Brad® Ethernet Protocol Stacks are the most open, powerful and cost-effective solutions for customers who want to embed PROFINET protocol into industrial controllers and field devices

Brad® Ethernet Protocol Software Stacks

112106 Brad® Ethernet Software Development Kits (Stacks) for PROFINET

Promoted by PROFIBUS International, PROFINET is an Ethernet-based networking solution for industrial automation. PROFINET protocol capitalizes on the advantages that industrial Ethernet brings to the automation environment and has a broader reach than PROFIBUS to enable better networking plant-wide.

Brad® protocol-software development kits, (also known as stacks) enable customers to quickly embed PROFINET protocols for both master and slave devices thereby reducing their costs and time-to-market. The stacks enable customers to design PROFINET

IO-Controller (master) devices such as PLC couplers, PC-based interface cards, robot controllers and industrial PCs. Or by using the IO-Device (slave) stack designing products such as I/O modules, robots, field instru-ments, regulators, operator panels, etc.

Brad® protocol stacks are completely hardware independent and support 32-bit microprocessors (Intel, PowerPC, ARM, Fido, etc) running operating systems real-time or not (Windows, VxWorks, QNX, RTX, Linux, ECOS, ThreadX, etc).

The deliverable development kit package includes: ANSI C source code, user reference guide and samples of implementation in various operating systems.

FEATURES AND BENEFITS

- Master and slave protocol stacks can address both controller (master) or device (slave) manufacturers who want to implement PROFINET networks
- Brad® stacks have no hardware and OS dependencies and can be easily implemented on a large range of hardware system platforms or software operating systems
- OEM engineering console software to quickly create configuration files to initialize the stack and perform commissioning and diagnostic of connected devices (this tool is protected by a USB dongle and can be customer branded)
- Sample applications with source codes are provided and can be quickly and easily implemented
- Brad® stacks are successfully tested with PNO test tools
- Molex can provide stack training, technical support and engineering development for both hardware and software design

MARKETS AND APPLICATIONS

- Industrial automation manufacturers
  - Controllers (PLC), PC-based controllers (Soft PLC)
  - I/O devices, sensor/actuators, vision systems, displays
  - Process instruments
  - Drives
  - Network interfaces (PC card, gateways)
  - Industrial Ethernet switch
- 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
- Non-automotive transportation
  - Vehicle infrastructure (railways, subways)
  - Cranes
  - Agricultural equipment
- Electronic manufacturers
  - Ethernet connectivity
  - Product bundling




SPECIFICATIONS

IO-Controller Stack

- PROFINET specifications:
  - PROFINET IO version 2.2
- Real-time communication:
  - RT (Class-1 and Class-2)
  - No IRT
- Context Management: Yes
- IP Service configuration:
  - DCP / Local / DHCP
- IO Data:
  - Yes (cyclic data exchange) in various data format (Bit, Byte, Cord, 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
  - System Redundancy (On Request)
- Hardware:
  - Compatible with 32bit microprocessors
- Operating System:
  - Portable on any real-time or not multi-thread OS

OEM Engineering Console

- Windows 32-bit (XP, Vista)
- Generate IO-Controller stack configuration files (XML format)
- GSD device library management
- IO-Device commissioning (Automatic device detection, Set Name, Device blinking, etc.)
- Integrated diagnostic
- OEM customization
- Sample of user controller application
- USB dongle protection

IO-Device Stack

- PROFINET specifications:
  - PROFINET IO version 2.2
- Real-time communication:
  - RT (Class-1 and Class-2)
  - No IRT
- 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
  - System Redundancy (Feb 2011)
- Hardware:
  - Compatible with 32bit microprocessors
- Operating System:
  - Portable on any real-time or not multi-thread OS

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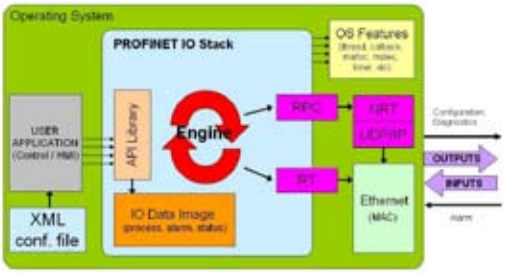
OEM Engineering Console



ORDERING INFORMATION

Order No.	Engineering No.	Description
112106-5005	SDK-PFN-CON	PROFINET IO-Controller SDK
112106-5010	SDK-PFN-CON-L	PROFNET IO-Controller License Fee
112106-5006	SDK-PFN-CON-UDP	PROFINET IO-Controller SDK Annual Maintenance Update
112106-5012	SDK-PFN-CON-CNF-U	PROFINET IO-Controller OEM Engineering Console
112106-5001	SDK-PFN-DEV	PROFINET IO-Device SDK
112106-5002	SDK-PFN-DEV-UPD	PROFINET IO-Device SDK Annual Maintenance Update
112106-5007	SDK-PFN-MRP	Client/Manager Media Redundancy Protocol for PROFINET

SUPPORT / TRAINING INFORMATION

Order No.	Engineering No.	Description
860000-0142	SDK-PFN-EDS	PROFINET IO-Controller SDK
860000-0144	SDK-PFN-TRN	PROFNET IO-Controller License Fee

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)

Order No. 987650-5294

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