Application Scenario
How Equipment Connectivity Works in the Factory

Pain Points of Global Manufacturers

Less Usability from Past Projects

Complex automation projects always require long development times and efficiency is highly related to profit. At the same time, users have to maintain several individual PLC or HMI development tools for applications instead of a single integrated interface. And because traditional development tools do not allow similar application parts to be inherited as modules from former projects, costs can quickly spiral.

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Infeasible for Analysis

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SRP-FEC210 Programmable Real-time Machine Control

Ordering Configuration Table

<table>
<thead>
<tr>
<th>Package Offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Software</td>
</tr>
<tr>
<td>CODESYS V3.5 Simulation &amp; Visualization (Target &amp; Web) x1</td>
</tr>
<tr>
<td>CODESYS V3.5 Simulation &amp; Visualization (Target &amp; Web) Runtime</td>
</tr>
<tr>
<td>System Computing</td>
</tr>
<tr>
<td>LON-17212-E8AB x1</td>
</tr>
<tr>
<td>iFactoryWin® 32-bit Automation Computer: 1230 X300, ARM9,口碑价格</td>
</tr>
<tr>
<td>OS</td>
</tr>
<tr>
<td>Microsoft® Windows Embedded 7 Pro x1</td>
</tr>
<tr>
<td>Preinstalled CODESYS V3.5 SoftMotion &amp; Visualization (Target &amp; Web) Runtime</td>
</tr>
<tr>
<td>Preinstalled Microsoft® Windows Embedded 7 Pro</td>
</tr>
<tr>
<td>UNO-1372G-E3AE x1</td>
</tr>
<tr>
<td>Intel® Atom™ DIN-rail Automation Computer, 128G SSD, MRAM, CANopen</td>
</tr>
</tbody>
</table>

Optional Configuration

<table>
<thead>
<tr>
<th>Option 100: WISE-PaaS Smart Software Option 300 I/O &amp; Peripherals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qty: ____</td>
</tr>
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<td>Qty: ____</td>
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<tr>
<td>Option 200: System Computing Option 400: Add-on Accessories</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>[201] 12.1&quot; XGA Ind. Monitor w/ Resistive TS (FPM-7121T-R3AE) Qty: ____</td>
</tr>
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<td>Option 300: I/O &amp; Peripherals</td>
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<tr>
<td>[301] EtherCAT Distributed Digital I/O (AMAX-4830-AE) Qty: ____</td>
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<td>Qty: ____</td>
</tr>
<tr>
<td>Qty: ____</td>
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<td>[302] EtherCAT Distributed Digital Output (AMAX-4834-AE) Qty: ____</td>
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<tr>
<td>[102] WebAccess/SCADA Dongle Key V8.2 Pro. Qty: ____</td>
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Equipment Connectivity Solution
Easy Programing for Real-time Machine Control

SRP-FEC210
Entering a New Era of Smart Manufacturing
Introducing SRP-FEC210 Solution for Programmable Real-time Machine Control

This Solution Ready Platform allows users to reduce development time by supporting object-oriented programming (OOP) that is fully compliant with IEC 61131-3 standard and Program Organization Units (POU) inheritance from similar applications. The HMI is applied to the same IEC 61131-3 development environment. SRP-FEC210 guarantees real-time dual fieldbus data acquisition of PROFINET, EtherCAT, EtherNet/IP and CANopen communications. Users can collect data from Ethernet fieldbus and CANopen simultaneously. Moreover, it achieves real-time EtherCAT soft motion control for single or multi-axis movements of electronic CAMs/gears on CiA DSP 402 controllers and virtual axes by certified PLCopen motion POUs.

| System Block Diagram |

| Key Advantages/ Features |

- **Shorten Development Times**
  - IEC 61131-3 Compliant
  - Supports real-object-oriented programming fully compliant with existing POUs to reduce development time and errors.

- **Real-time Dual Fieldbus Data Acquisition**
  - Supports real-time fieldbus protocols. Users can collect data from more than one Ethernet fieldbus and CANopen port simultaneously.

- **Real-time EtherCAT Soft Motion Control**
  - Supports CODESYS certified PLCopen motion POUs for single or multi-axis movements of electronic CAMs/gears on CiA DSP 402 controllers and virtual axes etc.

| Solution-ready Platform Package |

- CODESYS Runtime Software
  - Preprocessor CODESYS Simulator & Visualization (Target & Web) Runtime
  - UNO-1372G-E3AE Intel® Atom™ Quad-Core
  - CAN-FD, PCIe, 4GB RAM, 128GB SSD, MRAM, CANopen, Microsoft® Windows Embedded 7 Pro.

- CODESYS Fieldbus Library
  - Integrated Fieldbus Support in the IEC 61131-3 Tool. From CANopen to real-time Ethernet, including the Protocol Stacks.

| Soft PLC Design Features |

- **IEC 61131-3 Programming**
  - 1. IL (Instruction List)
  - 2. ST (Structured Text)
  - 3. LD, LD-Formula
  - 4. FBD (Function Block Diagram)
  - 5. SFC (Sequential Function Chart)

- **CODESYS Soft Motion Module**
  - Supports 1- and 3-axis function blocks. Supports real-time EtherCAT communication, EtherCAT HMI, and virtual axes.

- **Visualization**
  - 1. Graphical Monitoring Options
  - 2. Textual Monitoring Options
  - 3. Remote Monitoring Options
  - 4. Remote Monitoring Options for remote access.

- **Compliant to 3rd party Fieldbus Device**
  - Supports fieldbus ports from Medialink, XMC, etc.

- **Real-time Dual Fieldbus Communication**
  - Supports PROFINET, EtherCAT, EtherNet/IP and CANopen communication.

- **Open Interface for Cloud Dashboard Monitoring & Big Data Analysis**
  - Precaution alarm for equipment preventive maintenance.
  - Monitor all fieldbus-connected motion device states.
Introducing SRP-FEC210 Solution for Programmable Real-time Machine Control

**Software Architecture and Key Design Features**

- **WebAccess/APP**
  - SoftPLC profile
  - Machine status
  - Alarm notification

- **System Block Diagram**

  - **Fieldbus Distributed I/O**
  - **EtherCAT Distributed I/O**
  - **CANopen Distributed I/O**
  - **Real-time Dual Fieldbus Communication**
  - **Real-time EtherCAT Motion Control**

- **Key Advantages/Features**

  - **Shorten Development Times**
    - IEC 61131-3 Compliant
    - Supports real object-oriented programming fully compliant with IEC 61131-3 standard to inherit existing POUs to reduce development time and errors.

  - **Real-time Dual Fieldbus Data Acquisition**
    - Supports real-time fieldbus protocols. Users can collect data from more than one Ethernet fieldbus and CANopen ports simultaneously.

  - **Real-time EtherCAT Soft Motion Control**
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- **Solution-Ready Platform Package**

  - **CODESYS Runtime Software**
    - Pre-configured CODESYS SoftMotion & Visualization (Target & Web) Runtime
    - UNO-1372G-E3AE Intel® Atom™ Quad-Core C2D-Ri Pi-PC, 4GB RAM, USB 3.0, MIAM, CANopen, Modbus-soft Windows Embedded 7 Pro.

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**SoftPLC Design Features**

- **IEC 61131-3 Programming**
  1. IL (Instruction List)
  2. ST (Structured Text)
  3. LD (Ladder Programming)
  4. FBD (Function Block Diagram)
  5. SFC (Sequential Function Chart)

- **CODESYS Soft Motion Module**
  1. Single-Axis Function Blocks
  2. Multi-Axis Function Blocks
  3. Self-Definition Function Blocks
  4. User-defined Function Blocks

- **Compliant to 3rd party Fieldbus Device**
  - Supports ECODS/ECIF XML, the export.

- **Visualization**
  - Controller/ Input Options
  - Table/ Chart
  - Graphical/ Animation Options
  - Support WebVisualization for remote control

**Uncompromised SoftPLC Features**

- **CODESYS profile**
- **Machine status**
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**SoftPLC Design Features**

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**Key Advantages/ Features**

- Shorten Development Times
- Real-time Dual Fieldbus Data Acquisition
- Real-time EtherCAT Soft Motion Control

**Solution-ready Platform Package**

- CODESYS Runtime Software
  - Preeminent CODESYS Studio/VIEW & Visualization (Target & Web) Runtime

**System Block Diagram**

- WebAccess/APP
  - SoftPLC profile
  - Machine status
  - Alarm notification

- Gateway Service
  - Supports CANopen, EtherCAT, EtherCAT, Profinet
  - Real-time Dual Fieldbus Communication

- CODESYS Fieldbus Library
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Equipment Connectivity Solution
Easy Programming for Real-time Machine Control

SRP-FEC210

Ordering Configuration Table

SRP-FEC210 Programmable Real-Time Machine Control

Order in 3 Easy Steps

1. Step 1: Login
2.  Step 2: Configuration
3. Step 3: Check & Submit

Add to Cart Confirm Order

WebAccess/SCADA Dongle Key V8.2 Pro.
1500 tags (WA-P82-U15HE) Qty: ___

WebAccess/SCADA Dongle Key V8.2 Pro.
5000 tags (WA-P82-U50HE) Qty: ___

Option 100  WISE-PaaS/SaaS Software

Option 200  System Computing

Option 300  I/O & Peripherals

Option 400  Add-on Accessories

Remark

WebAccess/SCADA Dongle Key V8.2 Pro.

Option 100  WISE-PaaS/SaaS Software

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Remark

Go Online Store

Add to Cart

Confirm Order

www.advantech.com
### Application Scenario

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<tbody>
<tr>
<td>CODESYS V3.5 SoftMotion &amp; Visualization (Target &amp; Web) x1</td>
<td>UNO-1372G-E3AE x1</td>
<td>CODESYS V3.5 SoftMotion &amp; Visualization (Target &amp; Web) x1</td>
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<td>Power Adaptor (PWR-247-CE)</td>
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