EUROMAG INTERNATIONAL

X100P

Clamp-On
Portable Ultrasonic Flowmeter

Instruction Manual

Table of Content

Delivery Items

Flow Computer

Transducer

Mounting Track

Easy Track   **Magnetic Track**

Cable

Overview

Introduction	Xonic-100P is a Portable type Ultrasonic Flowmeter, whose transducers could be mounted on any material of pipes. Xonic-100P allows Easy Measurement of flow rate in pipes by installing transducers on the outside of pipes. The latest electronics and DSP (Digital Signal Processing) Technologies enable the Instrument with convenient solution accurately measure system flow rates without breaking or opening the pipes.

Application

- Water Supply, Drainage, Water Purification Facility
  (Clean Water, Municipal Water, Waste Water, Manure and Etc.)
- Oil Filed and Petrochemical Plants
  (Cruder Oil, Diesel, Alcohol, and Etc.)
- Food and Beverage Plants
  (Acids, Benzene, Milk, Beer and Etc.)
- Steel Factory and Mining Industries
  (Lime Stone Slurries, De-Ionized Water and Etc.)
- Power Plants

Features

- Patented AR Mode (Anti-Round)
- DSP Function
- Cross Correlation FFT
- Oscilloscope Function
- 20 Hours Operation with Batteries
- Submersible Connectors

Specifications

- Type : Clamp-On Ultrasonic Flowmeter (Portable Type)
- Principle : Transit-Time
- Pipe Size : 12.7 ~ 6000 mm
- Accuracy :
  - ±1.0 % (single path)
  - ±0.5 % (dual path)
- Flow Velocity: ±0.02 ~ 12.0 ㎧
- Turn-Down Ratio: 1000:1
- Damping: 1 ~ 999 seconds.
- Repeatability: 0.25%
- Required Straight Run:
  - Upstream 10D, Downstream 5D (single path)
  - Upstream 7D, Downstream 3D (dual path)
- Output :

- o One 4-20mADC for flow
  - o One Relay for Total
  - o RS-232C for Communication
- Data Logger : 8 Mbytes (above 500,000 times)
- Display : Graphic Color LCD

  (Flow, Total, Velocity, Delta T, Ultrasonic Signal Shape, Frequency)
- Temperature :
  - o Electronic : -20℃ ~ +120 ℃
  - o Transducer : -40℃ ~ +120 ℃
- Power Battery : with 110 ~ 220 VAC power adaptor
- Enclosure : NEMA 4 (IP67)
- Transducer : NEMA 7 (IP68, Water Proof)

Identification of Product

On the right side of flowmeter, there is a silver sticker with per product's S/N.
This is Identification of the product.

Ultrasonic Flowmeter X 100P	
P/N: Xonic-100	V/M: 3.1.0
S/N: C10184	AC110~220V

Control and Display

Instructions– Installation Quick Setup

The Clamp-On type Ultrasonic Flowmeter Xonic-100P allows the simplest and the easiest installation of any material of pipes. In order to ensure accurate and reliable measurement of flow is needed. In this section, you will know how to select the mounting place, mounting method and etc. To active the flow measurement.

**Step 1:
Select Mounting Place**

Select the right mounting place is the most important thing for ensuring the accuracy. Please according to the follow steps to find the best mounting place:

1) Make sure the pipe is full.

2) Select a location where is **straight** and allows the pipe run of 10D upstream and 5D downstream.

3) Avoid to mounting on a scaled or rusted pipe, both of outer and inner wall can affect the Signal of Ultrasonic flowmeter.
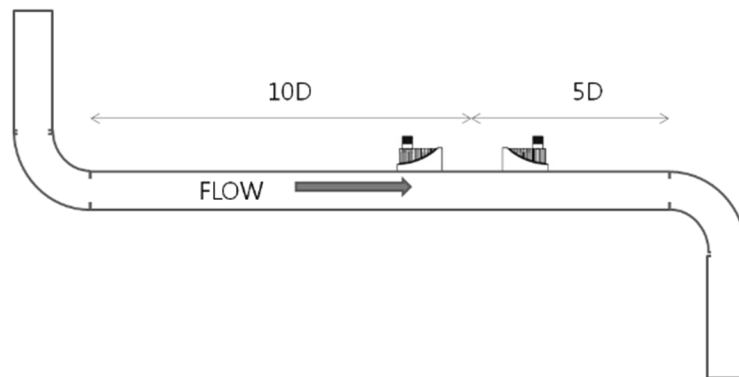
Step 2: **Setup Procedure**	Before installing the transducer, set the specifications of the pipe in the main menu to allow measurements.

Caution) Measurements cannot be accomplished without these settings.

Please refer to the correspondent Sections to introduce the specifications.

1) Press [**MENU**] to enter MAIN MENU.
2) Before install the flowmeter, please make sure to fulfill the procedures blow:

    1. GENERAL
    2. CH SELECT
    3. PIPE
    4. LIQUID

```
MAIN MENU

MAIN MENU

1. GENERAL
2. CH SELECT
3. PIPE
4. LIQUID
5. INSTALL
6. OPERATE
7. FLOW
8. IN/ OUTPUT
9. DATA LOG
0. DIAG
```
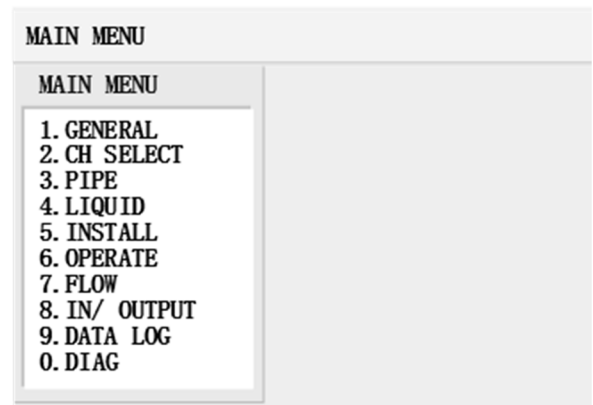
Step 3: **Select Mounting Mode**	There are 2 types of Mounting Mode, "V mode" and "Z mode". [V mode]: Normally, V mode is used as standard for most applications. Because it provides longer signal, so more accurate measurement of flow velocity.
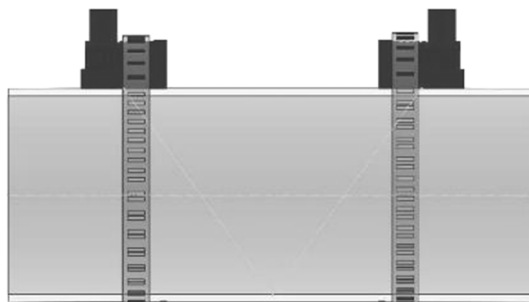
Side View　　　　　　　　**Vertical View**
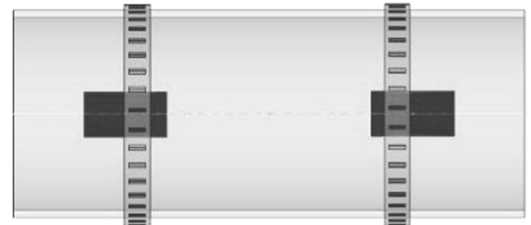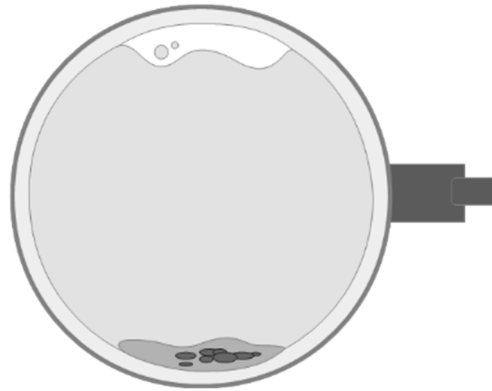
Sectional Drawing

[Z mode] :

Z Mode is recommend when the flow condition is bad. The reason might be cause of scale built up inside the pipe, too thick liner, plastic pipe material and etc. Which can induce a lot of noise into signals. By using Z mode, the signal will straightly be send to transducers and without the possibility of noise induction.
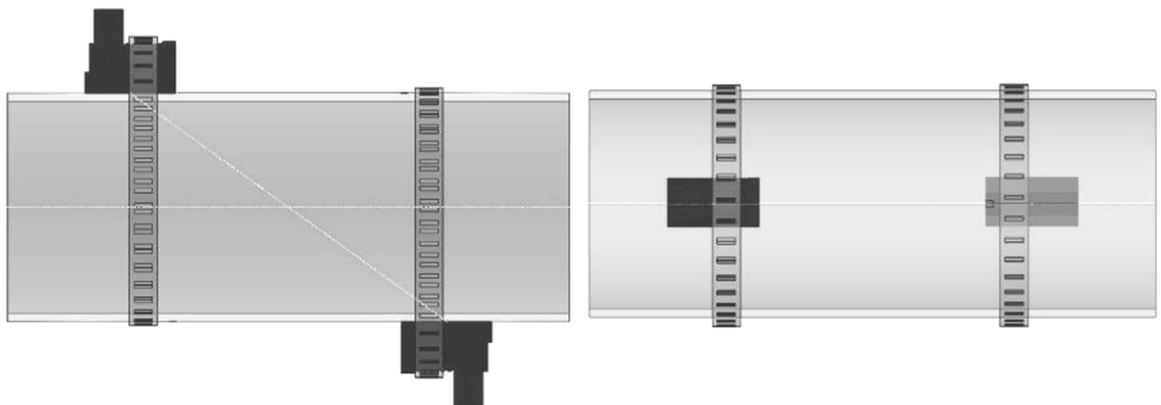
Side View   **Vertical View**

Sectional Drawing

Step 4: **Pipe Preparation**	Before install the transducer, users must confirm if transducer surface can be coupled to a pipe surface. With an area slightly larger than the flat surface of the transducer must be cleaned to bare metal on the pipe. Remember to remove all scale, rust and paint. Thoroughly dry and clean the mounting surface.

| **Step 5:** **Mounting Space** | **Please review the section carefully. The measurment could be failed by incorrect installation.* After introducing all of data to the flowmeter, the system will calculate the precision distance that must be keep between two transducer. The information will show at the menu, 5.6 INSTALL INFO and 3.0 SENSOR DISTANCE This Mounting Space is calcualted by the setup data, like the application, pipe size, pipe meterial and etc. Therefore, different cases have different distances needed to keep. (from surface to surface) |

| **Step 5:** **Install Mounting Track** | Install EASY/MAG Mounting Track on the mounting place after remove all scale, rust and paint. Fix the mounting track with the Strap Kits in the packing list. And make sure to tighten the transducer strap securely. |

Easy Mounting Track
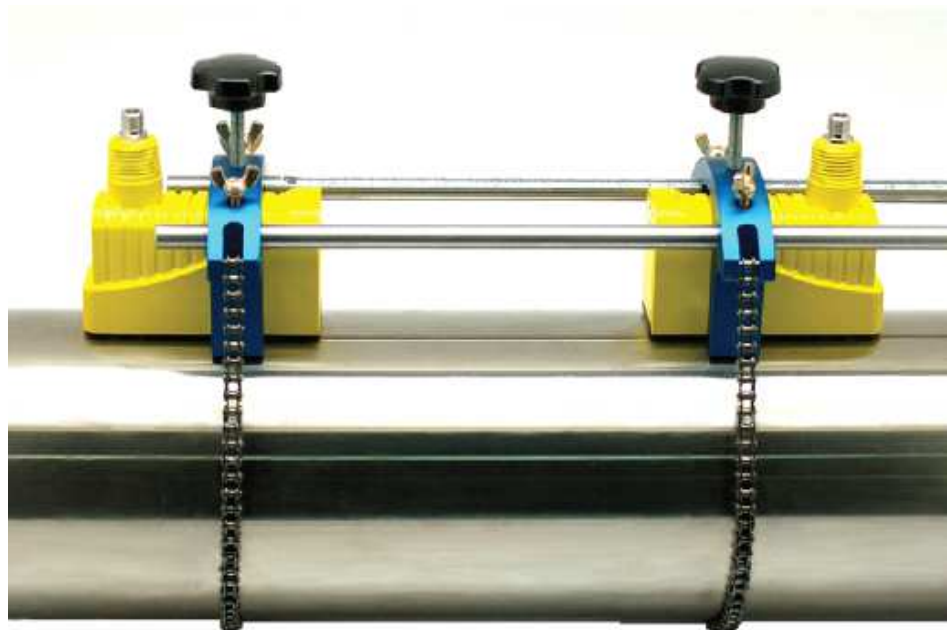
Step 6: **Applying Transducer**	Apply a small quantity of couplant (Synthetic Grease) to the bottoms of transducer. After cleaning the surface of the pipe, the transducers should be mounted into the mounting track.
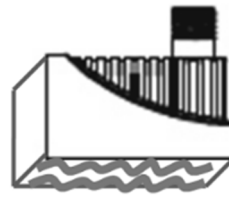
↑ Couplant

Instructions – Data Logger

Step 1: **Plugin the Cable**	Use the RS-232C Communication Cable to output the data.

Step 2: **Log Enable**	➢ [MENU] – 8. DATA LOG – 2. RS-232C – 7. LOG ENABLE – <u>**2. ENABLE**</u>.
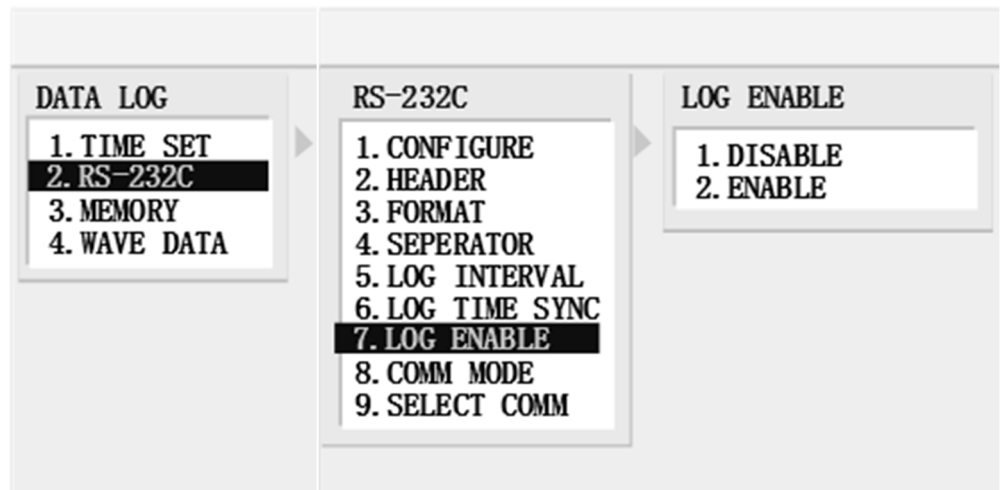
Step 3:
Download DNW.exe
	Download the software in user's Laptop.
	
	Caution) Please contact the manufacture for the software.
	
	➢ DNW allows user to:
	    1. Output the logger data
	    2. Upgrade flowmeter

Step 4: **Laptop's Port Setup**	➢ Open the "Device Manager" on user's Laptop. ➢ Find "PORTS (COM & LPT)" and click "Communications Port".

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euromag@euromag.com | euromag@pec.it

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> ➢ Open the tab, "Port Settings" and click "Advanced".
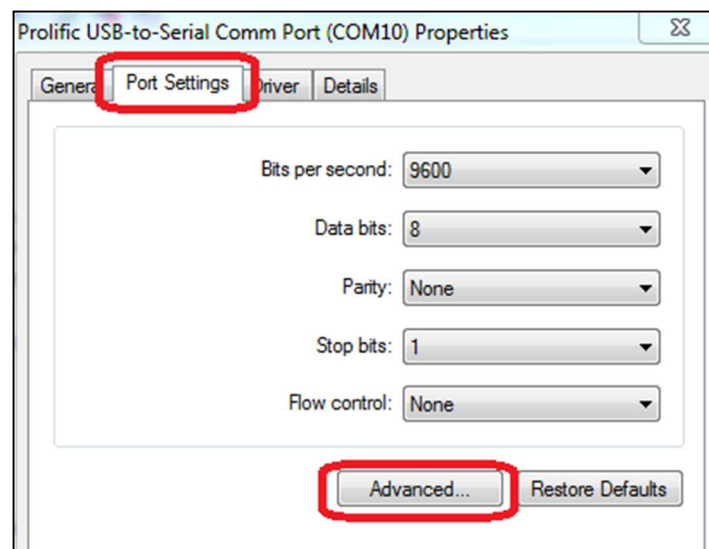
> ➢ Feel free to set the COM Port Number to "COM 1/COM 2/COM 3/COM 4".
> (*The software "DNW" works with COM 1~4 only.)
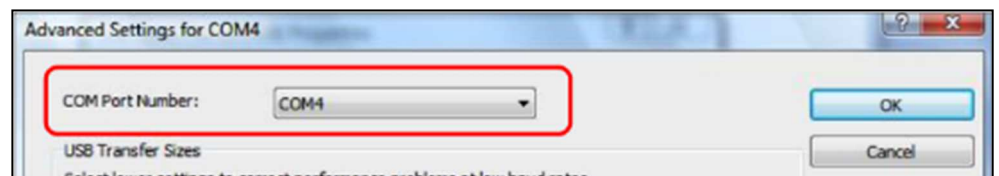
> ➢ Then, click "OK" button and close the Device Manager to complete the setting.

**Step 5:
Setup DNW**

*Caution) Make sure **NOT** to turn on flowmeter's power at this step*

➢ Run the Software (DNW.exe) and click "Configuration".
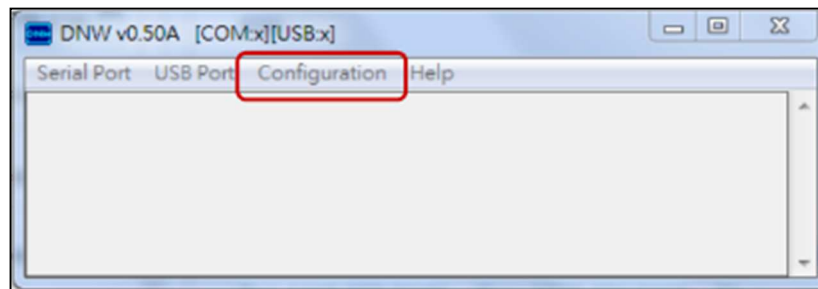
➢ User will see the window of "UART/USB Options" as below.

➢ Set the Baud Rate at "115200" and the COM Port that user just set.
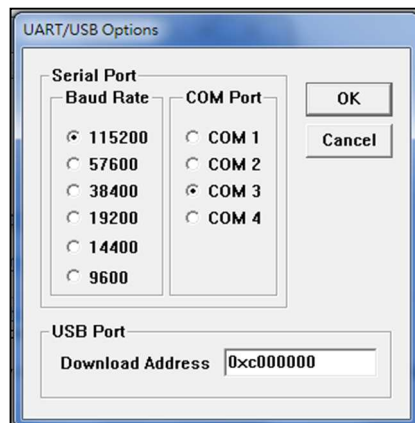
➢ After return to DNW, open the "Serial Port" menu and click "Connect"
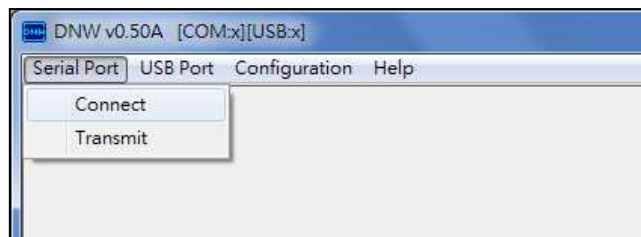
➢ After Connecting, user will see the information which just been setup and shows on the top of the window as figure.
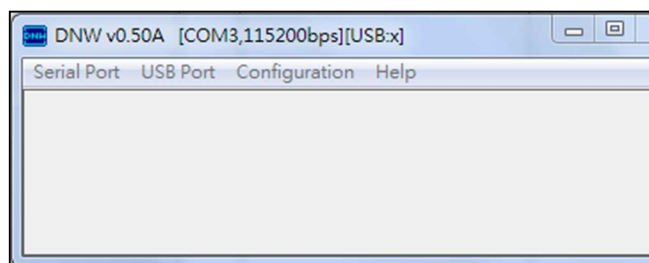
Step 6: Power On

➢ Press "U" key on Laptop and turn on flowmeter's power **at the same time.**

| **Step 7:** **Flowmeter** **Port Select** | ➢ Go to [MENU] – 9. DATA LOG – 3. MEMORY – **6. PORT SELECT**. |
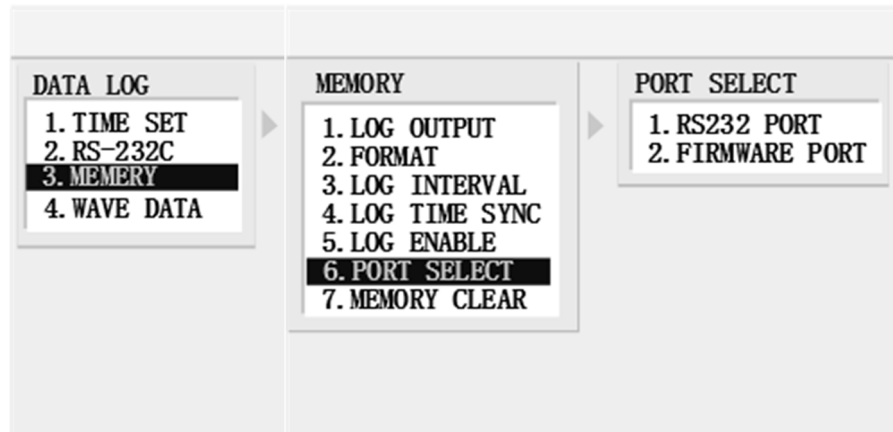
➢ 6. Port Select
  1. RS232 Port (RS-232C &RS485)
  2. Firmware Port (9-pin Communication Cable)

| **Step 8:** **Print Out the Data** | ➢ Go to [MENU] – 9. DATA LOG – 3. MEMORY – 1.PRINT – **2. TO 232**. |
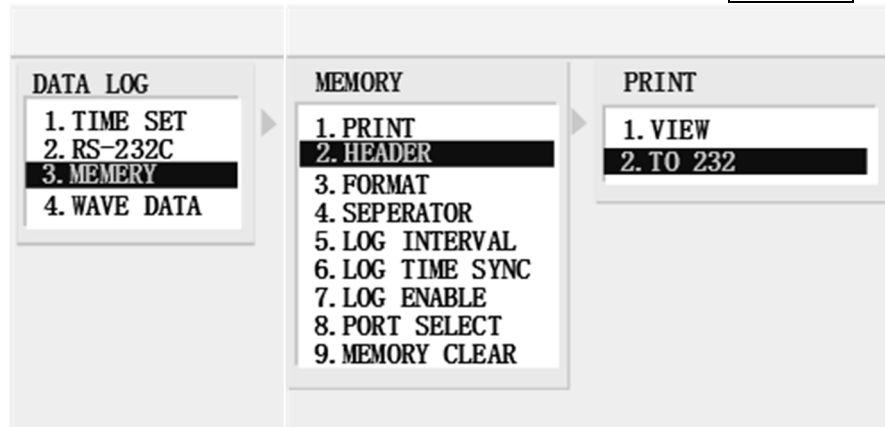
➢ 2. TO 232 (Available for all the communication cables.)
  Press [ENT] to output the data. Then, user will see DNW is downloading the data automatically.

Instructions – Initial Setting

1.1 GENERAL - Site Name

User must input Site Name to record the flow data of the site. The name will be registered with other operation setting.

Press [**MENU**] – 1.GENERAL – 1.SITE NAME

➢ Move cursor by [◄] [►].
➢ Input alphabet characters by [**F1**]
➢ Leave the edit mode by pressing [**ENT**].

```
MAIN MENU
GENERAL              SITE NAME
1. SITE NAME         JAIN _ _ _ _
2. APPLICATION
```
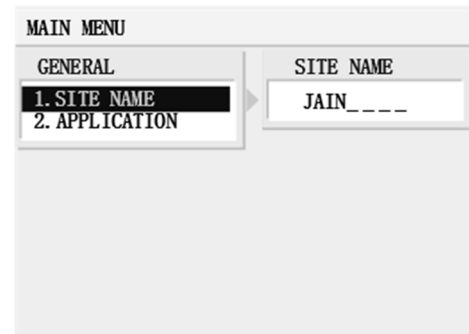
1.2 GENERAL - Application

Xonic 100 has multiple applications for our users. User shall sets the application depending on the requirement of the installation site.

Press [**MENU**] – 1.GENERAL – 2.APPLICATION

▪ 1. SINGLE CHANNEL (Path):
Use 1 pair of transducer on one pipe.

▪ 2. DUAL PATH:
Use 2 pair of transducer on one pipe.

▪ 3. DUAL CHANNEL:
Use 2 pair of transducer on two pipe for increasing the accuracy.

```
MAIN MENU
GENERAL              APPLICATION
1. SITE NAME         1. SINGLE CHANNEL
2. APPLICATION       2. DUAL PATH
                     3. DUAL CHANNEL
                     4. DUAL CH [1]+[2]
                     5. DUAL CH [1]-[2]
```
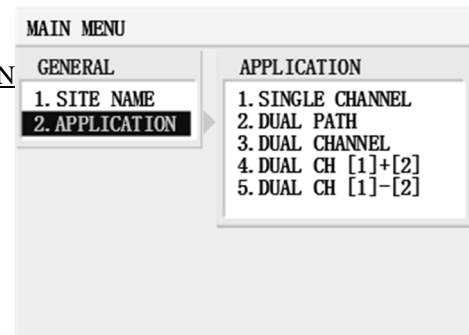
2. Channel Select

User can select Single Channel or Dual Channel in the system.

Press [**MENU**] – 2.CH SELECT

▪ 1. Channel 1 (Default)
▪ 2. Channel 2 (for user whom needs to measure more than 1 site)

```
MAIN MENU
MAIN MENU            CH SELECT
1. GENERAL           1. CHANNEL 1
2. CH SELECT         2. CHANNEL 2
3. PIPE
4. LIQUID
5. INSTALL
6. OPERATE
7. FLOW
8. IN/ OUTPUT
9. DATA LOG
0. DIAG
```

Setting Operation – Pipe Specification

3. Pipe -

Before installing the flowmeter, set the specifications of the pipe in the main menu to allow measurements. ***Caution) Measurements cannot be accomplished without these settings.***

Press [**MENU**] – 3.PIPE

```
MAIN MENU

MAIN MENU              PIPE
1. GENERAL             1. FLANGE TYPE
2. CH SELECT           2. PIPE UNIT
3. PIPE                3. PIPE MATERIAL
4. LIQUID              4. PIPE SONIC Vs
5. INSTALL             5. PIPE DIAMETER
6. OPERATE             6. PIPE THINCKNESS
7. FLOW                7. LINING MATERIAL
8. IN/ OUTPUT          8. LINING SONIC Vs
9. DATA LOG            9. LINING THICKNESS
0. DIAG                0. SENSOR DISTANCE
```

3.1 Pipe –

Flange Type

Always select 1.NONE if using **Clamp-On** type Ultrasonic Flowmeter. The setting of Flange is only for *insertion* type of Ultrasonic Flowmeter.

Press [**MENU**] – 3.PIPE – 1. FLAMGE TYPE

```
PIPE                   FLANGE TYPE
1. FLANGE TYPE         1. NONE
2. PIPE UNIT           2. FT-12-200
3. PIPE MATERIAL       3. FT-12-300
4. PIPE SONIC Vs       4. FT-12-400
5. PIPE DIAMETER       5. FT-12-500
6. PIPE THINCKNESS     6. FT-12-600
7. LINING MATERIAL     7. FT-20-200
8. LINING SONIC Vs     8. FT-40-200
9. LINING THICKNESS    9. JFT-19
0. SENSOR DISTANCE     0. JFT-19-2
```

3.2 Pipe –

Pipe Unit

User can select the unit for measuring either mm or inch.

Press [**MENU**] – 3.PIPE – 2. PIPE UNIT

- Metric (mm)
- US units (inch)

```
PIPE                   PIPE UNIT
1. FLANGE TYPE         1. Metric(mm)
2. PIPE UNIT           2. US units(inch)
3. PIPE MATERIAL
4. PIPE SONIC Vs
5. PIPE DIAMETER
6. PIPE THINCKNESS
7. LINING MATERIAL
8. LINING SONIC Vs
9. LINING THICKNESS
0. SENSOR DISTANCE
```
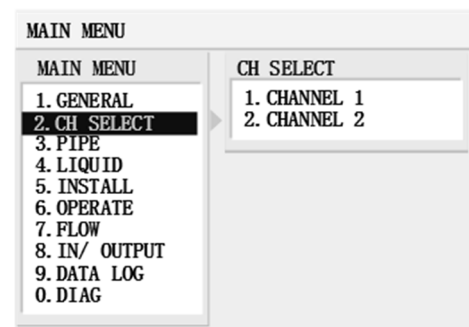
3.3 Pipe –

Pipe Material

Select the correct material of the operation pipe.

Press [**MENU**] – 3.PIPE – 3. PIPE MATERIAL

```
PIPE                   PIPE MATERIAL
1. FLANGE TYPE         1. STEEL
2. PIPE UNIT           2. IRON
3. PIPE MATERIAL       3. DUCTILE-IRON
4. PIPE SONIC Vs       4. CAST-IRON
5. PIPE DIAMETER       5. SUS
6. PIPE THINCKNESS     6. ALUMINUM
7. LINING MATERIAL     7. COPPER
8. LINING SONIC Vs     8. BRASS
9. LINING THICKNESS    9. PVC
0. SENSOR DISTANCE     0. FRP
```

3.4 Pipe –

Pipe Sonic Vs.

Enter the sound velocity of the pipe material.

Press [**MENU**] – 3.PIPE – 4. PIPE SONIC Vs

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
PIPE                        PIPE SONIC Vs
1. FLANGE TYPE                   m/s
2. PIPE UNIT
3. PIPE MATERIAL               ____
4. PIPE SONIC Vs
5. PIPE DIAMETER
6. PIPE THINCKNESS
7. LINING MATERIAL
8. LINING SONIC Vs
9. LINING THICKNESS
0. SENSOR DISTANCE
```

3.5 Pipe –

Pipe Diameter

Input the diameter of operation pipe.

Press [**MENU**] – 3.PIPE – 5. PIPE DIAMETER

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
PIPE                        PIPE DIAMETER
1. FLANGE TYPE               UNIT:mm
2. PIPE UNIT
3. PIPE MATERIAL              _. ____
4. PIPE SONIC Vs
5. PIPE DIAMETER
6. PIPE THINCKNESS
7. LINING MATERIAL
8. LINING SONIC Vs
9. LINING THICKNESS
0. SENSOR DISTANCE
```

3.6 Pipe –
Pipe Thickness

Input the thickness of operation pipe.

Press [**MENU**] – 3.PIPE – 6. PIPE THINCKNESS

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
PIPE                        PIPE THINCKNESS
1. FLANGE TYPE               UNIT:mm
2. PIPE UNIT
3. PIPE MATERIAL              _. ____
4. PIPE SONIC Vs
5. PIPE DIAMETER
6. PIPE THINCKNESS
7. LINING MATERIAL
8. LINING SONIC Vs
9. LINING THICKNESS
0. SENSOR DISTANCE
```

3.7 Pipe –
Lining Material

Input the thickness of lining.

Press [**MENU**] – 3.PIPE – 7. LINING MATERIAL

```
PIPE                        LINING MATERIAL
1. FLANGE TYPE              1. NONE
2. PIPE UNIT               2. MORTAR
3. PIPE MATERIAL           3. TAR-EPOXY
4. PIPE SONIC Vs           4. TEFLON
5. PIPE DIAMETER           5. POLYETHYLENE
6. PIPE THINCKNESS         6. ENAMEL
7. LINING MATERIAL         7. GLASS
8. LINING SONIC Vs         8. PLASTIC
9. LINING THICKNESS        9. RUBBER
0. SENSOR DISTANCE
```

3.8 Pipe –
Lining Sonic Vs

Enter the sound velocity of the lining material.

Press [**MENU**] – 3.PIPE – 8.LINING SONIC Vs

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

PIPE	LINING SONIC Vs
1. FLANGE TYPE 2. PIPE UNIT 3. PIPE MATERIAL 4. PIPE SONIC Vs 5. PIPE DIAMETER 6. PIPE THICKNESS 7. LINING MATERIAL 8. LINING SONIC Vs 9. LINING THICKNESS 0. SENSOR DISTANCE	m/s _ _ _ _

3.9 Pipe –
Lining Thickness

Input the thickness of operation pipe.

Press [**MENU**] – 3.PIPE – 9.LINING THINCKNESS

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

PIPE	LINING THINCKNESS
1. FLANGE TYPE 2. PIPE UNIT 3. PIPE MATERIAL 4. PIPE SONIC Vs 5. PIPE DIAMETER 6. PIPE THICKNESS 7. LINING MATERIAL 8. LINING SONIC Vs 9. LINING THINCKNESS 0. SENSOR DISTANCE	UNIT:mm _._ _ _ _

3.10 Pipe –
Sensor Distance

After input above specifications, the flowmeter will count the Sensor Distance automatically. User doesn't need to change the value here.

Caution) The Correct sensor distance will show up automatically after user enter other pipes specifications.

Press [**MENU**] – 3.PIPE – 0.SENSOR DISTANCE

PIPE	SENSOR DISTANCE
1. FLANGE TYPE 2. PIPE UNIT 3. PIPE MATERIAL 4. PIPE SONIC Vs 5. PIPE DIAMETER 6. PIPE THINCKNESS 7. LINING MATERIAL 8. LINING SONIC Vs 9. LINING THICKNESS 0. SENSOR DISTANCE	UNIT:mm _ _ _._ _ _

Setting Operation – Liquid Characteristics

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4. Liquid -

Before installing the flowmeter, set the liquid characteristics in the main menu to allow measurements. *Caution) Measurements cannot be accomplished without these settings.*
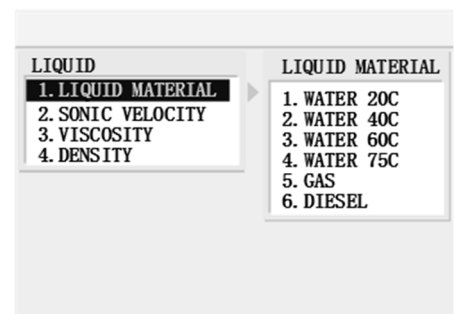
Press [**MENU**] – 4. LIQUID

```
MAIN MENU

MAIN MENU          LIQUID
1. GENERAL         1. LIQUID MATERIAL
2. CH SELECT       2. SONIC VELOCITY
3. PIPE            3. VISCOSITY
4. LIQUID          4. DENSITY
5. INSTALL
6. OPERATE
7. FLOW
8. IN/ OUTPUT
9. DATA LOG
0. DIAG
```
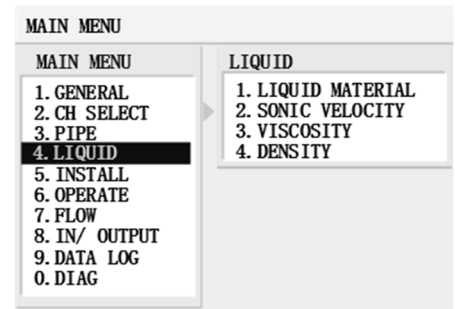
4.1 Liquid –

Liquid Material

Select the liquid type for measuring the flow.

Press [**MENU**] – 4. LIQUID – 1.LIQUID MATERIAL

- Water 20℃/40℃/60℃/75℃

- Gas

```
LIQUID              LIQUID MATERIAL
1. LIQUID MATERIAL  1. WATER 20C
2. SONIC VELOCITY   2. WATER 40C
3. VISCOSITY        3. WATER 60C
4. DENSITY          4. WATER 75C
                    5. GAS
                    6. DIESEL
```
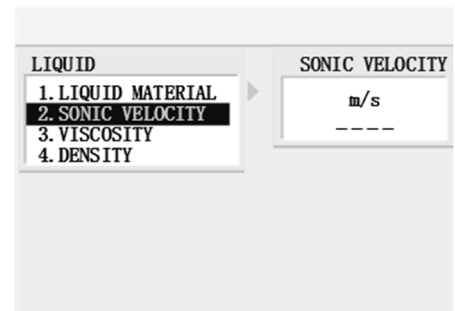

4.2 Liquid –

Sonic Velocity

Enter the sound velocity of the operation liquid.

Press [**MENU**] – 4. LIQUID – 2. SONIC VELOCITY

➢ Input value with [**NUM**]
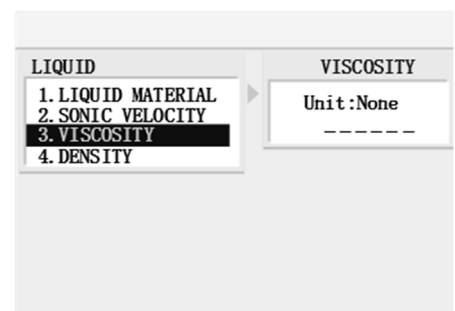➢ Leave the edit mode by pressing [**ENT**].

```
LIQUID              SONIC VELOCITY
1. LIQUID MATERIAL       m/s
2. SONIC VELOCITY
3. VISCOSITY            ----
4. DENSITY
```

4.3 Liquid –

Viscosity

Enter the viscosity of the operation liquid.

Press [**MENU**] – 4. LIQUID – 3. VISCOSITY

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
LIQUID              VISCOSITY
1. LIQUID MATERIAL  Unit:None
2. SONIC VELOCITY
3. VISCOSITY           ------
4. DENSITY
```

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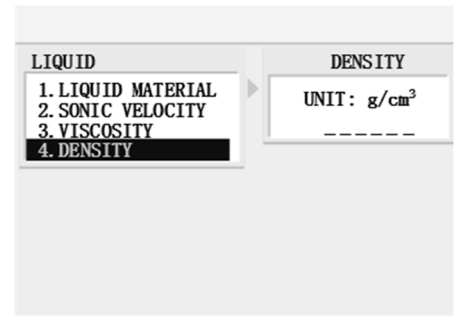
DNV·GL
ISO 9001

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4.4 Liquid –

Density

Enter the density of the operation liquird.

Press [**MENU**] – 4. LIQUID – 4.DENSITY

➢   Input value with [**NUM**]
➢   Leave the edit mode by pressing [**ENT**].

```
LIQUID                          DENSITY
1.LIQUID MATERIAL      UNIT: g/cm³
2.SONIC VELOCITY
3.VISCOSITY              _ _ _ _ _ _
4.DENSITY
```

Setting Operation – Installation

|	
5. Install -	Before starting this section, please follow the directions in Section 3 and 4 to input the specifications of PIPE and LIQUID. ***Caution) This Section shall be review carefully before installation.***

Press [**MENU**] – 5. INSTALL
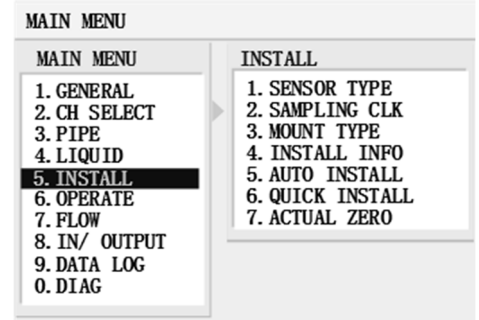
5.1 Install –

Sensor Type

Choosing the correct type of transducer is extremely important. Each type of sensor measuring different size of pipes. User must select the right sensor type on the flowmeter for complete the installation.

Press [**MENU**] – 5. INSTALL – 1.SENSOR TYPE
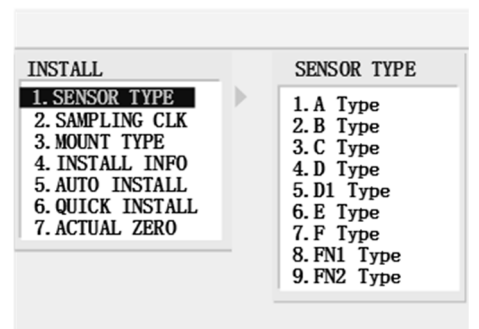
5.2 Install –

Sample CLK

Xonic 100 will select Sampling Clock automatically, user doesn't need to change it.
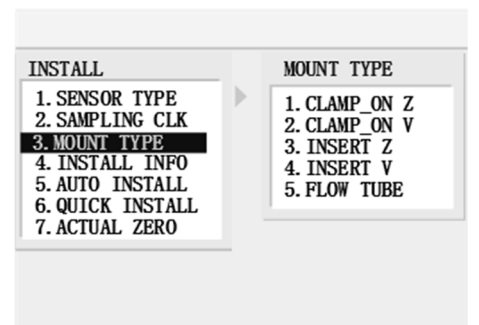

5.3 Install –

Mounting Type

Please select the correct Mount Type on the flowmeter.

Caution) Please refer to Section --- for each Mounting modes' Descriptions.

Press [**MENU**] – 5. INSTALL – 3. MOUNT TYPE

- Clamp on Z type (refer to page 7.)
- Clamp on V type (refer to page 7.)
- Insertion Z type
- Insertion V type

5.4 Install –

The page shows on the flowmeter is for user to review the installation details.

Install Info

Press [**MENU**] – 5. INSTALL – 4. INSTALL INFO

```
INSTALL                    INSTALL INFO
1.SENSOR TYPE               PIPE:STEEL
2.SAMPLING CLK              -OD:165.20mm
3.MOUNT TYPE                 -T:5.00m
4.INSTALL INFO             Liner:None
5.AUTO INSTALL               -T:0.00m
6.QUICK INSTALL            Sensor:C type
7.ACTUAL ZERO               -Clk:20ns
                            -Mnt:CLAMP_ON Z
                          -SPACE:65.0mm
```
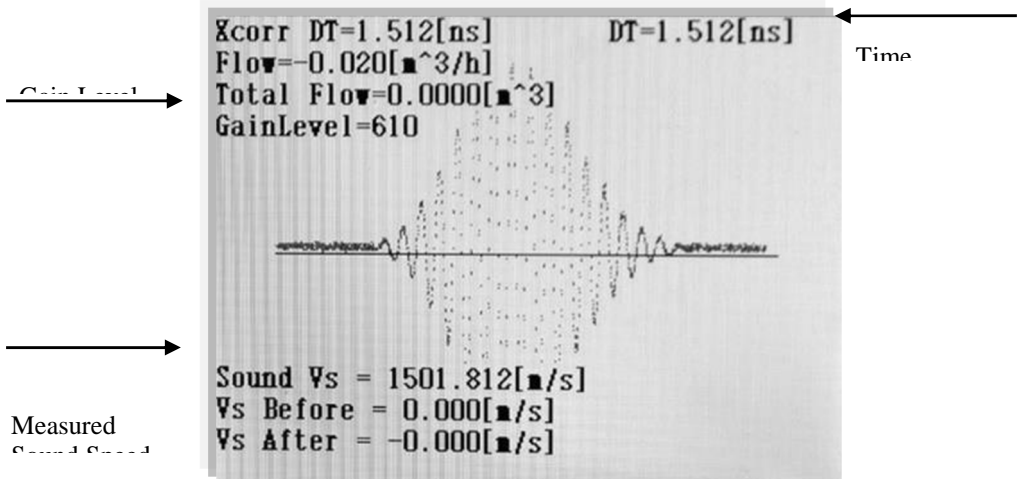
5.5 Install –

Auto Install

Xonic 100P use its patented AR (Anti-Round) mode Ultrasonic Signal for flow measurement.

Press [**MENU**] – 5. INSTALL – 5.AUTO INSTALL

1) Select 1.NO by pressing [**ENT**] and back to 5.5 INSTALL menu.

2) Select 2.YES by pressing [**ENT**] to start Auto Installation.
   (At this moment, user can see it start AR mode installation procedure. The screen will showing waved signals and "Search Wave Frequency". It might take few minutes to find the best signals for flow measurement.)

3) After finishing installation, screen will show the Best Ultrasonic Signals.
   Caution) The SHAPE of signal must be remembered carefully. The Best Ultrasonic Signals shall always have similar shape like above image.

4) Check Points

   - Sound Vs: In case of measuring 20℃ water, the sound speed shall be around 1480m/s.

   - Gain Level: It must be under 1500. However, the value of Gain Level is Higher than 1500, it means a Weakly Ultrasonic Signal.

   - Single Shape: The Best Ultrasonic Signal shall have the most spired shape in middle area.

5) If user has different result shows on the screen. Please check the specification of the installation site and re-check whether the setting on Flowmeter are exactly correct or not.

5.6 Install –

Quick Install

The function is similar to Auto Install. But it is NOT suggest to be used by users, especially without technical suggestions from JAIN.
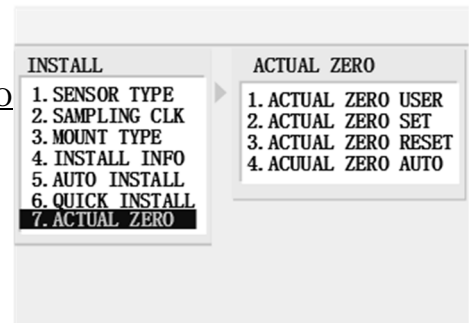
Press [**MENU**] – 5. INSTALL – 5.AUTO INSTALL

5.7 Install –

Actual Zero

The function can help user to adjust the Zero Point on the flowmeter. If the screen doesn't show at zero point, when the flow is stopped. User can perform this function to do Zero Adjustment for the flowmeter.

Caution) Perform the function when the flow is stopped.

Press [**MENU**] – 5. INSTALL – 7. ACTUAL ZERO

INSTALL	ACTUAL ZERO
1. SENSOR TYPE	1. ACTUAL ZERO USER
2. SAMPLING CLK	2. ACTUAL ZERO SET
3. MOUNT TYPE	3. ACTUAL ZERO RESET
4. INSTALL INFO	4. ACUUAL ZERO AUTO
5. AUTO INSTALL	
6. QUICK INSTALL	
7. ACTUAL ZERO	

Actual Zero User

Actual Zero User, is the automatic function to do actual zero by the software.

Press [**MENU**] – 4.INSTALL – 8. ACTUAL ZERO – 1.ACTUAL ZERO USER

➤ Press [ENT] to perform the function.
➤ The software will take about 30 second to reset the zero point for flowmeter
➤ After it finished, user will see a negative value in this menu.

Actual Zero Set

Actual Zero Set, is the manual function to do actual zero by user. Usually user will use the function after perform "Actual Zero User/Actual Zero Auto". To clear the negative value.

Press [**MENU**] – 4.INSTALL – 8. ACTUAL ZERO – 2.ACTUAL ZERO SET

➤ Input the zero value with [NUM].
➤ Press [ENT] to save the data.

Actual Zero Reset

Actual Zero Reset, is the function to clear the data. Usually user will use the function after perform "Actual Zero User/Actual Zero Auto". To clear the negative value.

Press [**MENU**] – 4. INSTALL – 8. ACTUAL ZERO – 3.ACTUAL ZERO RESET

➤ Press [ENT] to clear the data.

Actual Zero Auto

Actual Zero Auto, is the automatic function to do actual zero by the software when user is UNABLE to stop the flow.

Press [**MENU**] – 4. INSTALL – 8. ACTUAL ZERO – 4.ACTUAL ZERO AUTO

➤ Press [ENT] to perform the function.
➤ The software will take about 30 second to reset the zero point for flowmeter.
➤ After it finished. user will see a negative value in this menu.

Setting Operation – Operating Condition

|	
6. Operate -	Before installing the transducer, set the operating condition in the main menu to allow measurements. ***Caution) Measurements cannot be accomplished without these settings.***

Press [**MENU**] – 6.OPERATE
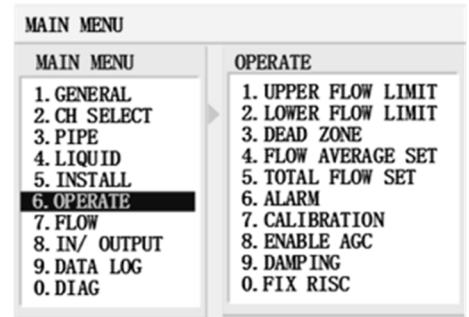
6.1 Operate – **Upper Flow Limit**	Set the MAXIMUM measuring range of the flow so the software will measure the flow when not exceeds the limited flow rate.

Press [**MENU**] – 6.OPERATE – 1.UPPER FLOW LIMIT

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].
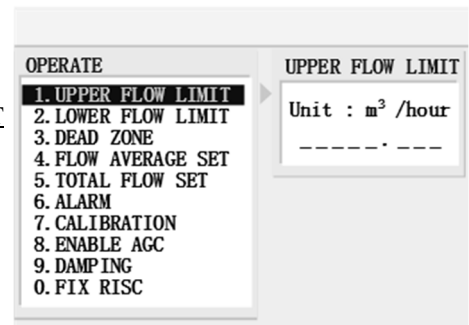
|	
6.2 Operate – **Lower Flow Limit**	Set the MINIMUM measuring range of the flow so that measuring rate will not lower than the limited flow rate.

6.3 Operate – **Dead Zone**	In the case of Dead Zond, it means flow rate being disregard, due to the big pipe operating with small flow. Then user can use the function for flow measurement. However, flowmeter will count the value automatically normally.

Press [**MENU**] – 6.OPERATE – 3.DEAD ZONE

➢ Default setting is 5 cubic feet per hour.
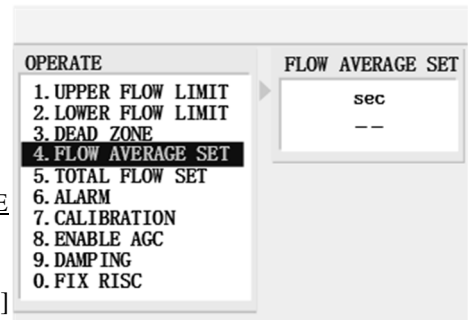
➢ Input value with [**NUM**]
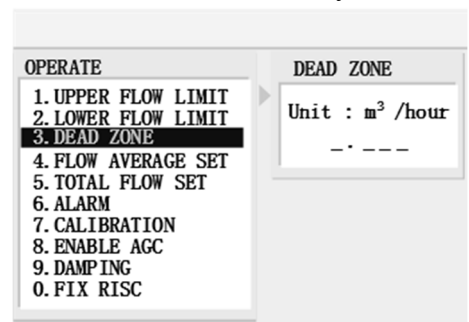
6.4 Operate –
Flow Average Set

The function displays the average flow of 5 seconds on the flowmeter. Default vaule is 5 seconds.

Press [**MENU**] – 6.OPERATE – 4. FLOW AVERAGE TIME

➢ Default setting is 5 seconds.
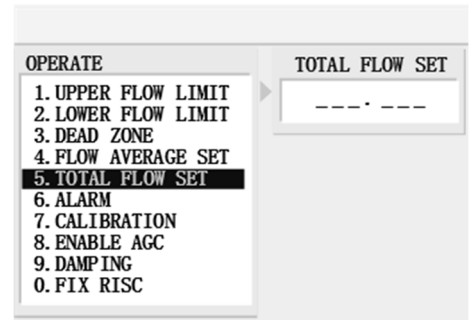
➢ Setup the average time in second with [[**NUM**]]

```
OPERATE                          FLOW AVERAGE SET
1. UPPER FLOW LIMIT                     sec
2. LOWER FLOW LIMIT                     --
3. DEAD ZONE
4. FLOW AVERAGE SET
5. TOTAL FLOW SET
6. ALARM
7. CALIBRATION
8. ENABLE AGC
9. DAMPING
0. FIX RISC
```

6.5 Operate –
Total Flow Set

User can correct the total flow manually in this menu.

Press [**MENU**] – 6.OPERATE– 5.TOTAL FLOW SET

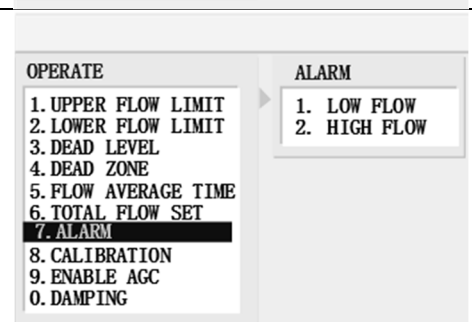➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
OPERATE                          TOTAL FLOW SET
1. UPPER FLOW LIMIT                  ---. ---
2. LOWER FLOW LIMIT
3. DEAD ZONE
4. FLOW AVERAGE SET
5. TOTAL FLOW SET
6. ALARM
7. CALIBRATION
8. ENABLE AGC
9. DAMPING
0. FIX RISC
```

6.7.1 Operate –
Alarm –

User can set the alrams for flow rates.

Press [**MENU**] – 6.OPERATE – 6.ALRAM

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
OPERATE                          ALARM
1. UPPER FLOW LIMIT              1.  LOW FLOW
2. LOWER FLOW LIMIT             2.  HIGH FLOW
3. DEAD LEVEL
4. DEAD ZONE
5. FLOW AVERAGE TIME
6. TOTAL FLOW SET
7. ALARM
8. CALIBRATION
9. ENABLE AGC
0. DAMPING
```

6.7 Operate –
Calibration

The function is for people whom have calibration laboratory or experiences of calibrating to test the flowmeter. *Caution) User should not perform this function without manufacture's technical instruction.*
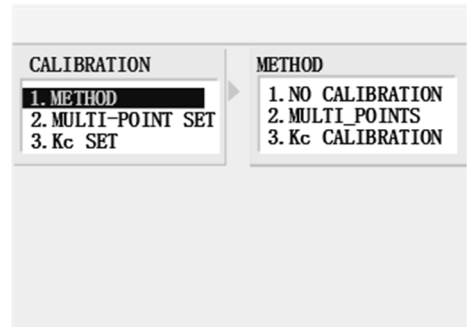
Press [**MENU**] – 6.OPERATE – 7. CALIBRATION

```
OPERATE                          CALIBRATION
1. UPPER FLOW LIMIT             1. METHOD
2. LOWER FLOW LIMIT             2. MULTI-POINT SET
3. DEAD LEVEL                   3. Kc SET
4. DEAD ZONE
5. FLOW AVERAGE TIME
6. TOTAL FLOW SET
7. ALARM
8. CALIBRATION
9. ENABLE AGC
0. DAMPING
```
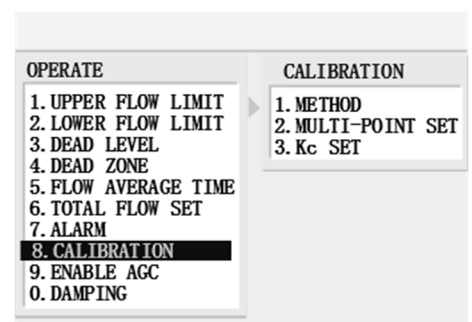
6.7.1 Operate –
Calibration –
Method

User can select the Calibration Method to calibrate the flowmeter.

Press [**MENU**] – 6.OPERATE – 7. CALIBRATION
– 1. METHOD

```
CALIBRATION          METHOD
1. METHOD            1. NO CALIBRATION
2. MULTI-POINT SET   2. MULTI_POINTS
3. Kc SET            3. Kc CALIBRATION
```

6.7.2 Operate –
Calibration –
Mutli-Point Set

User can test the flow in the limited measuring ranges that user set at Menu 6.1 and 6.2. Then user can edit the points manually in this menu.

Press [**MENU**] – 6.OPERATE – 7. CALIBRATION
– 2. MULTI-POINT SET

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
CALIBRATION          MULTI-POINT SET
1. METHOD            1. VIEW
2. MULTI-POINT SET   2. ADD
3. Kc SET            3. DELETE
```
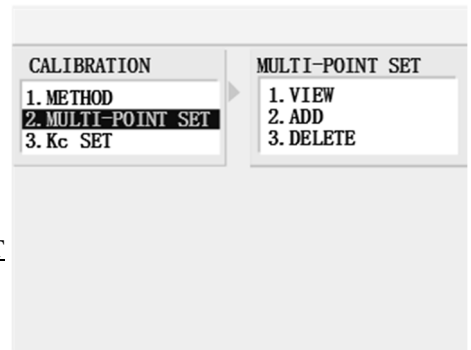
6.7.3 Operate –
Calibration –
Kc Set

The flow calibration with calibration factor.
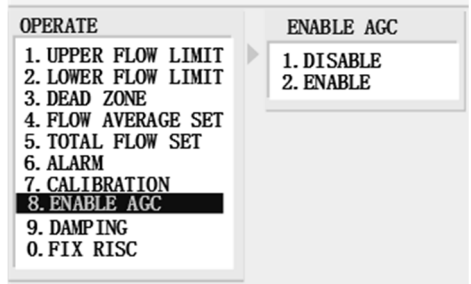
Press [**MENU**] – 6.OPERATE – 7. CALIBRATION
– 3. Kc SET
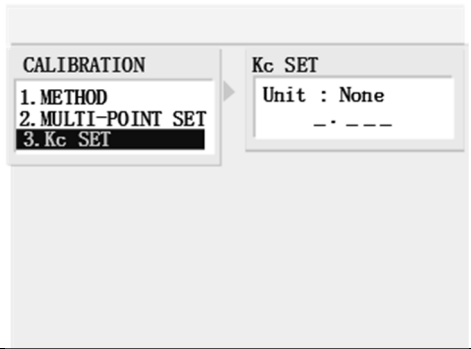
Ex)
▪ If Flow is 100, Kc is 1.0. The flow will be 100.
▪ If Flow is 100, Kc is 1.01, the flow will be 101

```
CALIBRATION          Kc SET
1. METHOD            Unit : None
2. MULTI-POINT SET        _._ _ _
3. Kc SET
```

6.8 Operate –
Enable AGC

▪ A GC is "Automatic Gain Control".

Press [**MENU**] – 6.OPERATE – 8. ENABLE AGC

➢ Default setting is ENABLE.

```
OPERATE              ENABLE AGC
1. UPPER FLOW LIMIT  1. DISABLE
2. LOWER FLOW LIMIT  2. ENABLE
3. DEAD ZONE
4. FLOW AVERAGE SET
5. TOTAL FLOW SET
6. ALARM
7. CALIBRATION
8. ENABLE AGC
9. DAMPING
0. FIX RISC
```

6.9 Operate –

Damping

Damping functions to display the data smoothly.

Press [**MENU**] – 6.OPERATE – 9. DAMPING

```
OPERATE                  DAMPING
1. UPPER FLOW LIMIT      1. DISABLE
2. LOWER FLOW LIMIT      2. 30 SEC.
3. DEAD ZONE            3. 1 MIN.
4. FLOW AVERAGE SET     4. 5 MIN.
5. TOTAL FLOW SET       5. 10 MIN.
6. ALARM                6. 30 MIN.
7. CALIBRATION          7. UNLIMITED
8. ENABLE AGC
9. DAMPING
0. FIX RISC
```
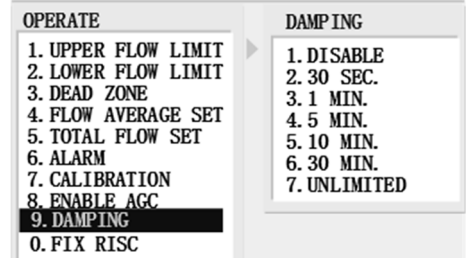
6.10 Operate –

Fix RISC

Xonic 100 will find the best RISC for the flow measurement.

Caution) User should not perform this function without manufacture's technical instruction.

Press [**MENU**] – 6.OPERATE – 0. FIX RISC

Setting Operation – Flow Parameters

7. Flow -

Before installing the transducer, set the flow parameters in the main menu to allow measurements.

Press [**MENU**] – 7. FLOW
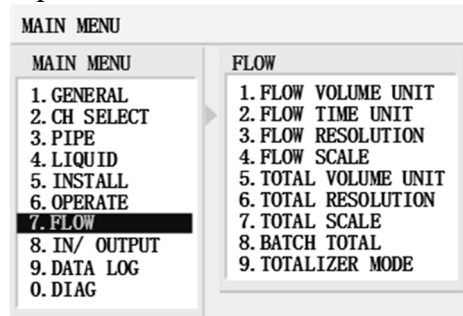
7.1 Flow –

Flow Volume Unit

User can select the unit for flow measurement on the list.

Press [**MENU**] – 7. FLOW – 1. FLOW VOLUME UNIT
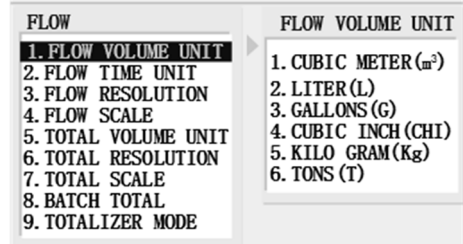
7.2 Flow –

Flow Time Unit

User can select the unit of measurement time on the list.
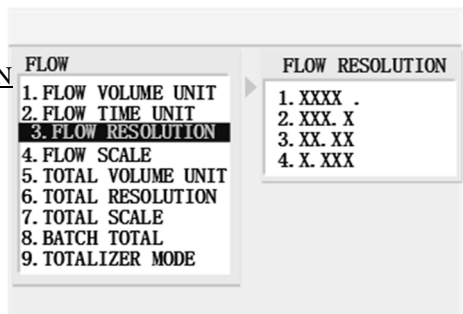
Press [**MENU**] – 7. FLOW – 2. FLOW TIME UNIT
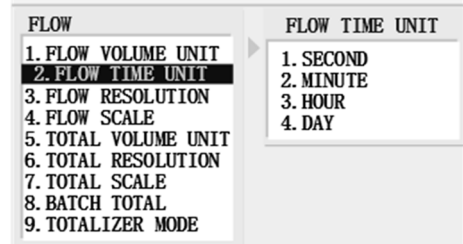
7.3 Flow –

Flow Resolution

User can select the decimal points on the list.

Press [**MENU**] – 7. FLOW – 3. FLOW RESOLUTION

Ex)

- xxxx. , means 10 for flow.
- xxx.x , means 10.1 for flow.
- xx.xx , means 10.12 for flow.

7.4 Flow –
Flow Scale

In case of big flow, user can select Kilo on the list.

Press [**MENU**] – 7. FLOW – 4. FLOW SCALE
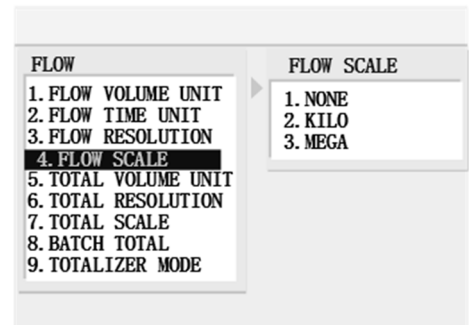
7.5 Flow –
Total Volume Unit

User can select the unit for total flow on the list. Normally, the Setting of Total Volume will be same as Flow Unit.
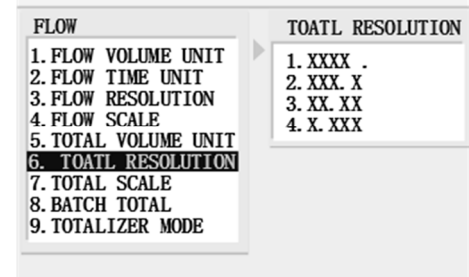
Press [**MENU**] – 7. FLOW – 5. TOTAL VOLUME UNIT
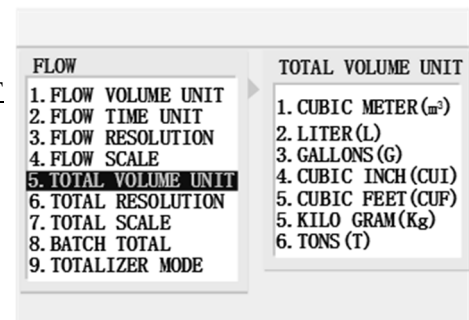
7.6 Flow –
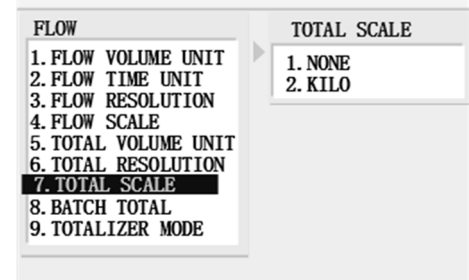**Total Resolution**

User can select the decimal points on the list.

Press [**MENU**] – 7. FLOW – 6. TOTAL RESOLUTION

7.7 Flow –
Total Scale

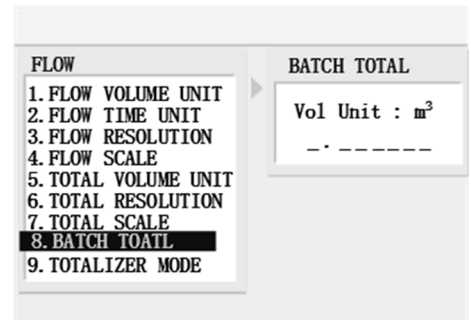User can select Kilo for big flow total.

Press [**MENU**] – 7. FLOW – 7. TOTAL SCALE

7.8 Flow –

Batch Total

The internal batch controller in the system is able to control the input signals through keypad or analog input.
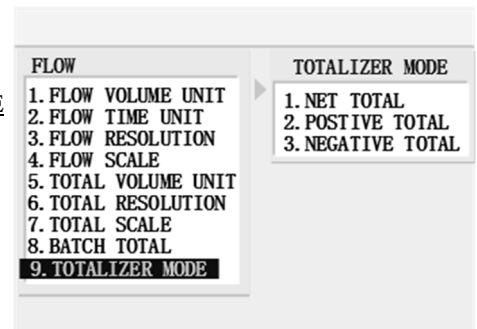
Press [**MENU**] – 7. FLOW – 8.BATCH TOTAL

```
FLOW                          BATCH TOTAL
1. FLOW VOLUME UNIT
2. FLOW TIME UNIT             Vol Unit : m³
3. FLOW RESOLUTION
4. FLOW SCALE                 _._____
5. TOTAL VOLUME UNIT
6. TOTAL RESOLUTION
7. TOTAL SCALE
8. BATCH TOATL
9. TOTALIZER MODE
```

7.9 Flow –

Totalizer Mode

User can set the mode for toatlize flow.

Press [**MENU**] – 6. FLOW – 9. TOTALIZER MODE

- Net Total - Default
  (The software will totalize positive and negative flow automatically)
- Positive Total (Only totalize positive flow)
- Negative Total (Only totalize negative flow)

```
FLOW                          TOTALIZER MODE
1. FLOW VOLUME UNIT           1. NET TOTAL
2. FLOW TIME UNIT             2. POSTIVE TOTAL
3. FLOW RESOLUTION            3. NEGATIVE TOTAL
4. FLOW SCALE
5. TOTAL VOLUME UNIT
6. TOTAL RESOLUTION
7. TOTAL SCALE
8. BATCH TOTAL
9. TOTALIZER MODE
```
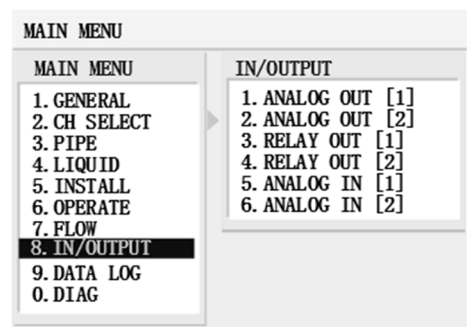
Input/output – Analog Out

8. In/Output -

Xonic 100 Series is available for 4-20m ADC output with two configurations Also has two Relay for output and two configurations for input. User can assign each data individually with each configuration.

Caution) ONLY Analog Out [1] & Relay Out [1] is available for Xonic100P.

Press [**MENU**] – 8. IN/OUTPUT

- **Analog Out [1]**
- Analog Out [2]
- **Relay Out [1]**
- Relay Out [2]
- Analog In [1]
- Analog In [2]

```
MAIN MENU

MAIN MENU          IN/OUTPUT
1. GENERAL         1. ANALOG OUT [1]
2. CH SELECT       2. ANALOG OUT [2]
3. PIPE            3. RELAY OUT [1]
4. LIQUID          4. RELAY OUT [2]
5. INSTALL         5. ANALOG IN [1]
6. OPERATE         6. ANALOG IN [2]
7. FLOW
8. IN/OUTPUT
9. DATA LOG
0. DIAG
```
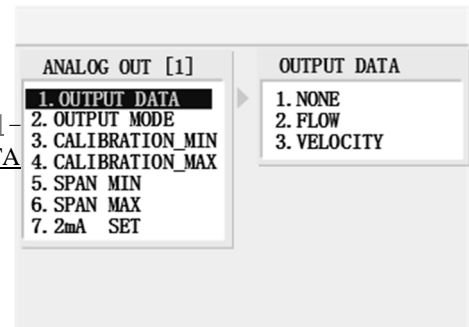
8.1 In/Output –

Analog Out [1]

The flowmeter has two analog output for 4-20m ADC. Both Analog Out [1] and Analog Out [2] has exactly same functions to output data.

8.1.1 In/Output – Analog Out [1] – Output Data

User can assign Flow or Velocity to Analog Out.

Press [**MENU**] – 8. IN/OUTPUT – 1. ANALOG OUT [1] – 1. OUTPUT DATA

- None – Disable Output Function
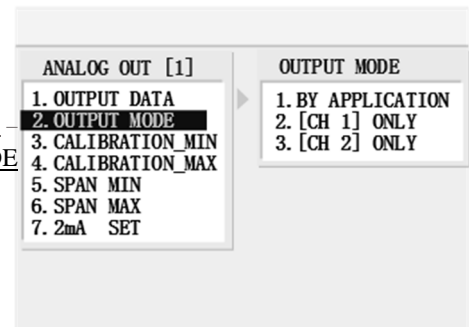- Output the Flow Data
- Output the Velocity Data

8.1.2 In/Output – Analog Out [1] – Output Mode

User shall use the default setting, by application.

Press [**MENU**] – 8. IN/OUTPUT – 1. ANALOG OUT [1] – 2. OUTPUT MODE

- By Application – Set Up by the program.
- [CH 1] only – Channel/Site 1

8.1.3 In/Output – Analog Out [1] – Calibration_Min

Caution) Do NOT use this function without manufacture's technical instructions.

Press [**MENU**] – 8. IN/OUTPUT – 1. ANALOG OUT [1] – 3. CALIBRATION_MIN

8.1.4 In/Output – Analog Out [1] – Calibration_Max

Caution) Do NOT use this function without manufacture's technical instructions.

Press [**MENU**] – 8. IN/OUTPUT–1. ANALOG OUT [1] – 4. CALIBRATION_MAX

8.1.5 In/Output – Analog Out [1] – Span Min

User can use this menu to set the Span Minimum for the flow.

Press [**MENU**] – 7. IN/OUTPUT – 1. ANALOG OUT [1] – 5. SPAN MIN

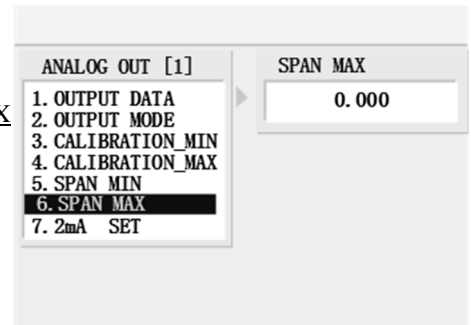➢ The value should be same with the minimum flow user set in the menu, 6.2 Lower Flow Limit.

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8.1.6 In/Output – Analog Out [1] – **Span Max**	User can use this menu to set the Span Maximum for the flow.

Press [**MENU**] – 7. IN/OUTPUT – 1. ANALOG OUT [1] –
6. SPAN MAX

➢ The value should be same with the maximum flow user set in the menu, 6.1 Upper Flow Limit.

ANALOG OUT [1]	SPAN MAX
1. OUTPUT DATA 2. OUTPUT MODE 3. CALIBRATION_MIN 4. CALIBRATION_MAX 5. SPAN MIN **6. SPAN MAX** 7. 2mA SET	0.000

8.1.7 In/Output – Analog Out [1] – **2mA Set**

Caution) Do NOT use this function without manufacture's technical instructions.

Press [**MENU**] – 7. IN/OUTPUT – 1. ANALOG OUT [1] – 7. 2mA Set

---

Input/output – Relay Out

8.3 In/Output – **Relay Out [1]**

In this section, user can know how to set for Relay Output. User can assign each data with Relay Out [1] and [2] individually.

Press [**MENU**] – 8. IN/OUTPUT – 3.RELAY OUT [1]

8.3.1 In/Output – Relay Out [1] – **Output Data**

Select the data for Relay Out.

Press [**MENU**] – 8. IN/OUTPUT – 3.RELAY OUT [1] –
1. OUTPUT DATA

RELAY OUT [1]	OUTPUT DATA
1. OUTPUT DATA 2. OUTPUT MODE 3. DUTY SET 4. REV	1. RELAY OFF 2. RELAY ON 3. HIGH FLOW 4. LOW FLOW 5. HIGH/LOW FLOW 6. BATCH TOTAL

▪ Relay Off: Disable

▪ Relay On: Enable

▪ High Flow only
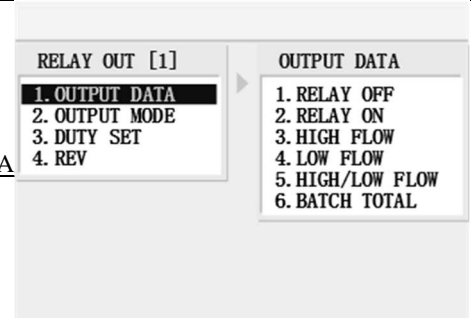
8.3.2 In/Output – Relay Out [1] – **Output Mode**

User shall use the default setting, by application.

Press [**MENU**] – 7. IN/OUTPUT – 3.RELAY OUT [1] –
2. OUTPUT MODE

RELAY OUT [1]	OUTPUT MODE
1. OUTPUT DATA **2. OUTPUT MODE** 3. DUTY SET 4. REV	1. BY APPLICATION 2. [CH 1] ONLY 3. [CH 2] ONLY

▪ By Application – Set Up by the program.

▪ [CH 1] only – Not available for Open Channel

▪ [CH 2] only – Not available for Open Channel
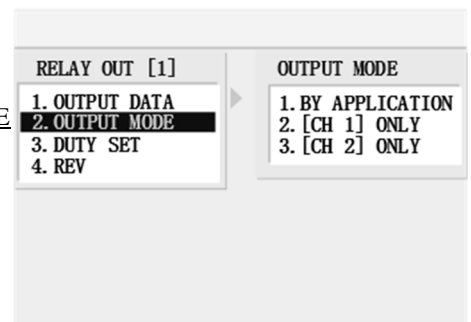
8.3.3 In/Output –
Relay Out [1] –
Duty Set

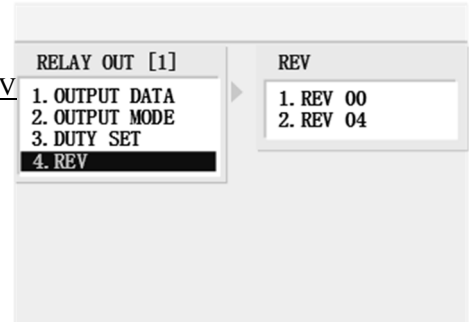Press [**MENU**] – 8. IN/OUTPUT
  – 3.RELAY OUT [1] – 3. DUTY SET

➢ Input value with [**NUM**]
➢ Leave the edit mode by pressing [**ENT**].

```
RELAY OUT [1]        DUTY SET
1. OUTPUT DATA       UNIT : msec
2. OUTPUT MODE
3. DUTY SET               ---
4. REV
```
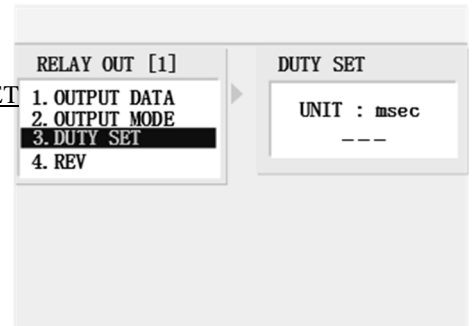
8.3.4 In/Output –
Relay Out [1] –
Rev

Press [**MENU**] – 8. IN/OUTPUT
  – 3.RELAY OUT [1] – 4. REV

```
RELAY OUT [1]        REV
1. OUTPUT DATA       1. REV 00
2. OUTPUT MODE       2. REV 04
3. DUTY SET
4. REV
```

Data Logger – Instructions

9. Data Log -	Xonic 100 P provides RS-232C for the communication.
	Caution) Before user start logging data, user should review this section carefully.
	➢ Please refer to page 9 for Data logger instructions.

9.1 Data Log – **Time Set**	User must setup the correct date and time for recording the measurement.

Press [**MENU**] – 9.DATA LOG – 1.TIME SET

➢ Move cursor by [◄] [►].
➢ Input numbers by [**NUM**].
➢ Delete characters by [**CLR**].
➢ Leave the edit mode by pressing [**ENT**].
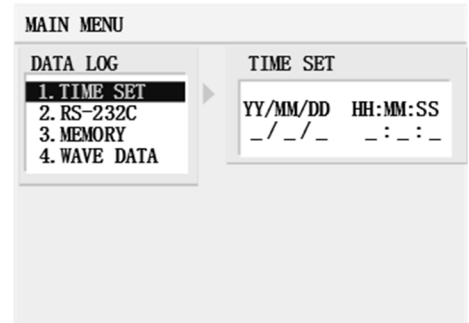
Data logger - RS-232C

9.2.1 Data Log – **RS-232C –** **Configure**	User should complete the Configure Setting for data logger.

Press [**MENU**] – 8.DATA LOG – 2.RS-232C
– 1.CONFIGURE
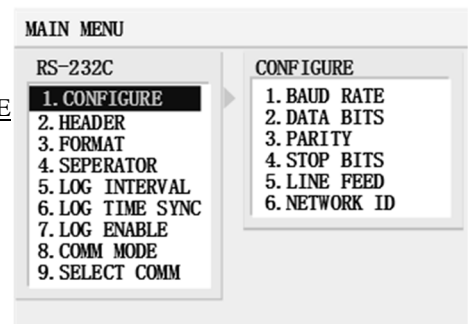
9.2.1.1 Data Log – **RS-232C –** **Configure –** **Baud Rate**	User can select the baud rate of the flow.

Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 1.CONFIGURE – 1.BAUD RATE

EUROMAG INTERNATIONAL S.r.l.   www.euromag.com | www.euromagdata.com

Sede legale e stabilimento: Via Torino 3 | 35035 Mestrino (Padova), Italia   P.IVA 02161920281 C.F. 01908330242
Sede operativa: Via Pitagora 20 | 35030 Rubano (Padova), Italia   N. CEE IT 02161920281, C.C.I.A.A. di Padova,
Tel. +39 049.9005064 | Fax +39 049.9007764   Cap. Soc. € 98.900 i.v.,R.E.A. n 211936
euromag@euromag.com | euromag@pec.it

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9.2.1.2 Data Log –

RS-232C –

Configure –

Data Bits

Selecting data bits for RS-232C data logger.

Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 1.CONFIGURE – 2.DATA BITS
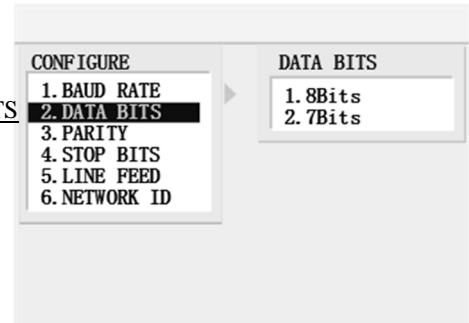
9.2.1.3 Data Log –

RS-232C –

Configure –

Parity

Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 1.CONFIGURE – 3. PARITY

9.2.1.4 Data Log –
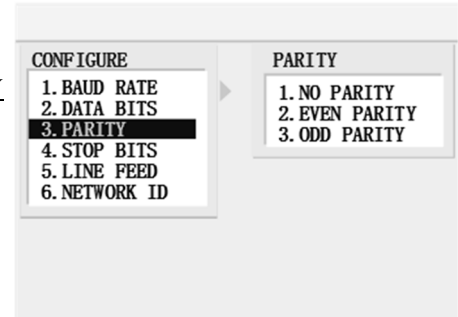
RS-232C –

Configure –

Stop Bits

Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 1.CONFIGURE – 4.STOP BITS

9.2.1.5 Data Log –
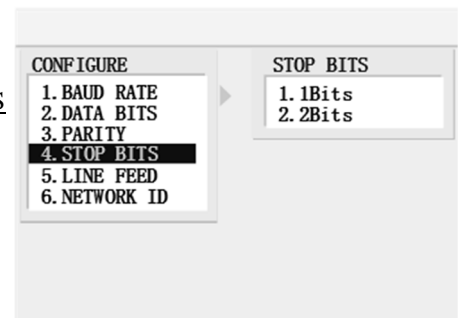
RS-232C –

Configure –

Line Feed

Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 1.CONFIGURE – 5.LINE FEED
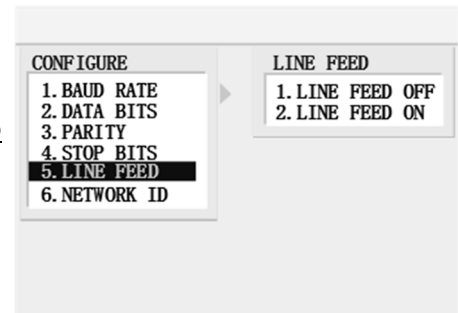
9.2.1.6 Data Log – RS-232C – Configure – Network ID

User can set a ID in order to identify.

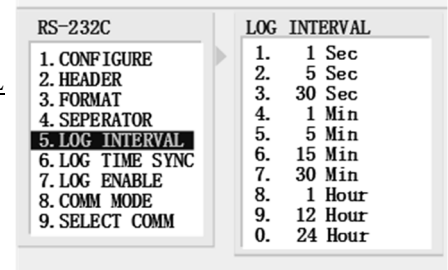Press [**MENU**] – 9.DATA LOG – 2.RS-232C– 1.CONFIGURE – 6. NETWORK ID

➢ Move cursor by [◄] [►].
➢ Input alphabet characters by [**F1**].
➢ Delete characters by [**CLR**].
➢ Leave the edit mode by pressing [**ENT**].
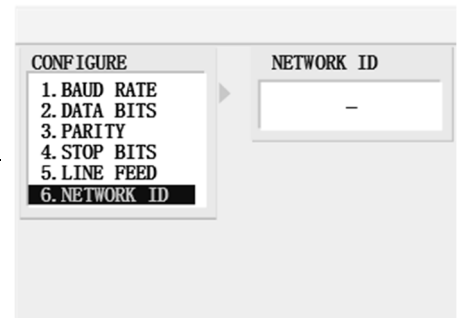
9.2.2 Data Log – RS-232C – Header

User can set a Header as a Network ID for the communication.

Press [**MENU**] – 9.DATA LOG – 2.RS-232C– 2. HEADER

➢ Move cursor by [◄] [►].
➢ Input alphabet characters by [**F1**].
➢ Delete characters by [**CLR**].
➢ Leave the edit mode by pressing [**ENT**].
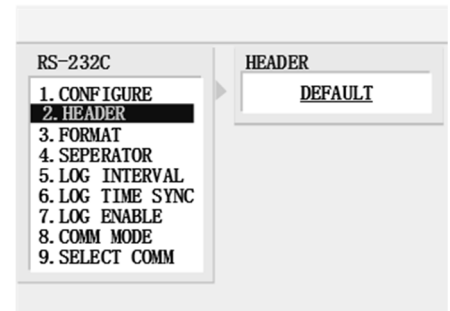
9.2.3 Data Log – RS-232C – Format

User can add and list the data here so th data will be download sequentially.

Press [**MENU**] – 9.DATA LOG – 2.RS-232C– 3.FORMAT

➢ Move cursor by [◄] [►].
➢ Input alphabet characters by [**F1**].
➢ Delete characters by [**CLR**].
➢ Leave the edit mode by pressing [**ENT**].
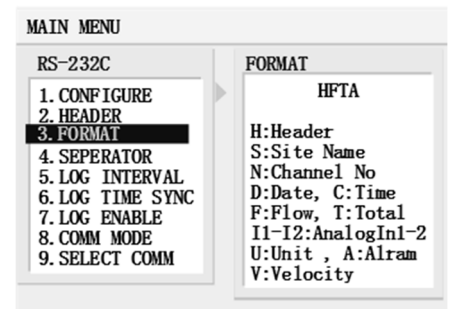
9.2.4 Data Log – RS-232C – Separator

User can select Space, Comma or Tab to separate the data.

Press [**MENU**] – 9.DATA LOG – 2.RS-232C – 4.SEPARATOR
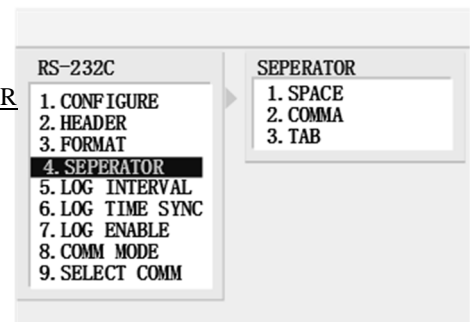
9.2.5 Data Log – RS-232C – Log Interval

The Log Interval is the measurement period of time which are taken by the transducers. *Caution) If the flow value changes rapidly, then the log interval time needs to be rapidly as well.*

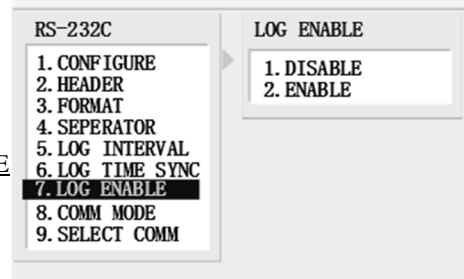Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 5.LOG INTERVAL

RS-232C	LOG INTERVAL
1. CONFIGURE	1. 1 Sec
2. HEADER	2. 5 Sec
3. FORMAT	3. 30 Sec
4. SEPERATOR	4. 1 Min
5. LOG INTERVAL	5. 5 Min
6. LOG TIME SYNC	6. 15 Min
7. LOG ENABLE	7. 30 Min
8. COMM MODE	8. 1 Hour
9. SELECT COMM	9. 12 Hour
	0. 24 Hour

9.2.6 Data Log – RS-232C–Log Time Sync

Press [**MENU**] – 9.DATA LOG – 2.RS-232C – 6.LOG TIME SYNC

9.2.7 Data Log – RS-232C – Log Enable

User must enable the function for data logger.

Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 7.LOG ENABLE

RS-232C	LOG ENABLE
1. CONFIGURE	1. DISABLE
2. HEADER	2. ENABLE
3. FORMAT	
4. SEPERATOR	
5. LOG INTERVAL	
6. LOG TIME SYNC	
7. LOG ENABLE	
8. COMM MODE	
9. SELECT COMM	

9.2.8 Data Log – RS-232C – Comm Mode

User must enable the function for data logger.

Press [**MENU**] – 8.DATA LOG – 2.RS-232C –
8. COMM MODE

- Normal – Default
- Call Answer – Only available in local
- CDMA Comm – CDMA Communication
- MODBUS RTU – MODBUS Communication

RS-232C	COMM MODE
1. CONFIGURE	1. NORMAL
2. HEADER	2. CALL ANSWER
3. FORMAT	3. CDMA COMM
4. SEPERATOR	4. MODBUS-RTU
5. LOG INTERVAL	
6. LOG TIME SYNC	
7. LOG ENABLE	
8. COMM MODE	
9. SELECT COMM	
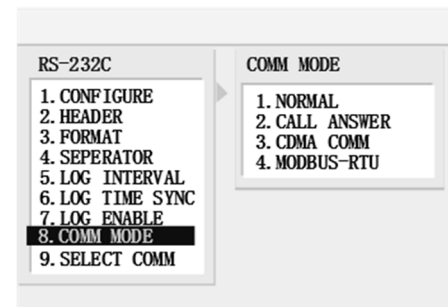
9.2.9 Data Log – RS-232C – Select Comm

User can use both cable RS-232 and RS-485 to for the communication.

Press [**MENU**] – 9.DATA LOG – 2.RS-232C
– 9.SELECT COMM

RS-232C	SELECT COMM
1. CONFIGURE	1. RS232
2. HEADER	2. RS485
3. FORMAT	
4. SEPERATOR	
5. LOG INTERVAL	
6. LOG TIME SYNC	
7. LOG ENABLE	
8. COMM MODE	
9. SELECT COMM	
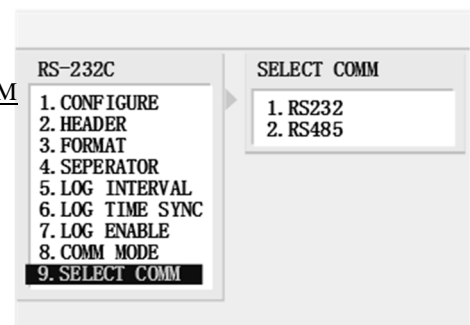
Data Logger - Memory

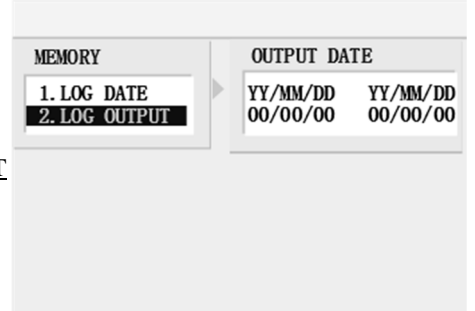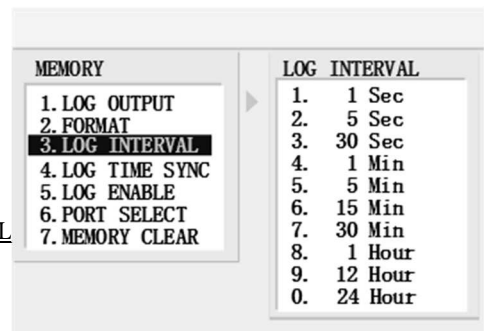| **9.3.1.1 Data Log –** **Memory –** **Log Output –** **Log Date**	User can see the records of First Log and Last Log here. Press [**MENU**] – 9.DATA LOG – 3.MEMORY – 1. LOG OUTPUT – 1. LOG DATE	MEMORY **1. LOG DATE** 2. LOG OUTPUT - First Log - 0- 0- 0 0: 0 - Last Log - 0- 0- 0 0: 0
9.3.1.2 Data Log – **Memory –** **Log Output –** **Log Output**	User can set period of data to output here. Press [**MENU**] – 9.DATA LOG – 3.MEMORY – 1. LOG OUTPUT – 2.LOG OUTPUT ➢ Move cursor by [◄] [►]. ➢ Input date by [**NUM**]. ➢ ～～～～～～～～～ [**ENT**].	MEMORY OUTPUT DATE 1. LOG DATE **2. LOG OUTPUT** YY/MM/DD YY/MM/DD 00/00/00 00/00/00
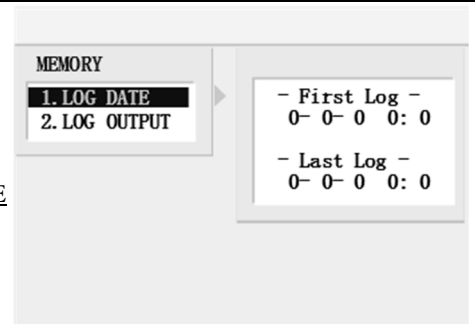
9.3.2 Data Log –
 	
Memory –
 	
Format
	User can add and list the data here so the data will be download sequentially.
	
	Press [**MENU**] – 9.DATA LOG – 3.MOMERY- 3.FORMAT
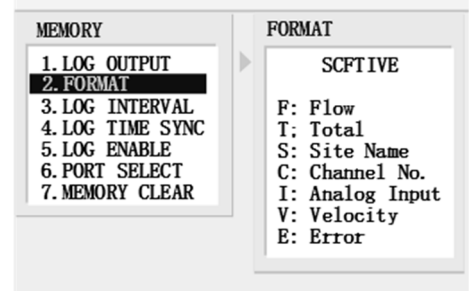	
	➢ Move cursor by [◄] [►].
	➢ Input alphabet characters by [**F1**].
	➢ Delete characters by [**CLR**].
	➢ Leave the edit mode by pressing [**ENT**]
		MEMORY FORMAT
		1. LOG OUTPUT
		2. FORMAT SCFTIVE
		3. LOG INTERVAL
		4. LOG TIME SYNC F: Flow
		5. LOG ENABLE T: Total
		6. PORT SELECT S: Site Name
		7. MEMORY CLEAR C: Channel No.
		                    I: Analog Input
		                    V: Velocity
		                    E: Error

9.3.3 Data Log –
 	
Memory –
 	
Log Interval
	The Log Interval is the measurement period of time which are taken by the transducers. *Caution)If the flow value changes rapidly, then the log interval time needs to be rapidly as well.*
	
	Press [**MENU**] – 9.DATA LOG – 3.MEMORY
	       – 5.LOG INTERVAL
		MEMORY LOG INTERVAL
		1. LOG OUTPUT 1. 1 Sec
		2. FORMAT 2. 5 Sec
		3. LOG INTERVAL 3. 30 Sec
		4. LOG TIME SYNC 4. 1 Min
		5. LOG ENABLE 5. 5 Min
		6. PORT SELECT 6. 15 Min
		7. MEMORY CLEAR 7. 30 Min
		                   8. 1 Hour
		                   9. 12 Hour
		                   0. 24 Hour

8.2.6 Data Log–RS-232–

Log Time Sync   Press [**MENU**] – 8.DATA LOG – 2.RS-232C – 6.LOG TIME SYNC

9.3.5 Data Log –

Memory –

Log Enable

User must enable the function for data logger.

Press [**MENU**] – 9.DATA LOG – 3.MEMORY
– 5.LOG ENABLE

MEMORY	LOG ENABLE
1. LOG OUTPUT	1. DISABLE
2. FORMAT	2. ENABLE
3. LOG INTERVAL	
4. LOG TIME SYNC	
5. LOG ENABLE	
6. PORT SELECT	
7. MEMORY CLEAR	

9.3.6 Data Log –

Memory –

Port Select

User can use both RS-232 port or Firmware port to connect flowmter with user's laptops. *Caution) The setting must be correct otherwise use is unable to download the data.*

Press [**MENU**] – 9.DATA LOG – 3.MEMORY
– 6. PORT SELECT

MEMORY	PORT SELECT
1. LOG OUTPUT	1. RS232 PORT
2. FORMAT	2. FIRMWARE PORT
3. LOG INTERVAL	
4. LOG TIME SYNC	
5. LOG ENABLE	
6. PORT SELECT	
7. MEMORY CLEAR	

9.3.7 Data Log –

Memory –

Memory Clear

User can clear all of data and setting in here.

Press [**MENU**] – 9.DATA LOG – 3.MEMORY
– 7. MEMORY CLEAR

MEMORY	MEMORY CLEAR
1. LOG OUTPUT	1. CANCLE
2. FORMAT	2. CLEAR
3. LOG INTERVAL	
4. LOG TIME SYNC	
5. LOG ENABLE	
6. PORT SELECT	
7. MEMORY CLEAR	

Wave Data

9.4 Data Log –
Wave Data

Download the Signal Wave Data.

Press [**MENU**] – 9.DATA LOG – 4.WAVE DATA

```
DATA LOG
1. TIME SET
2. RS-232C
3. MEMORY
4. WAVE DATA
```
▶
```
WAVE DATA
1. STOP
2. START
```

Diagnostics Menu

---

10. Diag -

User can review more information about the measurement in this menu.

Caution) The setting shall not be modify without manufacture's technical support.

Press [**MENU**] – 9.DIAG

10.1 Diag –

Frequency Div

Caution) The setting shall not be modify without manufacture's technical support.

Press [**MENU**] – 9.DIAG – 1.FREQUENCY DIV
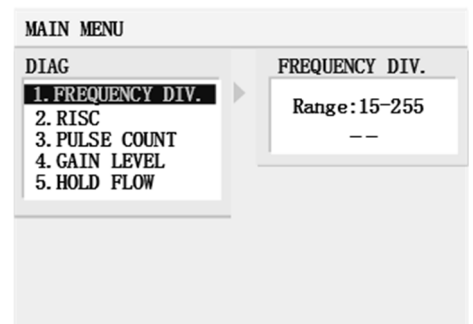
10.2 Diag –

Risc

RISC is the distance from impulse signal to receive signal.
Caution) The setting shall not be modify without manufacture's technical support.

Press [**MENU**] – 9.DIAG – 2.RISC

10.3 Diag –

Pulse Count

Set Once or Limit for Pulse Count.

Press [**MENU**] – 9.DIAG – 3.PULSE COUNT
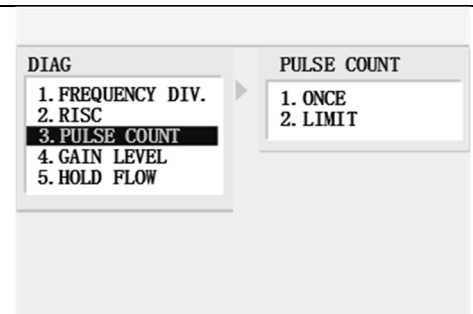
Once	Once set for pulse count.
Limit	Enable or Disable the Limited for pulse count.

10.4 Diag –

Gain Level

Gain Level is amplitude level of signal. The value will be set and calculated automatically by the flowmeter.

Press [**MENU**] – 9.DIAG – 4.GAIN LEVEL

```
GAIN LEVEL                GAIN LEVEL SET
1.GAIN LEVEL SET          Range:1-2000
2.LIMIT GAIN LEVEL              _
```
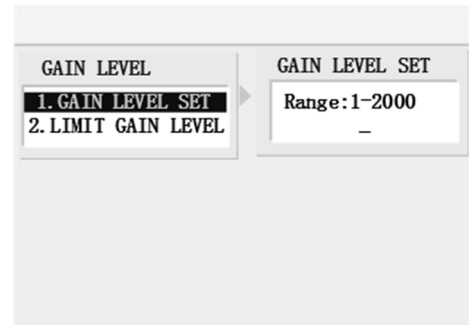
10.5 Diag –

Hold Flow

The function is for matching with remote indicator. User can use this menu to test Analog Output's function.

Press [**MENU**] – 9.DIAG – 5.HOLD FLOW

Ex) Analog out - SPAN MIN: 0 / SPAN MAX: 1000

- When user set HOLD FLOW at 0, flowmeter shall send 4mA signal to Analog Output.

- When user set HOLD FLOW at 1000, flowmeter shall send 20mA signal to Analog Output.

```
DIAG                      HOLD FLOW
1.FREQUENCY DIV.          Unit : m³/h
2.RISC
3.PULSE COUNT                _._ _ _
4.GAIN LEVEL
5.HOLD FLOW
```

Drawings

Xonic–100P Flow Computer

COMMUNICATION		
PIN NO#	COLOR	DESCRIPTION
1	VIOLET	FIRMWARE RS232 TX
2	BROWN	COMMUNICATION RS232 TX
3	GREEN	RELAY 1CH C
4	BLUE	FIRMWARE RS232 RX
5	BLACK	COMMUNICATION RS232 RX
6	WHITE	ANALOG OUT (+)
7	GRAY	ANALOG OUT (−)
8	YELLOW	COMMUNICATION RS232 GND
9	ORANGE	FIRMWARE RS232 GND
10	RED	RELAY 1CH A

CHANNEL 1		
PIN NO#	BOARD PIN	DESCRIPTION
1	BNC 301.4	CH1 UP (+)
2	BNC 301.2	CH1 UP (−)
3	BNC 302.4	CH1 DOWN (+)
4	BNC 302.2	CH1 DOWN (−)

CHANNEL 2		
PIN NO#	BOARD PIN	DESCRIPTION
1	BNC 303.4	CH2 UP (+)
2	BNC 303.2	CH2 UP (−)
3	BNC 304.4	CH2 DOWN (+)
4	BNC 304.2	CH2 DOWN (−)

A COMMUNICATION

B CHANNEL 1

C CHANNEL 2

DATE		DWG NAME		Xonic–100P Flow computer	REV
DRAWING		PROJECT NAME		INSULATOR	
DESIGNED					
CHECKED		SCALE	DWG NO.		
SUPERV					

CIRCULAR CONNECTOR

PLUG

IEC 320 PLUG

IEC 320 POWER INLET

Power Adapter / Battery Charger

Xonic-100P MODELS

POWER ADAPTER CONNECTOR
(SHOWN WITH CAP REMOVED)

DATE		DWG NAME	Xonic-100P Flow computer	REV
	DRAWING	PROJECT NAME	POWER ADAPTER/BATTERY CHARGER	
	DESIGNED			
	CHECKED	SCALE	DWG NO.	
	SUPERV			

DNV·GL
ISO 9001

TRANSDUCER CABLE DETAILS

Xonic-100P MODELS

TRANSDUCER CABLE DETAILS

REFLECT MODE INSTALLATION

TO FLOW COMPUTER DOWN

CABLE

MOUNTING TRACK SERIES

TO FLOW COMPUTER UP

CABLE

STRAP GUIDE

TRANSDUCER CLAMP

TRANSDUCER

FLOW

CUSTOMER'S PIPE

DATE	DWG NAME	REV
DRAWING		TRANSDUCERS INSTALLATION
DESIGNED	PROJECT NAME	AND MOUNTING TRACKS (REFLECT MODE)
CHECKED	SCALE	DWG NO. 102-TP
SUPERV		

DIRECT MODE INSTALLATION

MOUNTING TRACK SERIES

TO FLOW COMPUTER DOWN

CABLE

FLOW

TRANSDUCER CLAMP

TRANSDUCER

TO FLOW COMPUTER UP

CABLE

STRAP GUIDE

CUSTOMER'S PIPE

DWG NAME: TRANSDUCERS INSTALLATION AND MOUNTING TRACKS (DIRECT MODE)

PROJECT NAME

DWG NO. 102-TP
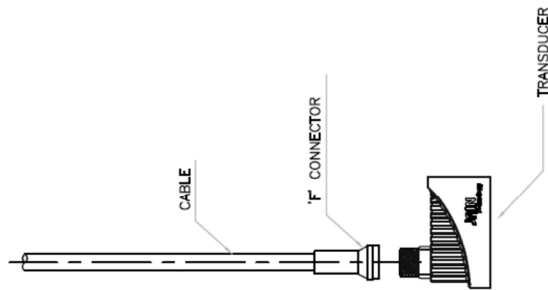
SCALE

REV

DATE

DRAWING

DESIGNED

CHECKED

SUPERV

DNV·GL
ISO 9001
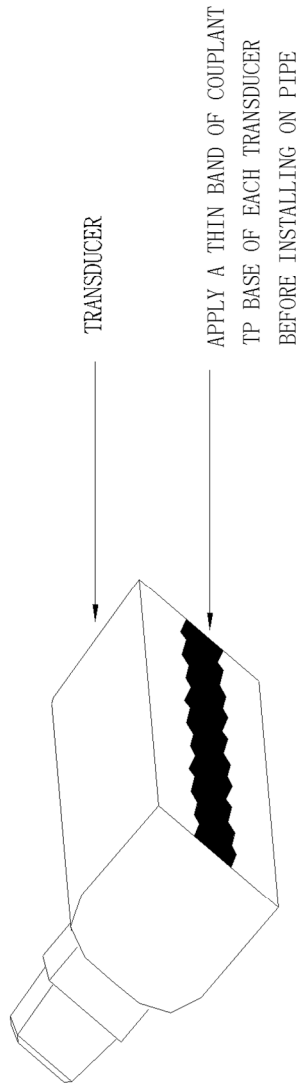
TRANSDUCER

APPLY A THIN BAND OF COUPLANT
TP BASE OF EACH TRANSDUCER
BEFORE INSTALLING ON PIPE

USE OF COUPLANT COMPOUND

DATE	DWG NAME	TRANSDUCERS INSTALLATION COUPANT		REV
DRAWING	PROJECT NAME			
DESIGNED				
CHECKED	SCALE	DWG NO.	102-C	
SUPERV				

TRANSDUCER CONNECTOR KIT

CABLE

'F' CONNECTOR

TRANSDUCER

	DWG NAME	TRANSDUCER CONNECTOR KIT
	PROJECT NAME	
	SCALE	DWG NO.
DATE		REV
DRAWING		
DESIGNED		
CHECKED		
SUPERV		