DM1810-434-DK & DM1810-916-DK Quick Start Guide



Items Supplied in the Kit:

- One DM1810 Base Station (blue label), three DM1810 Routers (red label), three DM1810 Field Nodes (green label)
- One IM1800 Interface Module (for Base Station), three IM1800-1 Interface Modules (for Field Nodes)
- Three AC Power Supplies, three Battery Holders (for AAA batteries)
- One Software and Documentation CD

Additional Items Needed:

- One PC with Microsoft Windows XP or Vista Operating System

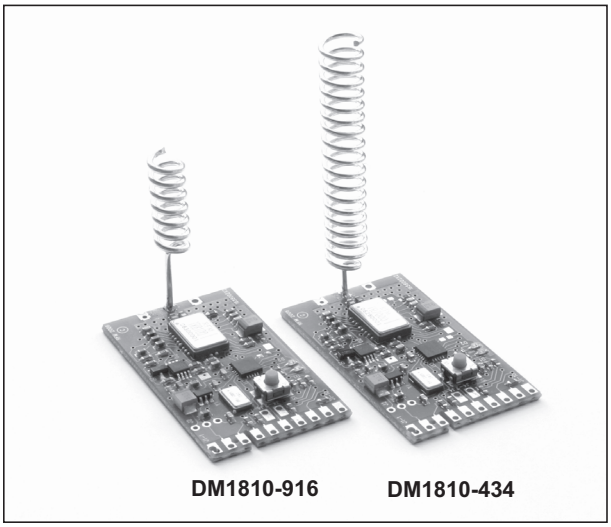


Figure 1

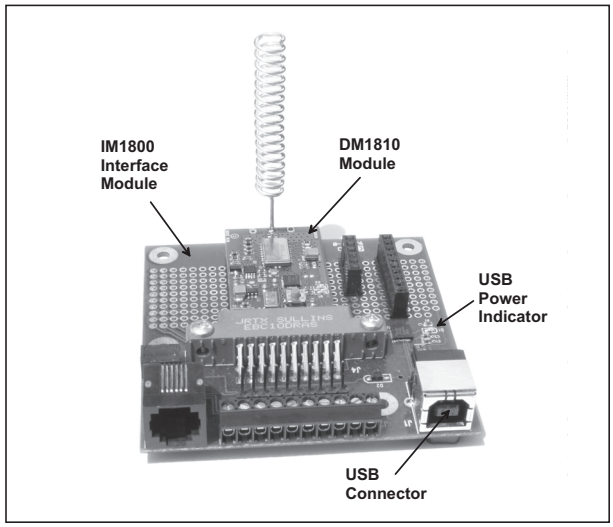


Figure 2

Cirronet, 3079 Premiere Parkway, Suite 140, Duluth Georgia USA 30097, www.cirronet.com, Phone +1.678.684.2000, FAX+1.678.684.2001

Development Kit Assembly:

1. DM1810 Development Kits are available on two frequencies. The DM1810-434-DK operates on 433.92 MHz for European (ETSI) applications and the DM1810-916-DK operates on 916.5 MHz for US and Canadian applications. In Figure 1 a DM1810-916 module is shown on the left and a DM1810-434 module is shown on the right. This Quick Start Guide applies to both development kits
2. Observe ESD precautions when handling the development kit circuit boards. Install the DM1810 base station in the IM1800 interface module as shown in Figure 2. Connect the USB cable to the IM1800, but do not plug the USB cable into the PC at this time.
3. Install each DM1810 field node in an IM1800-1 interface module as shown in Figure 3.

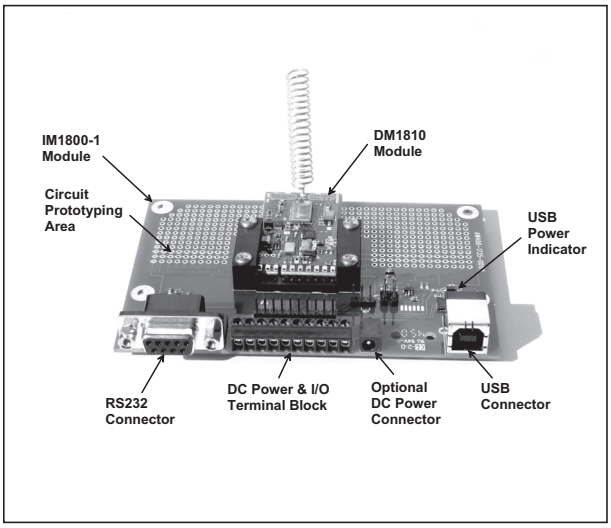


Figure 3

4. Install a set of AAA alkaline batteries in each battery holder. For the DM1810-434-DK, snap the appropriate AC plug on each wall transformer power supply. Routers are usually run from the AC power supplies and field nodes are usually run from the battery packs, but a router or field node can be run from either power source as desired. Do not power on the routers and field nodes at this time.
5. Load the kit CD into the disk drive on your PC. The contents of the CD should appear in a *Windows Explorer* (or *My Documents*) frame in a few seconds. If not, open *Windows Explorer* and select the disk drive running the CD. You will find the following directory and file structure on the CD:
6. Plug the USB cable connected to the IM1800 into your computer. The computer should detect the CP2101 USB to serial port interface chip on the IM1800 and display *New Device Found* on the

    - CP2101 Drivers Folder
    - DM1810 Data Sheets Folder
    - DM1810 Application Notes Folder
    - DM1810 Controller Utility Folder
    - DM1810 System User's Guide
    - DM1810-DK Quick Start Guide
    - dotnetfx.exe

PC. You can load the drivers from the CP2101 Drivers Folder on the kit CD. To load the drivers from the CD, double click on *CP210x_VCP_Win2K_S2K.exe* (two install cycles). Or you can install the latest drivers by searching for the CP2101 driver software on the Internet. The latest version will be on the Silicon Labs web site, www.silabs.com.

7. If your computer does not currently have the .NET framework installed, double click on the *dotnetfx.exe* file to load the .NET framework on your computer.
8. In the Application Notes Folder, run *setup.exe* in the DM1800 Analog Demo Subfolder. During installation, an icon will be placed on your computer's desktop as shown in Figure 4.
9. Power up the DM1810 routers and field nodes. Double click on the *DM1800 Demo V3* icon to *start the demo program. The DM1800 Analog Demo* software will first display the COM ports available in a dialog box as shown in Figure 5.
10. Check the box next to the COM port that is connected to the IM1800 (base station) and click on *Connect*.

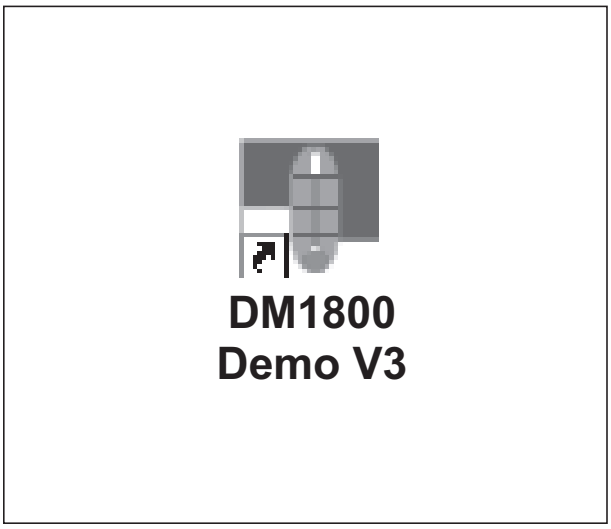


Figure 4

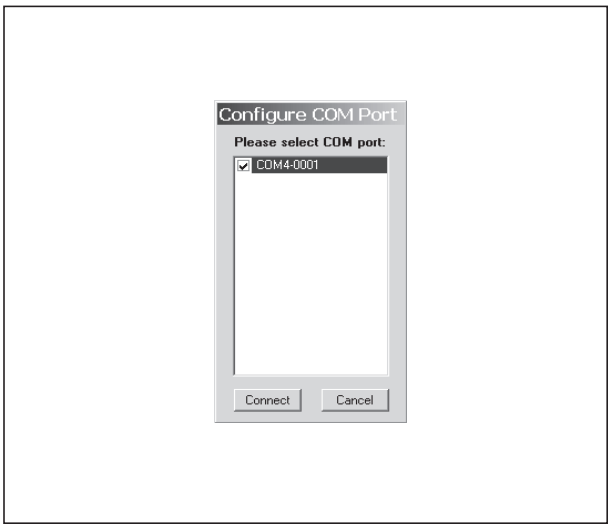


Figure 5

11. The Analog Demo will now launch one of the dialog frames shown in Figures 6 and 7.
12. The *DM1800 Analog Demo* allows the user to:

    - Select a senor (field node) using its AID network address
    - Switch between the temperature and input voltage display
    - Read the ADC input once
    - Read the ADC continuously at a configurable interval

IM1800-1 interface boards include a thermistor temperature circuit, an input voltage monitoring circuit and an ADC input multiplexer switch. If the digital output on the DM1810 node is high, the IM1800-1 selects the thermistor circuit for measurement. If the digital output is low, the voltage divider connected to the power supply input is selected. The field nodes in the development kit have addresses 1, 2, and 3. Use the demo program to read the temperature and input voltage on each field node to test the field node's operation as shown in Figures 6 and 7.

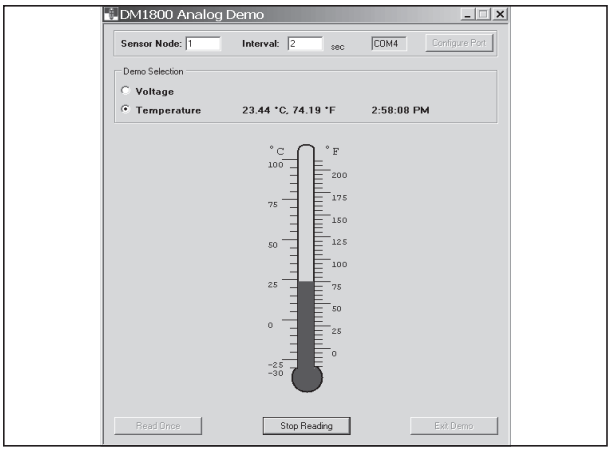


Figure 6

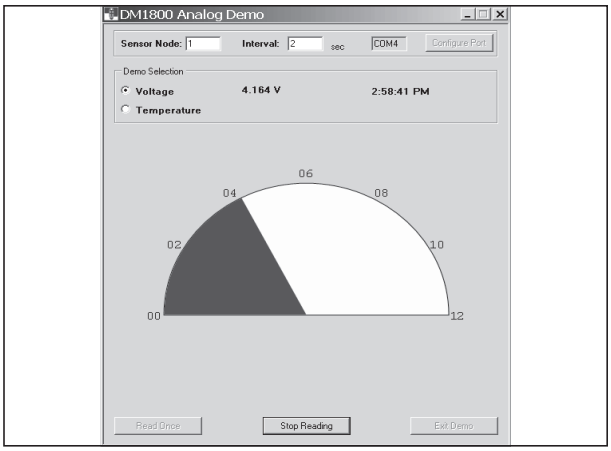


Figure 7

13. In the DM1810 Controller Utility Folder run *setup.exe* to install the DM1810 Controller. The *DM1810 Exerciser* and several application programs are located in the Application Notes Folder. These programs can be installed as needed. The development kit is now ready to use.

Windows XP, Vista and .NET are registered trademarks of Microsoft Corporation.