SIERRA210 Quick Start Instructions

1．Operation of Keyboard (Figure 1-1)

$\boxed{0}$ ~ $\boxed{9}$ are the menu codes to input information required for the flow measurement exercise.

You can use $\boxed{\blacktriangleleft}$ to delete or move back to the data.

$\boxed{\blacktriangle/\,+}$ ~ $\boxed{\blacktriangledown/\,\text{-}}$ are to toggle up and down the menu.

After all data is selected, press $\boxed{\text{ENT}}$ to confirm.

$\boxed{\text{MENU}}$ is used to select menu using two digit numbers for each menu. For example, to enter pipe outside diameter，select $\boxed{\text{MENU}}$ $\boxed{1}$ $\boxed{1}$ to enter into the window .(MENU11＂ is the address code of the outside pipe diameter.)

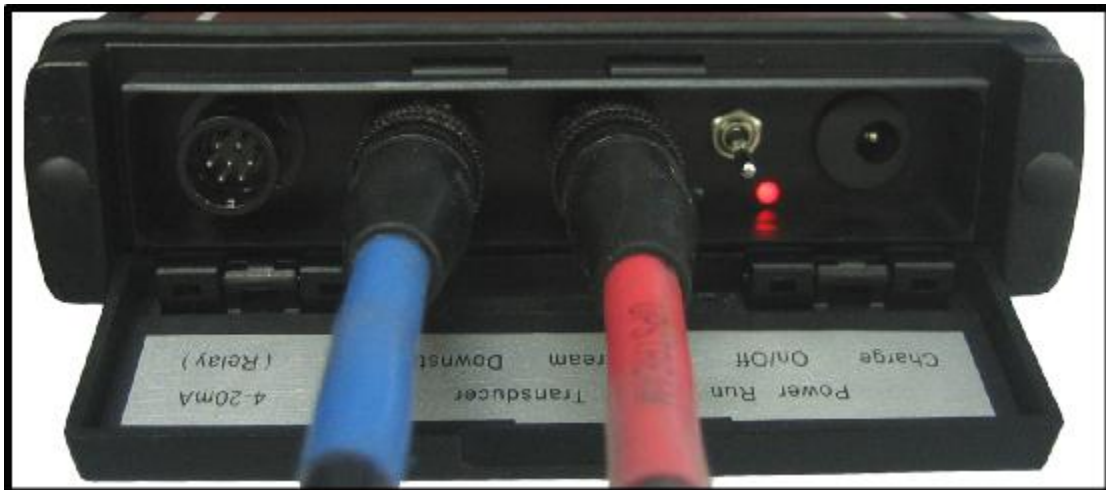Figure1-1 Keyboard

2．Transducer Connection (Figure2-1)。

Figure（2-1）Transducer connections

The upstream transducer cable is coded in red and the downstream is coded in blue.

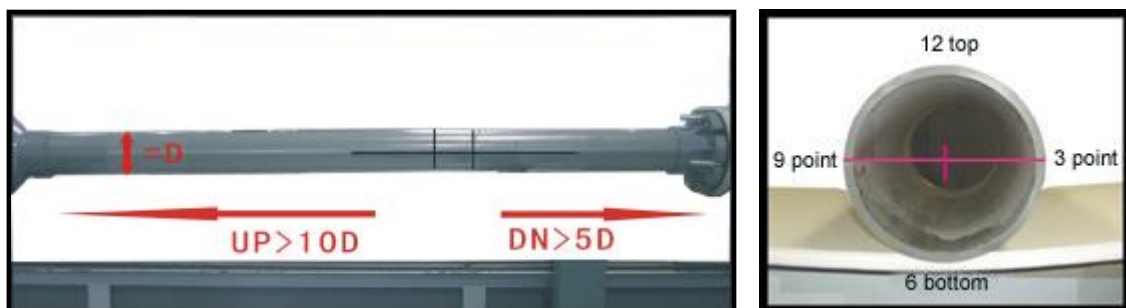## 3．Measurement Site Selection （Figure2-2）

Figure2-2 Installation at the 3 o'clock and 9 o'clock positions on a horizontal pipe section

Select the measurement site on a straight section of pipe with 10D (10 pipe diameters) upstream and 5D downstream. The transducers usually are installed the 3 o'clock and 9 o'clock positions, and avoid installation at 6 o'clock and 12 o'clock.

4．Installation and Debugging

Using this quick start installation procedure, the basic parameters needed for a quick startup can be easily done (inputs, such as the pipe outside diameter, pipe wall thickness, pipe material, fluid type, method of transducer installation, etc.).   Also the distance (spacing) between the upstream and downstream transducers is automatically calculated by the flow meter in order to obtain the ultrasonic signal and to measure the flow. The main installation and debugging process follows:

1:
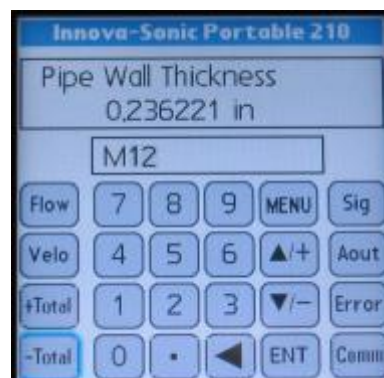   Turn on the electronics power switch and the PDA power switch

2:

Touch [SIERRA 210] to open the set-up mode

3:
Select MENU 1 1 and enter the pipe inside diameter.

4:
Select MENU 1 2 and enter the pipe wall thickness

5:

Select [MENU] [1] [4] and choose the pipe material

```
Innova-Sonic Portable 210
Pipe Material    [14
0. Carbon Steel
        M14
Flow    7   8   9   MENU  Sig
Velo    4   5   6   ▲/+   Aout
+Total  1   2   3   ▼/−   Error
-Total  0   .   ◄   ENT   Comm
```

6:

Select [MENU] [2] [0] and choose the fluid type

```
Innova-Sonic Portable 210
Fluid Type       [20
0. Water
        M20
Flow    7   8   9   MENU  Sig
Velo    4   5   6   ▲/+   Aout
+Total  1   2   3   ▼/−   Error
-Total  0   .   ◄   ENT   Comm
```

7:

Select [MENU] [2] [4] and choose the transducer mounting method

```
Innova-Sonic Portable 210
Transducer Mounting
0.      V
        M24
Flow    7   8   9   MENU  Sig
Velo    4   5   6   ▲/+   Aout
+Total  1   2   3   ▼/−   Error
-Total  0   .   ◄   ENT   Comm
```

8:

Select [MENU] [2] [5] and see the calculated transducer spacing

```
Innova-Sonic Portable 210
Transducer Spacing
5.1764 in
        M25
Flow    7   8   9   MENU  Sig
Velo    4   5   6   ▲/+   Aout
+Total  1   2   3   ▼/−   Error
-Total  0   .   ◄   ENT   Comm
```

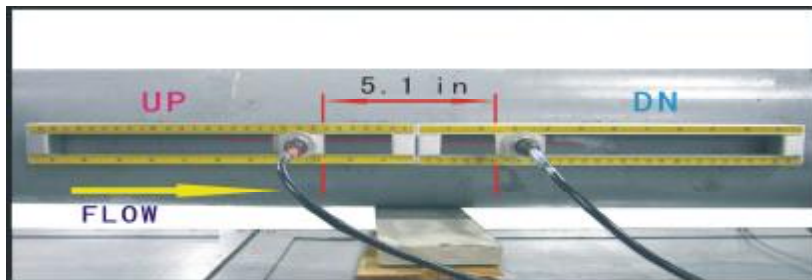**9:** Use the calculated data for transducer spacing for installation

9.1 **Pipe orientation and preparation (cleaning)**
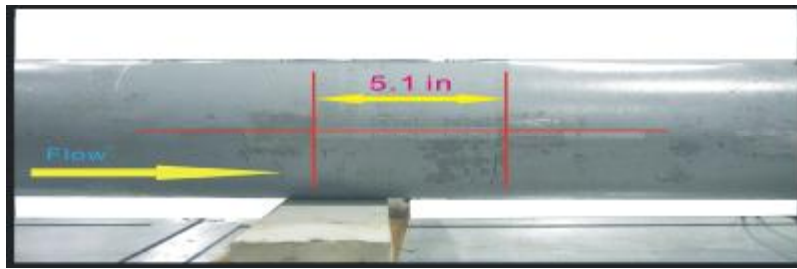
9.2 **Applying coupling compound to the transducers**

9.3 **Installing the transducer rack**

10:

Select [MENU] [9] [0] to see the signal strength
of the installed transducers. (When the UP and DN
signal strength is at least 60, the signal quality is at
least 50, the flow meter is functioning well).

11:

Select | MENU | 9 | 1 | to checking
TOM/TOS*100 (it should be 100±3%)

12:

Select | MENU | 0 | 0 | to read the
instantaneous and totalizing flow.

Note:

The information presented above is for quick start-up of the SIERRA 210. Other setup
parameters are referenced in the 210 manual.

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