**SST™ DN4 DeviceNet* Network Interface Cards**

Delivering high reliability and performance with CIP Safety integration, combined client/server SST™ DN4 DeviceNet* PCIe NICs enable real-time control in data-acquisition applications

### Features and Benefits

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scans DeviceNet* signals in 3 to 5 milliseconds</td>
<td>Enables real-time control</td>
</tr>
<tr>
<td>Combined Group 2 Client (Master) and Server (Slave) operations in one Network Interface Card (NIC)</td>
<td>Provides simultaneous execution of master and slave operations. Allows implementation of control schemes where multiple functions may be required (e.g., robotic control cells)</td>
</tr>
<tr>
<td>Common Industrial Protocol (CIP*) Safety Server (Slave) integration</td>
<td>Reduces the effort and time required to implement Molex CIP Safety Software Stacks. Enables compatibility for future applications and safety requirements</td>
</tr>
<tr>
<td>Field-Programmable Gate Array (FPGA) design</td>
<td>Boosts performance and reliability. Lowers component counts. Results in an extended product lifecycle</td>
</tr>
<tr>
<td>Poll, strobe, change-of-state (COS) and cyclic input/output messaging</td>
<td>Broadens application flexibility for DeviceNet control schemes</td>
</tr>
<tr>
<td>Quick-connect capability in Client (Master) mode</td>
<td>Accesses devices in less than 500 milliseconds on activation</td>
</tr>
<tr>
<td>Supports multiple networks and PC card buses: Controller Area Network (CAN) (2A and 2B, up to 1Mbps per second); DeviceNet networks (at 125, 250 or 500 kbps); (PCle, PCI, PC/104) and channels (1, 2 channel)</td>
<td>Expands application and system flexibility. Ensures reduced inventory for OEMs and distributors</td>
</tr>
<tr>
<td>Multi-server (slave) versions of the PCI bus card are available (1 channel only)</td>
<td>Supports control system simulation. Reduces design and field commission time</td>
</tr>
<tr>
<td>Form-fit-function replacement for existing DN3 cards</td>
<td>Provides backwards compatibility with DN3 cards for legacy system connections</td>
</tr>
<tr>
<td>Tested to ODVA standards (Volume 3, v.1.8)</td>
<td>Meets industry standard requirements</td>
</tr>
</tbody>
</table>

### Applications

**Industrial Automation: Automotive Applications**
- PC Control Systems
- HMI/SCADA Systems
- Robot and Other Machine Control
- Diagnostics

**Industrial Automation: Semiconductor Applications**
- PC Control Systems
- HMI/SCADA Systems
- Diagnostics

**Material Handling**
- PC Control Systems
- HMI/SCADA Systems
- Robot and Other Machine Control
- Diagnostics

**Other Markets**
- Pulp and Paper
- Food and Beverage
- Mining and Metal

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## Specifications

### General

<table>
<thead>
<tr>
<th></th>
<th>PCIe (PCI Express) NIC</th>
<th>PCU (Universal PCI) NIC</th>
<th>PC/104 NIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Interface</td>
<td>PCI Express x1 (Times 1)</td>
<td>32-bit, 33 MHz; PCI universal 3.3/5V interface (compliant signaling with PCI v2.2 &amp; v2.3)</td>
<td>16-bit PC/104 interface (compliant with PC/104, v2.3 &amp; v2.4)</td>
</tr>
<tr>
<td>Processor</td>
<td>64 MHz NIOS Processor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>128 bytes for PCI configuration</td>
<td>128 bytes for PCI configuration</td>
<td>256 KB of shared RAM per channel</td>
</tr>
<tr>
<td>Diagnostics</td>
<td>Bi-color LEDs showing card status PCI: health, communication PC/104 only: power, health, communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>119.00 by 68.00 by 18.00mm (LxWxH)</td>
<td>Standard half-height (1 channel) Standard full-height (2 channel) 95.90 by 90.0mm (LxW)</td>
<td></td>
</tr>
<tr>
<td>Typical Current Draw</td>
<td>+3.3V, ± 0.3A (1 channel)</td>
<td>+5V, ± 0.3A (1 channel)</td>
<td>600 mA (2 channel)</td>
</tr>
<tr>
<td>Addressing: Memory</td>
<td>256 KB window available per channel</td>
<td>256 KB window available per channel</td>
<td>256KB in a window of 8, 16, 32, 64, 128 or 256KB on even window boundary between 512KB and 1MB</td>
</tr>
<tr>
<td>Addressing: I/O</td>
<td>16 bytes allocated per channel</td>
<td>16 bytes allocated per channel</td>
<td>8 bytes on any even 8-bit boundary from 200h-2F8h or 600h-6F8h</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 to +60ºC</td>
<td>0 to +60ºC</td>
<td>0 to +55ºC</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40 to +89ºC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>5 to 95% non-condensing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RoHS Compliant</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protocol</td>
<td>DeviceNet™ Master – Group 2 Client, Group 2 only Client DeviceNet Slave – Group 2 Server Compliant with DeviceNet Specification 1.8 CAN 2.0 B Isolated Controller Area Network (CAN) physical layer on each channel (where applicable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable</td>
<td>Shielded twisted pair, compatible with target network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>DeviceNet compliant 5-pin CAN connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Power</td>
<td>11-24V DC, 50 mA typical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolation</td>
<td>500V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Rate</td>
<td>Up to 1 Mbaud for CAN 125K, 250K and 500K baud for DeviceNet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ordering Information

#### DeviceNet Network Interface Cards

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Catalog No.</th>
<th>Component</th>
<th>Channel</th>
<th>Multi-Server (Slave) Version</th>
<th>Bracket Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>112005-0040</td>
<td>SST-DN4-104-1</td>
<td>PC/104 Card</td>
<td>1</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>112005-0048</td>
<td>SST-DN4-104-2</td>
<td>PC/104 Card</td>
<td>2</td>
<td></td>
<td>Half</td>
</tr>
<tr>
<td>112113-0001</td>
<td>SST-DN4-PCU-H</td>
<td>PCU Card</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>112113-0005</td>
<td>SST-DN4-PCU-2</td>
<td>PCU Card</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>112113-0002</td>
<td>SST-DN4-PCU</td>
<td>PCU Card</td>
<td>1</td>
<td>Yes</td>
<td>Full</td>
</tr>
<tr>
<td>112113-0010</td>
<td>SST-DN4MS-PCU</td>
<td>PCU Card</td>
<td>1</td>
<td>No</td>
<td>Half</td>
</tr>
<tr>
<td>112113-0011</td>
<td>SST-DN4-PCIE</td>
<td>PC/104 Card</td>
<td>1</td>
<td>Yes</td>
<td>Full</td>
</tr>
<tr>
<td>112113-0012</td>
<td>SST-DN4-PCIE-H</td>
<td>PC/104 Card</td>
<td>1</td>
<td>Yes</td>
<td>Full</td>
</tr>
<tr>
<td>112113-0013</td>
<td>SST-DN4MS-PCIE</td>
<td>PC/104 Card</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>112113-0014</td>
<td>SST-DN4MS-PCIE-H</td>
<td>PC/104 Card</td>
<td>1</td>
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<td></td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Order No.</th>
<th>Catalog No.</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>112030-0007</td>
<td>SST-DN3-CNF-U (single license)</td>
<td>USB</td>
</tr>
<tr>
<td>112037-0014</td>
<td>SST-DN3-OPC (single license)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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www.molex.com/link/bradnics.html

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