



To get access and fast implementation of DeviceNet into your system becomes easier and less expensive with BradCommunications™ SST™ fieldbus OEM modules.

## SST™ DC100 DeviceNet Slave

Embedded Network Interface (ENI)

### Features

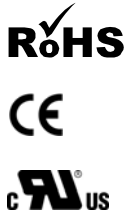
- Cost effective OEM module for DeviceNet
- One Common Interface for all ENI module family
- Very compact dimension (horizontal or vertical mounting)
- Simple integration with Direct DP-RAM Access
- Possible storage of the network configuration in flash memory
- Independent of Operating Systems
- Lower engineering and integration costs
- Lower product and life cycle cost
- Up to 740 bytes Input and 740 bytes Output Data
- ODVA Conformance Tested

### Protocols

- Available:
  - ✓ Profibus DP-V0 Master/Slave,
  - ✓ Profibus DP-V1 Master
  - ✓ CC-Link Slave
  - ✓ DeviceNet Slave
  - ✓ DeviceNet Master and Slave
- Pending:
  - ✓ CC-Link Master
  - ✓ Ethernet IO (Modbus TCP, EtherNet/IP and PROFINET IO)

### Typical applications

- Industrial PC Solutions
  - ✓ Test Measurement,
  - ✓ PC based Control,
  - ✓ Operator Panel
- Machine Tool Industry
  - ✓ Robotic Application,
  - ✓ Embedded Control for small Devices
- Building Automation
  - ✓ Multiple Gateways, Alarm Center,
  - ✓ Elevator / Escalator Control,
  - ✓ Access Control / Data Collection



### Overview

The BradCommunications™ SST™ DC100DNS module is an Embedded Network Interface (ENI) dedicated to OEMs who want to connect their systems to the DeviceNet™ fieldbus. The SST™ DC100DNS ENI module benefits to machine builders and system manufacturers (robot controllers, drives, industrial PCs, field instruments, scales, etc) by significantly shortening the time to market for new products.

The SST™ DC100DNS module has been designed to meet the latest DeviceNet connectivity requirements, featuring low price, small size and an easy integration process. The DC100DNS module is ODVA conformance tested and supports DeviceNet Slave specifications version 2.00.

The SST™ DC100DNS ENI module is connected with the motherboard through a simple 60 PIN connector. Therefore the integration is easy and inexpensive. As the wiring of the connector is always the same, only one hardware design is required in order to support different fieldbus protocols (PROFIBUS, CC-Link, Ethernet, and futur).

The data exchange with the Host systems is carried out via an "easy to use" interface using a dual-port memory. As the DC100DNS module is equipped with its own embedded processor, all the communication is processed on the module, without any load on the host system.

In order to support customer specific development, Woodhead Industries provides also a development and evaluation kit, including:

- 1 development board based on a USB v2.0 High Speed Adapter
- 1 CD-Rom including:
  - Hardware Reference Guide
  - DC100 Family Host Design Guide
  - DC100Kit USB-Carrier Development Board
  - DLL source available to speed up implementation on new host
  - Demo / Test software and source code available
  - Driver and APIs under Windows XP and source code to enable fast integration into specific OS (Linux, DOS, QNX, Vx-Works, etc)

To assist you for an easier and quicker integration, Woodhead may propose you training or development assistance on site or in Woodhead office.



## Memory MAP

Dual Port Memory (DP-RAM) allows a fast access to all Fieldbus data.

<b>BLOCK_0 (Size 6 Bytes)</b> Fieldbus Type & Variant Hardware ID & Sub-ID Card & Host Logical Interrupt
<b>BLOCK_1 (Size 6 Bytes)</b> Card Status Block
<b>BLOCK_2 (Size 12 Bytes)</b> Host Control Send/Receive Message
<b>BLOCK_3 (Size 128 Bytes)</b> Host Receive Message
<b>BLOCK_4 (Size 128 Bytes)</b> Host Send Message
<b>BLOCK_5 (Size 700 Bytes)</b> Fieldbus Specific Block
<b>BLOCK_6 (Size 740 Bytes)</b> Input Data
<b>BLOCK_7 (Size 740 Bytes)</b> Output Data
<b>BLOCK_8 ↔ 13 (Size 0 Byte)</b> Reserved
<b>BLOC_14 (Size 2 Bytes)</b> Interrupts Flags

## Hardware Development Kit



High Speed USB v2.0 Adapter  
Development Kit

## Hardware Specifications

DC100DNS SPECIFICATIONS	
<b>Bus Interface</b>	8 bit, DC100
<b>Host Connector</b>	Proprietary technology (ISA Bus signals)
<b>Processor</b>	Phillips LPC2292 ARM7 (CAN 2.0 B compliant)
<b>Memory</b>	16KB RAM and 256KB Flash
<b>Access Methode</b>	<b>Interrupt:</b> From Host to DC100, From DC100 to Host <b>Polling:</b> From Host to DC100, From DC100 to Host
<b>Dimensions ( LxWxH)</b>	90 X 40 x 16 mm (3.54 x 1.57 x 0.62 inches)
<b>Consumption</b>	1.2 W
<b>Typical Current Drawn</b>	5Volts +-5%, 20mA, 3.3Volts +-5%, 120mA, Network Power +12V, 50mA
<b>Voltage Requirements</b>	+5V and +3.3V from DC100 bus connector, Network Power 8 – 24Volts
<b>Addressing Memory</b>	2kB DPRAM Window, Access time: 25ns
<b>Operating T°</b>	0 deg C (32 deg F) to +70 deg C (158 deg F)
<b>Storage T°</b>	-40 deg C (-40 deg F) to +85 deg C (185 deg F)
<b>Humidity</b>	5% to 95% non-condensing
<b>RoHS Compliance</b>	Yes
<b>Certification</b>	CE, UL, UL/C

NETWORK SPECIFICATIONS	
<b>Device Type</b>	<ul style="list-style-type: none"> <li>• DeviceNet Slave Only</li> <li>• Conform to Specification version: Vol 1: 2.0, Vol 2: 2.0</li> </ul>
<b>Device Features</b>	<ul style="list-style-type: none"> <li>• UCMM Capable Group 2 Server</li> <li>• Dynamic connections supported in Group 1, 2 and 3</li> <li>• Explicit Peer to Peer messaging</li> <li>• I/O Peer to Peer Messaging</li> <li>• Supports Quick Connect</li> </ul>
<b>I/O Memory Size</b>	740 Inputs bytes, 740 Outputs bytes
<b>I/O Messaging</b>	<ul style="list-style-type: none"> <li>• Bit Strobe</li> <li>• Polling</li> <li>• Cyclic</li> <li>• Change Of State (COS)</li> </ul>
<b>Data Rate</b>	125K, 250K, 500K bauds
<b>Display Leds</b>	2 bi-colors leds: Health, Communication
<b>Isolation</b>	500 Volts
<b>ODVA Conformance</b>	Yes
<b>Configuration Methods</b>	<ul style="list-style-type: none"> <li>• EDS</li> <li>• Custom Software</li> </ul>
<b>Connector</b>	Shielded 5 Cores DeviceNet compliant cable
<b>Bus Connector</b>	<b>Standard:</b> DeviceNet compliant 5 pin terminal block with/without screws. <b>On Request:</b> HE13 fieldbus header for connection to host card is available.

## Ordering information

Part Number	Description
<b>DC100DNS-C-B10</b>	BradCommunication™ SST™ DC100DNS, DeviceNet Slave, 5 pins connector with screw, Bulk of 10
<b>DC100DNS-H-B10</b>	BradCommunication™ SST™ DC100DNS, DeviceNet Slave, 5 pins HE13 connector, Bulk of 10
<b>SST-DNS-USB-KIT</b>	BradCommunication™ SST™ DC100DNS Development Kit (USB Adapter + DC100DNS + CD-Rom)

**BradCommunications™**  
from Woodhead Industries

Contact us: [www.woodhead.com](http://www.woodhead.com) Reference Number: DW2007210 Date published: 05 Oct. 07

**North America:** US +1 800 225 7724 – Canada +1 519 725 5136  
**Europe:** France +33 2 32 96 04 20 – Germany +49 7252 94 96 0 – Italy +39 010 59 30 77  
 United Kingdom +44 1495 356300  
**Asia:** China +86 21 5835 9885 – Singapore +65 6261 6533 – Japan +81 3 5791 4621

BradCommunications™ and SST™ are trademarks of Woodhead Industries.  
 All the other trademarks are the property of their respective owners.  
 © 2007 Woodhead Industries, a division of Molex, Inc.