



**ELECTRONIC
INNOVATION Inc.**

**DN101-PFE
DN101-SSE**

Control Processor with Fixed I/O



DN101-PFE

The Electronic Innovation Inc. "DN" line of modules is intended to provide rugged, reliable, *DeviceNet*[™] I/O capability in unusually harsh environments. These include applications such as on-board control of heavy mobile equipment.

The DN line has been designed from the ground up to survive these environments with special attention in the following areas:

- Mechanical design for high shock, vibration, and concussion tolerance, resistance to liquids such as water or oil, and most forms of corrosion, along with wide operating temperature ranges.
- Electrical design to ensure reliable operation in the face of severe electrical transients, which can occur on vehicle electrical systems. All modules have been designed and tested according to automotive standard SAE J1113 and mil spec QSTAG-307
- Electronic design to minimize electromagnetic emissions and provide low susceptibility to external electromagnetic interference.
- Extensive design effort has been expended to ensure that hardware, software, or network faults, if and when they occur, will result in a predictable and timely transition of the module to the safest achievable state.

The DN101 Control Processor is intended to control actuators and collect sensor feedback in a mobile equipment environment. The standard module is configured by Electronic Innovation to perform the required functions on customer equipment. Optionally, an IEC1131 software package is available that will allow the end user to develop the control algorithm and program the DN101.

This processor is able to act as a standalone controller, and is also able to communicate on a *DeviceNet*[™] network. In network mode, it can act as a master controlling other I/O blocks, or as a slave providing I/O capability to an Electronic Innovation or third party *DeviceNet*[™] scanner.

DeviceNet Communications

Default MAC ID:	63, Software Selectable
Data Rates Supported:	125, 250, 500 kbps, Software Selectable
Master/Slave Connection Set:	Supported, Group 2 Only Client and Server
Dynamic Connections (UCMM):	Not Supported
Fragmented Explicit Messaging:	Not Supported

DeviceNet Power Supply

Power Supply Voltage:	9 V to 65 V, continuous operating
Power Supply Isolation:	1.2 kV rms
Current Consumption:	250 mA @ 8.8 V Supply 190 mA @ 11.0 V Supply 100 mA @ 25.0 V Supply
Overvoltage Withstand:	120V, 20 seconds
Applicable Standards:	Exceeds QSTAG-307 & SAE 1113

Pulse Width Modulated (PWM) Outputs (12)

Output Type:	High-Side Switch
PWM Frequency:	20 to 2500 Hz, Software Selectable
PWM Frequency Jitter:	100 ppm
PWM Resolution:	8 bits
PWM Duty Cycle Range:	0% to 100%

Voltage Outputs (2)

Selectable Ranges:	0 to 5 V, -5 to +5 V, 0 to 10 V, -10 to +10 V
Resolution:	8 bit
Output Current:	5 mA (max.)
Short Circuit Protection:	Yes

Analog Inputs (4)

Input Range Selection:	Software Selectable
Voltage Input Ranges:	0 to 5 V, -5 to +5 V, 0 to 10 V, -10 to +10 V
Current Input Range:	0 to 20 mA
Resolution:	12 bits

Digital Inputs (8, 2 w/Frequency Counters)

Minimum Input Level	-110V
Low Level Input	4.8 V
High Level Input	6.5 V
Maximum Input Level	110 V
Input Current @24V	250 μ A Max

Environmental

Operating Temperature:	-40 °C to +85 °C
Storage Temperature:	-55 °C to +125 °C

Ordering Information

DN101-PFE	Potted into Polyurethane enclosure, Mini-style DeviceNet Connectors Mating I/O Connector: AMP 770680-5
DN101-SSE	Potted into Stainless Steel Enclosure, Mini-style DeviceNet Connectors Mating I/O Connector: AMP 770680-5



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