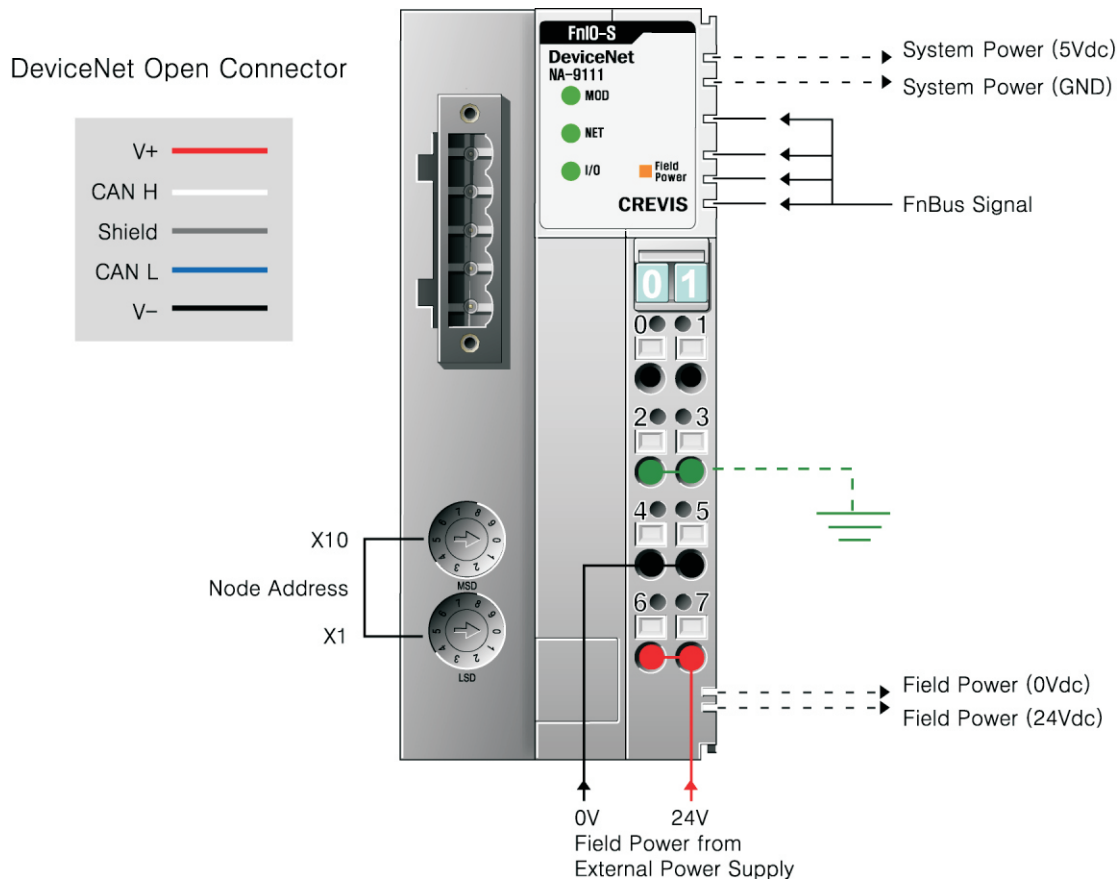




- NA-9111(NA-9112)은 DeviceNet Network Adapter이며, 5 pin Open Connector를 통하여 DeviceNet에 연결합니다.
- NA-9111(NA-9112)은 Master/Slave 환경에서 Slave의 역할을 합니다.
- I/O data는 polling, bit-strobe, cyclic, change-of-state connection 중 한가지 통신방식으로 master와 통신합니다.
- Node 사이즈는 최대 64개까지 확장이 가능합니다.
- 각 NA-9111은 최대 256 digital input/256 digital output 또는 16 analog input/16 analog output channels들을 처리할 수 있습니다. NA-9112은 최대 2016 digital input/2016 digital output 또는 126 analog input/126 analog output channels들을 처리할 수 있습니다.
- NA-9111(NA-9112)은 diagnostic 기능 (모듈 상태, network 상태, expansion units 상태, field power 상태)을 위한 indicator들이 있습니다.
- ODVA의 인증을 받았으며, 이는 다른 DeviceNet 제품들과의 호환성이 있음을 의미합니다.
- 125Kbps~500Kbps까지의 통신속도를 지원하며, auto baud rate detection을 지원합니다.
- Rotary switch를 이용하여 Node address를 지정합니다.
- Network Adapter와 확장 모듈은 Master에서 제공하는 configuration tool software를 이용하여 PC에서 파라미터로 나타낼 수 있습니다.

## DeviceNet - Network Adapter

Items	NA-9111	NA-9112
<b>Communication Interface Specifications</b>		
Number of Nodes	64 node / Max.	
Network Protocol	I/O Slave Message (Group 2 Only Slave) Poll command, Bit_strobe command Cyclic command, COS command	
Expansion I/O Module	Max. 32 slot	
I/O Data Size	Total : Input 32bytes(include byte)/Output 32bytes - Max. Discrete I/O : Input 256points/Output 256points - Max. Analog I/O : Input 16channels/Output 16channels	Total : Input 252bytes(include byte)/Output 252bytes - Max. Discrete I/O : Input 2016points/Output 2016points - Max. Analog I/O : Input 126channels/Output 126channels
Indicators	1 green/red Module Status Indicator 1 green/red Network Status Indicator 1 green/red Expansion Module Status indicator 1 green Field Power Status indicator	
Baud Rate	125K bit/s (Max. 500m), 250K bit/s (Max. 250m)500K bit/s (Max.100m)	
Communication Speed	125Kbps,250Kbps,500Kbps (Auto baud rate selection)	
Module Location	Starter Module - left side of FnIO system	
DeviceNet Input Voltage Range	11-25Vdc DeviceNet Specification	
Field Power Monitoring	Detect Field Power @11Vdc	
<b>General Specification</b>		
System Power (from DeviceNet cable)	Supply Voltage : 24Vdc nominal Voltage Range : 11~28.8Vdc Protection : Output Current Limit (Min. 1.5A) Reverse Polarity Protection	
Power Dissipation	30mA Typical @24Vdc	
Current for I/O Module	1.2A @ Max. 5Vdc	
Isolation	Network to Logic : Non-isolation	
Field Power	Supply Voltage : 24Vdc nominal Voltage Range : 11~28.8Vdc Reverse Voltage Protection : -28.8Vdc	
Current in Jumper Contacts	DC 10A Max. Capacity	
Weight	155g	
Module Size	42mm x 99mm x 70mm	
Environment Condition	Refer to " Environment Specification "(page : 1-257)	



## Status Indicator LED

### MOD : Module Status LED

Status	LED is	Description
No Power	Off	No power is supplied to the unit
Device Operational	Green	The unit is operating in normal condition
Device in Standby	Flashing Green	The EEPROM parameter is not initialized yet Serial Number is zero value (0x00000000)
Minor Fault	Flashing Red	The unit has occurred recoverable fault in self-testing - Too many expansion slot - Overflow IO size - IO configuration failure - EEPROM checksum fault
Unrecoverable Fault	Red	The unit has occurred unrecoverable fault in self-testing - Invalid Module ID - Firmware fault

**NET : Network Status LED**

Status	LED is:	To indicate:
Not Powered Not On-line	Off	Device is not on-line or may not be powered - Not completed the Dup-MAC_ID test yet
On-line, Not connected	Flashing Green	Device is on-line but has no connections in the established state - Passed the Dup-MAC_ID test - Not allocated to a master
On-line, Connected	Green	Device is on-line and allocated to a master
Connection Time-out	Flashing Red	One or more I/O connections are in the time-out state
Critical Communication Failure	Red	Failed communication - Duplicate MAC ID - Bus-off

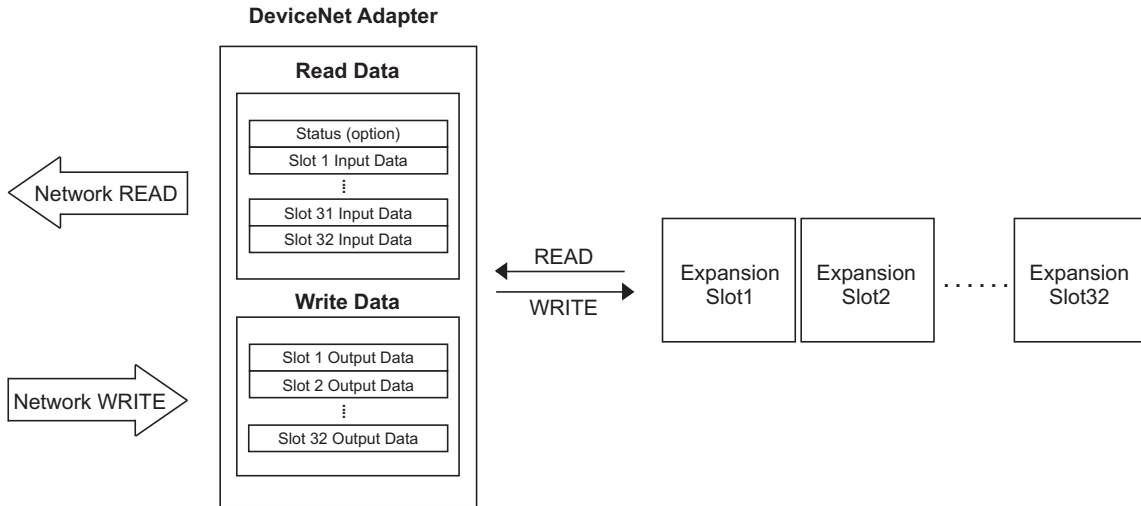
**I/O : Expansion Module Status LED**

Status	LED is:	To indicate:
Not Powered Not Expansion Module	Off	Device has no expansion module or may not be powered
Fn-Bus Connection Run Exchanging I/O	Green	FnBus Normal Operation
Expansion Configuration Failed	Flashing Red	Failed to initialize expansion module - Detected invalid expansion module ID - Overflowed Input/Output Size - Too many expansion module - Initial protocol failure
FnBus Connection Fault During Exchanging I/O	Red	One or more expansion module occurred in fault state - Changed expansion module configuration - FnBus communication failure

**Field Power : Field Power Status LED**

Status	LED is:	To indicate:
Not Supplied Field Power	Off	Not supplied 24Vdc field power
Supplied Field Power	Green	Supplied 24Vdc field power

### Mapping Data into the Image Table



### Description of Status byte

Bit Description	Decimal Bit	Explanation
Explanation	00-03	0: Exchange IO data(normal operation) 1: Stop Exchanging IO(ready to exchange IO) 2: Fn-Bus Communication Fault 3: Slot Configuration Fault 4: No Expansion Slot
Reserved	04-06	Reserved
Field Power Status	07	0: 24Vdc Field Power On 1: 24Vdc Field Power Off