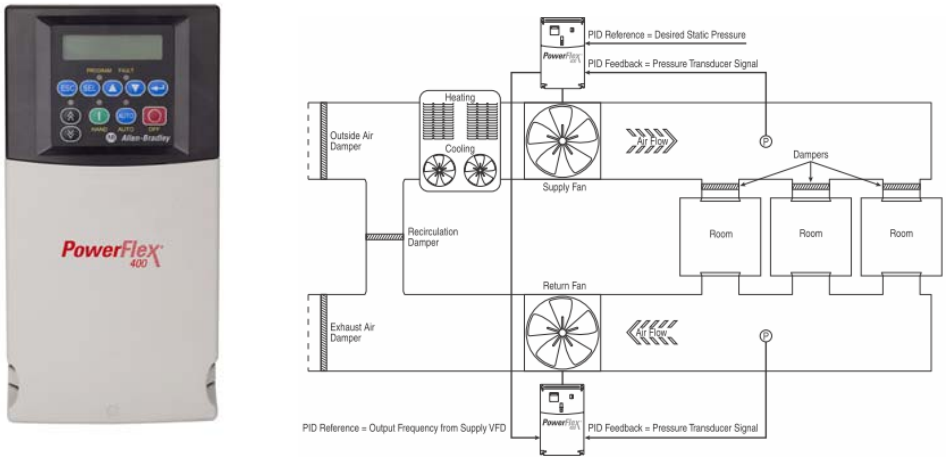
How to communicate with the [PowerFlex 400] by DeviceNet master

DeviceNet Master series:

DeviceNet Master series includes the USB interface(I-7565-DNM), PCI interface(PISO-DNM100U) and PAC module(I-8124W). They can represent an economic solution of DeviceNet application and be a DeviceNet master device on the DeviceNet network. They support Group 2 only Server and UCMM functions to communication with slave devices. They are popularly applied in the industrial automation, building automation, vehicle, marine, and embedded control network.

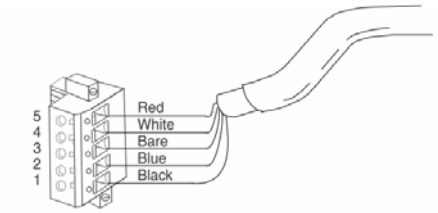
PowerFlex 400 :

The PowerFlex 400 has built-in motor control functionality. This feature allows operation of up to three (3) line-started motors in addition to the motor controlled directly by the PowerFlex 400 drive. When motor control is enabled, the internal PID controller in the PowerFlex 400 uses a reference and feedback signal to adjust the speed of the drive controlled motor such that the feedback signal follows the reference signal.



The pictures came from the manual and are belonged to the Allen-Bradley.

Wire connection with the Demo Box:



Terminal	Color	Signal	Function
5	Red	V+	Power Supply
4	White	CAN_H	Signal High
3	Bare	SHIELD	Shield
2	Blue	CAN_L	Signal Low
1	Black	V–	Common

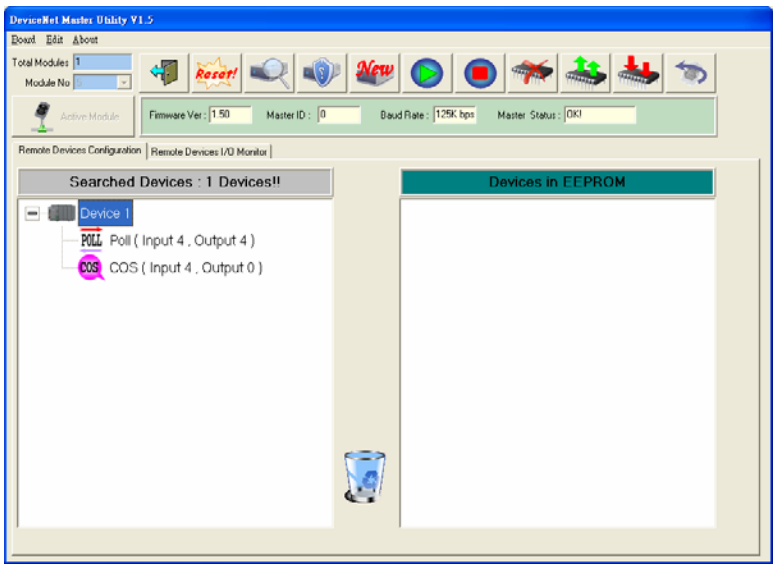
The users need to provide extra DC 24V power in the V+(pin-5) and V-(pin-1) for the DeviceNet module.

DNM Utility

The software utility includes various useful functions which help users to diagnose and access the DeviceNet devices. The users do not care about the protocol and configurations. The users could download from the website below.

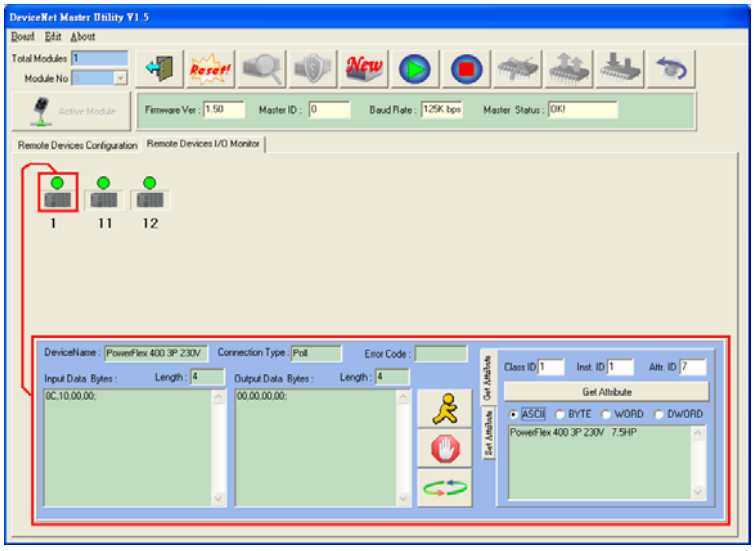
ftp://ftp.icpdas.com.tw/pub/cd/fieldbus_cd/devicenet/master/dnm_utility/

The PowerFlex400 has been searched.

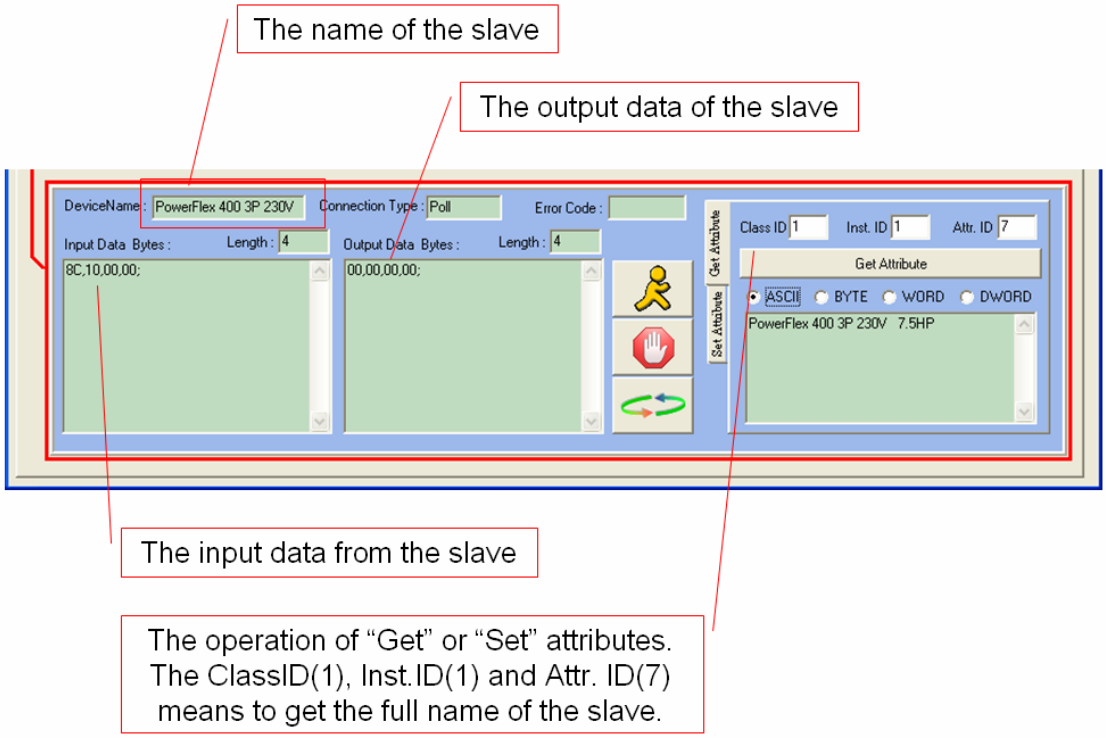


The node #1 supports Poll and COS (Change of State) connections. The Poll connection is with 4-byte input data and 4-byte output data. The COS connection is with 4-byte input data and without output data.

The DNM Utility communicates with the PowerFlex 400:



Here shows that the DNM_Utility has communicated the PowerFlex 400 inverter.


The name of the slave
The output data of the slave
DeviceName : PowerFlex 400 3P 230V
Connection Type : Poll
Error Code :
Input Data Bytes :
Length : 4
8C,10,00,00;
Output Data Bytes :
Length : 4
00,00,00,00;
Get Attribute
Set Attribute
Class ID 1
Inst. ID 1
Attr. ID 7
Get Attribute
ASCII
BYTE
WORD
DWORD
PowerFlex 400 3P 230V 7.5HP
The input data from the slave
The operation of “Get” or “Set” attributes. The ClassID(1), Inst.ID(1) and Attr. ID(7) means to get the full name of the slave.