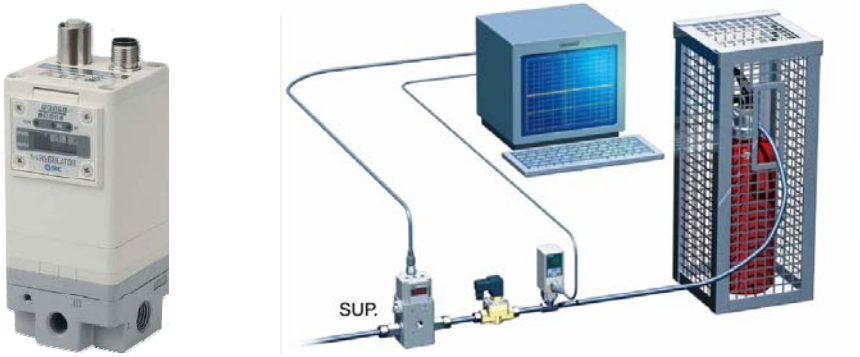
How to communicate with the [SMC Valve] by DeviceNet master

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.

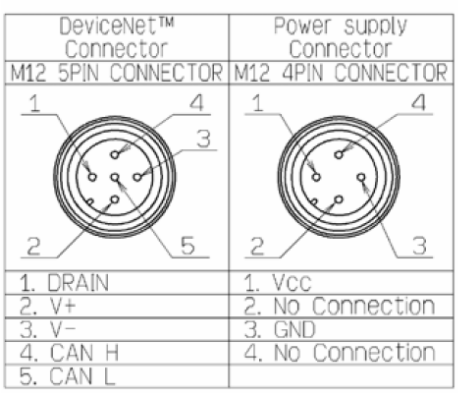
SMC ITVH-2000 :

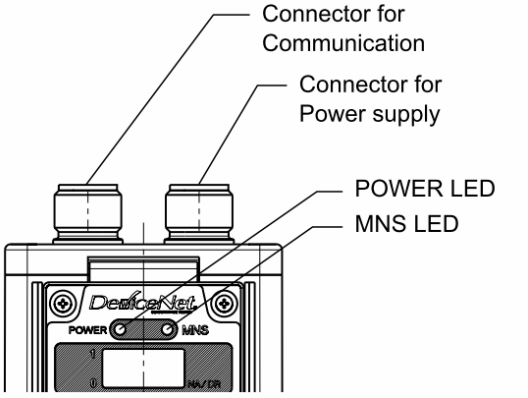
Series ITV electro-pneumatic and electronic vacuum regulators control air/vacuum pressure in proportion to an electric signal. They are light weight in design with a bright and easy to read LED display. The monitor output is available either as analog output or switch output. The ITV series is IP65 equivalent.

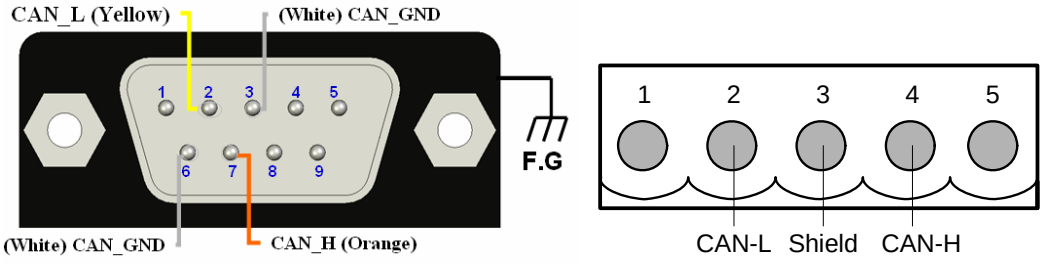


The pictures came from the manual and are belonged to the SMC.

Wire connection with the DeviceNet Master:







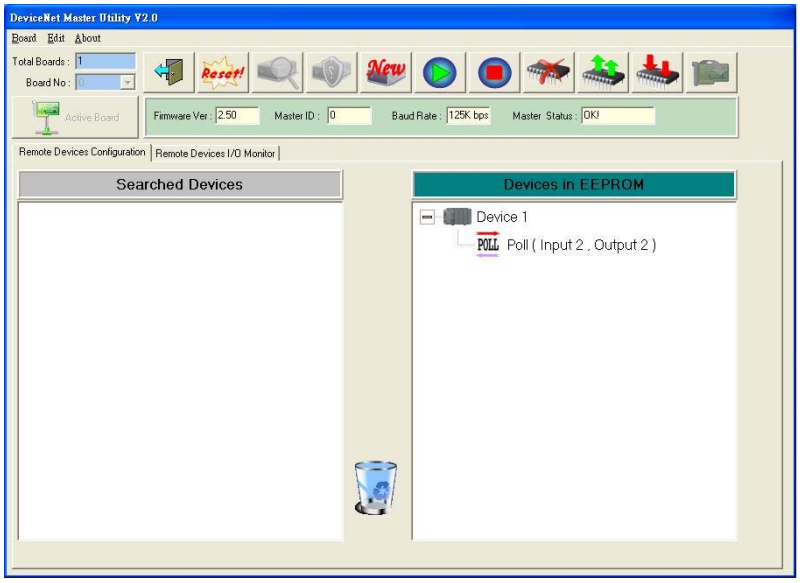
The users need to provide extra DC 24V power in M12-5PIN of the V+(pin-2) and V-(pin-3) for the DeviceNet module.

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.

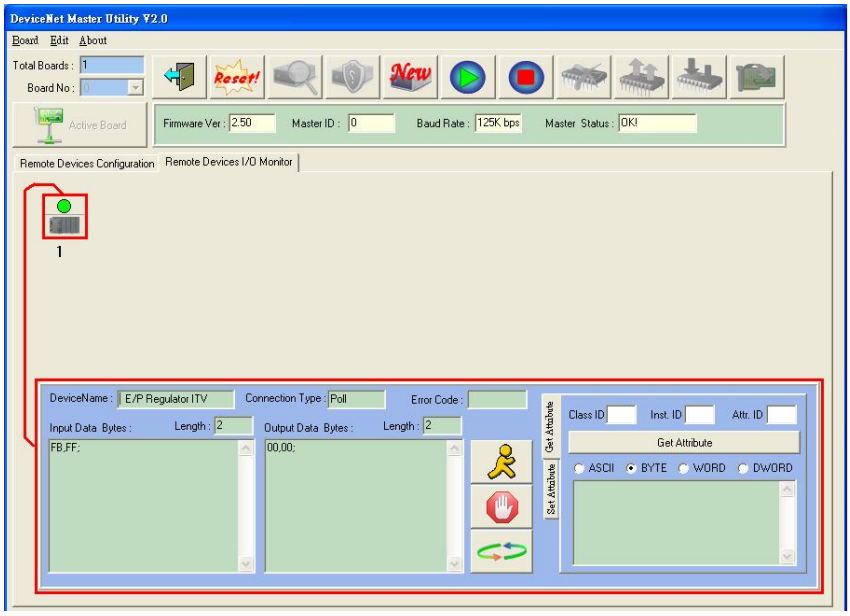
ftp://ftp.icpdas.com.tw/pub/cd/fieldbus_cd/devicenet/master/dnm_utility/

The SMC ITV valve has been searched.

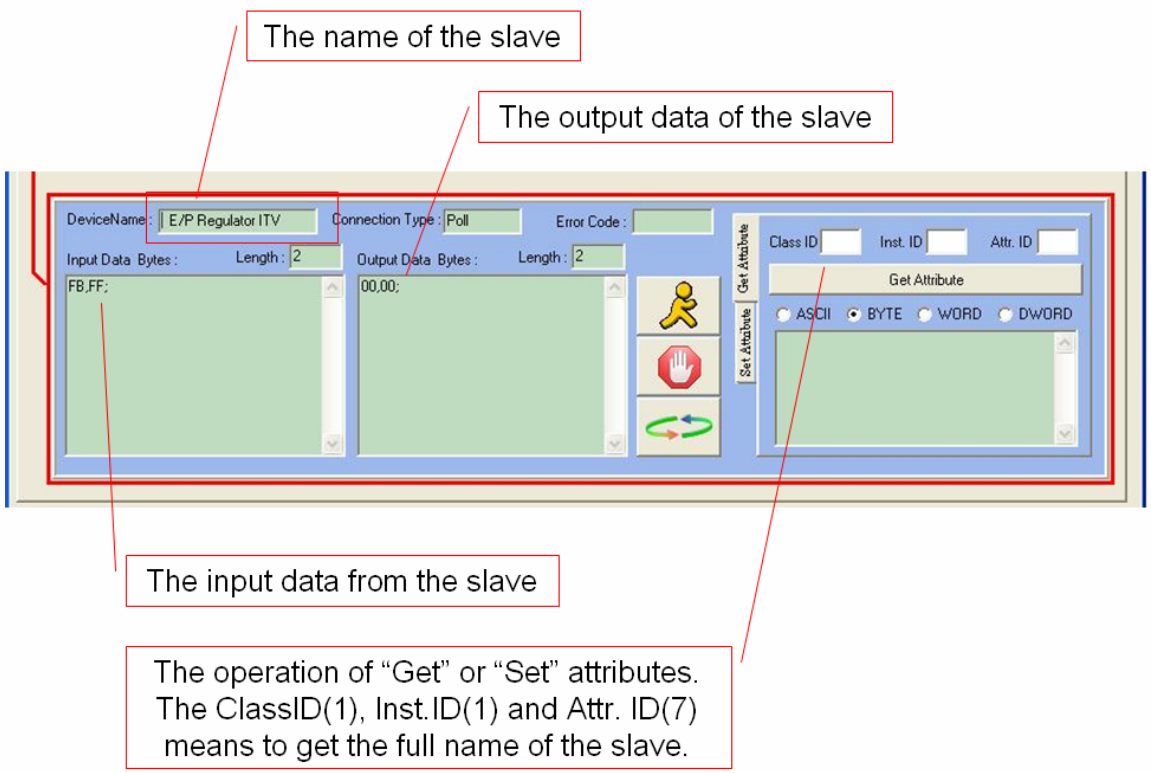


The node #1(SMC valve) supports Poll connection. The Poll connection is with 2-byte input data and 2-byte output data which indicates the valve information.

The DNM Utility communicates with the SMC ITV valve :



Here shows that the DNM_Utility has communicated the SMC valve.


The name of the slave
The output data of the slave
DeviceName: E/P Regulator ITV
Connection Type : Poll
Error Code :
Input Data Bytes :
Length : 2
Output Data Bytes :
Length : 2
FB,FF;
00,00;
Get Attribute
Set Attribute
Class ID
Inst. ID
Attr. ID
Get Attribute
ASCII
BYTE
WORD
DWORD
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.