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FEATURES

Webfield JX-300XP DCS brings in a friendly operating environment that keeps every operator clearly informed and makes it easy to control the process.

Intelligent Data Delivery
[JX-300XP] delivers the plant information intelligently.
[JX-300XP] captures plant-wide data in real-time and delivers the right information to the right people at the right time. With SUPCON rich process industry experience and careful engineering design, JX-300XP keeps operator’s attention focused on operational targets.

Intelligent Engineering Assistance
[JX-300XP] brings powerful engineering tools for engineers, making it easy to configure and maintain the process intelligently.
[JX-300XP] assists engineers with powerful and intelligent tools of total plant, ensures your engineering configuration and maintenance in very high efficient way, and makes it possible to have more time to focus on strategy target instead of programming.

Intelligent Performance Assistance
[JX-300XP] helps to implement decisions throughout the historical information in process.
[JX-300XP] brings necessary historical information for operators, making it easy to anticipate process changes and make fast, intelligent decisions.

Safe and Efficient Project Management
[JX-300XP] provides a very open application environment, and offers your operator an easy access to the total plant information.
With embedded mechanisms and numerous dedicated process functions, the process is led to run intelligently.

Non-Stop Improvement of Maintenance
[JX-300XP] improves personnel's handling ability of emergency with powerful operation and maintenance functions such as the friendly operating environment, alarm management system, real-time database platform, and remote system diagnose assistance from SUPCON after-sales team.

Reliable Production Control Platform
[JX-300XP] contributes to high reliability and availability of the control system. Thanks to a dual-redundant design, the DCS continues running even if a single failure occurs, avoiding hardware failure to interfere with the process control.

With a variety of interconnection facilities (OPC, VBA, TCSI), [JX-300XP] provides you a very open application environment, and offers your operator an easy access to the total plant information.

Project
Safe and efficient project management
[JX-300XP] is a reliable and efficient platform of process control, and provides your engineer with an easy integration solution consisting of DCS, SIL, RTU, SCADA, MMS, LCS, and TIS, etc.
- Distributed Control System (DCS)
- Safety Instrument System (SIS)
- Plant Information Management System (PIMS)
- Intelligent RTU & SCADA
- Machinery Monitoring System (MMS)
A Typical Architecture of JX-300XP

JX-300XP has an architecture consisting of human machine interfaces, field control stations, and a control network. These three basic components facilitate flexible scalability from small scale to very large and complex facilities.
HARDWARE

Highly Reliable and Flexible Product
With professional and endeavored design, Weifield JX-100XP DCS maintains the availability of 99.9999%.

Openness and Integration
JX-100XP integrates various industry communication interfaces such as Modbus, Profibus, HART, EPA, and OPC, etc., making it easy to connect with third-party system and various intelligent field instruments.

Offline Simulation
JX-100XP provides debugging and simulation environment offline, which can shorten commissioning time on site, reduce risks during designing period.

Security
Designed in compliance with European Community EMC Directive II; the hardware of JX-100XP has specialist-corrosion coating, complied with IEC6114 standard GB. In addition, JX-100XP system has EMC and E0/C0 certificates.

High Accuracy
I/O modules adopt the state-of-the-art high-accuracy Analog-to-Digital Sampling technology (8-4/3), advanced signal isolation technology, strictly proven hot-plugging technology and multi-layer board & surface mounting technology, which makes high-accuracy analog signal measured and modules more stable.

Fault Diagnosis
JX-100XP is capable of diagnosing failures concerning module channel and transducer sensor in a highly intellectualized way detecting the fault like thermocouple disconnection. The diagnose system obtains the system states timely and accurately, such as network status and hardware status.

On-line Download
JX-100XP allows engineers to implement online downloading after modifying the configuration and compiling successfully. The seamless switchover between old and new configurations is realized by SUPCON patented technology.

Event Recording Function
JX-100XP has powerful event recording functions, which can record the process sequence event, operator’s operation, alarm of process parameter, etc., and work with the software to access, analyze, print and recall the event.
CONTROLLER

G3 Standard Design
Controller is designed according to G3 standard for enhanced anti-corrosion, dust-proof and anti-seismic ability of the system, increasing its reliability.

On-line Download
The bumpless switchover between old and new configuration allows engineers to perform on-line downloading.

Fault Tolerance
Capability of diagnosing failures concerning module, channel and transmitter or transducer, so that failures such as open-circuit of thermocouple can be eliminated easily and timely.

Openness and Integration
Integration of various industry communication interfaces such as Modbus, PROFIBUS, HART, EPA and OPC, etc., which makes it easy to connect with third-party systems and various intelligent field instruments.

Flexible Control Cycle
Range from 100ms to 5s optional.

SPECIFICATION OF XP243X

<table>
<thead>
<tr>
<th>Item</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>32-bit RISC CPU</td>
</tr>
<tr>
<td>Frequency</td>
<td>500MHz</td>
</tr>
<tr>
<td>RAM</td>
<td>256MB</td>
</tr>
<tr>
<td>Scanning period</td>
<td>Range from 100ms to 5s</td>
</tr>
<tr>
<td>Loop</td>
<td>192 control loops</td>
</tr>
<tr>
<td>Power consumption</td>
<td>5W/5A, 3W</td>
</tr>
<tr>
<td>Communication rate</td>
<td>10M/100Mbps self-adapted</td>
</tr>
<tr>
<td>Communication protocol</td>
<td>UDP/IP</td>
</tr>
<tr>
<td>Topology</td>
<td>Bus, star and ring</td>
</tr>
<tr>
<td>Redundant type</td>
<td>11 hot standby</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault diagnosis</td>
<td>Support</td>
</tr>
<tr>
<td>On-line downloading</td>
<td>Support</td>
</tr>
<tr>
<td>Programming language</td>
<td>LD, FBD, SFC, ST</td>
</tr>
<tr>
<td>Startup</td>
<td>Cold/hot startup</td>
</tr>
<tr>
<td>Li-battery backup</td>
<td>Support</td>
</tr>
<tr>
<td>Hart protocol</td>
<td>Support</td>
</tr>
<tr>
<td>Expansion capacity</td>
<td>8 module cages, 128 I/O modules</td>
</tr>
<tr>
<td>I/O capacity</td>
<td>2048 DI, 2048 DO, 512 AI and 192 AO</td>
</tr>
<tr>
<td>Network scale</td>
<td>72 operation nodes and 61 control stations</td>
</tr>
</tbody>
</table>

COMMUNICATION

MODBUS
Via Modbus interface module, Modbus-RTU/TCP and self-defined protocol communication is supported.

PROFIBUS
Via PROFIBUS interface module, PROFIBUS-DP/PA protocol communication is supported.

HART
AI/AD modules support HART, and acquire conventional 4–20mA signals and HART signal simultaneously.

List of Communication Modules

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XP243X</td>
<td>Multi-Serial Interface Multi-Protocol Module</td>
</tr>
<tr>
<td>XP393-DP</td>
<td>PROFIBUS-DP Master Interface Module</td>
</tr>
<tr>
<td>XP351H</td>
<td>8-Channel HART &amp; Current Input Module</td>
</tr>
<tr>
<td>XP372H</td>
<td>8-Channel HART &amp; Current Output Module</td>
</tr>
</tbody>
</table>
I/O MODULE

High Performance
SOC resolution: 1ms
Cycle time: 100ms
Analog accuracy: 0.1% 

High Reliability
Fail-safe design
Fully redundant

High Availability
Self-diagnose
Hot-swapping, plug & play

List of I/O Modules

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A: Typical I/O Module</strong></td>
<td></td>
</tr>
<tr>
<td>XP113</td>
<td>Analog input 6 channels, current input signals</td>
</tr>
<tr>
<td>XP114</td>
<td>Analog input 6 channels, thermocouple signals</td>
</tr>
<tr>
<td>XP115</td>
<td>Analog input 4 channels, RTD signals</td>
</tr>
<tr>
<td>XP122</td>
<td>Analog output 4 channels, 4-20mA current output signals</td>
</tr>
<tr>
<td>XP172</td>
<td>Analog output 8 channels, 4-20mA current output signals</td>
</tr>
<tr>
<td>XP161</td>
<td>Digital input 8 channels, 24/48V DC, wet contact</td>
</tr>
<tr>
<td>XP163</td>
<td>Digital input 8 channels, 24/48V DC, dry contact</td>
</tr>
<tr>
<td>XP166</td>
<td>Digital input 16 channels, 24V DC, dry/wet contact</td>
</tr>
<tr>
<td>XP167</td>
<td>Digital output support 8-channel transistor output, support redundancy</td>
</tr>
<tr>
<td>XP168</td>
<td>Digital output support 16-channel transistor output, support redundancy</td>
</tr>
</tbody>
</table>

**B: SOE Module**

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XP119</td>
<td>SOE slave module: 8 channels, 24/48V DC, 1ms resolution</td>
</tr>
<tr>
<td>XP422</td>
<td>SOE master module: support at most 16 slave SOE modules; support 10,000 items for SOE recorded storage</td>
</tr>
<tr>
<td>XP423</td>
<td>1ms SOE resolution in the same SOE master module</td>
</tr>
<tr>
<td>XP424</td>
<td>2ms SOE resolution in different SOE master modules</td>
</tr>
</tbody>
</table>
SOFTWARE

Friendly Human Machine Interface for Plant Operation

JX-300XP provides a HMI (human machine interface) which makes process information access fast and easy.

Dedicated Operation Keyboard

Optimized allocation of the function keys and buttons enables operators to call up or switch graphics and control loops by pressing a single key. It is specially designed to avoid intentional quit of HMI.

Compatibility

Supporting Windows 7 and Windows XP, it may exchange information with the DCS via open interfaces such as Excel software, VBA language, OPC data communication protocol and TCP/IP network protocol in different hierarchies.

User-friendly

Graphical operation & maintenance interface, and graphical configuration & programming software are in compliance with IEC61131-3, such as Ladder diagram (LD), Function block diagram (FBD), Sequence function chart (SFC), and Structured text (ST), which enables system maintenance and various control strategies to be implemented easily.

Offline Simulation

Debugging and simulation environment offline, which can shorten commissioning time on site and reduce risks during production period.

Fault Diagnosis

Capability of diagnosing failures concerning modules, channel and transducer or sensor, which is highly intellectualized and can detect the fault like thermocouple disconnected, etc.

Alarm Management

Distributed alarm management system, including functions like alarm information bar, pop-up alarm, alarm banner, and alarm summary, etc., which allows operators can make a quick decision easily whenever a critical alarm arises.
SAMS SOFTWARE

Solutions
SUPCON developed a variety of automation solutions to enhance your plant performance, such as SAMS, OPC, PMS, APC, OTS, etc.

SAMS Function
- Output failure
- Excessive loop variability
- Local override
- Device out of service reports
- Loop in manual
- Input failure/process variable has bad status
**SERVICE**

**Delivering Just What Your Plant Needs**

SUPCON, as a service partner, ensures that your plant undergoes regular scrutiny by local SUPCON certified technicians. You’ll come to rely on them as valuable advisors who know every detail of our devices and understand the unique nuances of your processes.

**What is Lifecycle Agreement**

Lifecycle Agreement is an integrated package of solution services that optimizes maintenance by tailoring it to the customer’s equipment lifecycle. This program meets diverse needs by creating a lifecycle plan for each customer’s system, and based on which selects and combines the most suitable services from a variety of options.

**Make a Need-oriented Decision**

Experts from the nearest Regional Service Center can provide a full appraisal of your facility and help you make an informed decision for the level of service you truly need.

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Your plants is unlike any other, yet all plants require regular service to maintain ongoing safety and productivity. SUPCON offers a range of flexible service contracts that allow us to proactively deliver the service your operations require. We’ll help you preempt the hassle and expense of unexpected breakdowns and potential inefficiencies. Depending on your needs, SUPCON’s scheduled service and maintenance contracts may cover routine repairs, period upgrades, recalibration and wireless network diagnostics and services.

**Tailor Our Service Modules for Your Plants**

SUPCON defines several service modules that contain all the right elements to tailor a program to fit your specific support needs by addressing your specific availability, performance improvement, and sustainability requirements.

- Training
- Repair service
- On-Site service
- Spares management
- Project start-up support

- Security assessment service
- Backup and recovery service
- System upgrade/migration service
- Control performance improvement & modernization consulting studies

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**Lifecycle Service Solution Diagram**

**Production Excellence Centered Service**

Process improvement and optimization solutions.

**Asset Excellence Centered Service**

To minimized down-time, and enhanced protection for your investment.

**Safety Excellence Centered Service**

Comprehensive solutions for cyber security.