PROFINET Software Development Kits

The comprehensive PROFINET Stack software solution allows PLC, robot, and field device manufacturers to embed PROFINET technology and programming quickly and economically into industrial controllers and field devices.

Features and Advantages

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Complete IO-Controller and IO-Device protocol stacks for the implementation of manufacturers who want to implement PROFINET networks</td>
<td>Quickly embed PROFINET protocols for both master and slave devices; reduce costs and time-to-market</td>
</tr>
<tr>
<td>No hardware and OS dependencies</td>
<td>Easy implementation on a large range of hardware system platforms or software operating systems</td>
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<tr>
<td>OEM engineering console software. Tool is protected by a USB dongle and can be customer branded</td>
<td>Quickly create configuration files to initialize the stack and perform commissioning and diagnostic of connected devices</td>
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<td>Sample applications with source codes are provided</td>
<td>Facilitates easy and quick implementation</td>
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<td>Successfully tested with PI conformance tools</td>
<td>Delivers a robust and conformant PROFINET implementation</td>
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<tr>
<td>Controller/Device Versatility</td>
<td>Basic Device capability means IO-Controller protocol stacks can fulfill basic Device programming needs</td>
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<td>Supports PROFIdrive and Isochronous Real Time (IRT) technology</td>
<td>Satisfies the wide range of industrial automation applications for drives (PROFIdrive) and is ideal for applications where motion control is critical to production cycles (IRT)</td>
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<tr>
<td>Stack training, technical support and engineering development for both hardware and software design available</td>
<td>Supports successful system design, implementation and development</td>
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</tbody>
</table>

Applications

**Industrial automation manufacturers**
- Controllers (PLC), PC-based controllers (Soft PLC)
- I/O devices, sensor/actuators, vision systems, displays
- Process instruments
- Drives, Valves
- Network interfaces (PC card, gateways)
- Machine builders – packaging, textile, printing, etc.
- Robot tooling and control manufacturers

**Machine builders**
- All types of complex machines having Ethernet connectivity (e.g. packaging, textile, printing, etc.)

**Robot manufacturers**
- Robot tooling
- Robot controller
- Robot monitoring

**Industrial PC manufacturers**
- Machine control
- Process control
- Industrial manufacturing
- Warehouse and logistics

**Supervision software edition**
- Monitoring of process control
- Diagnostic tools

**Non-automotive transportation**
- Vehicle infrastructure (railways, subways)
- Cranes
- Agricultural equipment

**Electronic manufacturers**
- Ethernet connectivity
- Product bundling

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PROFINET Software Development Kits

Specifications

**IO-CONTROLLER STACK**
PROFINET specifications:
- PROFINET IO CC-A/B v2.33
- Real-time communication
  - RT (Class-1)
  - No IRT
- Context Management: Yes
- IP Service configuration:
  - DCP / Local / DHCP
- IO Data:
  - Yes (cyclic data exchange) in various data format (Bit, Word, Dword and Float)
  - 128x IO-devices; with up to 1440 Input bytes and 1440 Output bytes per device
- Services
  - LLDP – PROFINET mandatory MIB
  - MRP – Media Redundancy (Client)
  - FSU – Fast Start Up
  - System Redundancy
- Hardware: Compatible with 32-bit microprocessors
- Operating System: Portable on any real-time or not multi-thread OS

**OEM ENGINEERING CONSOLE**
Windows (32-bit & 64-bit): XP, Vista, 7, 2008 Server
- Generate IO-Controller stack configuration files (XML format)
- GSD device library management
- IO-Device commissioning (Automatic device detection, Set Name, Device blinking…)
- Integrated online diagnostic (I/O, connections, alarms…)
- OEM customization
- USB dongle protection

**IO-DEVICE STACK**
PROFINET specifications:
- PROFINET IO CC-A/B/C v2.3 Ed2MU2
- Real-time communication
  - RT (Class-1)
  - IRT with dedicated hardware (Class-3)
- IO Data: up to 1440 Input bytes and 1440 Output bytes
- GSD file: Yes
- IP Device configuration:
  - DCP / Local / DHCP
- Services
  - LLDP – PROFINET mandatory MIB
  - MRP – Media Redundancy (Client)
  - FSU – Fast Start Up
  - System Redundancy
- Hardware: Compatible with 32-bit microprocessors
- Operating System: Portable on any real-time or not multi-thread OS
- Certified as Black channel with SIEMENS PROFIsafe StarterKit v3.4

Ordering Information

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Engineering No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>112106-5005</td>
<td>SDK-PFN-CON</td>
<td>PROFINET IO-Controller SDK (with basic device capability)</td>
</tr>
<tr>
<td>112106-5006</td>
<td>SDK-PFN-CON-UPD-1</td>
<td>PROFINET IO-Controller SDK - Update Contract - 1 year</td>
</tr>
<tr>
<td>112106-5012</td>
<td>SDK-PFN-CON-CNF-U</td>
<td>PROFINET IO-Controller OEM Engineering Console</td>
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<tr>
<td>112106-5001</td>
<td>SDK-PFN-DEV</td>
<td>PROFINET IO-Device SDK</td>
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<tr>
<td>112106-5048</td>
<td>SDK-PFN-DEV-FAM</td>
<td>PROFINET IO-Device SDK – family product line</td>
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<tr>
<td>112106-5047</td>
<td>SDK-PFN-DEV-IRT</td>
<td>PROFINET IO-Device RT SDK</td>
</tr>
<tr>
<td>112106-5049</td>
<td>SDK-PFN-DEV-IRT-FAM</td>
<td>PROFINET IO-Device RT SDK – family product line</td>
</tr>
<tr>
<td>112106-5002</td>
<td>SDK-PFN-DEV-UPD-1</td>
<td>PROFINET IO-Device SDK - Update Contract - 1 year</td>
</tr>
<tr>
<td>112106-5007</td>
<td>SDK-PFN-MRP</td>
<td>Client/Manager Media Redundancy Protocol for PROFINET IO-Device SDK</td>
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Support / Training Information

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<tr>
<td>860000-0142</td>
<td>SDK-PFN-EDS</td>
<td>Engineering Support for PROFINET SDK</td>
</tr>
<tr>
<td>860000-0144</td>
<td>SDK-PFN-TRN</td>
<td>PROFINET SDK Training</td>
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</table>

Stacks also available from Molex: EtherNet/IP Scanner and Adapter, EtherNet/IP Adapter, EtherNet/IP OEM Engineering Console, EtherNet/IP Services (training and engineering support)

www.molex.com/link/stacks.html

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EUR/GF/2018.03
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