

How to communicate with the [IFC-125 Valve] by DeviceNet master

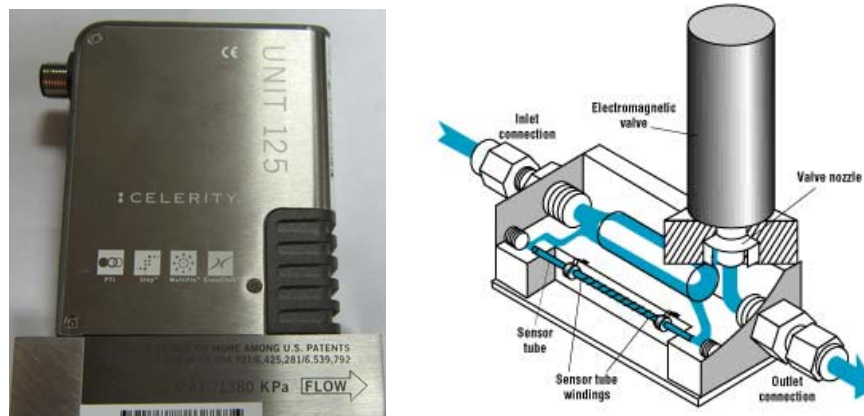
DeviceNet Master series:

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.



CELERITY UNIT IFC-125 :

Celerity Mass Flow Controllers Precisely monitor and control the mass flow of gases in processes such as Plasma Etching, CVD, Diffusion, EPI, and Sputtering where superior accuracy is required. Mass Flow Meters are identical to mass flow controllers, except that they do not have a controlling valve. Therefore they do not control, but only accurately measure and report the gas flow that is passing through them.



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

Wire connection with the DeviceNet Master:

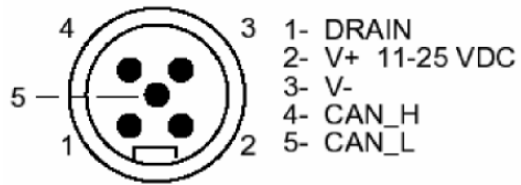
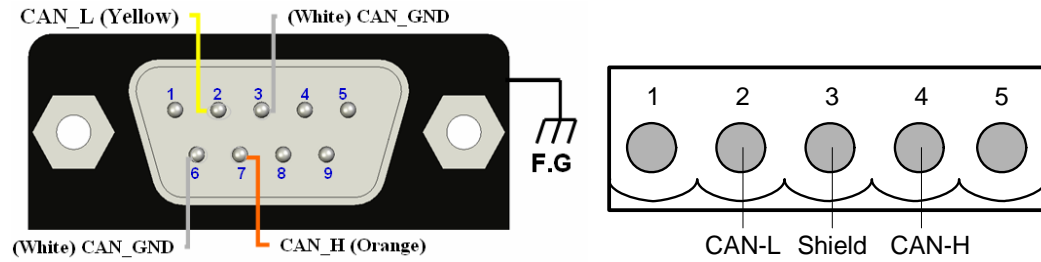
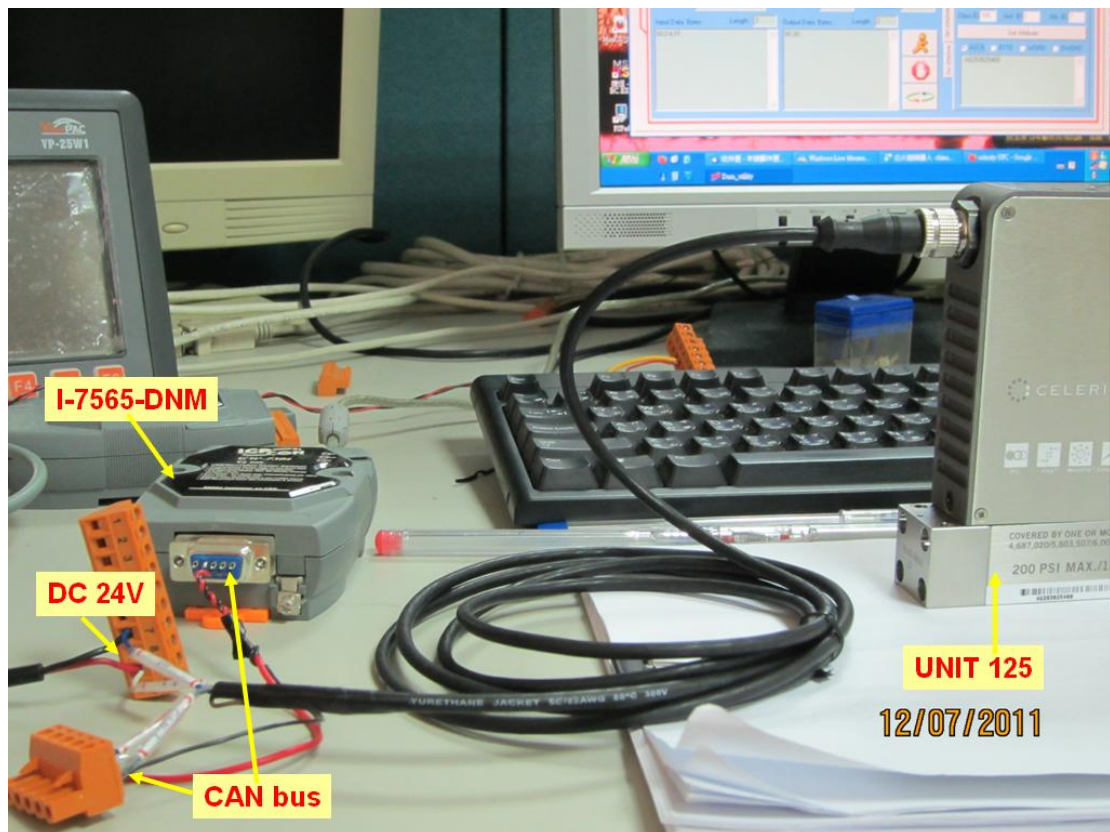


Figure 3. 9000 Series DeviceNet Connector Pinout (Male)



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/

Set the UNIT IFC-125 MAC-ID = 19



The DNM Utility is communicating with the UNIT IFC-125 valve

The screenshot displays the DeviceNet Master Utility V1.3 interface. At the top, there are menu options (Board, Edit, About) and a toolbar with icons for Reset, New, and other functions. Below the toolbar, the 'Active Module' section shows 'Firmware Ver: 1.30', 'Master ID: 0', 'Baud Rate: 125K bps', and 'Master Status: OK!'. The main window is divided into 'Remote Devices Configuration' and 'Remote Devices I/O Monitor'. In the 'Remote Devices Configuration' section, a list of devices is shown, with node #19 highlighted. A red box around node #19 is labeled 'MAC-ID of IFC-125'. The 'Remote Devices I/O Monitor' section shows the details for the selected device: 'DeviceName: IFC Series Controller', 'Connection Type: Poll', and 'Error Code:'. The 'Input Data Bytes' field shows '80,DA,FF' with a length of 3, labeled 'The input data of the IFC-125'. The 'Output Data Bytes' field shows '00,00' with a length of 2, labeled 'The output data of the IFC-125'. The 'Other object data' section shows 'Class ID: 100', 'Inst. ID: 1', and 'Attr. ID: 7'. The 'Get Attribute' section shows 'A6283025400'.

The node #19(IFC-125 valve) supports Poll connection. The Poll connection is with 3-byte input data and 2-byte output data which indicates the valve information.