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Innovative Technology

出众的品质
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合作伙伴信息:

深圳市赛远自动化系统有限公司
Shenzhen Futurelooks Automation System Co.,Ltd

[Http://www.saiyuan.net](http://www.saiyuan.net)

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第十二届中国国际高新技术成果交易会参展商
Twelfth China International Hi-Tech Fair Exhibitor

Futurelooks Automation
赛远工控 2011



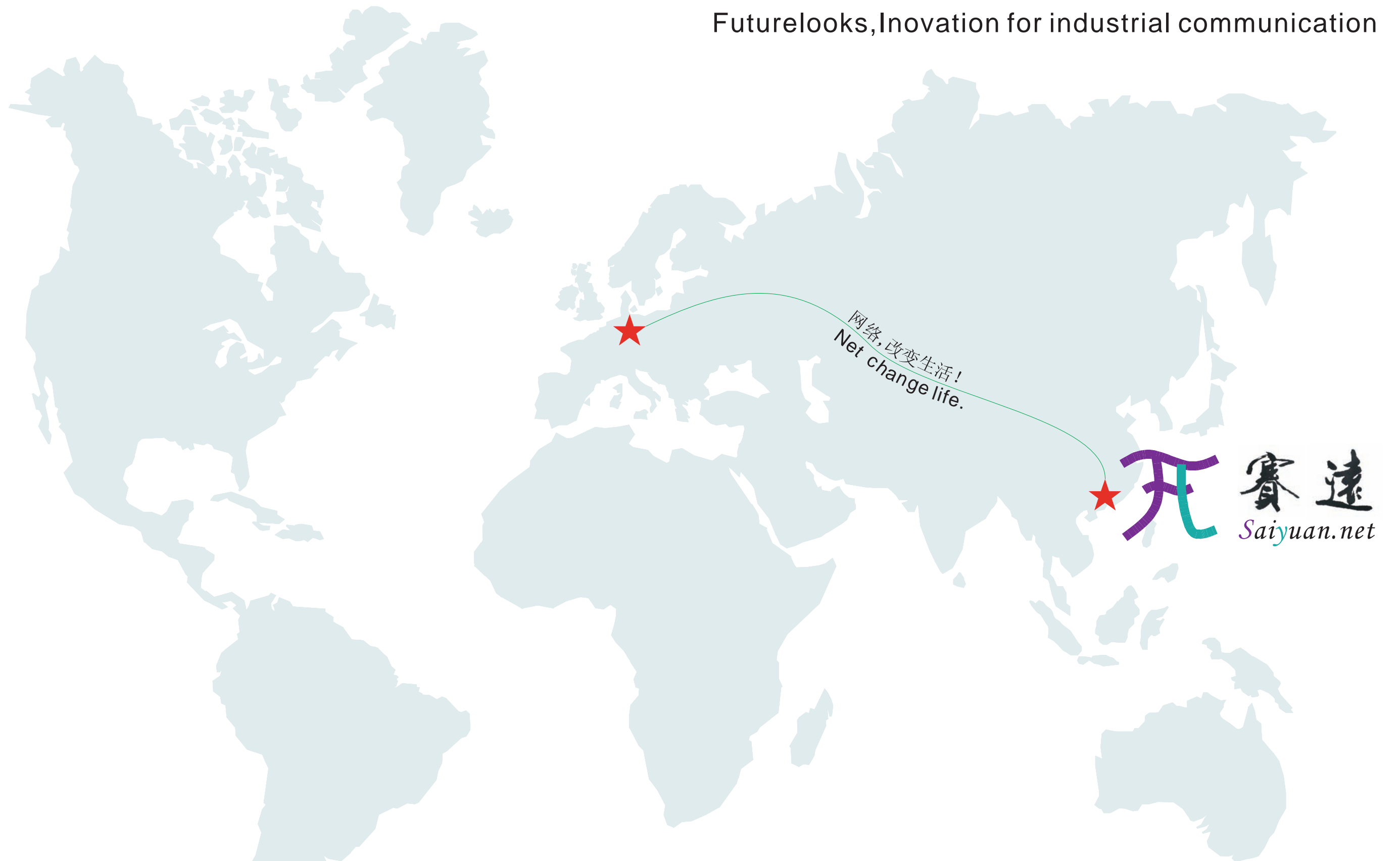
Futurelooks,Inovation for industrial communication
赛远，致力于工业自动化网络和通讯技术的创新



深圳市赛远自动化系统有限公司
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Futurelooks,Inovation for industrial communication



赛远，致力于工业自动化网络和通讯技术的创新

赛远简介 Futurelooks brief

深圳市赛远自动化系统有限公司是一家致力于提供工业自动化网络通讯产品和系统的高新技术企业。赛远于2003年11月在深圳成立，集研发、制造、销售工业通讯产品及其系统于一体，提供工业网络通讯的有线、无线，远程、近程，宽带、窄带数据传输及各种自动化设备系统的互联互通，提供上位机、交换机、PLC、HMI、仪表等系统之间的工业通讯的一站式软硬件服务。

赛远自主研发的工业通讯SY系列产品，主要包括自组网无线通讯SY-S72\SY-WT6\SY-RIO等产品，工业无线遥控系统SY-WR8，公共移动网络距离传输SY-GPRS\SY-3G等，串口转以太网设备SY-NC2\SY-NC4\SY-NC5等，基于Internet的远程通讯模块SY-RSCM和通讯软件SY-RCS等。

赛远的创新源自于市场的需求，赛远拥有一支专业的工业自动化通讯产品研发团队，由具有丰富的电子产品开发经验的电子工程师、软件工程师和丰富的工业自动化产品系统的应用经验的电气工程师组成，并通过和深圳职业技术学院等多所高校产学研的紧密合作，以工业产品的开发流程和标准，采用国际领先的技术，不断创新，追求卓越，开发出了一系列稳定、可靠的工业通讯产品，获得了多项发明和实用新型技术专利，赛远追求卓越，永不停步。

赛远的工业通讯产品，已经成功通过了和西门子、罗克韦尔、施耐德、三菱等国际著名品牌的控制系统的通讯测试，在各个不同的行业中得到广泛应用，如重型机械、环保行业、物流系统、矿山机械、灌装机械、汽车制造、水泥生产、电子设备制造、石化、供热、电力等。同时也和国内外的知名工控厂家如西门子、罗克韦尔、Westermo、浩亭、易控、科洛理思、威纶等建立了紧密的合作关系。

Shenzhen Futurelooks Automation System Co.,Ltd, established in Nov. 2003,In Shenzhen,is the outstanding solution provider for remote industrial automation networking communication products and systems, industrial network communications in wired&wireless, remote&local, broadband&narrowband transmission and a variety of automation equipment systems interoperability. Futurelooks provide one-stop services for customer's industrial communication between PC, Switch, PLC, HMI, instruments etc.

Futurelooks researched and developed SY series industrial communication products independently, including self-network wireless communications SY-S72 \ SY-WT6 \ SY-RIO and industrial wireless remote control system SY-WR8, the public mobile network transmission equipment SY-GPRS \ SY-3G, etc., serial to Ethernet equipment SY-NC2 \ SY-NC4 \ SY-NC5, etc., PLC and online debug remote communication module based internet SY-RSCM and communication software SY-RCS, and so on.

The innovation is created to meet the market requirement, Futurelooks had a professional R&D team with electronic engineers, software engineers,electrical engineers.They had rich experience in electronic product development,and had rich application of industrial automation products, together with many universities closely like Shenzhen Polytechnic,adopt international advanced technology according to industrial product development processes and standards, keep the innovation with the target to be best, developed a series of stable, reliable industrial communications products.Futurelooks's patents proved the advanced technology. Futurelooks,never stop to be the best.

Futurelooks's industrial communication products, had been tested the communication successfully with the control systems of Siemens,Rockwell, Schneider, Mitsubishi,etc. Had been applicated in various industrial branch such as heavy machinery, environmental protection industry, logistics, mining machinery, filling machinery, automobiles manufacturing, cement production, electronic equipment manufacturing, petrochemical, heating, electricity,etc.Futurelooks also had established cooperation relationship with famous automation manufacturer Siemens,Westermo,Rockwell, Harting,Controlease, Korenix, Weinview etc.

合作伙伴 Partners



目录 Contents



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服务 Service

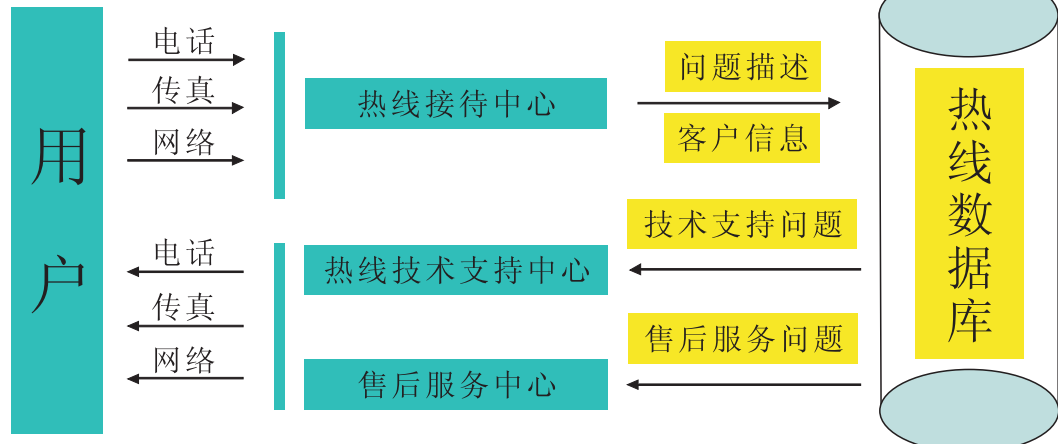
热线服务体系是赛远为客户提供技术支持、项目系统设计、售前和售后服务，保障赛远提供的通讯系统正常运行和远程诊断预警、故障快速恢复而建立的一套完整的服务体系，它的24小时不停运作保证了客户的正常生产。

- ☑ 24小时开通热线400-066-5616（包含节假日），由专人接听并详细记录客户问题，属于售后产品问题，在30分钟之内由专业工程师给予回复和解答；属于售前技术支持和项目咨询，在工作时段之内，1小时之内给予响应；
- ☑ 客户可从赛远网站www.saiyuan.net下载服务表格，填写产品和所遇到的问题，以及联系方式等，通过邮件发至tech@saiyuan.net，或通过企业QQ平台400-066-5616，或通过传真，提交给赛远技术服务部；
- ☑ 赛远将针对热线问题做好跟踪技术支持服务，直到服务完成。

Futurelooks's hotline service system provide technical support, project design, pre-sales and after-sales service. It is a complete service system to keep normal working of Futurelooks's communication systems and remote diagnostic warning and fault recovery quickly.The 24-hour hotline service can ensure the customer's normal production.

- ☑ Futurelooks open a 24-hour hotline 400-066-5616 (including holidays),Service engineer will record detailed customer issues
- ☑ Customers can download the service form from Futurelooks's website www.saiyuan.net,fill in the product and the problems encountered, and contact by e-mail sent to tech@saiyuan.net,or contact Futurelooks with enterprise QQ: 400-066-5616,or fax to Futurelooks
- ☑ Futurelooks will track the question from hotline,service to finish

热线服务流程 Process of hotline service



专利证书 Patent Certificates



更多赛远专利 More patents:

主从应答系统及其应用系统和方法
The system and application of Master-slave response system
发明专利号Patent No.: ZL 200910110286.8
基于教研单位的信息管理和应用系统
Information management and application system based teaching research units
发明专利号Patent No.: ZL 200910306068.1
基于S-link和VLAN技术的远程工业网络系统和方法
S-link and VLAN-based technology system and method for remote industrial networks
发明专利号Patent No.: ZL 201110000683.7
基于3G和风光互补供电技术的远程监控维护的方法及系统
Remote monitoring and maintenance method and system based on 3G, wind and solar power technology
发明专利号Patent No.: ZL 201110032669.5
基于S-link和VLAN技术的远程工业网络系统
Remote industrial network system based S-link and VLAN technology
实用新型专利号Patent No.: ZL 201120001139.X
基于3G和风光互补供电技术的远程监控维护的系统
Remote monitoring and maintenance based on 3G, wind and solar power technology
实用新型专利号Patent No.: ZL 201120022335.5
基于3G和云计算技术的远程监控维护的系统
Remote system of monitoring and maintenance based 3G and cloud computing
实用新型专利号Patent No.: ZL 201120032458.7
.....

赛远工业远程安全通讯方案 Futurelooks's industrial remote security communications solutions

赛远工业远程安全解决方案，针对工业安全传输和远程传输的需求，将IT通讯技术和工业自动化的网络通讯相结合，专门针对工业现场总线，研发了专用的S-link协议，提供了远程安全通讯模块SY-RSCM，工业3G信号接入通讯模块SY-3G，安全通讯软件SY-RCS，串口以太网转换器SY-NC等系列产品，可实现对远程的设备、生产线的各种PLC、HMI、伺服、变频器等控制系统进行远程在线的上下载程序、在线诊断和实时视频反馈，为远程监控、远程调试、远程售后服务提供一套完整的解决方案。

Futurelooks's industrial remote secure communication solution is focused on the transmission and long-range transport of industrial safety, combined with the IT communications technology and industrial automation network communication. Specifically for industrial field bus, developed a dedicated S-link protocol that provides secure remote communication module SY-RSCM, industrial 3G signal access communication module SY-3G, secure access to communication software SY-RCS, Serial to Ethernet converter SY-NC series. The remote device like PLC, HMI, inverter etc. can be realized to online download, online diagnostics remotely, online and real-time video feedback to remote monitoring, remote debugging, remote service. It is a complete and professional solution to solve the remote access.

远程安全通讯模块 SY-RSCM系列

Remote secure communications module SY-RSCM

- 通过Internet建立专用S-link网络功能，数据安全过滤的防火墙功能
- 支持通过TCP/IP标准协议，Profinet、Ethercat等工业实时以太网的路由功能
- 具有集服务器和客户端于一体，是一网到底的最新远程通讯产品
- 支持PLC的远程在线上下载程序和在线诊断维护，如西门子S7-300 PLC



- Through the Internet to establish dedicated S-link networking, firewall filtering assure data security
- Support routing for TCP/IP standard protocol, industrial real-time Ethernet such as Profinet, Ethercat
- With the server and client function in one subnet, it is the latest telecommunication product
- PLC remote online download and online diagnostic maintenance, such as Siemens S7-300 PLC

3G网络远程通讯模块 SY-3G

Remote communication module with 3G network SY-3G

- 支持CDMA2000 1X、EVDO、WCDMA、TD-SCDMA等3G网络
- 支持通过Internet建立专用S-link网络功能，并支持3G路由功能
- 具有集S-link服务器和客户端于一体、安全加密
- 可将所连接的PLC信号、视频信号等进行远程传输



- Support CDMA2000 1X, EVDO, WCDMA, TD-SCDMA etc. 3G network
- Support the establishment of special S-link Internet networking, Support routing capabilities through 3G
- With the S-link server and client function in one subnet, secure encryption
- Can transfer the PLC signal, video signals, etc. remotely together

网络安全协议 S-link

Network secure protocol S-link

S-link安全协议，是赛远根据工业网络通讯总线的特点，结合工业数据传输的安全要求而开发的基于协议框架—RFC2401，综合了密码技术和协议安全机制，通过软件的高级加密形式，对IP报文封装，以实现网络数据的安全传送。S-link协议的设计目标是在IPV4环境中为网络层流量提供灵活的安全服务。

S-link属于OSI模型的第三层协议即网络层，提供的安全服务包括：访问控制、数据完整性认证、数据源鉴别、重传攻击保护、机密性、有限的流量保密、对控制报文和传输中的数据加密，是一种稳定可靠的工业网络通讯安全解决协议。

S-link secure protocol is designed by Futurelooks to communicate based on the characteristics of industrial networks, combined with the secure requirements of industrial data transmission protocol-based framework developed-RFC2401, a combination of cryptography and secure protocols, advanced encryption software in the form of IP packets encapsulated in order to achieve the security of data transmission on the network. S-link protocol design goal is to IPV4 traffic environment for the network layer to provide a flexible secure service.

S-link is the third layer of OSI model network layer protocol to provide security services including: access control, connectionless integrity, data source identification, replay attack protection, confidentiality, limited traffic confidentiality of control packets and transmission of data encryption, is a comprehensive industrial network communications secure protocol.

串口转以太网模块 SY-NC2 Serial to Ethernet module

- RS 232串口转以太网模块
- 支持DHCP、DNS功能
- 全双工、高速率数据转发，不丢包
- 可轻松实现异地远程设备监控
- 专用FLVircom软件，支持虚拟串口
- RS 232 serial to Ethernet module
- Support DHCP, DNS functions
- Full-duplex, high-speed data forwarding, no packet loss
- Remote device can be easily controlled
- Special FLVircom software, support for virtual serial port



S7-200 PPI转以太网模块 SY-NC4 S7-200 PPI to Ethernet module

- 专用于西门子S7-200 PLC的PPI串口转以太网
- Step7 Microwin编程软件，通过以太网进行上下载和在线监控
- IP防篡改功能
- 接口波特率自适应
- 直接通过PLC的串口供电
- Dedicated to the Siemens S7-200 PLC's PPI serial to Ethernet
- Download and monitor the Step7 Microwin program software via Ethernet
- IP anti-tampering features
- Interface baud rate adaptive
- Powered directly through the PLC's serial port

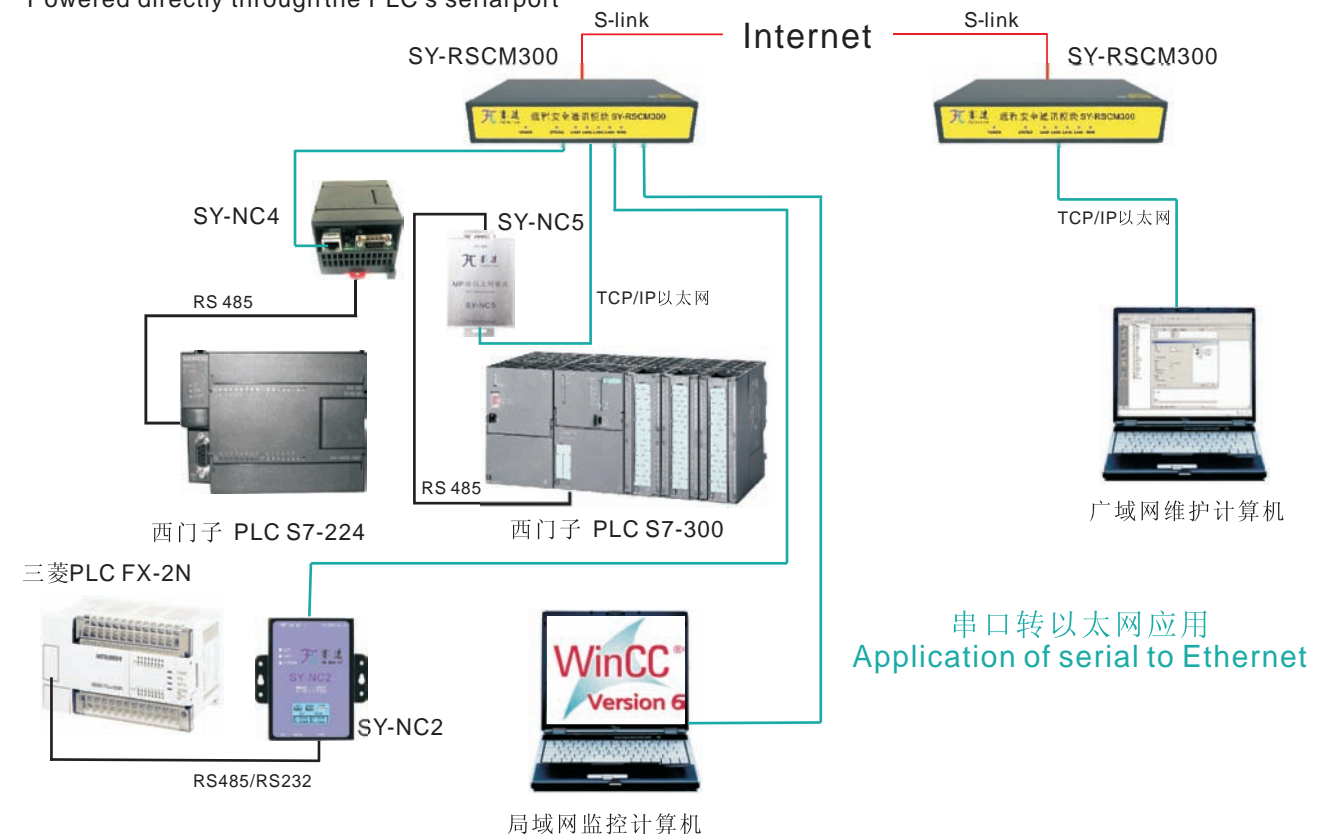


S7-300 MPI转以太网模块 SY-NC5 S7-300 MPI to Ethernet module

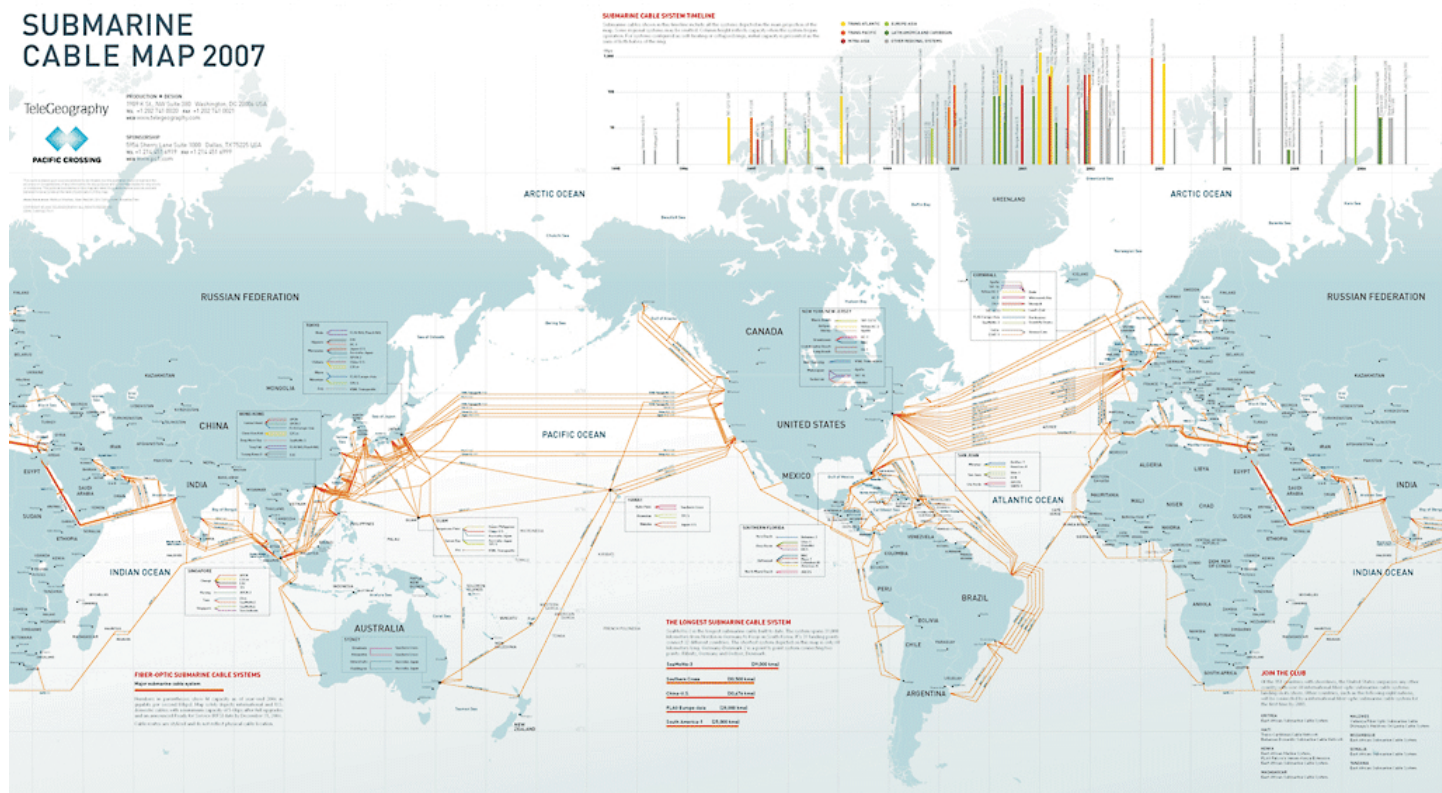
- 专用于西门子S7-300、400的RS 485(MPI编程口)转以太网模块
- Step7编程软件，通过以太网对PLC进行上下载和在线监控
- WinCC、IFix、易控等组态软件和PLC通讯时，相当于西门子MPI的通讯卡CP5611或以太网模块CP343的功能
- 直接通过PLC的串口供电



- Dedicated to the Siemens S7-300, 400 of the RS 485 (MPI programming port) to Ethernet module
- Step7 programming software via Ethernet to the PLC for download and online monitoring
- Communicating WinCC, IFix, Control ease, and other scada software to the PLC, instead of the Siemens CP5611 MPI card or Ethernet module CP 343
- Powered directly through the PLC's serial port



串口转以太网应用
Application of serial to Ethernet



世界的海底光缆布局图

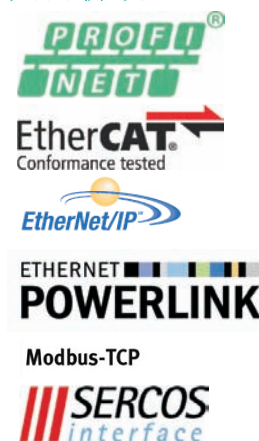
“未来，我们将不再上网，因为，我们注定会是24小时在线的人。”正如您所知晓，以太网是办公世界的通讯标准，成就了如Google, Facebook, Amazon, Baidu, Tencent等这些伟大的互联网企业，而网络发展遵循了“后摩尔定律”高速发展，深刻地影响了我们的工作和生活，真正的地球村已经逐渐成形。

过去的十几年，现场总线已经成了自动化控制系统必不可少的选择。而工业以太网，基于现场总线的实时性，结合以太网的高速性，正在工业控制系统高速发展，令人瞩目，工业自动化系统的一网到底，充分发挥了工业以太网的高速、实时、对等等优点，被越来越多的工程师应用到不同的场合！

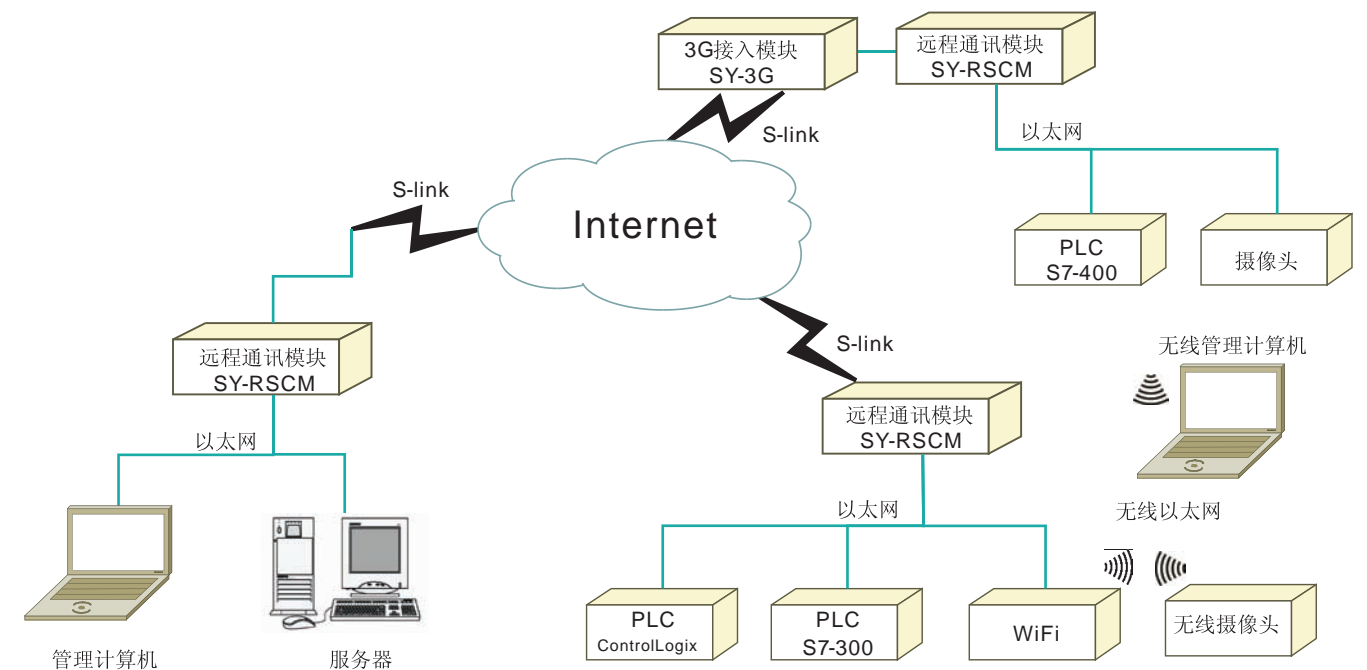
如何将工业以太网结合Internet，为工业的远程带来便利，同时又能保证数据的安全，赛远凭借着工业远程和安全的技术发展和创新，为广大用户提供了稳定、安全、便捷的整套工业安全远程通讯解决方案。



主流工业以太网协议：



通过Internet的赛远工业网络通讯典型应用
Typical application of Futurelooks industrial network communication through internet



赛远工业网络通讯实现的功能：

- 通过公共网络Internet实现远程的可编程控制器PLC的上下载程序、在线调试
- 支持XDSL有线宽带接入，也支持3G方式接入
- 通过S-link安全协议，实现通过Internet的工业数据安全传输
- 通过SY-RSCM安全通讯模块，实现两点或多点的虚拟局域网络组建(VLAN)
- 实现路由功能，可将PLC数据和视频一起传送到中控室或远程工程师站
- 支持各种以太网协议，如Profinet、Ethercat、Ethernet/IP、MODBUS TCP等
- 真正实现VLAN技术，有别于传统的桌面远程协助方式
- 现场无需电脑，无需安装任何软件，即装即用
- 无需固定IP，可用动态IP
- 现场可实现无人值守，自动连接

赛远的远程网络通讯系统可广泛应用于工业自动化控制中的工厂集中监控、水利工程、采油输油测控、环保监测、重工机械等远程数据监控的场合，既可以实现数据的双向传输，也可以实现实时视频的传输，并且可以做到对控制器进行实时的上下载程序和在线诊断，在众多生产线和生产设备的远程维护中，具有重要的意义。

The function of Futurelooks's Industrial network communications:

- Download the PLC program, online debugging through Internet remotely
- Support to access with XDSL Cable broadband or wireless 3G
- Through the S-link secure protocol, industrial data through the Internet, secure transmission
- Two or more points can be set up Virtual Local Area Network (VLAN) with SY-RSCM secure communication module
- Achieve routing, data and video can be sent with the PLC to the control room or remote engineer station
- Supports a variety of Ethernet protocols such as Profinet, Ethercat, Ethernet /IP, MODBUS TCP, etc.
- VLAN technology truly different from the traditional desktop remote assistance
- It need not a computer in the field, and need not install any software in the field
- The system need not a fixed IP, available dynamic IP
- The communication is connected automatically, Engineer need not stay in the field

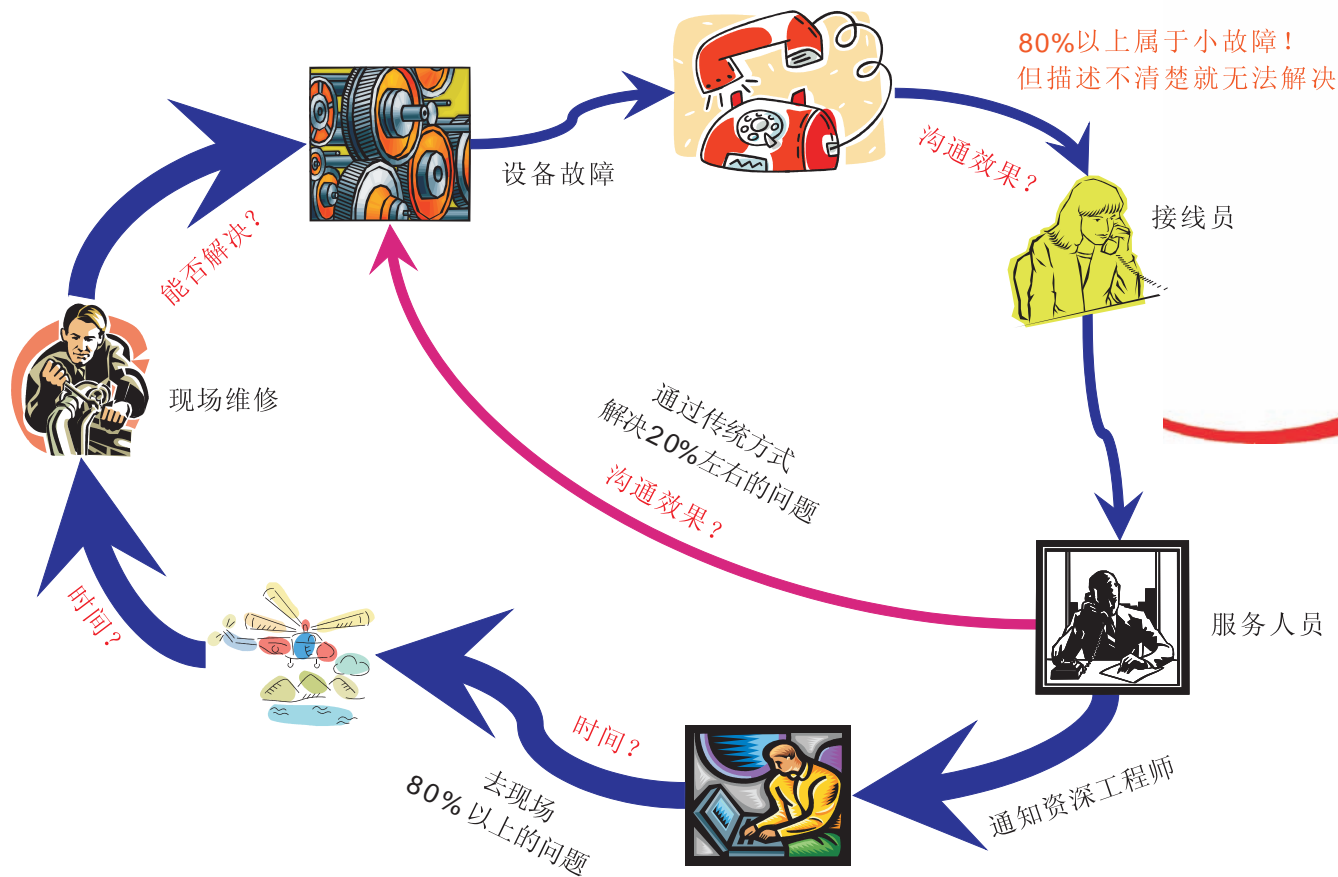
Futurelooks's remote network communication system can be widely used in industrial automation and control of plant centralized monitoring, water conservancy, oil monitoring, environmental monitoring, remote data monitoring heavy machinery and other occasions, both two-way data transfer, can also achieve real-time video transmission, and can be done in real time on the controller to download programs and online diagnostics, in many production lines and remote maintenance of production equipment.

作为设备制造商(OEM)或者系统集成商(SI), 有没有遇到过如下的问题:

- ☑ 设备运到现场安装、调试、运行, 整个周期上下游配套未到位, 而耽误工程师的大量时间
- ☑ 设备运行故障报警停机, 用户催促立即派人, 而工程师均有重任在身无法出行
- ☑ 设备故障, 现场维护电工打电话过来, 由于对设备的理解程度不一样, 而沟通效果不理想
- ☑ 设备故障停机后, 派人去现场, 发现初级问题导致, 三分钟解决, 来回却花了几天时间
- ☑ 设备故障停机后, 工程师现场查看, 发现需重新取备件, 导致客户停机时间增长
- ☑ 设备出口到国外时, 由于语言沟通问题, 造成简单问题复杂化, 除了派人没有办法
- ☑ 设备不断卖到全国、全球各地, 售后团队的压力越来越大, 而技术人员却是越来越难招
- ☑ 系统出现异常时, 由于现场维护工程师的误判而没有及时通知上一级, 造成损失
- ☑ 系统的某个输出触点烧坏, 需要启用备用点, 而需要修改程序时, 没有办法只能跑一趟
- ☑ 项目运行第一年, 由于工艺的不断改善, 需按照工艺需求调整程序, 而时不时的出差更改
- ☑ 项目利润微薄, 又在远方实施, 维护工作处于两难, 不惜得罪客户, 响应缓慢
- ☑ 项目完成时, 为了满足投标时响应时间缩短在4小时, 公司的技术和售后就近布局困难
- ☑ 部分厂家提供了电话MODEM远程功能, 却由于速度太慢, 通讯建立不稳定
- ☑ 通过桌面远程时, 发现程序不知不觉上传到了客户的电脑, 造成公司多年积累的工艺流失
- ☑ 通过Internet远程时, 由于安全措施没有做好, 导致感染病毒, 系统瘫痪
- ☑ 想将销售给客户的机器进行联网, 建立在线预警机制和远程维护平台, 却没有通道
- ☑ 售后的成本越来越高, 客户要求也越来越高, 而服务第一意味着成本增加, 难以抉择

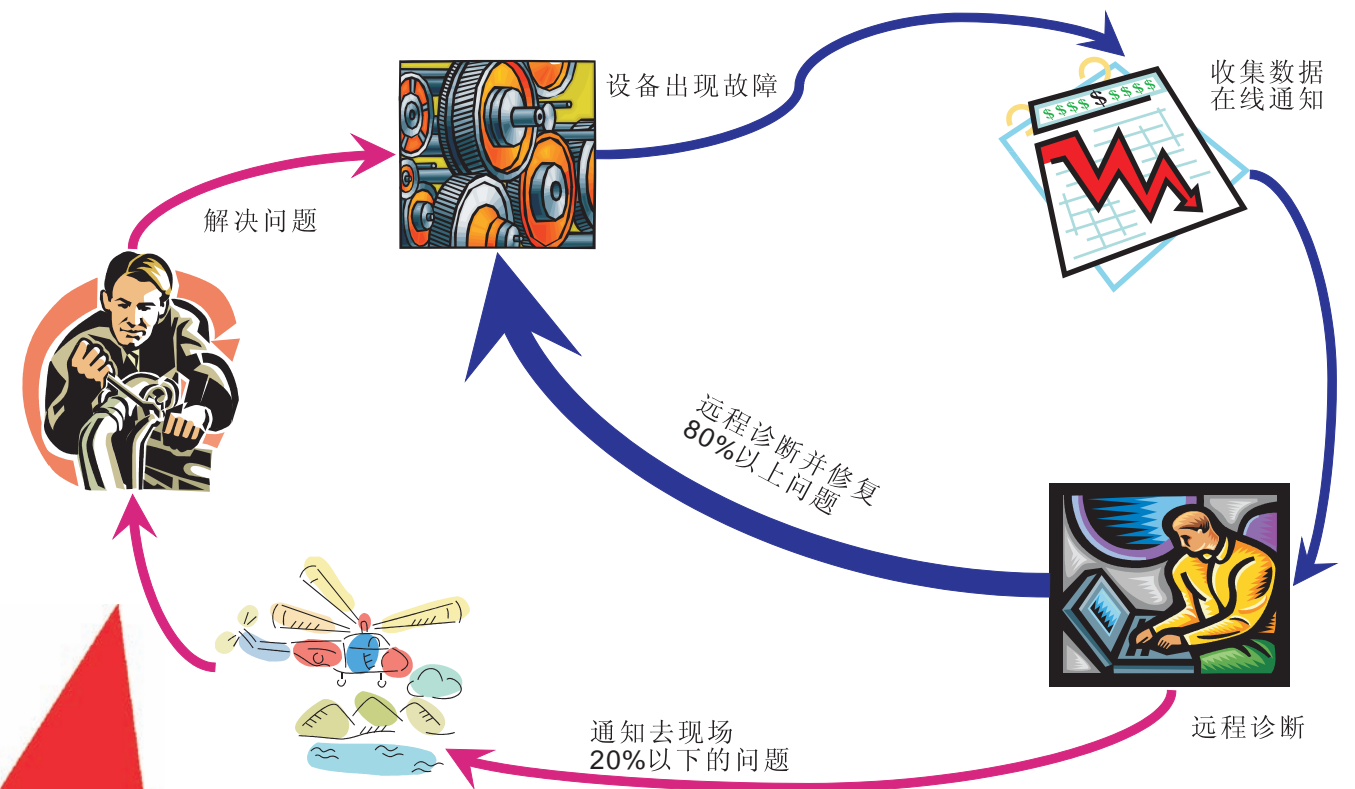
当你遇到上述之一的问题, 是否会考虑:

- ☑ 传统的维护方式, 是否意味着存在即合理?
- ☑ 有没有最新的技术可以减少售后成本?
- ☑ 是否可以让客户的故障平均停机时间减少, 能够增加客户的满意度、提升企业形象、竞争中脱颖而出?



传统的设备和生产线的故障检测和维护流程

Traditional process fault detection and maintenance for equipment and production lines



赛远的基于Internet的安全稳定在线维护和诊断系统

Futurelooks's internet-based security and stability system of online maintenance and diagnostic

赛远最新远程通讯技术为您提供:

- ☑ 简单的配置, 即可如同现场维护一样, 实现控制系统的在线下载和在线诊断
- ☑ 可以多机同时诊断, 通过有线或者3G无线快速建立连接
- ☑ 工业在线, 速度快, 工作稳定可靠
- ☑ 现场视频实时反馈, 建立语音双向传递
- ☑ 节省大量成本, 包括工程师的来回差旅成本、人力成本
- ☑ 迅速判断故障, 最小化停机时间, 减少现场停产损失
- ☑ 减少实时维护停机带来的危及设备安全、人身安全
- ☑ 轻松搭建预警机制
- ☑ 售后服务, 运行高效而轻松
- ☑ 通过S-link进行数据加密传输, 确保数据安全
- ☑ 可以组建多点的专用网络通道, 进行多站的远程的PLC实时在线通讯
- ☑ 基于全球Internet的最新解决方案, 服务不再受地域限制

从此, 远程调试和售后服务变为更加轻松快捷, 并可通过赛远远程通道, 建立MES系统和ERP系统对接, 信息化道路从此轻松启程!

全国第一个实时在线西门子
中型PLC S7-300、小型PLC S7-200的远程在线访问实验站开通了!
欢迎广大用户花5-10分钟即刻体验, 详情请咨询赛远。
Welcome to program the Siemens PLC S7-200, S7-300 located at Futurelooks's demoroom remotely.

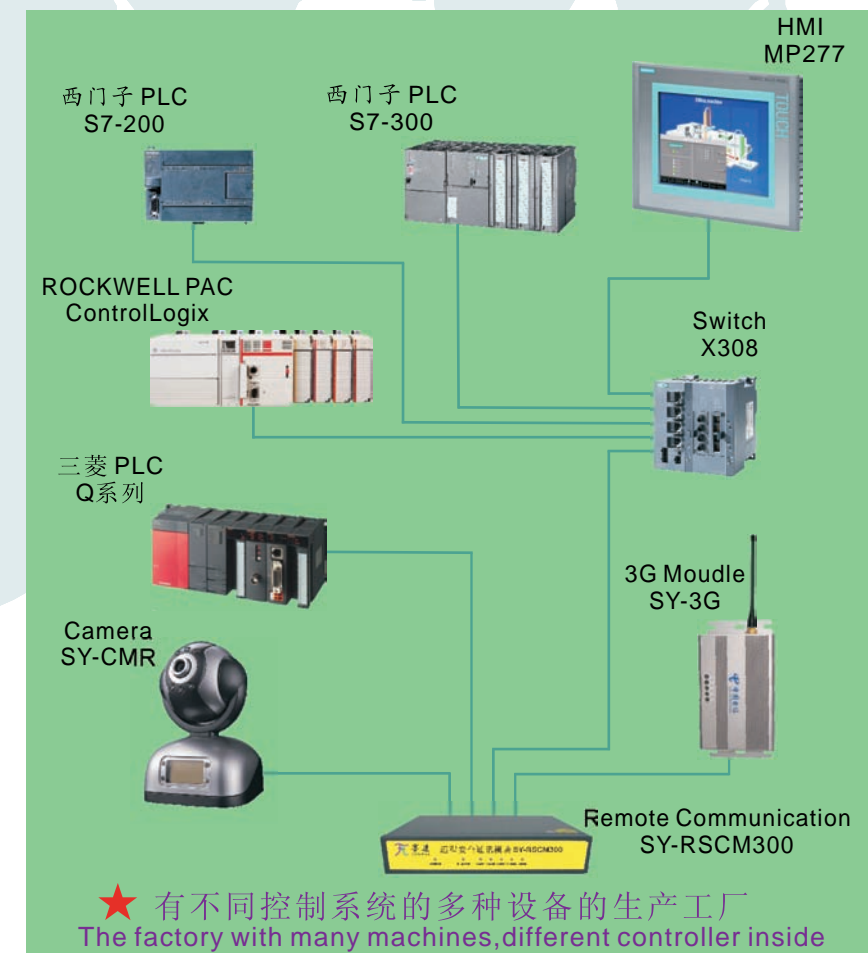


赛远工业远程安全网络通讯系统的应用案例：

- 1、著名的SY集团，全球总部位于A国，生产运营管理位于B国，生产基地位于C城市，设备从D国引进；
- 2、在A国的全球总部，需对C城市的生产基地生产进度和数量生成实时报表，通过制造执行系统MES将数据和企业资源管理系统ERP数据对接，以实现全球供应链的正常运作；
- 3、在B国的生产运营管理部，需对C城市的生产基地生产线的生产情况实时进行监控，以保证生产的正常运行；
- 4、在D国的设备制造商，需要对在C城市的生产基地生产线上设备的可编程控制器、人机界面等进行远程调试和维护，确保设备工作正常，以减少故障停机时间；
- 5、通过赛远工业远程安全网络通讯系统，通过S-link技术实现了上述的工业数据的安全传输，正常稳定运行。

Futurelooks's remote network secure communication system of industrial application cases

- 1、The famous SY Group, the world headquarters is located at A country, production and operations management is located at B country, the production base is located at C city, the equipment is imported from D country;
- 2、As global headquarters located at A country, They need the produce information of C's production base and number of products, generate real-time progress reports, Transfer the data with enterprise resource management system ERP through manufacturing execution systems MES, in order to achieve the normal operation of the global supply chain;
- 3、Production operations management in the B country, They need to monitor the situation of C's base production line in real time to ensure the normal operation of the production;
- 4、Equipment manufacturers located at D country, They need to remote debugging and maintenance programmable controllers, human machine interfaces of a production base in the C's production line, to ensure that equipment is working to reduce downtime;
- 5、Futurelooks's industrial remote network secure communication system had achieved the above-mentioned transfer of industrial data security with the S-link technology. It worked normally and stably.



吹膜机的远程监控和在线诊断

吹膜机是将塑料粒子加热融化再吹成薄膜的机械设备，通过赛远远程安全通讯系统，即可实现分钟级的实时在线诊断：

- ☑ 实现PLC控制器的实时程序在线调试、监控
- ☑ 实现对PLC总线相连的变频器路由在线诊断和调试
- ☑ 通过视频实时查看现场的设备进行调试和诊断

Remote monitoring and diagnosis of blown film line

Film blowing machine is re-melted plastic particles blown film machinery and equipment, Futurelooks secure communications remote system achieve real-time online diagnosis to minute class:

- ☑ PLC controller to achieve real-time programs online debugging, monitoring
- ☑ The drive connected PLC with the bus to achieve online diagnostics and debugging
- ☑ Real-time view the scene through the video equipment for debugging and diagnostics



起重机设备的远程调试、维护

起重机广泛用于港口码头、生产工厂、施工现场等，系统多采用大型控制器和高端驱动系统，组成内部局域网，通过赛远远程系统实现：

- ☑ 广域网实现起重机的远程诊断和预警系统
- ☑ 系统发生故障时，可实时进行远程的维护，最小化停机以及保证设备和人生的安全

Remote debugging and maintenance of crane equipment

Ore, coal and other raw materials in the yard, ingredients, transportation and other full-function wireless remote control:

- ☑ WAN remote diagnosis and to achieve a crane warning system
- ☑ System failure, maintenance of remote real-time, minimize downtime and to ensure the safety of equipment and life



橡胶硫化机的远程数据采集、调试、维护

硫化机用于各种橡胶制品的硫化，将各种热固性塑料压制成型的热压设备，分电加热、蒸汽加热和油加热三种形式，实现：

- ☑ 通过工业以太网对硫化机的PLC的实时在线诊断
- ☑ 现场可以通过3G信号进行视频、语音双向传输
- ☑ 将PLC的实时工作状态连接到中控，做实时数据存储

Remote maintenance of rubber vulcanizing machine

Vulcanizing machine is used for curing various rubber products, all kinds of thermosetting plastic molding hot pressing equipment, points heating, steam heating and oil heating in three forms, to achieve:

- ☑ Industrial Ethernet on the curing of the PLC's real-time online diagnosis
- ☑ View the field through the 3G signal, and transfer the voice with two-way transmission
- ☑ The PLC real-time work status is connected to the central control, to do real-time data storage



挤出机设备的远程诊断

挤出设备，广泛用于各种相同截面产品的大量持续生产，如管、棒、异型材等，在螺杆作用下将熔融塑料通过固定形状的挤出口挤出后水冷定型后切割，赛远远程系统实现：

- ☑ 实时的对各地工厂的挤出设备进行远程诊断和维护
- ☑ 可通过工厂有线宽带或者3G网络建立远程通讯
- ☑ 通过平板电脑实时看数据，通过MES连接到ERP系统

Remote diagnosis of screw extruder equipment

Extrusion equipment widely used in a variety of the same section of continuous production, such as tubes, rods, profiles, etc., under the action of the screw will melt plastic extrusion through a fixed shape, Futurelooks's remote system achieve:

- ☑ Remote diagnosis and maintenance the extruder
- ☑ Communication with wired broadband or wireless 3G networks
- ☑ View the data real-time with Tablet PC, connected to the ERP system via MES



瓶胚注塑设备的远程维护系统

瓶胚注塑设备的实时正常运行，关系着整条线的正常生产资源保证，要求设备运行，尽可能的减少故障时间：

- ☑ 采用赛远工业远程通讯系统，实时进行程序级的诊断
- ☑ 可以实时采集控制、检测，传输视频、语音信号
- ☑ 分钟级的维护和响应，大大降低故障时间

Remote maintenance of preform injection molding equipment

Preform injection molding equipment running in real time, relations with the entire line of normal production resources ensure required equipment running, reducing downtime as much as possible:

- ☑ Futurelooks's industrial remote communication systems is a real-time diagnostic system to the program level
- ☑ Real-time acquisition and control, testing, and transfer the video, voice signals
- ☑ Maintenance and response in minutes, reduce downtime greatly



烟草机械的远程实时诊断和维护系统

烟草机械，要求速度快，精度高，对于故障停机率有着最高的要求，通过远程系统，实现：

- ☑ 在烟草机械发生故障时，设备制造商的专业工程师通过internet进行在线实时调试和诊断，快速恢复生产
- ☑ 通过局域网或者广域网可以实现MES系统连接
- ☑ 在不方便布线的场合，实现无线通讯

Remote maintenance system of tobacco machinery

Tobacco machinery, requiring speed, high precision, with the highest rate for the downtime requirements, through the remote system to achieve:

- ☑ Mechanical failure in the tobacco can be requested through the internet equipment manufacturer of professional engineers to conduct online real-time debugging and diagnostics, rapid resumption of production
- ☑ MES system can be achieved through the LAN and WLAN connection



饮料生产线的局域网数据采集和广域网的远程维护

饮料生产本地化是行业的特点，对于吹瓶、罐装、包装等生产线的数据进行监控和对控制系统的远程在线诊断、维护：

- ☑ 整条线的局域网联网监控，连接到MES\ERP系统
- ☑ 可通过3G网络随时进行在线控制系统的诊断和维护
- ☑ 可以将现场视频反馈给设备制造商进行快速判定故障

Remote maintenance of beverage produce line

The characteristics of beverage industry is the localization , for blowing, filling and packaging production line data monitoring and control system for remote online diagnostics, maintenance:

- ☑ The entire line of LAN network monitoring, connected to the MES\ERP system
- ☑ Online control system diagnosis and maintenance through 3G network at anytime
- ☑ Field video can be fed back to equipment manufacturers to quickly determine the fault



滚装运输检查设备的远程监控系统

滚装运输车辆检查设备实现对车辆的免开箱，快速、准确地安全检查，通过远程监控系统实现数据、视频传输和远程维护：

- ☑ 通过3G上网，实时实现对PLC的在线上下载、诊断等功能
- ☑ 上位机根据生产需要传递控制指令给每台控制器
- ☑ 可将现场的实时运作，通过视频实时回传至监控中心

Remote monitoring of Ro-Ro transport inspection equipment

Ro-Ro transport vehicle inspection equipment to achieve the vehicle out of the box-free, fast and accurate security checks, through the remote monitoring system for data, video transmission and remote maintenance:

- ☑ Real-time implementation of the PLC's online download, diagnostic and other functions through 3G Internet access
- ☑ PC control instructions based on production needs to be passed to each controller
- ☑ Real-time operation can be on-site, via video in real time back to the monitoring center



凹印机的远程诊断和维护系统

凹印机较为庞大，内部组成了工业以太网，连接PLC、HMI和伺服等控制系统，发生故障时，对维护工程师要求较高，远程系统将协助资深工程师在任何地点均能进行轻松维护：

- ☑ 采用远程控制系统，复杂设备的维护工作由专业工程师进行分钟级的响应完成
- ☑ 赛远工业远程，安装方便，运行稳定，大大降低维护成本，减少停机时间，提升了客户的满意度

Remote maintenance of gravure printing machine

Gravure printing machine system connect PLC, HMI and servo control systems etc. With Ethernet, The remote system will assist senior engineers in any location to maintenance easily:

- ☑ Complex equipment maintenance performed by professional engineers to complete the response in minutes level
- ☑ Easy installation, stable operation, greatly reducing maintenance costs, reduced downtime, improved customer satisfaction regular replacement parts



水厂泵站的控制系统的远程数据监控

水厂的原水泵站、管道加压泵站等现场较为分散，需传输运行数据，视频，进行集中监控，实现便利的远程通讯：

- ☑ 泵站和中控间的数据，通过XDSL或者3G实时双向传递
- ☑ 现场语音、视频一起进行传输
- ☑ 通过赛远工业通讯网络，实现现场控制系统程序在线上下载和诊断，数据读取直接采取OPC协议

Remote data monitoring of water pump control system

The original water pump station, pipeline booster pump station and other field is dispersed, operating data to be transmitted, video, centralized control, to achieve a convenient remote communication:

- ☑ Transfer the data between the pump and the control via XDSL or 3G real-time
- ☑ Transfer voice and video together
- ☑ Futurelooks's industrial communication networks fulfill to program and diagnostic online for control systems in the field, Transfer the data directly with standard OPC mode



水库联网的远程监控系统

水库、水渠等水利水电控制系统，地理分散，环境恶劣，采用远程自动化，合理调配，实现及时、准确、可靠地采集信息、管理和监控：

- ☑ 大坝安全监控、涵闸监控准确、可靠进行群测、群控
- ☑ 操作简便、可靠性高、维护容易、历史数据存储和可溯源
- ☑ 可远程对控制系统进行实时在线诊断，分析外围故障

Remote monitoring system of reservoirs networked

Reservoirs, canals and other water control systems, geographical dispersion, poor environment, the use of remote automation, a reasonable allocation to achieve timely, accurate and reliable information acquisition, management and monitoring:

- ☑ Safety monitoring, culvert monitoring accurate and reliable test for groups, group control
- ☑ Simple operation, high reliability, easy maintenance, historical data storage and can be traced
- ☑ Remote control system can be real-time online diagnosis of the external fault



中央空调系统的远程数据监控和在线诊断

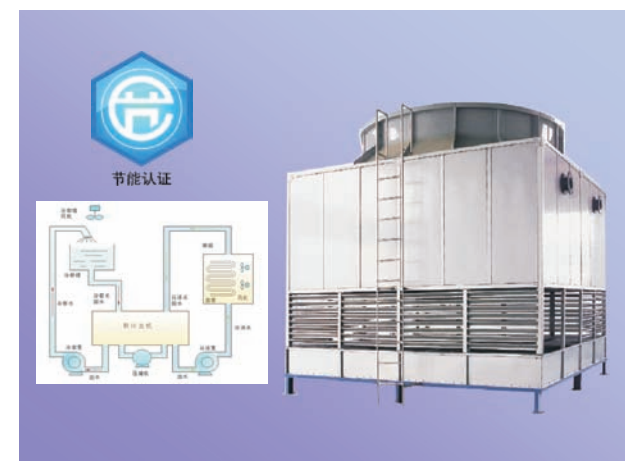
中央空调系统，由于维护的专业性需求较高，厂家或者专业维护公司对设备的远程维护，和数据采集实现：

- ☑ 远程维护，大大降低维护成本，并最快速响应空调故障
- ☑ 通过数据采集，为进一步的能源管理系统EMC提供重要的历史数据，采取适当措施节能减排

Remote data monitoring of central air conditioning system

Central air conditioning system, as higher demand for professional maintenance, professional maintenance company manufacturers or remote maintenance of equipment, and data acquisition to achieve:

- ☑ Remote maintenance, greatly reduce maintenance costs, and the most rapid response to air conditioning failure
- ☑ Data collected is the important historical data for energy management systems EMC, It can be used to take appropriate energy saving measures



无线通讯技术是利用电磁波信号可以在自由空间中传播的特性进行信息交换的一种通信方式。

1897年M.G.马可尼成功完成了在一个固定点与一艘拖船之间的无线通信试验后标志通信技术的发展进入了无线领域的新阶段。从最初的无线窄带传输--电报开始，经过150多年的现代无线通讯的发展，一些十分成熟的应用已经深入到我们的生活中，如收音机，遥控器，无线电话，而无线电的应用从低频窄带传输逐渐走向高频宽带传输，传输的频率越高，带宽越大，波长越短，近距离的通讯速率越强。无线通信技术中频率是非常重要的资源。每个国家参考区域的无线电频率的规则和国际组织的协议，都制定了一些无线电法规。

在上世纪七十年代，开始了无线宽带网络的研究。1997年6月，美国电气与电子工程师学会IEEE通过了802.11无线局域网标准，无线宽带应用在无线以太网上，已经成为了互联网社会的一种重要的接入通讯方式。

无线融入技术的热点技术与关键问题集中在可靠性、兼容性、实时性、安全性以及能耗问题方面。直列扩频、跳频、加密等技术，在数据传输的稳定性、实时性、安全性上，得到了广泛的应用。除此以外，无线通讯技术包括了无线信道模型、无线信道容量、无线通信中的调制编码技术及均衡处理技术、扩频通信，还包括了多天线系统、多用户系统、多载波调制、自适应调制与编码、蜂窝系统及无线自组织网络等。

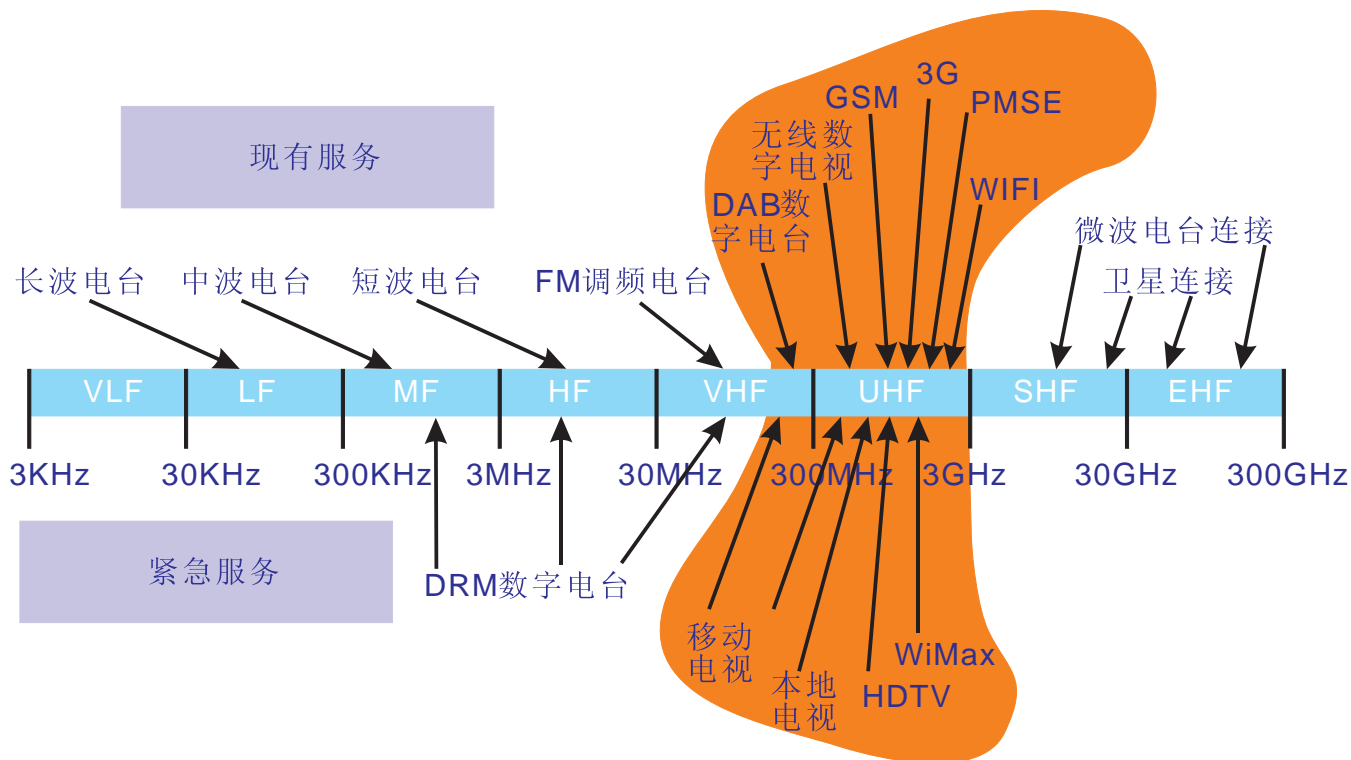
随着对无线通讯的需求越来越大，无线通信的应用已深入到人们生活和工作的各个方面，不同的频段被应用在不同的场合，超高频UHF频段是当前应用最为热门的频段，如频率用途分配表所示的“SWEETSPOT”区域，移动电视，移动电话，蓝牙，WIFI等均在此频段。国家高技术研究发展计划(863计划)已经将毫米波(30-100GHZ)和太赫兹(0.1-10THz)无线通信体系结构列入发展重点项目，无线通讯技术将随着国家的大力投入，应用会愈加广泛。

如当下最热门的物联网，将各种信息传感设备，如射频识别(RFID)装置、红外感应器、全球定位系统、激光扫描器等种种装置与互联网结合起来形成一个巨大的网络，让所有的物品都与网络连接在一起，构成一个“物物相连的互联网”。集射频识别RFID、WSN、传感、感知等技术于一身的物联网，已经在其相关产业中掀起一股强劲的发展热潮，物联网被称为继计算机、互联网之后，世界信息产业的第三次浪潮，2009年11月被确定为中国今后七大战略性新兴产业之一。

最新的热门技术，WiMAX技术，让世界的距离更加缩短，人们的沟通越来越近；软件无线电(SDR)解决方案，SDR已经在军事领域被确立为未来的无线电技术，可以包容任何通讯协议和频率波段。通过软件，制造商们可以在任何工业、应用或产品中利用SDR技术。

无线通讯技术，与您零距离。

无线频率用途分配表
Use of radio frequency allocation table
“SWEETSPOT”



工业无线通讯技术，基本原理等同于无线通讯技术，相对于民用或者商用市场的无线应用来说，在稳定、安全方面要求更加高，所以采用的无线通讯技术都需要反复测试和验证方可在工业应用场合实施。

从上世纪80年代就开始普及应用的数传电台与远程RTU，无线技术数十年来，已经成为石油、天然气和电力能源领域的SCADA系统的一部分，大部分采用窄带远程自组网的串口通讯方式进行传输。

利用窄带无线网组建自动化工业网络，相比之下具有有线固定网络无法比拟的优势：

1) 无线网络拓扑更适合工业网络应用，如：支持RS-232工业设备点到点的连接。支持广播的拓扑，多个RS-232工业设备可组成对等网络，相互通信。(RS-232通信协议无法支持多点通信)。

2) 无需布线，省去了施工的麻烦：无线局域网利用无线电波传输数据信号，适合于难于布线的环境中搭建数据传输网络。在工业现场，铺设的线缆容易受到频繁的触碰损坏，无线网络则保证了网络的安全性。

3) 覆盖范围广：无线网络在开放空间覆盖半径达几百米至几十公里，室内一般覆盖半径为几十米至几百米，通过室外无线设备传输距离可以达到几十公里。

近年来，随着模拟通讯技术升级为数字通讯技术，无线电和跳频、扩频和网状网络技术使无线传输的实时性和带宽都得到了较大的提升，为工业通讯的稳定和实时的要求提供了更好的应用平台。随着安装维护成本低廉、可扩展性强、无需现场布线等优势，使得无线技术在工业领域得到越来越多的应用，工业无线网络通讯正走向智能化，高速化。物联网的进一步普及以及应用领域的不断拓展，又为工业无线网络市场的发展带来新的发展空间。

目前在工业自动化领域中无线通讯技术协议主要有：

用于现场设备层的无线短程网IEEE 802.15.4 (ZigBee, Wireless HART)

用于大数据容量的短程无线通信IEEE 802.15.3

用于适应较大传输覆盖面和较大信息传输量的无线局域网IEEE 802.11, IEEE 802.3 (IWLAN) 系列

2010年9月24日，工业网络现场总线通讯WIA-PA协议正式成为国际电工委员会(IEC)国际标准(编号：65C/596/C)。WIA-PA作为中国拥有自主知识产权的一种无线标准体系，是工业无线领域三大主流国际标准之一，为我国推进工业化与信息化相融合提供了一种新的高端技术解决方案，也标志着我国在工业无线通信技术领域的研发已处于世界领先地位。

工业无线，工控领域核心技术之一，将改变工业自动化的格局。

工业无线应用广泛
Application of industrial communication



赛远工业无线通讯解决方案 Futurelooks's industrial wireless communication solutions

赛远工业无线通讯解决方案，结合工业安全传输和移动传输的需求，将无线电技术和工业自动化的网络通讯相结合，专门针对工业现场总线的实时性要求，提供了针对西门子PLC的无线编程和通讯模块SY-S72，针对三菱PLC的无线编程通讯模块和MODBUS协议通讯模块SY-WT6等产品，远程I/O传输SY-RIO，远程遥控系统SY-WR8，可实现对最远10公里范围的设备、生产线进行远程在线的上下载程序、在线诊断，为远程无线监控系统提供一套完整的解决方案。

赛远工业无线采用的是固频窄带无线技术，采用工业科学医疗(ISM)的超高频UHF频段，为满足工业无线传输的距离长，衍射能力强，实时响应快，应用简单，工作稳定，采用了占用带宽极小，前向纠错，设计抗干扰措施，完善校验方式，全系列工业IC设计等技术，开发出高品质的系列工业等级的无线通讯模块。

赛远工业无线通讯模块可广泛应用于工业自动化控制中的工厂集中监控、水利工程、立体仓库、采油输油测控、矿山机械、环保监测设备、舞台机械、起重设备、灌装设备、搅拌设备、重工机械、AGV等移动，旋转和不便于敷设电缆的远程数据采集和通讯的场合。

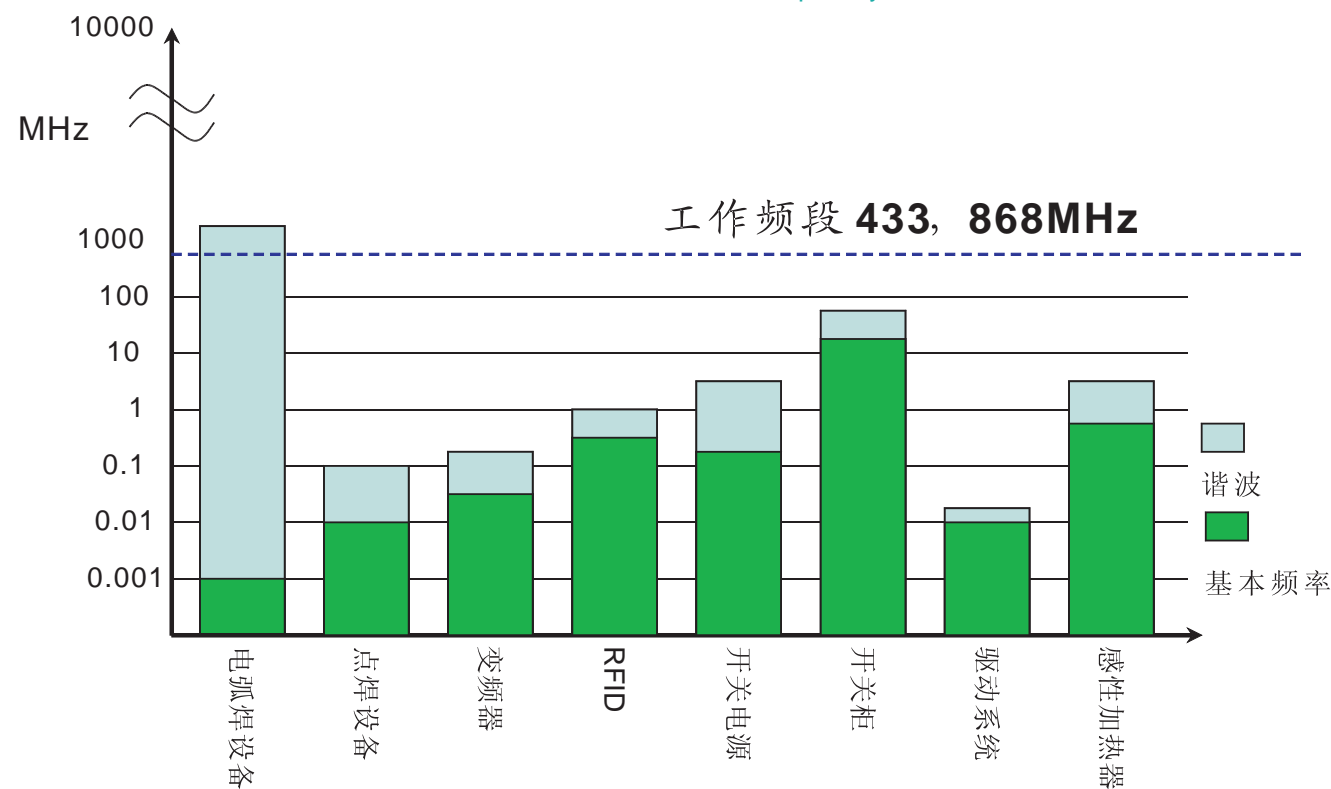
Futurelooks's industrial wireless communication solutions, combined with industrial safety needs of transmission and mobile delivery, the radio technology and industrial automation network communications combined with fieldbus-specific real-time requirements, Futurelooks provide wireless programming module SY-S72 for Siemens PLC and wireless programming module SY-WT6 for the Mitsubishi PLC and MODBUS protocol communication, remote I/O transfer module SY-RIO, remote control system SY-WR8, The wireless transfer distance realize up to 10 kilometers, It is a total solution to remote online downloading, online diagnostics, remote wireless monitoring system for PLC, Instrument.

Futurelooks used fixed and narrow wireless frequency band to develop the industrial wireless products, use industrial scientific medical (ISM) of the ultra-high frequency UHF band, to meet the industry's long distance wireless transmission, diffraction and strong, response quickly, use simply, work stable. Futurelooks use a lot of new technology like minimal bandwidth, Forward error correction, anti-interference measures designed to improve verification methods, the full range of industrial IC design technology to develop a series of high quality industrial grade wireless communication module.

Futurelooks's industrial wireless communication module can be widely used in industrial automation and control of plant centralized monitoring, engineering, warehouse, oil monitoring and control, mining machinery, environmental monitoring equipment, stage machinery, lifting equipment, filling equipment, mixing equipment, heavy machinery, AGV, etc.

赛远工业无线通讯频段和干扰源示意图

Futurelooks's industrial wireless communication frequency band and interference sources

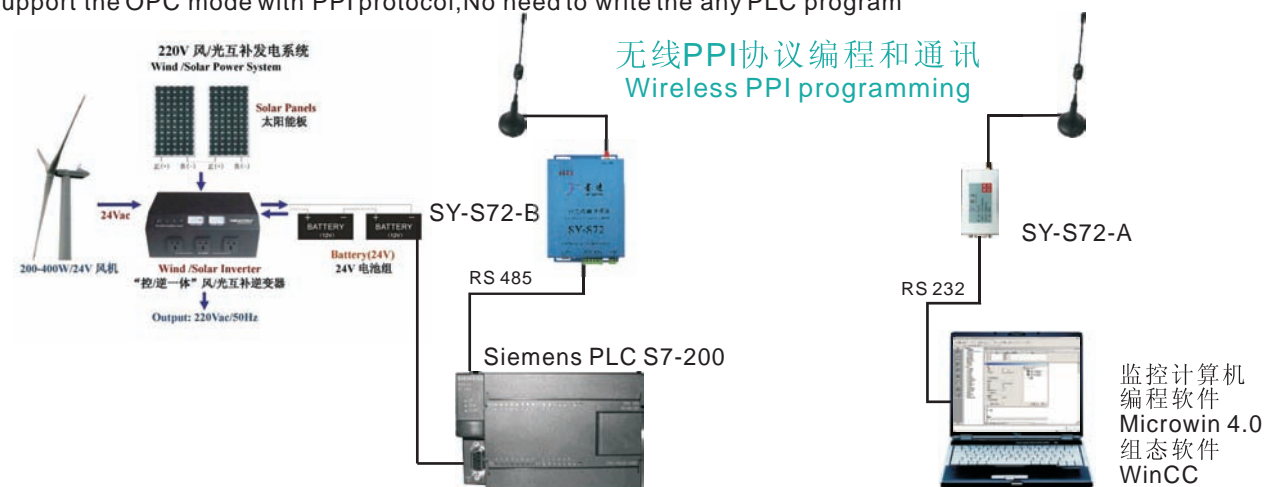


无线编程通讯模块 SY-S72

Wireless program & communication module

- 支持西门子的S7-200 PLC无线编程和通讯
- 支持各种点对点、点对多点的无线数据通信方式
- 收发一体，半双工工作模式
- ms级响应速度
- 支持PPI的OPC直接读写，无需对PLC编写通讯程序

- Support for Siemens S7-200 PLC programming and wireless communication
- Support a variety of point to point, multipoint wireless data communication
- Transceiver, half duplex mode
- High speed response to ms-level
- Support the OPC mode with PPI protocol, No need to write the any PLC program



工业无线通讯模块 SY-WT6

Industrial wireless communication module

- 支持MODBUS、ASCII码协议、三菱PLC内部协议
- 点对点、一点对多点的无线数据通信方式
- 收发一体、半双工工作模式
- 采用ISM频段，衍射能力强，通讯距离远至10KM
- 工业级IC设计，抗干扰能力强

- Support MODBUS, ASCII code protocol, the internal protocol of Mitsubishi PLC
- Point to point, multipoint wireless data communication
- Transceiver, half duplex mode
- Use of ISM band, diffraction ability, communication distance to 10KM
- Industrial IC design, Strong anti-interference ability



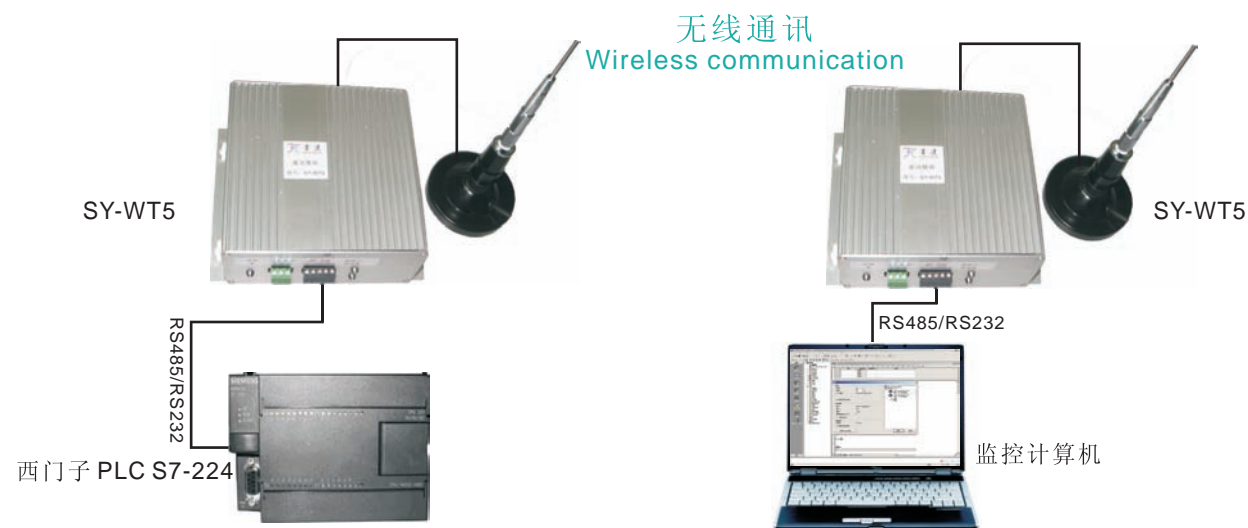
无线编程通讯便携式套装 SY-S72C The wireless portable communication programming package

- ☑ 包含两个SY-S72-A、一条USB PC/PPI电缆、一条S7-200电源适配器
- ☑ 体积小便于携带，即插即用
- ☑ 专用于支持西门子S7-200的无线编程通讯
- ☑ 无线隔离现场PLC危险信号
- ☑ 直接从S7-200 PLC通讯口和PC机上取电
- ☑ Contains two SY-S72-A, a USB PC / PPI cable, a S7-200 power adapter
- ☑ Small portable, plug and play
- ☑ Dedicated to support the Siemens S7-200 programming wireless communication
- ☑ Wireless PLC isolated spot danger signals
- ☑ Power supplied by the S7-200 PLC communication port and the PC directly



远距离无线通讯模块 SY-WT5 Long-distance wireless communication module

- ☑ 传输距离最远可达25KM
- ☑ 支持各种点对点、点对多点的无线数据通信方式
- ☑ 使用简单、性价比高、稳定可靠
- ☑ 带前向纠错功能，误码率极低
- ☑ 内置稳定的开关电源和散热片
- ☑ Transmission distances up to 25KM
- ☑ Support a variety of point to point, multipoint wireless data communication
- ☑ Easy to use, cost-effective, stable and reliable
- ☑ With forward error correction, the error rate is very low
- ☑ Built-in switching power supply and a stable heat sink



无线数字量通讯模块 SY-RDIO Wireless digital communication module

- ☑ 直接采集和控制开关量信号
- ☑ 可与各种控制器进行实时通讯
- ☑ 支持蜂窝式自组网开关量传送
- ☑ 采用低功率收发芯片，功耗低，绿色环保节能
- ☑ 采用CRC校验和加密协议，安全可靠
- ☑ Direct collect and control digital signal
- ☑ Communicate with a variety of controllers real-time
- ☑ Support for digital cellular transmission from the network
- ☑ Low-power transceiver chip, low power consumption, green energy
- ☑ CRC checksum and encryption protocol used, safe and reliable



无线模拟量通讯模块 SY-RAIO Analog wireless communication module

- ☑ 直接采集和控制模拟量信号
- ☑ 提供数据通讯方式，可和通讯模块SY-WT6通讯直接传送为数字量
- ☑ 支持蜂窝式自组网模拟量传送
- ☑ 采用低功率收发芯片，功耗低，绿色环保节能
- ☑ 采用CRC校验和加密协议，安全可靠
- ☑ Acquisition and control analog signal directly
- ☑ Support data communication with serial port to PLC system directly with SY-WT6
- ☑ Support the analog transmission with cellular network
- ☑ Low-power transceiver chip, low power consumption, green energy
- ☑ CRC checksum and encryption protocol used, safe and reliable



无线遥控系统 SY-WR8 Wireless remote control system

- ☑ 包含遥控接收板和遥控器
- ☑ 可以级联远程传递，也可以作为分布式集中监控
- ☑ 遥控距离远达数千米
- ☑ 采用低功率收发芯片，功耗低，绿色环保节能
- ☑ 采用加密协议和多发对比机制，安全可靠
- ☑ Includes remote control receiver and remote control panels
- ☑ Can be cascaded remote delivery, or as a centralized monitoring of distributed
- ☑ Remote distances is up to several thousand meters
- ☑ Low-power transceiver chip, low power consumption, green energy
- ☑ Encryption protocol and multiple contrast mechanisms, safe and reliable



定制化解决方案 Customizable solutions

赛远丰富的开发经验，不但提供基于赛远通讯产品的标准解决方案，还可以根据客户的不同需求，提供各种定制化的工业通讯产品硬件、软件及其解决方案，如无线防碰撞系统，非标的无线模拟采集，无线遥控及其反馈系统等。

Futurelooks's extensive experience in the development, not only supplying the solutions for standard communication products, but also according to different needs of customers, providing a variety of industrial communication products customized hardware, software and solutions, such as wireless anti-collision system, non-standard wireless analog capture, wireless remote control and feedback systems, etc.



工业摄像头 SY-CMR Industrial camera

- ☑ 适合工业远程监控
- ☑ 具有以太网、无线WIFI接口
- ☑ 报警输入输出
- ☑ 红外成像、可远程操控的摄像头
- ☑ Remote monitoring for industrial
- ☑ With Ethernet, wireless WIFI Interface
- ☑ Alarm input and output
- ☑ Infrared imaging, remote-controlled camera



开关电源 SY-PW系列 Switching power supply

- ☑ 输入220VAC，输出工业直流电源24VDC
- ☑ 纹波系数小，工作稳定
- ☑ 抗干扰能力强
- ☑ 无线通讯模块SY系列的最佳配合产品
- ☑ Input 220VAC, output 24VDC
- ☑ Ripple coefficient is small, stable
- ☑ Strong anti-interference ability
- ☑ Suitable for SY series of wireless communication module



串口转换器 SY-COM系列 COM port converter series

- ☑ RS-232与RS-485之间的双向转换器
- ☑ 工业等级，抗电磁干扰能力强
- ☑ RS-232 and RS-485 bi-directional converter
- ☑ Industrial grade, anti-electromagnetic interference



全向天线 SY-ANT系列 Omnidirectional antenna

- ☑ 具有SMA接口
- ☑ 全向传递无线通讯模块SY系列的信号
- ☑ 可选功率、长度
- ☑ Interface with the SMA
- ☑ All wireless communication module to pass the signal SY Series
- ☑ Different power, length is optional



定向天线 SY-ANT系列 Directional antenna

- ☑ 具有SMA接口
- ☑ 定向传递无线通讯模块SY系列信号，更加稳定
- ☑ 可选八木、平板、球面等外形
- ☑ Interface with the SMA
- ☑ Directional transmission signal of SY series, that wireless communication module, more stable
- ☑ Different shape like Yagi, flat, spherical is optional



PPI编程适配器 SY-PPI-USB PPI programming adapter

- ☑ 专用于连接西门子S7-200 PLC到PC的编程和通讯适配器
- ☑ 波特率自适应
- ☑ Dedicated connection the Siemens S7-200 PLC to PC for programming and communications
- ☑ Baud rate adaptive automatically



环境复杂的工厂的无线通讯

炼油厂、水泥厂等环境复杂，需传输监控的信号分散，采用赛远衍射和抗干扰能力强的无线通讯产品进行集中监控：

- ☑ 实现现场控制信号和上位机的双向数据实时传递
- ☑ 通过工业级的通讯设备实现MES系统的硬件连接
- ☑ 无线通讯节约能源，减少配线和维护费用

The wireless communication of complex environment factory

The complex environmental signal of refineries, cement plants need to be transmitted to monitor, Futurelooks's strong diffraction and interference wireless products ensure the stability:

- ☑ Data transfer between field control signal and the PC real-time
- ☑ Communication equipment connect to MES system through the implementation of industrial-grade hardware
- ☑ Save energy, reduce wiring and maintenance costs through wireless communication



各种大型特种起重机械中的无线应用

港口，钢厂等需要重型起重机等特种机械设备的区域，实现各特种设备的无线通讯：

- ☑ 使用无线解决方案节省布线的成本，并能有效的提高装卸效率和工作安全性
- ☑ 用于实现多机联动，实时通讯，并保证稳定性
- ☑ 可以远程监控起重机，保证设备和人身安全

Wireless application of large special crane machinery

Ports, steel mills and other need special equipment area, achieving of the special equipment for wireless communication:

- ☑ Save cost of wiring, improve loading and unloading efficiency and safety effectively through using the wireless solution;
- ☑ Real-time communication of multi-machine interaction ensure stability
- ☑ For remote monitoring cranes, to ensure that equipment and personal safety



泵站远程控制

泵站，按照用途分为原水泵站，污水提升泵站，出厂水泵站，排水泵站等，广泛用于市政项目中，通过无线通讯和远程通讯的结合，实现泵站和中控室的远程无线监控：

- ☑ 泵站与调度中心之间的无线网络通信
- ☑ 支持就地、远程维护测控设备
- ☑ 为保证泵站远程通讯可靠性，可采用无线和有线结合

Remote control of pumping station

Pumping stations are widely used in municipal projects, remote monitoring through wireless remote communication:

- ☑ Wireless network communication of pump stations and control center
- ☑ Support to maintenance and monitor control equipment with local and remote mode
- ☑ Remote wireless and wired communication can be used together to ensure the reliability of station



无线控制PLC的移动小车

自动化仓库、快速移动的工厂等大量的使用PLC控制的移动小车：

- ☑ 无线通讯带来了设备的自由运动，提高工作效率
- ☑ 无线通讯取代滑环、拖曳电缆等，减少机械故障，提高了可靠性
- ☑ 无线通讯搭建简单，维护便利

The wireless communication of mobile AGV controlled by PLC

Automated warehouses, factories and other large fast-moving use of mobile vehicle controlled by PLC:

- ☑ Wireless communications equipment has brought the freedom of movement, improve efficiency
- ☑ Reduce the mechanical failure and improve reliability through wireless replace the slip ring, towing cables
- ☑ Wireless communications is easy to build and maintenance conveniently



长距离PLC无线通讯的堆料场

矿石、煤炭等生产原料的堆场、配料、运输等全实现无线远程控制功能：

- ☑ 皮带机和堆场的PLC之间无线通讯
- ☑ 传输数据复杂，需要采集控制、检测信号
- ☑ 通过无线，不断移动的斗轮机控制方便

Long-distance wireless communication in the stack yard

Ore, coal and other raw materials in the yard, ingredients, transportation and other full-function wireless remote control:

- ☑ The PLC wireless communication between belt machines and yard
- ☑ Transmission of data complex and will require acquisition and control, detection signal
- ☑ The bucket wheel moving constantly is easy to control through wireless



高速旋转机械中的无线应用

灌装机械等需高速旋转的机械实现无线通讯功能：

- ☑ 利用工业无线通讯替代原有的碳刷机械传递信号
- ☑ 安装方便，维护简单，无磨损，无需经常更换配件

Wireless application of high-speed rotating machinery

High-speed rotating machinery, filling machinery required wireless communication

- ☑ Use of industrial wireless communications to replace the original brush mechanical transmission signal
- ☑ Easy installation, simple maintenance, no wear it without regular replacement parts



新能源中的无线通讯

风力发电厂，太阳能发电厂，风光互补供电系统等新能源中，无线通讯正在广泛应用：

- ☑ 风力发电机的机舱与立柱间的测量和控制信号的传输
- ☑ 每个风力发电机的地面控制器与中控室之间的通讯
- ☑ 采用不同信道和自组网传递，距离可扩展至几十公里

The wireless communication of new energy system

Wind power plant, solar power plants, wind and solar power supply system and other new energy sources, wireless communications are widely used:

- ☑ Transfer the measuring and control signals wirelessly between cabin and the column of wind turbines
- ☑ Each wind turbine communicated wirelessly between the ground controller and the control room
- ☑ Use different channels and transmission with network, expandable to tens of kilometers away



油田的无线通讯

在油田中，无线通讯已得到了广泛应用：

- ☑ 油井的工作状态通过无线通信模块送至远程智能无线RTU
- ☑ 采油场监控中心和油井进行无线通讯
- ☑ 通过无线收发功能的智能压力采集器，油田无线遥测油井压力，在防盗箱外无线读取压力

The wireless communication of the oilfield control system

In the oilfield, wireless communication has been widely used

- ☑ Transfer the working status to remote intelligent wireless RTU through the wireless communication module
- ☑ Communicate wirelessly between oil field and oil well monitoring center
- ☑ Measure oil pressure oil wirelessly through the wireless transceiver features intelligent pressure collector, read the pressure outside the box wirelessly



环保设施中的无线通讯

在污水处理厂内，各种污水处理设备分布较分散，通过工业无线通讯实现：

- ☑ 刮泥车、吸泥车与中央控制器之间的启动、停止、运行、到位、故障及真空泵的工作状态通讯
- ☑ 每个污水工艺段的监测仪表的信息通过工业无线传送到中控室
- ☑ 中控室通过无线通讯实时监控外围提升泵站的状态

The wireless communication of environmental protection

The dispersed sewage treatment equipment communicate with other station with industrial wireless mode:

- ☑ Wireless communication between the scraping mud truck, suction vehicle and central controller
- ☑ The monitoring instruments information of each section of the sewage process is sent to the control room wirelessly
- ☑ Monitor the state of the external pump stations in the control room with wireless communications



游乐设备的无线通讯

大型的主题公园，在旋转、移动设备上进行实时的工业无线通讯，保证稳定和安全：

- ☑ 无线轨道车的实时通讯和控制
- ☑ 垂直升降机的无线通讯系统
- ☑ 实时性得到保证，并且采用冗余通讯方式确保稳定

The wireless communication of entertainment equipment

A major theme park, in rotation, on mobile devices in real time wireless communications industry to ensure the stability and security:

- ☑ The real-time wireless communication between the mobile vehicle
- ☑ The wireless communication systems of vertical lift
- ☑ Guaranteed real-time and ensure communication stability with redundant mode



现代化立体仓库中的无线通讯

现代化立体仓库中的堆垛车、转轨车、自动引导小车均是移动设备，无线通讯已经成为了不可或缺的一部分：

- ☑ 堆垛机、计算机的通讯采用无线通讯互联
- ☑ 转轨车、计算机的通讯采用无线通讯互联
- ☑ 自动引导小车，同控制台自动交换信息

The wireless communication of warehouse and logistic system

The stackers, transition car, Automatic Guided Vehicle (AGV) of modern warehouse are mobile devices, wireless communication has become an integral part:

- ☑ The wireless communication of stacking machine and computer
- ☑ The wireless communication of transition car and computer
- ☑ The information exchange between AGV and automatic center



物联网中的无线通讯

物联网的定义是：通过射频识别（RFID）、红外感应器、全球定位系统、激光扫描器等信息传感设备，按约定的协议，把任何物体与互联网相连接，进行信息交换和通信，以实现物体的智能化识别、定位、跟踪、监控和管理的一种网络：

- ☑ 物联网可分为三层：感知层、网络层和应用层
- ☑ 感知层，功能是传感器识别物体，传感器网络采集信息
- ☑ 网络层，由各种私有网络、互联网、有线和无线通信网、网络管理系统和云计算平台等组成，传递和处理感知层获取的信息

The wireless communication of Internet Of Things (IOT)

The Internet of Things (IOT) link any objects connected to the Internet to monitor and manage, It will change the life and the world:

- ☑ IOT can be divided into three layers: perception layer, network layer and application layer
- ☑ Perception layer, identify objects, collect information
- ☑ Network layer, transmission and processing of perceived level of information access



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赛远，致力于工业自动化网络和通讯技术的创新，追求卓越，永不停步。
在品质上，严格按照行业标准设计、生产，精益求精；
在服务上，客户至上，提供专业而周到的服务；
在市场上，携手广大客户和合作伙伴，合众，共赢。

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