D, manufacturing and sales of industrial automation control products, is positioned in serving midrange and high-end equipment manufacturers. On the basis of owning industrial automation technologies with proprietary intellectual property rights, Inovance perseveres in import substitution, industry marketing and providing total solution to customers in segment market and achieves growth of both enterprise value and customer value.

Inovance has developed into a supplier of comprehensive electro-hydraulic products and the solutions in addition to AC drives. Main products include: 1) industrial automation products for intelligent equipment, such as AC drives, servo systems, control systems, industrial vision systems, sensors, high-performance motors and high-precision screws and integrated electro-hydraulic solutions; 2) core parts, overall units and solutions for industrial robots, such as robot-specific control systems, servo systems, vision systems, high-precision screws, SCARA robot and six-joint robot; 3) powertrain products for new energy vehicles, such as assorted motor controllers, auxiliary power systems, high-performance motors, DC/DC supply and powertrain systems; and 4) traction and control systems for rail

道交通领域的牵引与控制系统，包括牵引变流器、辅助变流器、高压箱、牵引电机和TCMS等；⑤服务于设备后服务市场的工业互联网解决方案，包括工业云、应用开发平台、智能硬件、信息化管理平台等。公司产品广泛应用于新能源汽车、电梯、空压机、工业机器人/机械手、3C制造、锂电池、起重、机床、金属制品、电线电缆、塑胶、印刷包装、纺织化纤、建材、冶金、煤矿、市政、轨道交通等行业。

公司是国家高新技术企业，掌握了高性能矢量变频技术、PLC技术、伺服技术和永磁同步电机等核心平台技术。截至2017年12月31日，公司拥有已获证书的专利746项，其中发明专利229项，实用新型专利413项，外观专利104项。公司于2010年9月在深交所创业板上市，股票代码：300124。

transit, such as traction converters, auxiliary converters, high-voltage boxes, traction motors and TCMS.5) industrial internet solutions for after-market services, such as the industrial clouds, application development platforms, intelligent hardware and informationized management platform. Our products are widely applied in new energy vehicles, elevators, air compressors, industrial robots/manipulators, manufacturing of 3C (computer, communication and consumer electronics), lithium battery, cranes, machine tool, metal products, wires and cables, plastics, printing and packaging, textile fibers, construction materials, metallurgy, coal mining, municipal construction, and rail transit.

As a high-tech enterprise, Inovance masters core platform technologies such as the high-performance vector frequency conversion technology, PLC technology, servo technology, and permanent magnet synchronous motor (PMSM). As of December 31, 2017, Inovance has obtained 746 certified patents including 229 invention patents, 413 utility model patents, and 104 design patents. Inovance (stock code: 300124) released the IPO on the GEM board of the Shenzhen Stock Exchange in September 2010.

植根中国 服务全球

Root in China, Serve the World

我们不仅在中国拥有一支强大的销售与服务队伍，可以解决客户的后顾之忧，还在全球20多个国家和地区设有常驻机构和服务中心，为客户在全球范围内提供产品与方案的支持和服务。

We have a strong sales and service team in China to support customer services, but also have set up resident offices and service centers in more than 20 countries and regions to provide global product and solution supports.



创新自动化 推进中国制造
Innovate automation to boost “Made-in-China”



节能减排 保护环境
Propel energy conservation and emission reduction to protect our environment



积极发展新能源技术
Research and develop new energy technologies



深圳 Shenzhen
深圳市汇川技术股份有限公司
Shenzhen Inovance Technology Co., Ltd.
深圳市汇川信息技术有限公司
Shenzhen Inovance Information Technology Co., Ltd.
深圳市汇川控制技术有限公司
Shenzhen Inovance Control Technology Co., Ltd.
苏州 Suzhou
苏州汇川技术有限公司
Suzhou Inovance Technology Co., Ltd.
苏州默纳克控制技术有限公司
Suzhou Monarch Control Technology Co., Ltd.
江苏经纬轨道交通设备有限公司
Jiangsu Kingway Rail Transportation Co., Ltd.
苏州汇川联合动力系统有限公司
Suzhou INOSA United Power System Co., Ltd.

香港 HK
汇川技术（香港）有限公司
Inova Automation Co., Limited

长春 Changchun
长春汇通光电技术有限公司
Changchun Huitong Optoelectronic Co., Ltd. (Weton)

上海 Shanghai
上海默贝特电梯技术有限公司
Shanghai MoBst Elevator Technology Co., Ltd.
上海莱恩精密机床附件有限公司
Shanghai LAIEN Machine Tool Parts Co., Ltd.

南京 Nanjing
南京汇川工业视觉技术开发有限公司
Nanjing Inovance Industrial Vision Technology Co., Ltd.

宁波 Ningbo
宁波伊士通技术股份有限公司
Ningbo EST Technology Co., Ltd.

粗纱机系统解决方案

Roving machine system solutions

纺纱工序
Spinning process

系统拓扑 System Topology

粗纱机逻辑控制器
Roving machine logice controller

电源板
Power board

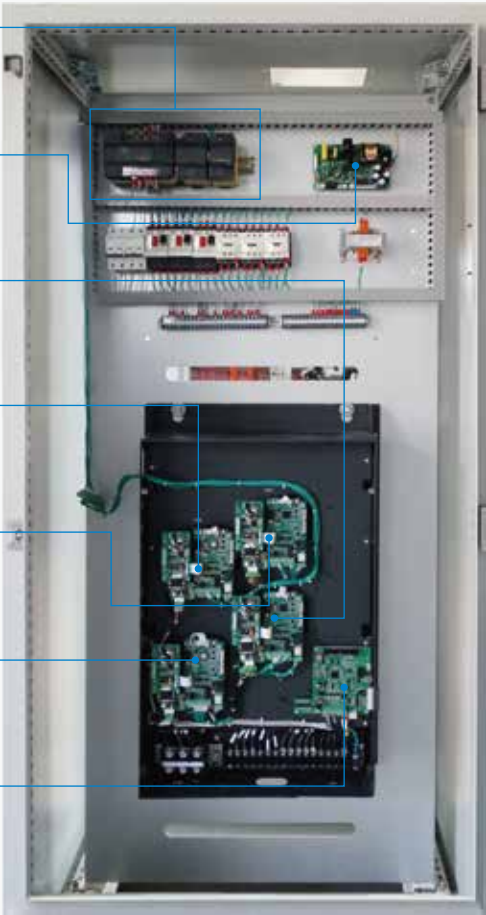
筒管变频器
Bobbin drive

锭翼变频器
Flier drive

罗拉变频器
Roller drive

升降变频器
Lift drive

粗纱机工艺控制器
Roving machine process controller



人机交互系统
HMI



电机编码器
Encoder



同步电机
Synchronous Motor



现场应用 Field Applications



系统特点 System Features

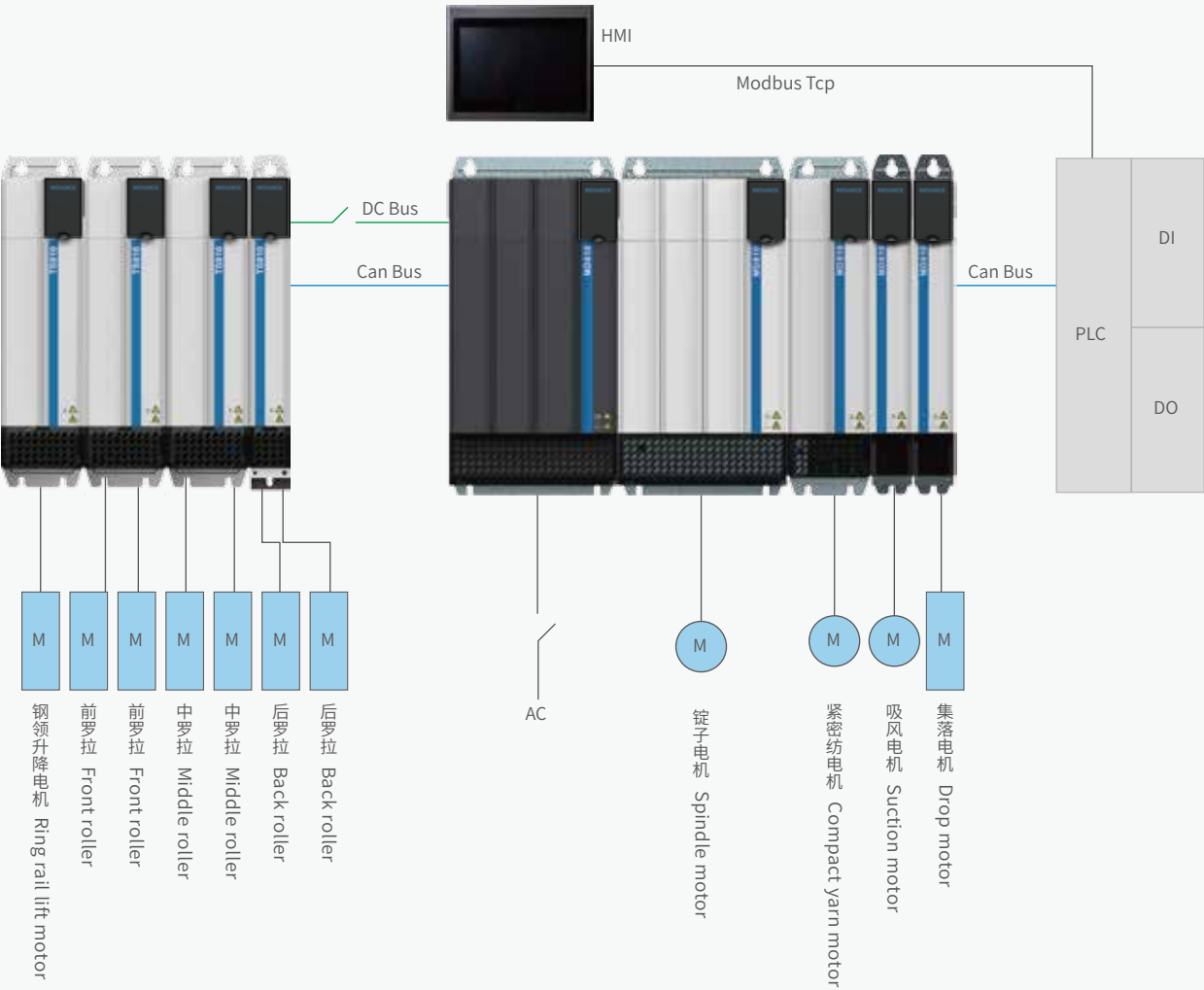
- 一体化设计方式，集成锭翼、卷绕、罗拉及龙筋四电机控制，减少安装空间、方便安装、维护及保养；
The solution integrates the flier, winder, roller and lifter motor controllers, thus saving installation space and simplifying installation and maintenance.
- 共直流母线设计，集成断电停车逻辑，保证断电时张力稳定，同步停车；
The solution adopts the common DC bus and integrates black-out stop logic to ensure tension stability and synchronous stop in case of a power failure.
- 同步跟随采用CAN总线方式，能够实现实时脉冲同步，并且不需配置同步卡，可简化外围硬件配置及接线；
Synchronous tracking employs the CAN bus method to realize pulse synchronization with no synchronization card, thus saving peripheral devices and cables.
- 嵌入式安装方式，无风扇设计，满足纺织现场环境要求；
The solution supports embedded installation and needs no fan to meet environmental requirements in textile factories.
- 标配电源板，为PLC提供电源，可以节省用户端UPS或存储电容；
The power board is provided to power the PLC, saving the UPS or storage capacitor for users.
- 内置SD卡接口（方便用户存储数据）、以太网总线接口（方便用户端网络联网）及蓝牙接口（方便用户调试及监控参数）；
The solution provides the SD card interface (for data storage), Ethernet bus interface (for networking) and Bluetooth interface (for commissioning and parameter monitoring).
- 选配参数拷贝智能键盘，参数一键下载，可存储多组参数。
The optional smart keypad with the parameter copy function achieves one-key parameter download and storage of multiple groups of parameters.

全电细纱机系统解决方案

Electric spinning machine system solution

纺纱工序
Spinning process

系统拓扑 System Topology



现场应用 Field Applications



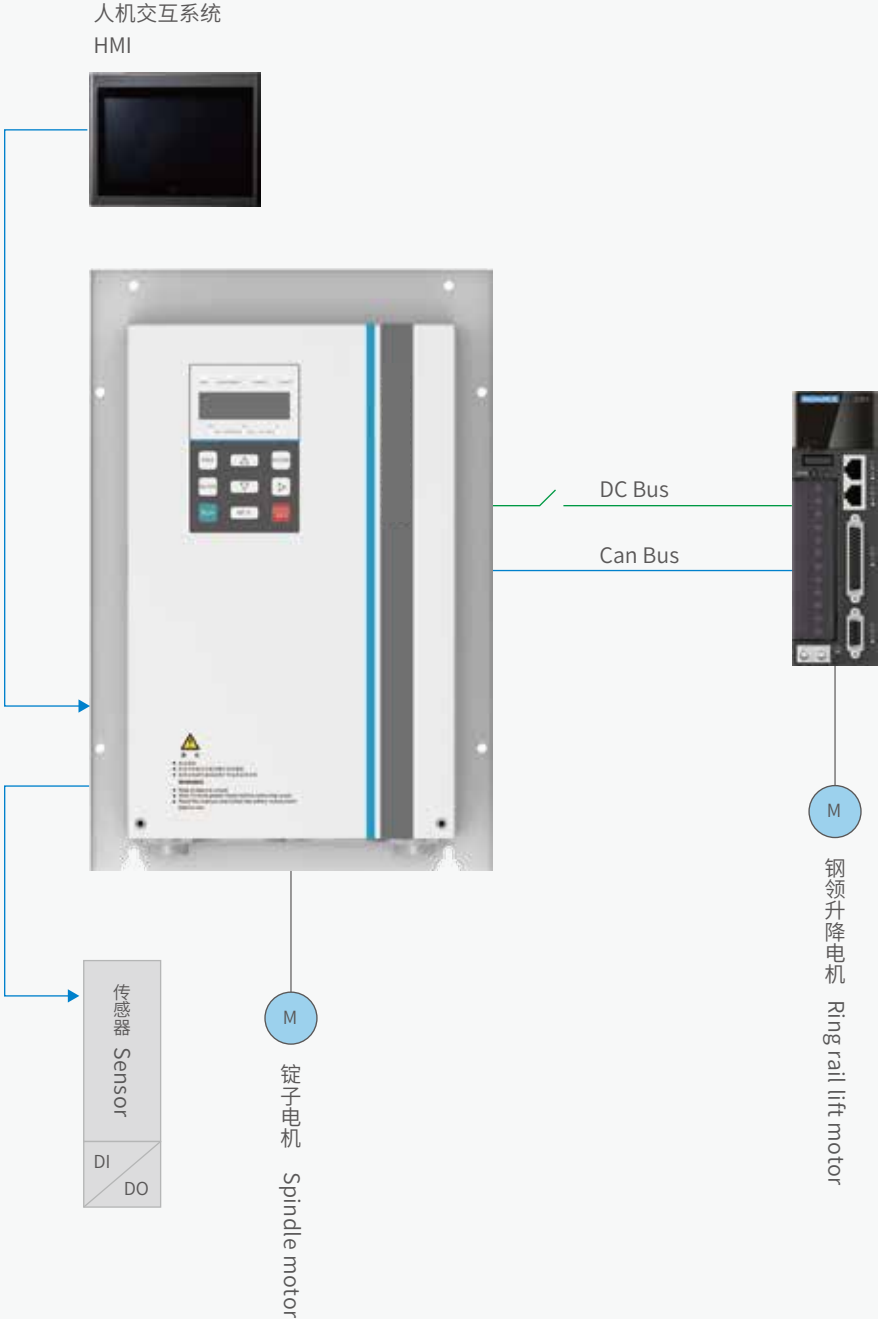
系统特点 System Features

- 细纱机全电控制系统，包含锭子电机驱动、前中后罗拉驱动、钢领板升降驱动、集落传动控制，实现细纱机轴端电子化；
The spinning frame pure-electric control system includes the spindle motor drive, front-middle and back-roller drive, ring plate lift drive and colony drive control to realize electronization on shaft end.
- 纺纱工艺提升，目标可支持普通纺纱工艺、花式纺纱工艺；
The improved spinning process aims to support both regular and fancy spinning.
- 降低设备操作难度，节省机械劳动强度，纺纱工艺更改电子化、支持在线/离线修改；
Simplified device operations lessen the intensity of mechanical labor. The spinning process can be modified electronically such as online/off-line modification.
- 提高生产效率，优化成型曲线，有效降低断头，保证产量及前后道流程高效生产；
Production efficiency and formation curves are optimized to reduce the broken ends, ensuring stable capacity and efficient operation during the whole process.
- 全电系统可实现断电停机不断纱、不堆纱，晃电不停机设备正常运行；
The pure-electric system prevents broken yarns and yarn stacking caused by stop at power failure, and allows sustained and proper operation during voltage dip.
- 驱控一体化，采用高速总线，多传平台电柜设计及安装调试简单，整体体积降低，防棉絮设计，保证细纱机稳定运行。
The system integrates drive and control and adopts high-speed buses. The multidrive electric cabinet features easy installation and commissioning and reduced the overall volume. The cotton fiber prevention design ensures stable operation of the spinning frame.

细纱机系统解决方案(主轴变频+电子升降)

Spinning machine system solution(Master axis frequency converter + electric lift)

系统拓扑 System Topology



现场应用 Field Applications



系统特点 System Features

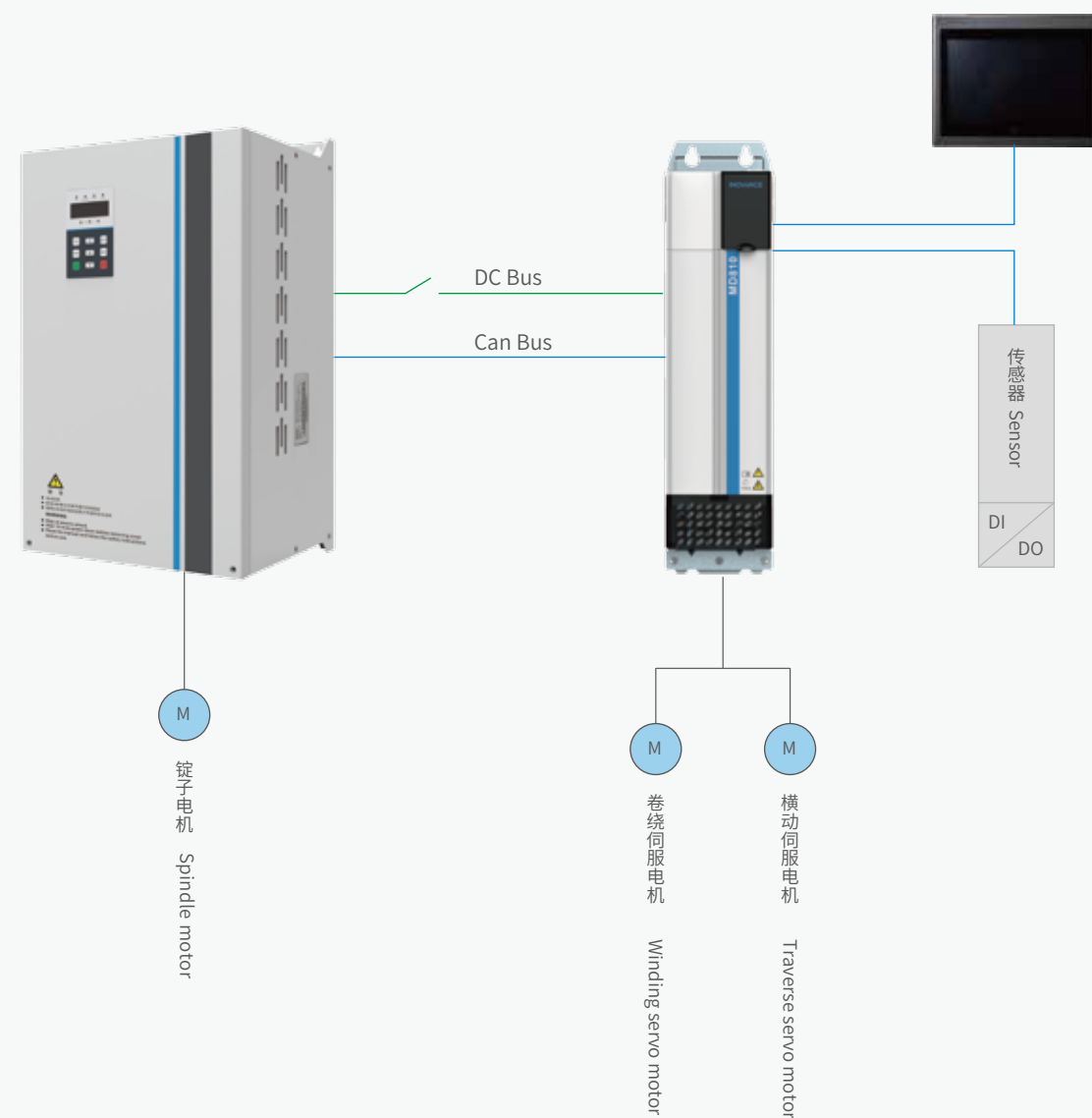
- 主轴及紧密纺变频均采用无风扇设计、穿墙式安装方式，可以更好的满足纺纱环境；
The VFD of main shaft and compact spinning, all designed with no fan and through wall installation, which can better satisfy the requirement of spinning environment.
- 方便实现共直流母线设计，保证断电停车不断纱、不堆纱，晃电不停机，纱线张力控制稳定；
The common DC bus design prevents broken yarns and yarn stacking caused by stop at power failure, and enables sustained operation and stable tension control during voltage dip.
- 细纱机专用变频系统，工艺内置，实现电子刹车，尾纱智能控制。
The AC drive system dedicated for the spinning frame carries built-in process to enable electronic braking and intelligent control of the yarn tail.

短纤倍捻机系统解决方案

Short-fiber two-for-one twister system solution

络并捻工序
Winding and double-twisting process

系统拓扑 System Topology



现场应用 Field Applications



系统特点 System Features

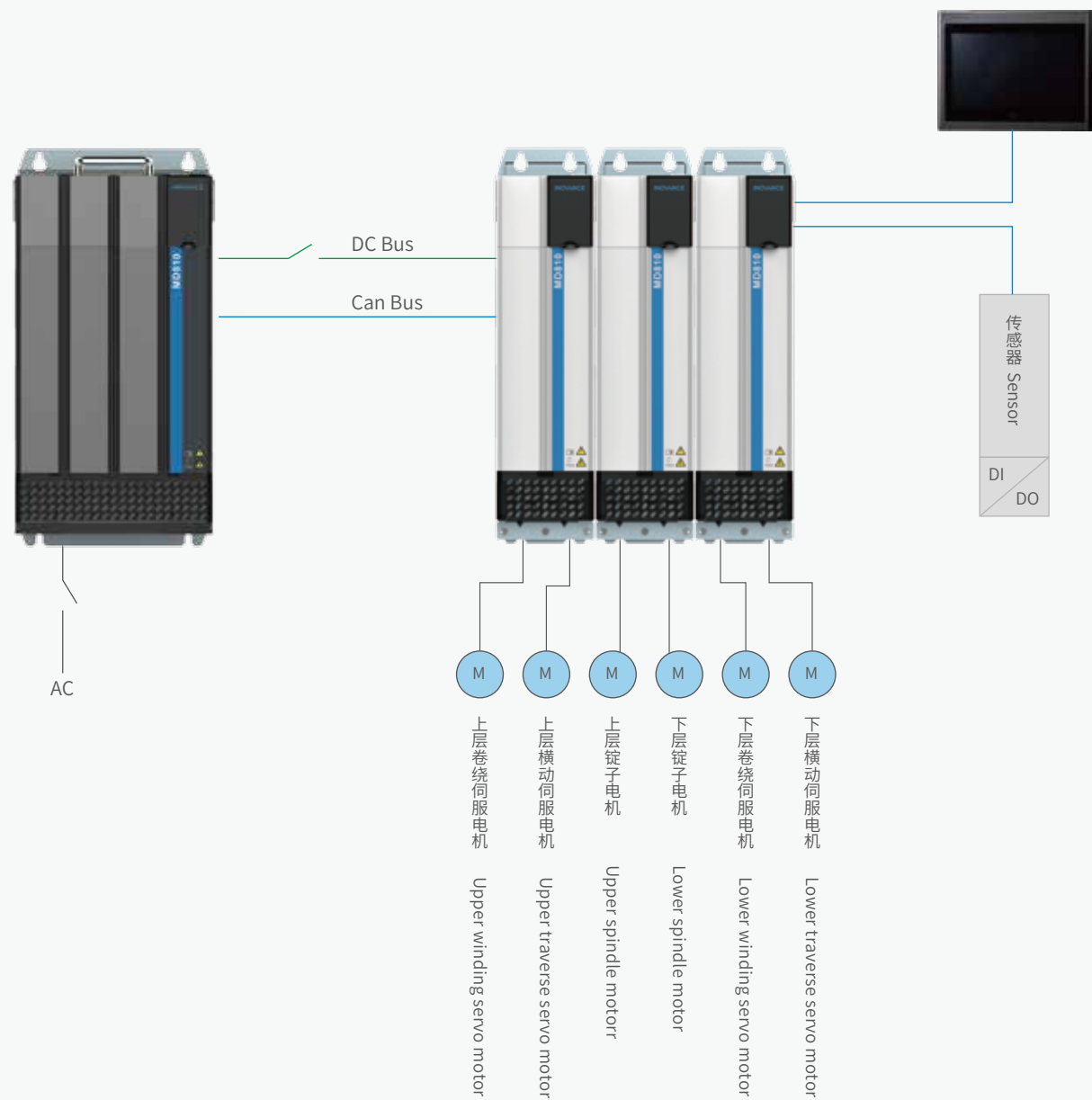
- 锭子变频器采用防棉絮专利设计,减少人工成本,提高机器工作效率;
The spindle AC drive adopts patented cotton fiber prevention design to cut down labor cost and improve working efficiency of the machine.
- 晃电不停机,断电同步停机,保证纱线捻度不变,提高纱线品质,减少浪费;
Sustained operations at voltage dip and synchronous shutdown at power failure enable the yarn twist to remain constant, which improves yarn quality and reduces wasted yarns.
- 23位绝对值编码器,节省传感器,减少误操作带来的废纱风险;
The 23-bit absolute encoder reduces the need for sensors and the risk of yarn waste caused by mal-operation.
- 伺服内置精密卷绕和数码卷绕,松筒成型,节省工序。
The servo drive has built-in precision and digital windings to realize soft-cone winding through simplified working procedures.

化纤倍捻机系统解决方案

Chemical-fiber two-for-one twister system solution

络并捻工序
Winding and double-twisting process

系统拓扑 System Topology



现场应用 Field Applications



系统特点 System Features

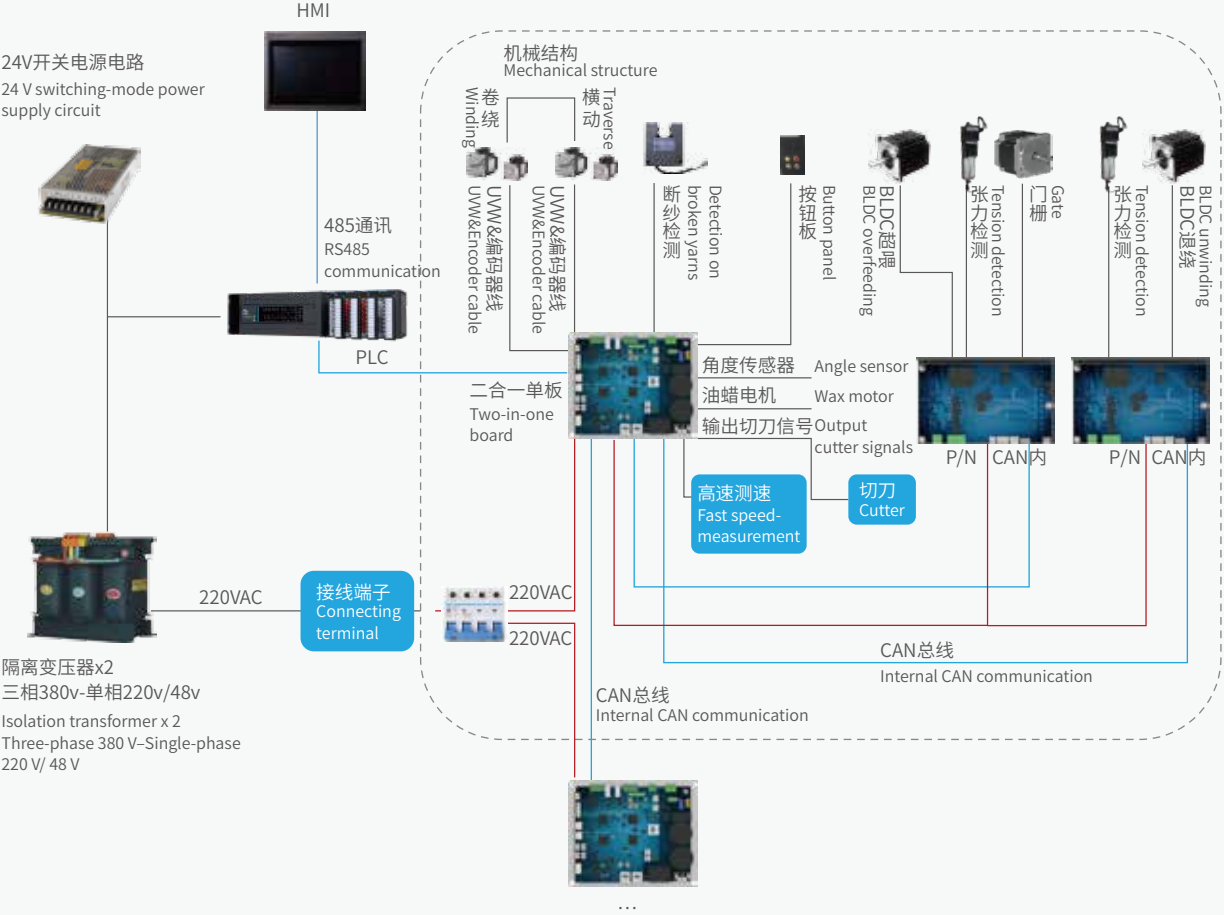
- 系统采用汇川的多传方案，体积与安装工时对比原方案降低50%；
The system adopts Inovance multidrive scheme, reducing the volume and installation man-hour by 50% over the original scheme.
- 晃电不停机，断电同步停机，保证纱线捻度不变，减少浪费；
Sustained operation at voltage dip and synchronous shutdown at power outage enable the yarn twist to remain constant, minimizing wasted yarns.
- 23位绝对值编码器，节省传感器，减少误操作带来的废纱风险；
The 23-bit absolute encoder reduces the need for sensors and the risk of yarn waste caused by mal-operation.
- 伺服内置精密卷绕和数码卷绕，色纱成型，节省工序。
The servo carries built-in precision and digital windings to realize colored yarn formation through simplified working procedures.

精密络筒机系统解决方案

precision winder system solution

络并捻工序
Winding and double-twisting process

系统拓扑 System Topology



系统特点 System Features

- 控制横动卷绕机构实现卷绕角恒定并无叠丝的卷装无叠丝、无凸肩、无网丝，密度均匀；
Enable the traverse winding mechanism to keep the winding angle constant, and allow an evenly distributed package without fiber folding, hump or ribbon yarns.
- 通过张力传感器检测纱线张力，作为闭环反馈，自动调整张力控制可以让纱线保持在设定张力值附近；
Detect the yarn tension by the tension sensor as the closed-loop feedback, automatically adjust tension control to keep the yarns staying close to the set tension.
- 通过设定防硬边曲线，可以减小换向产生的硬边，做到密度均匀；
Reduce hard edges generated during direction change and achieve uniform density by setting hard edge prevention curves.
- 可以任意设定卷装的形状，控制凹凸端面平整，无叠丝；
Set the package shape as needed to flatten the surface on convex end and eliminate fiber folding.
- 能够驱动BLDC电机，并做到无霍尔反馈；
Drive the BLDC motor directly, removing the need for hall feedback.
- 断电时全系统可以同步停车断电同步无叠纱，网纱等情况；
Support synchronous stop at power failure while preventing fiber folding and ribbon yarns.

防棉絮变频器

Fiber cotton prevention AC drive

络并捻工序
Winding and double-twisting process



TD510系列变频器，功率范围：0.4kW~55kW
TD510 System AC drive, power range:0.4kw~55kw

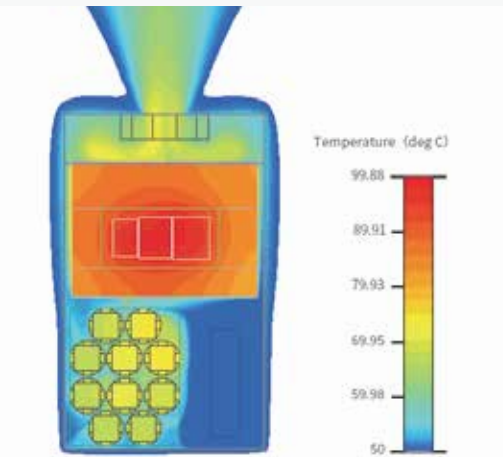


TE340

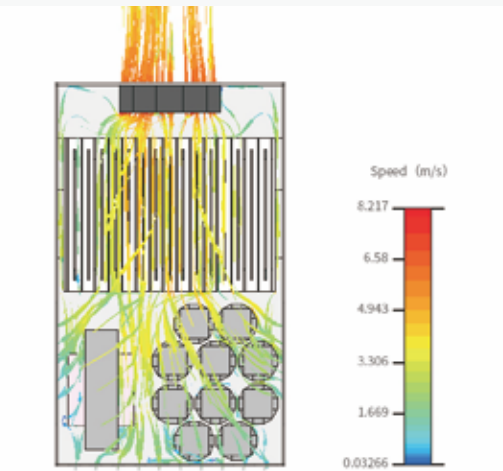


ITD500

热流分布图 Heat flux distribution map



温度分布图
temperature distribution



流体粒子图
Fluid particle

产品特点 Product Features

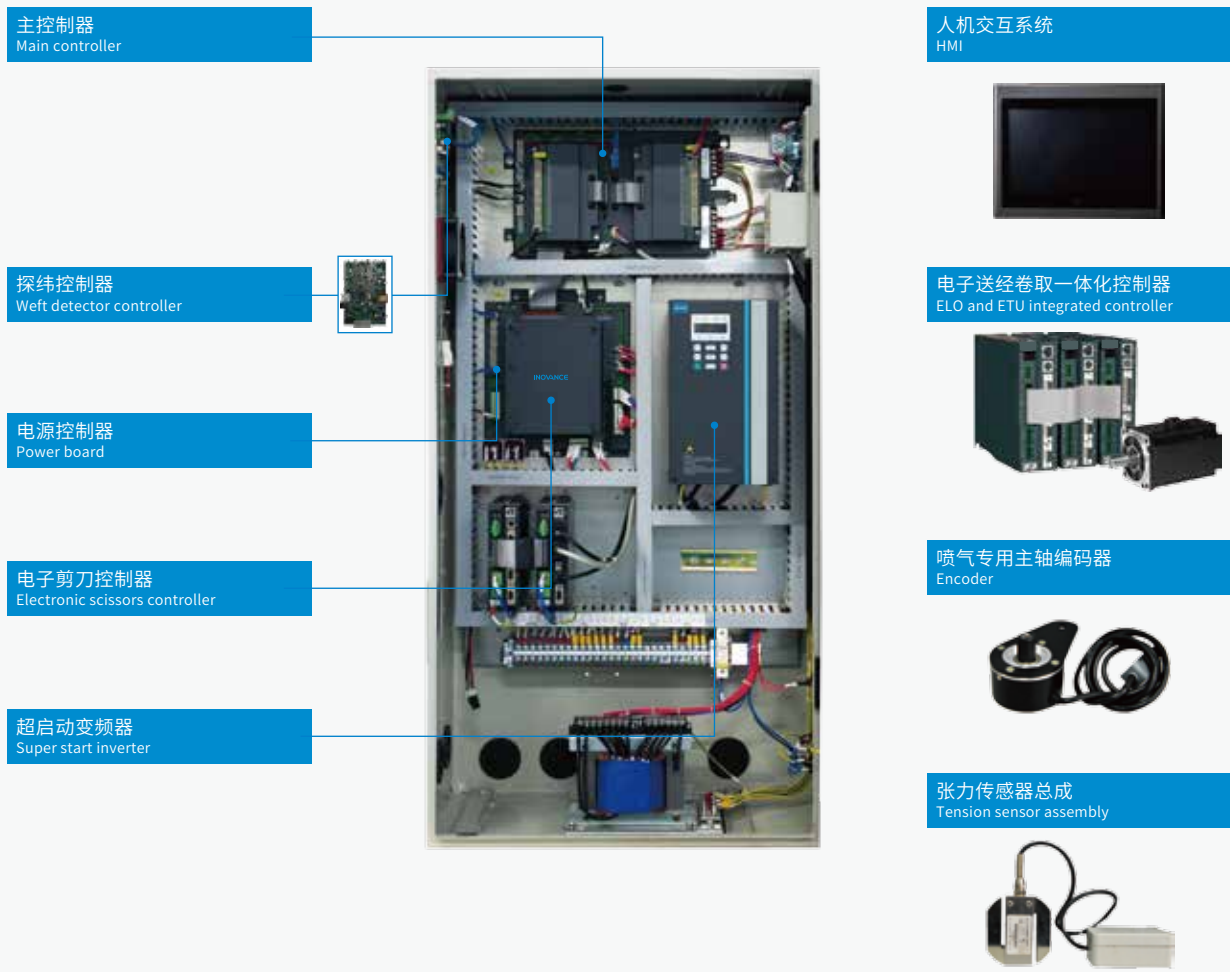
- 三个月免清理
自动清棉技术可大大减少工人清理棉絮频率，提高工作效率；
Cleanup at 3-month's Interval
Adopt automatic scutching technology to improve the working efficiency through greatly reducing the need for manual cotton fiber cleaning.
- 运行更可靠
自动清棉技术，可降低因棉絮堵塞导致的过热报警，减少纱线浪费；
Reliable operation
Adopt automatic scutching technology to reduce the number of wasted yarns caused by overheat alarms due to cotton fiber blockages.
- 纱线品质更高
报警次数减少，提高纱线品质，实现万米无接头；
High Yarn Quality
Enable knotless yarns in a range of 10,000 meters through reducing alarms and improving yarn quality.
- 减少粉尘污染
清理棉絮时大量灰尘扑面而来，长期清理对人体呼吸道和眼睛等器官会造成很大危害，使用自动清棉技术可大大减少棉絮污染的伤害。
Less Dust Pollution
Adopt automatic scutching technology to greatly reduce the harm caused by dusts to physical organs such as the respiratory tract and eyes.

AJ200-Q5 喷气织机一体化电控系统

AJ200-Q5-Integrated electronic control system of air jet looms

织造工序
Weaving process

系统拓扑 System Topology



产品配置 (标配●, 选配◎)

- 电送电卷
- 10寸触摸屏
- 48组电磁阀
- 最多支持8色选纬
- ◎ 双送单卷
- ◎ 超启动变频器
- ◎ 12路折入边电磁阀
- ◎ 4路电子剪刀
- ◎ 电子多臂
- ◎ 电子提花

Product configurations (Standard configuration●, Selection configuration◎)

- ELO and ETU
- 10 inches HMI
- 48 groups of solenoid valves
- Support a maximum of 8 colors weft-selecting
- ◎ Double ELOs and ETU
- ◎ Super start inverter
- ◎ Supports a maximum of 12-way tucked solenoid valve
- ◎ 4-way electronic scissors
- ◎ Electronic-dobby
- ◎ Electronic jacquard

现场应用 Field Applications



系统特点 System Features

高速

- 系统采用多核控制，每个模块支持CAN总线通讯，支持最高车速超过1500rpm；
- 提供变频超启动功能，内置节能算法，可进行变车速织造，满足织物需求；
- 最大支持48组电磁阀、8色选纬、结合智能引纬算法，可有效降低耗气量；

高品质

- 支持变纬密、空纬、停撬等特殊功能，且张力快速收敛，可有效保证布匹质量；
- 提供织口随动功能及多种随动补偿方式，可有效消除织物档疵；
- 最大支持12路折入电磁阀、4路电子剪刀，可实现完美光边布匹；

物联网

- 提供物联网解决方案，可对织机进行远程控制、远程故障提醒与排查，实时提供喷气织机的生产效率，产品产量等相关数据信息。

High speed

- The system adopts multi-core control. Each module supports CAN bus communication. The maximum speed is 1500 rpm;
- Support super start function, integrated Energy-saving Algorithm, variable-speed weaving weft density, change to meet complex fabric requirement;
- Supports a maximum of 48 groups of solenoid valves. It introduces the intelligent weft insertion algorithm to effectively reduce air consumption;

High quality

- Supports weft density adjustment, empty weft and weft stop prying functions. The tension can be converged rapidly to ensure quality of fabrics;
- Support fabric and variety of follow-up compensation methods, which can eliminate fabric defects efficiently;
- Supports a maximum of 12 channels tucked solenoid valve, 4-way electronic scissors, you can achieve the perfect Eaves cloth;

IOT

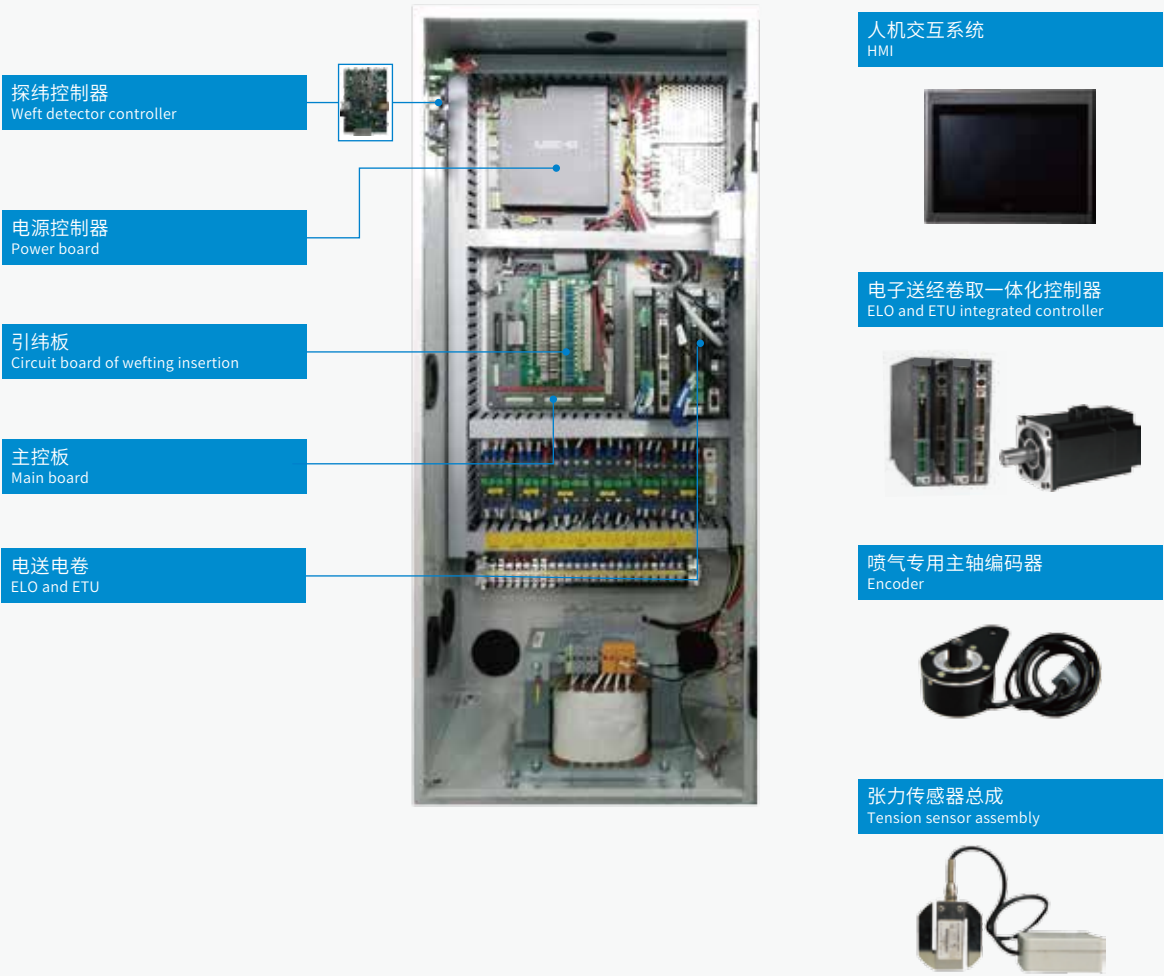
- Support internet of things solution, remote control of looms, remote error mention and test, provide information about production efficiency, production output and other related data of the looms .

AJ200-Q3 喷气织机电控系统

AJ200-Q3-Integrated electronic control system of air jet looms

织造工序
Weaving process

系统拓扑 System Topology



产品配置 (标配●, 选配◎)

- 电送电卷
- 7寸触摸屏
- 24组电磁阀
- 2色选纬
- ◎ 机送机卷

Product configurations (Standard configuration●, Selection configuration◎)

- ELO and ETU
- 7 inches HMI
- 24 groups of solenoid valves
- Supports 2 colors weft-selecting
- ◎ Mechanical let off and take up

现场应用 Field Applications



系统特点 System Features

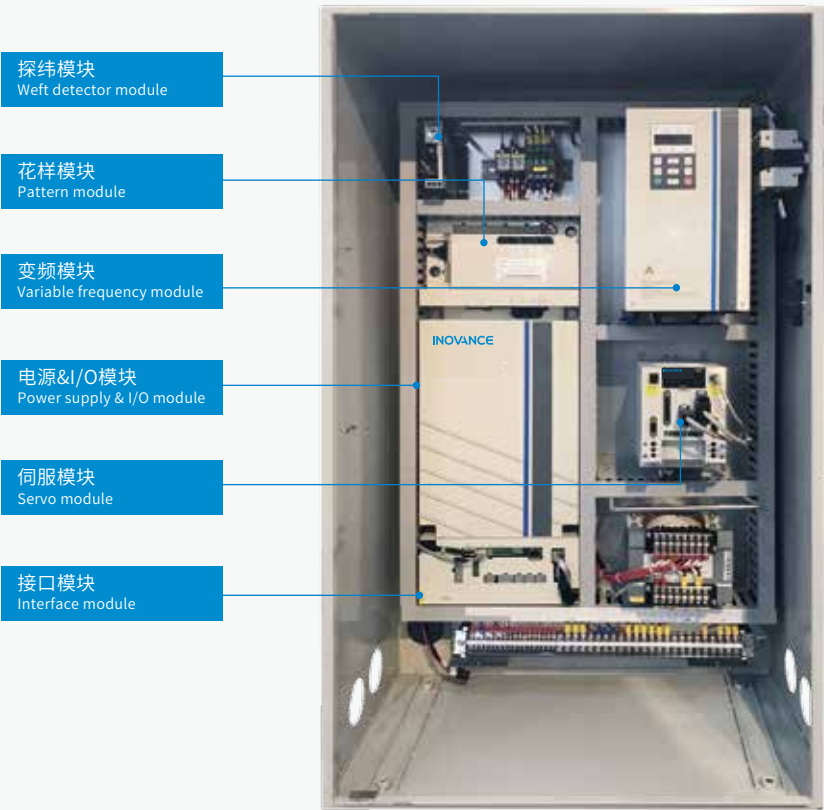
- 最大支持24组电磁阀、2色选纬、结合智能引纬算法，可有效降低耗气量；
- 支持变纬密、空纬、停撬等特殊功能，且张力快速收敛，可有效保证布匹质量；
- 提供织口随动功能及多种随动补偿方式，可有效消除织物档疵；
- 提供物联网解决方案，可进行远程故障提醒与排查，实时提供喷气织机的生产效率，产品产量等相关数据信息。
- Supports a maximum of 24 groups of solenoid valves. It introduces the intelligent weft insertion algorithm to effectively reduce air consumption;
- Supports weft density adjustment, empty weft and weft stop prying functions. The tension can be converged rapidly to ensure quality of fabrics;
- Support fabric and variety of follow-up compensation methods, which can eliminate fabric defects efficiently;
- Support internet of things solution, remote control of looms, remote error mention and test, provide information about production efficiency, production output and other related data of the looms .

WJ200-A6 喷水织机一体化电控系统

WJ200-A6-Integrated electronic control system of water jet looms

织造工序
Weaving process

系统拓扑 System Topology



人机交互系统
HMI



电子送经卷取一体化控制器
ELO and ETU integrated controller



主轴编码器
Main encoder



张力传感器总成
Tension sensor assembly



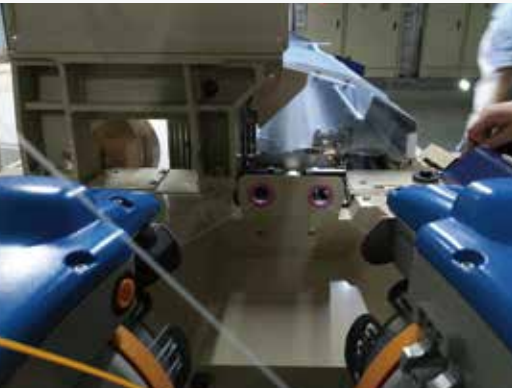
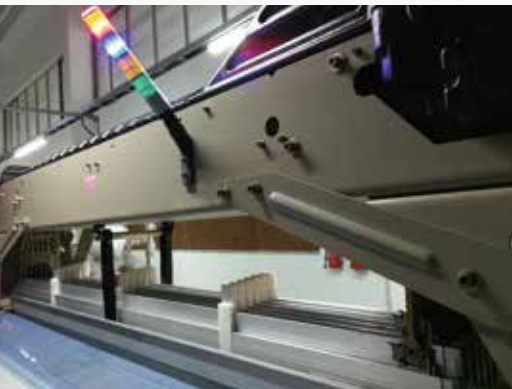
产品配置 (标配●, 选配◎)

- 电送电卷
- 7寸触摸屏
- 光电探纬
- 花样板, 4喷
- 超启动变频器
- ◎ 双送单卷
- ◎ 接触器供电
- ◎ 电子多臂
- ◎ 电子提花
- ◎ 10寸触摸屏
- ◎ 光纤探纬

Product configurations (Standard configuration●, Selection configuration◎)

- ELO and ETU
- 7 inches HMI
- Photo-electricity weft detector
- Pattern card, 4 nozzles
- Super start inverter
- ◎ Double ELOs and ETU
- ◎ Powering with Contactor
- ◎ Electronic-dobby
- ◎ Electronic jacquard
- ◎ Touch-screen of 10 inches
- ◎ Optical-fiber weft detector

现场应用 Field Applications



系统特点 System Features

高品质

- 系统采用多核控制, 可支持最高车速超过1500 rpm;
- 标配变频超启动功能, 内置节能算法, 可支持变车速, 变纬密、空纬、停摆等特殊功能满足复杂织物需求;
- 内置电子送经工艺, 采用张力快速收敛算法, 可有效保证布匹质量;
- 提供织口平移功能及多种随动补偿方式, 可有效消除织物档疵;

一体化设计

- 高度集成喷水电控工艺, 电子送经、卷取工艺, 花样板工艺;
- 支持光电及光纤探纬, 采用智能探纬算法, 有效提高探纬成功率。

物联网

- 提供物联网解决方案, 可对织机进行远程控制、远程故障提醒与排查, 实时喷水织机的生产效率, 产量等相关数据。

High Quality

- The system adopts multi-core control, support maximum speed over 1500rpm;
- Support super start function, integrated Energy-saving Algorithm and special functions such as variable-speed weaving, changing weft density, empty weft, weft stop and so on; change to meet complex fabric requirement;
- Integrated ELO and ETU process and tension of fast convergence algorithm can make ensure the quality.
- Support fabric and variety of follow-up compensation methods, which can eliminate fabric defects efficiently;

Integrated design

- Highly integrated water-jet electronic control process, ELO and ETU process, pattern board process.
- Supporting photoelectric and optical fiber weft detector, integrated intelligent weft detector algorithm can Effectively improve the success rate of weft detector.

IOT

- Support internet of things solution, remote control of looms, remote error mention and test, provide information about production efficiency, production output and other related data of the looms .

WJ200-A3 喷水织机一体化电控系统

WJ200-A3-Integrated electronic control system of water jet looms

织造工序
Weaving process

系统拓扑 System Topology



现场应用 Field Applications



系统特点 System Features

- 系统采用多核控制，支持最高车速超过1000 rpm；
 - 标配变频超启动功能，内置节能算法，可进行变车速织造，满足复杂织物需求；
 - 可选配电子送经，内置张力快速收敛算法，有效提高织物质量。
 - 可提供物联网解决方案，实时监控织机的生产效率，产品产量等相关数据。
- The system adopts multi-core control, support maximum speed over 1000rpm;
- Support super start function, integrated Energy-saving Algorithm and special functions such as variable-speed weaving, changing weft density, empty weft, weft stop and so on; change to meet complex fabric requirement;
- Electronic Let-Off system of free selection, integrated tension of fast convergence algorithm, can effectively improve the quality.
- Support internet of things solution, provide information about production efficiency, production output and other related data of the looms.

产品配置 (标配●, 选配◎)

- 机送机卷
- 7寸触摸屏
- 光电探纬
- 超启动变频器
- ◎ 花样板, 2喷
- ◎ 单送经

Product configurations (Standard configuration●, Selection configuration◎)

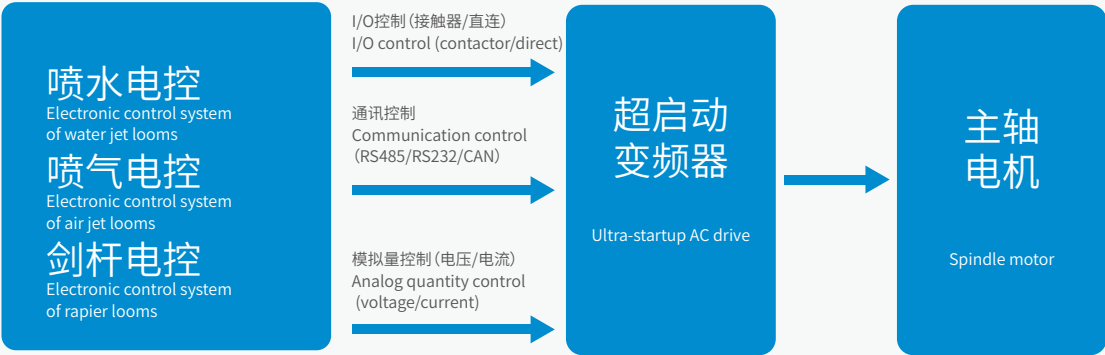
- Mechanical let off and take up
- 7 inches HMI
- Photo-electricity weft detector
- Super start inverter
- ◎ Pattern card, 2 nozzles
- ◎ ELO

ITD500-超启动变频器

ITD500-- Ultra-startup AC drive

织造工序
Weaving process

系统拓扑 System Topology



内置式 Built-in



外置式 Outboard



落地式 Floor standing

产品配置:

内置式:最大支持3.7KW电机, 带风扇

外置式:适用于改造现场, 最大支持3.7KW电机, 无风扇;最大支持5.5KW电机, 带风扇;

落地式:最大支持7.5KW电机, 无风扇。

Product configurations:

Built-in: supports a maximum of 3.7 kw motor with fans.

Outboard: designed for remolding scene, supporting a maximum of 3.7 kW motor Without Fan;

Supports a maximum of a motor of 5.5 kw with fans.

Floor standing: supports a maximum of 7.5 kw motor without fans.

现场应用 Field Applications



系统特点 System Features

超启动

■ 超启动电压与保持时间可调节, 提高启动时打纬力矩, 有效应对停机档;

调车速

■ 无需更换皮带轮, 通过简单参数设置, 即可更改织机转速;

多段速

■ 对复杂织物, 可设置不同纬色或纬密时, 织机不同转速运行, 使织机效率提升

稳定转速

■ 可降低电网波动对织机转速的影响。

节能

■ 降低电网无功损耗。

Ultra-startup

■ The ultra-startup voltage and hold time can be adjusted to raise the beating-up torque during the ultra-startup and effectively handle the stop gear.

Rotational speed adjustment

■ The rotational speed of the weaving machine can be changed by simple parameter setting, without replacing the pulley.

Multi-stage speed

■ For complex textiles available with different weft colors or weft density, the loom works at different rotating speed accordingly to increase efficiency.

Rotational speed stabilization

■ Ease impact of fluctuations in the power grid on the rotational speed of the weaving machine.

Energy saving

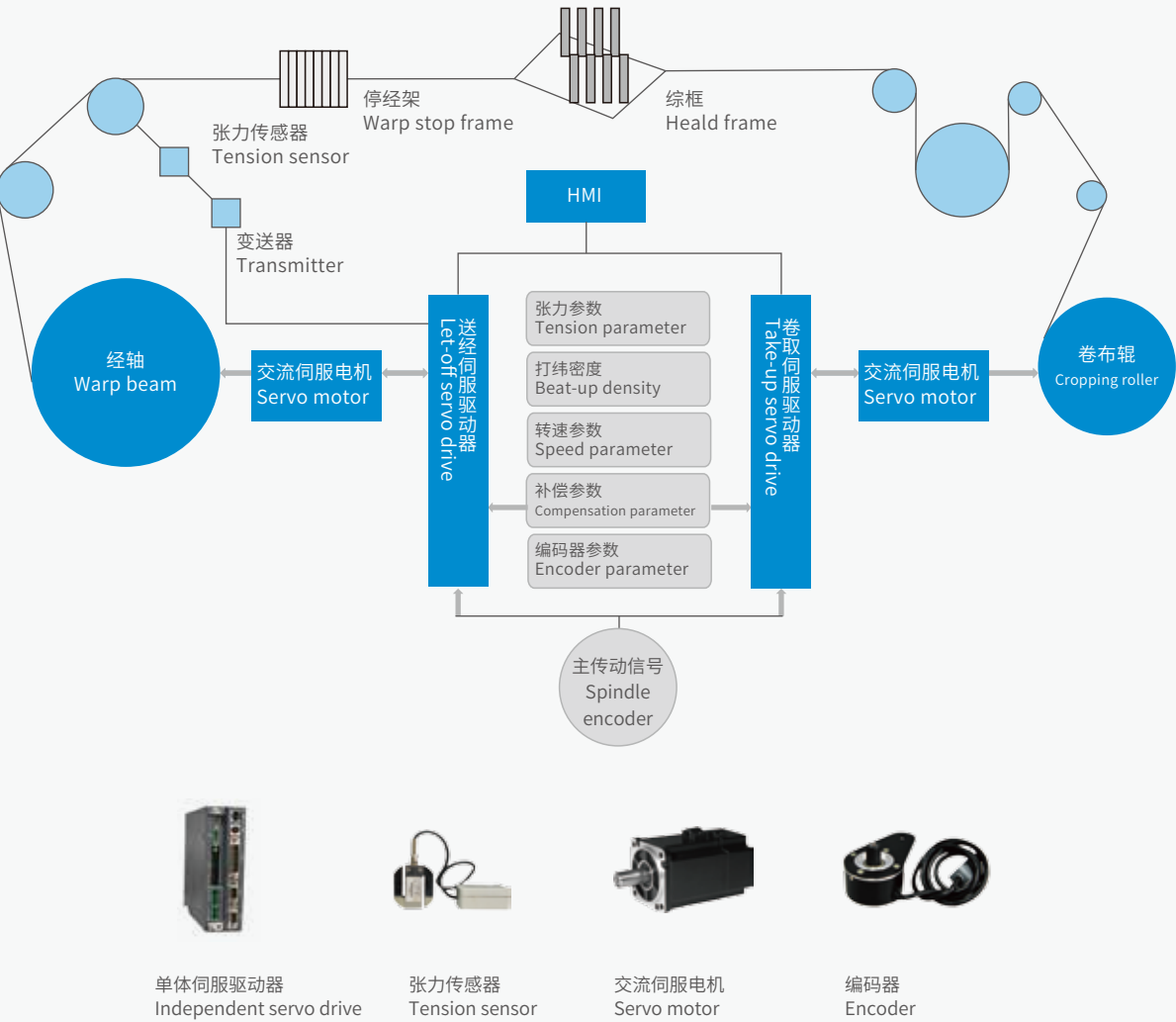
■ Reduce reactive loss of the power grid.

电子送经卷取专用伺服系统

Inovance special electronic let-off (ELO) and electronic take-up (ETU) servo system

织造工序
Weaving process

系统拓扑 System Topology



系统描述 System Description

LOTUS100电子送经卷取专用伺服系统是汇川技术在拥有国内领先的伺服驱动技术与马达技术的基础上，结合纺织的电子送经卷取工艺所创新出来的一体化专机系统，它能广泛的应用于剑杆、喷气、喷水织机。

The LOTUS100 series specialized electronic let-off and take-up servo drive is a specialized integrated system independently developed by Shenzhen Inovance Technology Co., Ltd. based on its own advanced servo drive and motor technologies and electronic let-off and take-up process. It is widely used in the rapier, air-jet, water-jet looms.

现场应用 Field Applications



系统特点 System Features

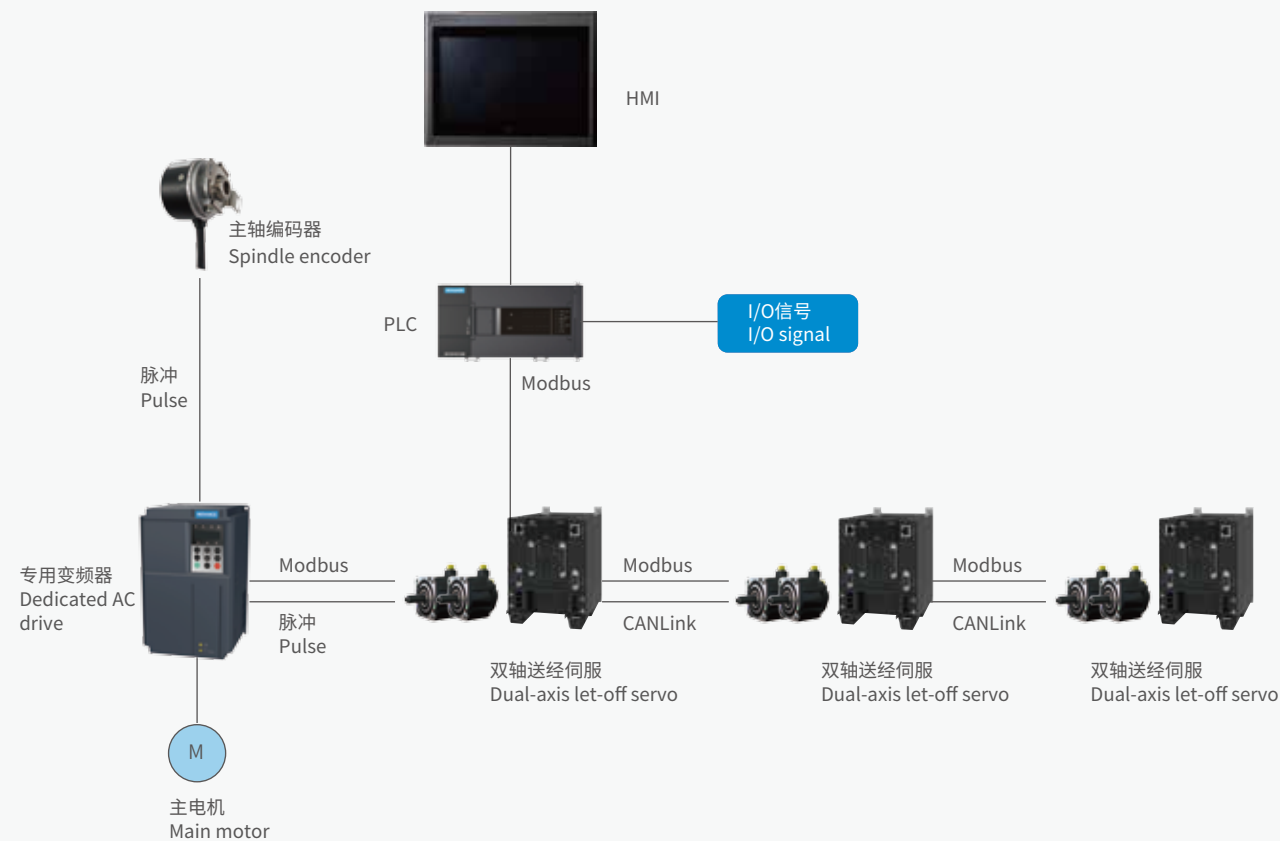
- 可选单轴控制或双轴控制
 - 内置送经，卷取两种工艺算法，用户可根据需要任意选择
 - 支持单相220V电源输入（单体驱动器），支持三相380V电源输入（二合一驱动器）
 - 支持可编程I/O逻辑控制设定，满足上位机控制需求
 - 内部控制板特殊三防漆处理，适应高温、高湿复杂环境
 - 宽功率设计，支持多种电机配置（750W，1KW）
 - 支持CAN总线，485Modbus, Rs232等通讯协议
-
- Select either single axis control or double axis control.
 - Built-in let-off or built-in take-up technology algorithms, of which users can select according to their needs.
 - Support single-phase 220V power input (independent drive), and three-phase 380V power input (two-in-one drive).
 - Support PLC L/O logic control setting and satisfy control requirements of the host computer.
 - Coated with special three-proof paint, the internal control board can be used in complex environments with high temperature and high humidity.
 - Wide power design and support various motor configurations (750W, 1KW).
 - Support CAN bus, 485Modbus, Rs232 and other communication protocols.

高速经编机系统解决方案

Solutions to high-speed warp knitting machine system

针织工序
Knitting process

系统拓扑 System Topology



现场应用 Field Applications



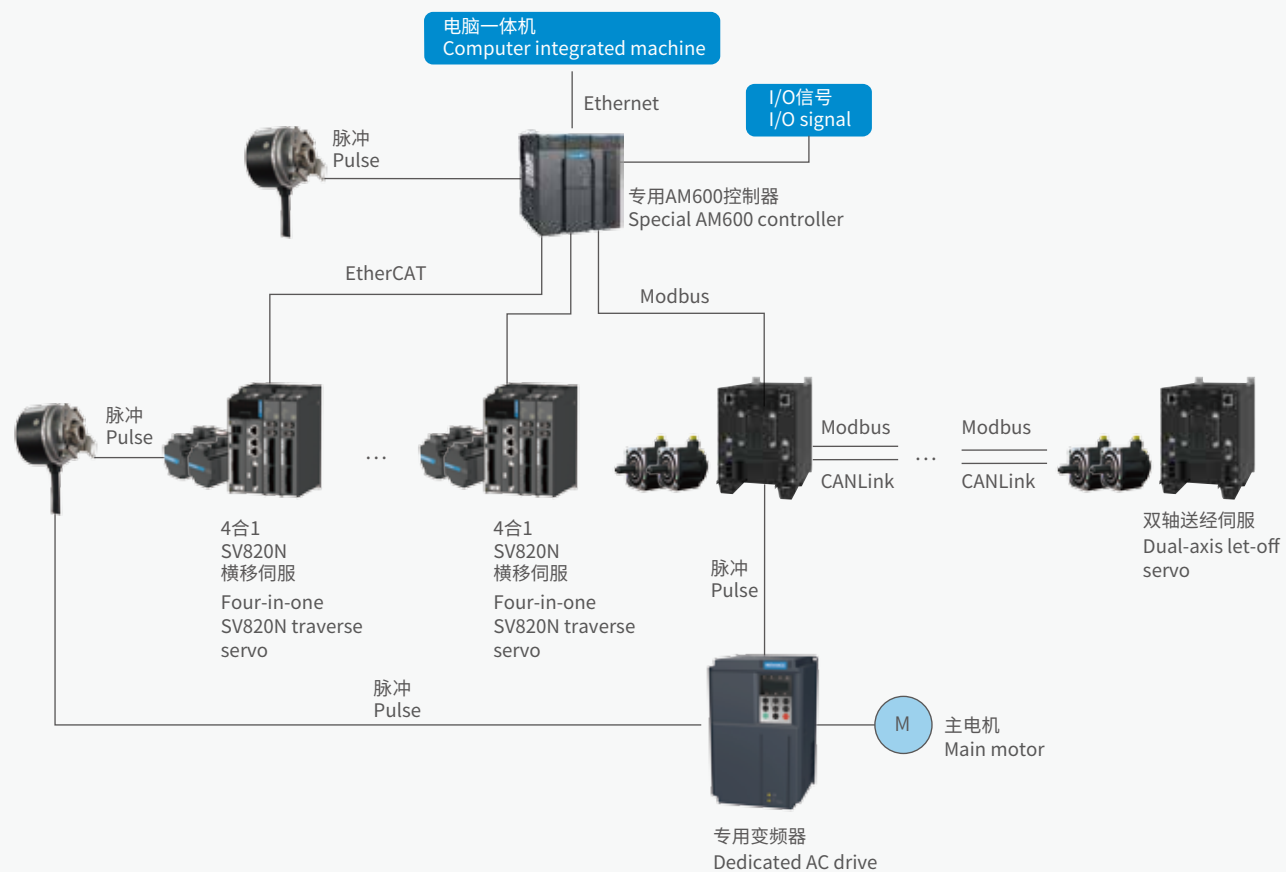
系统特点 System Features

- **主轴定位配合经纬补偿功能**：对纱线张力可调，优化甚至消除停机横条；
The spindle positioning function, through combining with let-off compensation, can be used to adjust the tension applied to yarns, reducing or even eliminating the streaky marks caused during stop.
- **无需点动电机和电磁刹车盘**：利用变频器的低频大转矩功能，实现平滑点动，节省成本；
电柜内无需380V变压器和电容。
There is no need for motor jog and electromagnetic brake disk. The low-frequency large-torque function of the AC drive enables smooth jogging at low cost.
There is no need for 380V transformers or capacitors inside the electric cabinets.
- **共直流母线接法**：变频器内置第二代断电同步算法，能在断电或者晃电情况下，保证所有轴同步停机；
With the common DC bus connection mode and 2nd-generation power failure synchronization algorithm to allow synchronous stop of all shafts during power failure or voltage dip.
- **主轴定位**：专用ITD500变频器可实现定点停机，生产中穿纱无需点动，提高效率，减轻停机横条；
Spindle positioning: The dedicated ITD500 AC drive enables accurate stop at a specified point, which removes the need for jogging during yarn-threading, improves production efficiency, and reduces the streaky marks during stop.
- **专用送经伺服**：使用CAN总线，接线方便；工艺内置，响应迅速、计算精准。
Dedicated let-off servo drive: It adopts CAN bus for convenient wiring, and provides built-in process for quick response and accurate calculation.

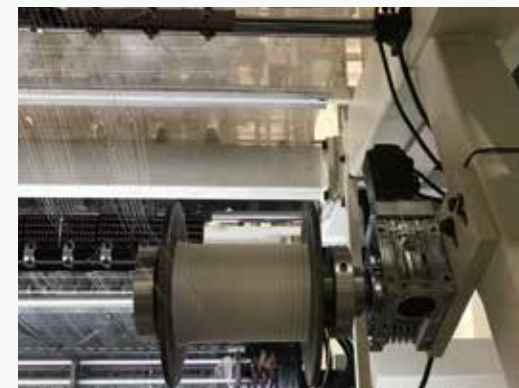
Solutions to multi-bar warp knitting machine system

Knitting process

系统拓扑 System Topology



现场应用 Field Applications



系统特点 System Features

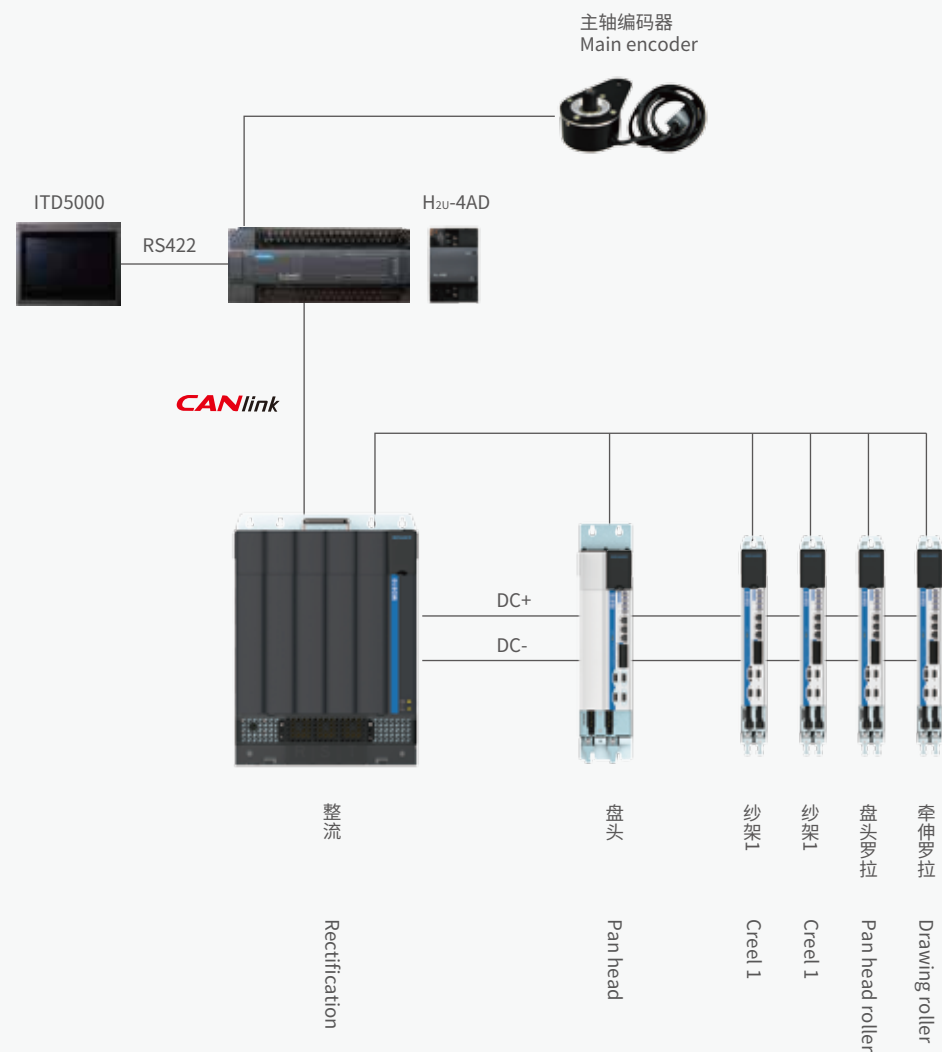
- 全电脑多梳栉经编机系统：全电系统，适应大容量多种花型；
Computerized multi-bar warp knitting machine system: all-electric system, applicable to multiple kinds of patterns with large capacity.
- 高性能控制器，大幅度降低花型下载时间；
High-performance controller to cut down the pattern download time substantially.
- EtherCAT高性能总线，高速通讯、精准控制。
High-performance EtherCAT bus, capable of high-speed communication and accurate control.

氨纶整经机IS810

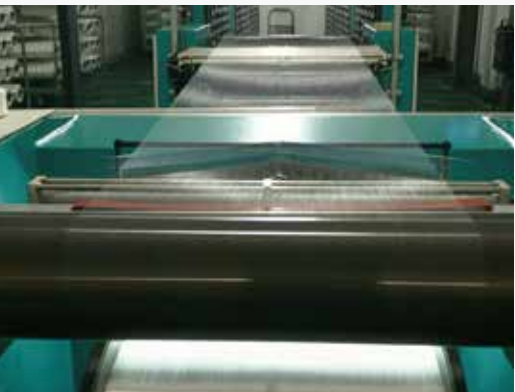
Spandex warping machine IS810

针织工序
Knitting process

系统拓扑 System Topology



现场应用 Field Applications



系统特点 System Features

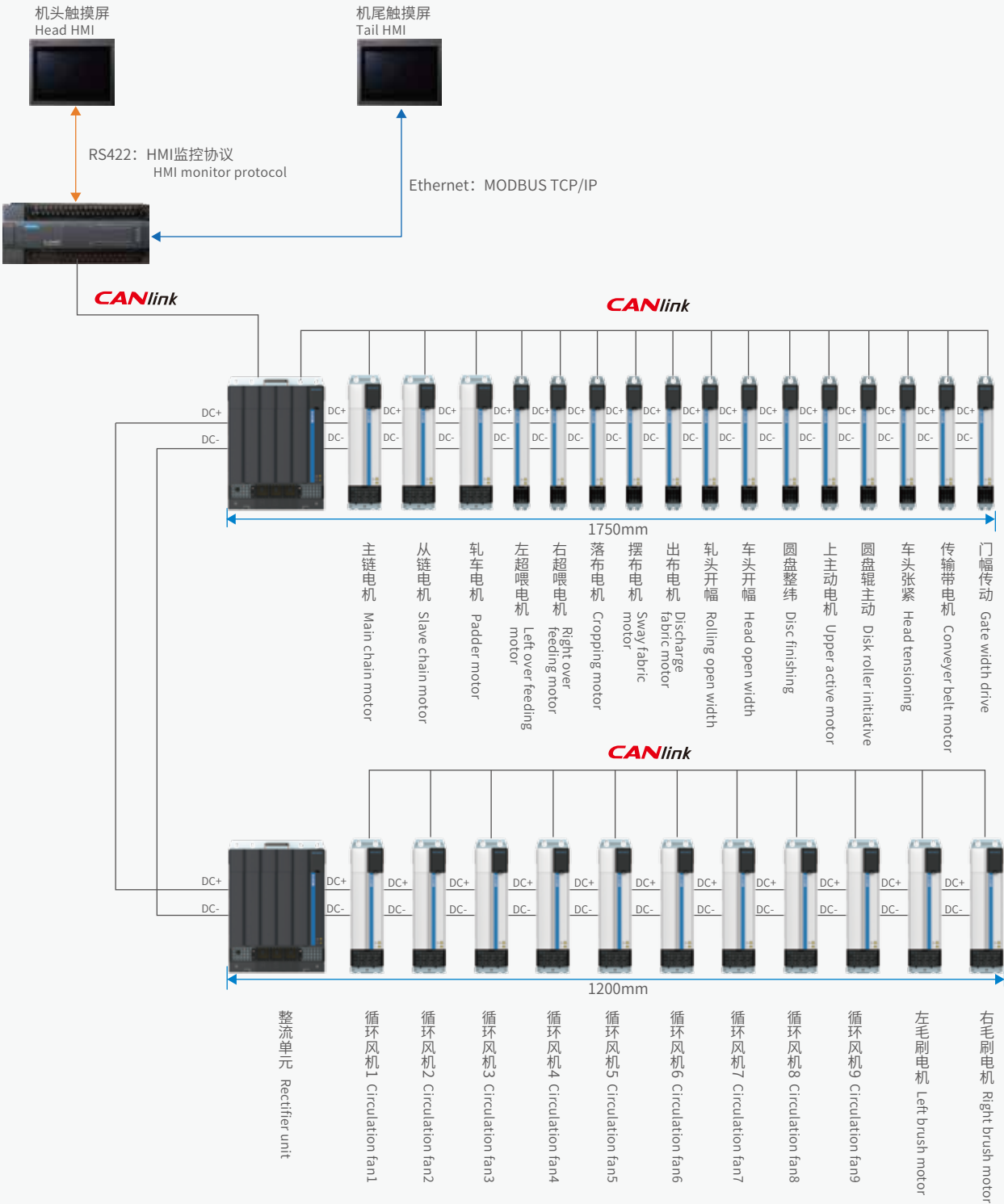
- 共母线：整流回馈单元保证了公共直流母线电压的稳定供给，又将多余的能量回馈给电网，实现了再生能源的合理利用，它能在取得较高的动静态性能、调速精度的同时将系统再生能量加以合理利用和回收。
Common bus: The commutate/feedback unit guarantees stable supply of the common DC busbar voltage, and at the same time feedback the surplus energy to the power grid, thus realizing rational use of renewable sources of energy. In other words, it can properly use and recycle renewable sources of energy of the system while ensuring high static and dynamic performance and high speed control precision.
- 23bit绝对值编码器的使用：分辨率达到23bit，即一圈可发出800多万的脉冲量，帮助伺服电机提高抑振能力，减小速度波动。
Use of 23-bit absolute encoder: A resolution of 23-bit, in other words, the feedback pulses within one revolution of load surpass 8 million, helping improve the vibration suppression capacity and reduce speed fluctuations of servo motors.
- 节省配线：驱动器进线配线减少80%，只需整流单元进线。节省5个断路器。各单元搭接母排旋转搭接，简单方便。模块正面顶部内置DC+及DC-母排，并排安装时旋转搭片即可完成母排贯通，节省配线工时和成本。
Save cables: Drive inlet cables can be saved by 80%, and only rectifier unit inlet cables are necessary. Saves 5 breakers. The overlap busbar of each unit is rotationally jointed in a simple and easy manner. The module has built-in DC+ and DC- busbars at the front top, and the busbars can be connected simply by rotating the connector when they are mounted side by side, thus saving wiring man-hour and costs.
- 节省空间：由于5个驱动器排版分布不均匀，原尺寸：长约1000mm，宽约700mm；现尺寸：长约500mm，宽约400mm，尺寸空间可节省约50%左右。
Save space: Since the 5 drives are not evenly distributed in layout, the original size is about 1000mm*700mm; current size is about 500mm*400mm, nearly 50% scale space can be saved.

拉幅定型机系统解决方案

Stenter setting machine system solution

印染工序
Dyeing and printing process

系统拓扑 System Topology



现场应用 Field Applications



系统特点 System Features

- 采用汇川书本式变频器设计，电控空间节省50%，配电成本节省50%，接线工作量减低50%；
The book type VFD design, space saving 50%, distribution cost saving 50%, wire connect work saving 50%;
- 采用汇川共直流母线方案，节省电气损耗，同时利用发电电能达到节能效果；
The DC bus solution, saving electric loss, and using the power to save energy;
- 烘箱风机工艺内置变频器，满足工艺最佳效率点，降低能耗；
VFD built-in the oven fan technology, which meets the optimum point of efficiency and reduces energy consumption;
- 工艺参数一键调试，方便多轴调试，大幅度减少调试时间，减少材料浪费。
One key debugging of process parameters, which is convenient for multi axis debugging, greatly reduces debugging time and material waste.

智能化纺织微信公众号

Wechat official account Intelligent Textile

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