Molex demonstrates market leadership with the comprehensive Brad® CIP® Safety Stack software, allowing industrial-device manufacturers to embed CIP Safety Stack technology quickly and economically within their products.

Common Industrial Protocol (CIP) Safety is a protocol extension developed by ODVA. The CIP Safety protocol offers a set of highly-integrated safety services which leverage the underlying communications stacks of the standard CIP networks to transport data from a source to a destination. CIP Safety allows end-users to implement safety systems in a more integrated, cost-effective manner.

The Molex Brad® CIP Safety Software Kit (also called Stack) is offered as a tool kit, with the stack provided as modular “C” code that is pre-tested. The software allows a manufacturer of intelligent industrial products to implement the necessary safety-application layer that enables products to comply with the CIP Safety specification (Edition 2.1) from ODVA. The CIP Safety Stack is available for both DeviceNet® and EtherNet/IP®.

The Brad® CIP Safety Stack is approved by TÜV for SIL3 applications and it has been conformance tested using the ODVA Conformance Test. Molex can support customers that request assistance with design implementation and/or guidance through TÜV approval.

**FEATURES AND BENEFITS**

- Meets IEC 61508, SIL3 ensuring international market acceptance
- Approved by TÜV and tested by ODVA means a high-quality solution for minimal project risk and faster time-to-market
- Pre-tested modular ANSI C code is easy to compile using standard compilers; faster time-to-market
- Molex engineers can support protocol-integration requests minimizing investment required for in-house resources
- Designed for use with other Brad® offerings: Hardware (DeviceNet or EtherNet/IP software stacks) which results in a complete CIP communication solution

**MARKETS AND APPLICATIONS**

- **Industrial Device Manufacturers**
  - I/O blocks
  - Valves
  - Drives
  - Robots
  - Complex machines (OEM)
- **End-Users**
  - Automotive
  - Consumer goods
  - Heavy industries

* DeviceNet, EtherNet/IP and CIP are trademarks of ODVA, Inc.
**SPECIFICATIONS**

- ANSI C code is provided for the safety portion of the Stack (Compliant with CIP Safety Specification 2.1)
- ANSI C code for black-channel components (NET_CTRL_IO)
- Interface specification for high-integrity and black-channel components
- Safety integration manual (including safety measure requirements)
- Optionally, modified standard CIP stacks (software/firmware) for DeviceNet (Slave) or EtherNet/IP (Adapter)
- Optionally, ANSI C code for the Platform Adaptation Layers (both safety and non-safety)
- All documentation required by certification bodies (TÜV, ODVA)
- Support during certification process of vendor’s final product

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**Brad® Common Industrial Protocol (CIP®) Safety Software Kit (Stack)**

- **112115 DeviceNet Stack Development Kits**
- **112115 DeviceNet and EtherNet/IP Stack Development Kits**
- **112116 DeviceNet and EtherNet/IP Royalty Fees**
- **112117 EtherNet/IP Stack Development Kits**

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**ORDERING INFORMATION**

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<th>Device Type</th>
<th>Network</th>
<th>Description</th>
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<td>Slave</td>
<td>DeviceNet</td>
<td>Stack Development Kit (Standard Source Code)</td>
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Note: Source code obfuscation means that the “C” code is protected, but the compiler can process it.

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