

PROFINET SDKs

With the PROFINET SDK (software development kit), industrial device manufacturers can quickly and efficiently embed the PROFINET protocol in a range of I/O controllers and I/O devices. The SDK's customizable product configuration tool (PCT) also provides the ability to supply end users with fully integrated PROFINET functionality.



ADVANTAGES AND FEATURES

Streamlines implementation for a variety of hardware platforms and operating systems

The SDK supports both I/O controllers and I/O devices. It works with any hardware with a 32- or 64-bit microprocessor and any multi-thread operating system, real time or not.

Reduces time to market

Available engineering and technical support, and in-depth training options enable designers to leverage Molex's vast expertise in industrial communication.

Simplifies development and integration work

The SDK provides sample applications with source codes to help developers.

Protocol	PROFINET
Hardware Compatibility	32- or 64-bit microprocessors
Operating System	Any multi-thread OS, real time or not
Code Footprint (approx.)	400kB (I/O device) or 350kB (I/O controller)

Accelerates configuration and diagnostic processes

The PCT quickly creates configuration files to initialize the stack and performs commissioning and diagnostics for connected devices. The PCT is independent of the protocol and is customizable to be integrated with the customer's software suite.

Ensures PI conformance

The SDK is compliant with the latest PROFIBUS and PROFINET International (PI) certification test suite.

Delivers extended features to enhance versatility

The SDK includes a media redundancy protocol using an Ethernet ring to increase network availability, a compatible interface to the PROFIsafe safety layer, and PROFIdrive to ensure interoperability between drives from different vendors.

MARKETS AND APPLICATIONS

Industrial Automation

Automotive manufacturing systems
Automated packaging systems
Electronic manufacturing equipment
Ethernet-capable complex machines
Heavy industrial equipment
Industrial automation devices
I/O devices, sensors and actuators
Network interfaces (PC cards, gateways)
PC manufacturing equipment
Process control systems
Process instruments
Programmable logic controllers (PLCs)
Robot manufacturing tooling and controllers
Robot monitoring systems
Textile and printing machines
Vision systems and displays
Warehouse and logistics systems



Automotive Manufacturing Systems



Programmable Logic Controllers



Agricultural Equipment

Commercial Vehicles

Agricultural equipment
Avionics
Cranes
Railway and subway infrastructures

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SPECIFICATIONS

I/O Controller Stack Information

PROFINET Specifications: PROFINET I/O

CC-A/B v2.45

Real-Time Communication:

RT (Class 1)

No IRT

Context Management: Yes

IP Service Configuration: DCP/local/DHCP

I/O Data:

Cyclic data exchange in various data formats (Bit, Byte, Word, Dword, Float) 128x I/O devices, with up to 1,440 input bytes and 1,440 output bytes per device

Services:

LLDP—PROFINET mandatory MIB

MRP—media redundancy (client)

FSU—fast start-up

Hardware: Compatible with 32- or 64-bit microprocessors

Operating System: Portable on any multi-thread OS, real time or not

I/O Device Stack Information

PROFINET Specifications: PROFINET I/O

CC-A/B v2.45

Real-Time Communication: RT (Class 1)

I/O Data: Up to 1,440 input bytes and 1,440 output bytes

GSD File: Yes

IP Device Configuration: DCP/local/DHCP

Services:

LLDP—PROFINET mandatory MIB

MRP—media redundancy (client)

FSU—fast start-up

Hardware: Compatible with 32- or 64-bit microprocessors

Operating System: Portable on any multi-thread OS, real time or not

Certified as black channel with SIEMENS

PROFIsafe Starter Kit and Molex PROFIsafe Toolkit

Product Configuration Tool

Operating System: Windows 11

Generates I/O controller stack configuration files (XML format)

GSD device library management

I/O device commissioning (automatic device detection, set name, device blinking)

Integrated online diagnostic (I/O, connections, alarms)

OEM customization

USB dongle protection