AIGNEP **PR03** Series CE

For your safety, please read the following before using.

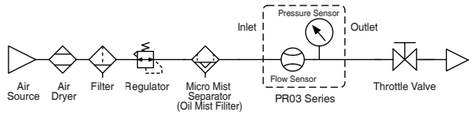
① **Check the regulator and flow adjustment valve before introducing the fluid.**

If the pressure or flow rate exceeded the specified range, the sensing element may be damaged.

② **The sensing element cannot measure properly if foreign matter adheres to it.**

③ **On the inlet side, be sure to install an air filter below the filtration level of 10um.**

④ **Recommended Equipments and Installation**



※NOTE：
Please install a throttle valve on the outlet side of the sensor to prevent errors caused by unstable flow.

⑤ **Use straight piping 8cm or longer to connect the Piping Port (Inlet side).**

If straight piping is not installed, the accuracy may vary by ±2% F.S..

Avoid sudden changes in the piping size on the inlet side of the product.

Do not release the outlet side piping port of the product directly to the atmosphere without the piping connected.

(※ Straight Piping : The pipe is without bending and the cross sectional areas of the pipe keeps the same.)

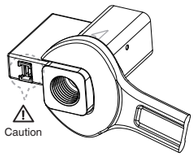
⑥ **When piping, please apply I.D. 9 mm or more air tube.**

⑦ **Please use a wrench on the metallic area and torque properly.**

When piping with metallic area, please refer to the applicable torque below.

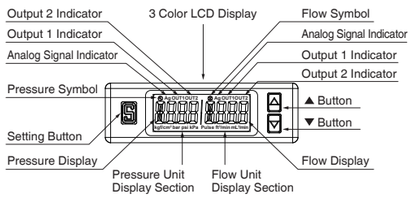
Over torquing may be damaged the product. When insufficient torque, the connection may loosen to cause air leakage.

After installation completed, please make gas and power on and operate properly and test leakage to verify the installation correct.



Piping Specification	Required Torque
G½"	28~30 Nm
G¾"	

A. PANEL DESCRIPTION



B. ORDERING INFORMATION

P R 0 3 0 5 0 5 P 1

Flow Rate Range

05：500 L/min
20：2000 L/min

Port Size

05：G½", for Flow Rate Range 500 L/min.
07：G¾", for Flow Rate Range 2000 L/min.

Output Specifications

P1：2 PNP output + Analog output 1~5V
P2：2 PNP output + Analog output 4~20mA

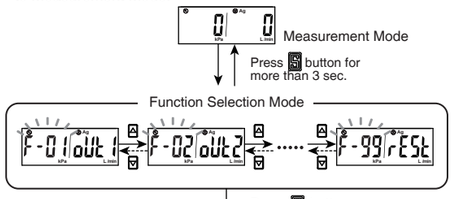
Optional Parts

PR03B05：Mounting bracket, for Flow Rate Range 500 L/min.
PR03B20：Mounting bracket, for Flow Rate Range 2000 L/min.

C. OPERATION INSTRUCTIONS

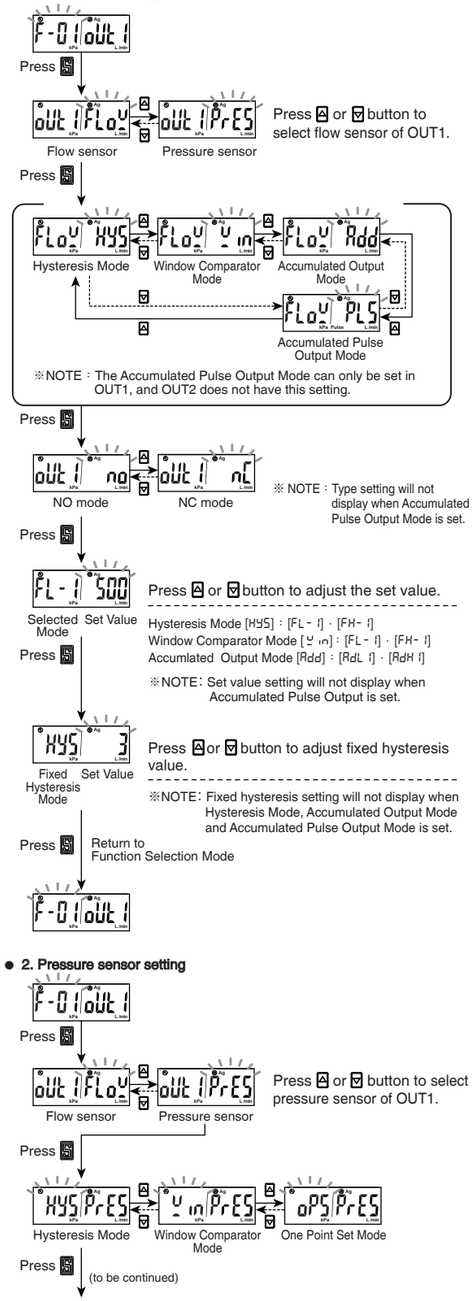
1 Function Selection Mode

At Measurement Mode, press S button for more than 3 sec. to display [F-01]. Press ▲ or ▼ button to select other setting functions. Press S for 3 sec. at Function Setting Mode to return to Measurement Mode.

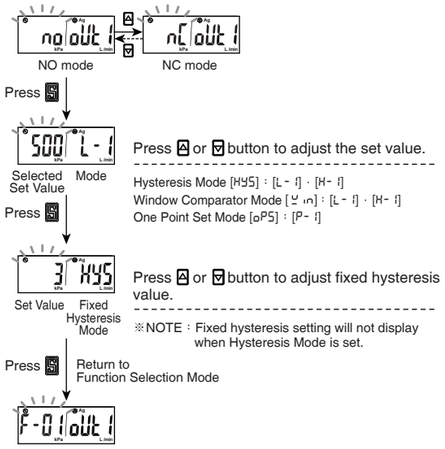


2 [F-01] OUT1 Setting Selection

● **1. Flow sensor setting**

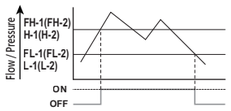


● **2. Pressure sensor setting**

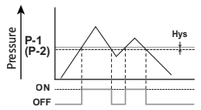


Normal Open Mode

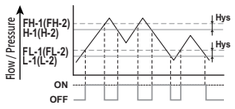
Hysteresis Mode



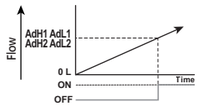
One Point Set Mode



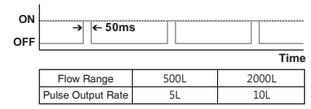
Window Comparator Mode



Accumulated Output Mode



Accumulated Pulse Output Mode

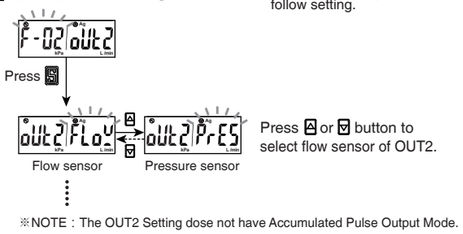


Flow Range	500L	2000L
Pulse Output Rate	5L	10L

※NOTE:
*1. In case hysteresis is set at less than or equal to 2 digits, switch output may chatter if input pressure fluctuates near the set point.
*2. When using window comparator mode, the difference between two set points must be greater than the fixed hysteresis, otherwise will cause the switch output to malfunction.

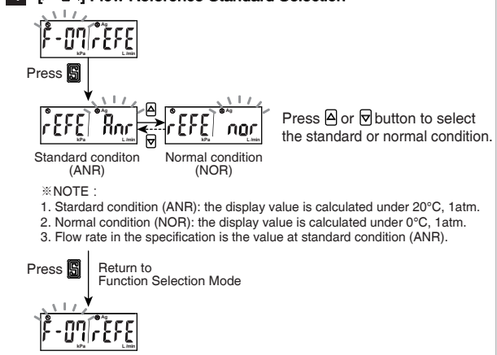
3 [F-02] OUT2 Setting Selection

※Check the [F-01] for the same follow setting.



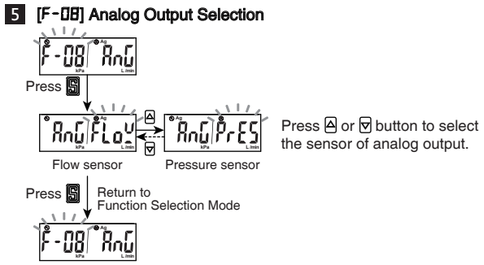
※NOTE：The OUT2 Setting dose not have Accumulated Pulse Output Mode.

4 [F-07] Flow Reference Standard Selection

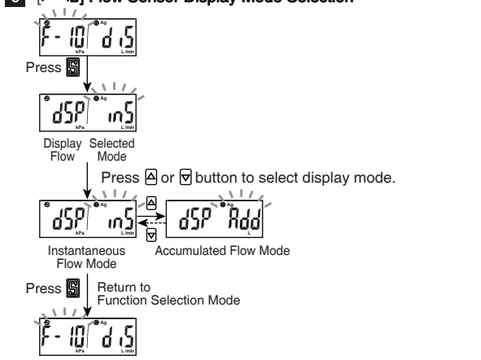


※NOTE：
1. Stardard condition (ANR): the display value is calculated under 20°C, 1atm.
2. Normal condition (NOR): the display value is calculated under 0°C, 1atm.
3. Flow rate in the specification is the value at standard condition (ANR).

5 [F-08] Analog Output Selection

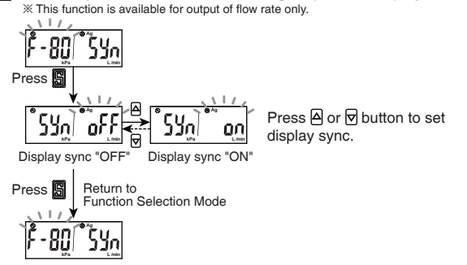


6 [F-10] Flow Sensor Display Mode Selection



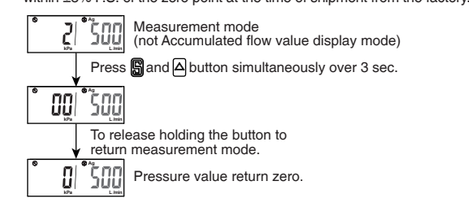
7 [F-80] Sync the value of flow analog output and display

※This function is available for output of flow rate only.



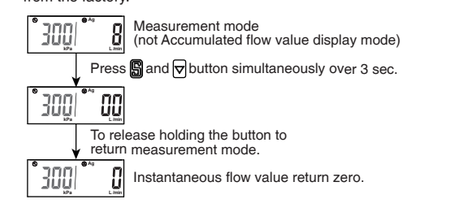
8 Pressure Zero Adjustment Function

The displayed value can be adjusted to "0" when the pressure is within ±3% F.S. of the zero point at the time of shipment from the factory.

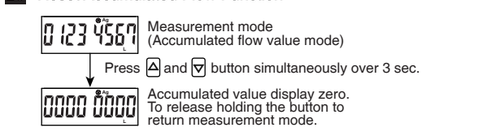


9 Instantaneous Flow Zero Adjustment Function

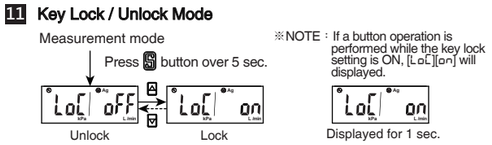
The displayed value can be adjusted to "0" when the measured flow is within ±5% F.S. of the zero point at the time of shipment from the factory.



10 Reset Accumulated Flow Function



11 Key Lock / Unlock Mode



E. FUNCTION INSTRUCTION

Function Code	Item	Explanation
[F-01]	[oUt 1] OUT 1 setting	Select Output 1 corresponding to flow sensor or pressure sensor. Set the flow rate or pressure value to switch ON/OFF.
[F-02]	[oUt2] OUT 2 setting	Select Output 2 corresponding to flow sensor or pressure sensor. Set the flow rate or pressure value to switch ON/OFF.
[F-03]	[CLor] LCD Display color selection	Select back light color and display mode.
[F-04]	[rESP] Response time selection	Select the response time for analog output. Pressure sensor: 2.5ms ~ 1500ms. Flow sensor: 50ms ~ 1500ms.
[F-05]	[UPdR] Display refresh time selection	Display refresh cycle can be set in 200ms, 500ms or 1000ms.
[F-06]	[Un it] Unit selection	Select the UNIT of pressure / flow sensor.
[F-07]	[rEFE] Flow reference standard selection	Select the flow value is shown under standard (ANR) or normal condition (NOR).
[F-08]	[AnG] Analog output selection	Select the analog corresponding to pressure or flow sensor.
[F-09]	[EEPr] Accumulated value hold selection	To save the last accumulated flow value every 2 or 5 minutes.
[F-10]	[diS] Flow sensor display mode selection	Select to display Instantaneous Flow or Accumulated Flow Mode.
[F-80]	[SYn] Sync the value of flow analog output and display	Turn ON to synchronize the value of flow analog output and display. (※) (Default setting : OFF)
[F-91]	[ECo] Power-Save mode selection	Select if turn on power-save mode to reduce power consumption
[F-92]	[inP] External input selection	Select for Accumulated flow rate zero clear, Auto-Shift or Auto-Shift zero.
[F-94]	[F inE] Fine adjustment setting	The displayed value can be adjusted slightly.
[F-95]	[FoUt] Forced output function	To force output ON/OFF to test the switch function.
[F-99]	[rESt] Reset to the default setting	Return to the factory default setting.

※ Note：This function is available for output of flow rate only.

F. ERROR CODE INSTRUCTION

Error Type	Error Code	Error Condition	Troubleshooting
OUT1 Excess Load Current Error	800 Er1 / Er1 200	Output 1 load current is more than 125 mA.	Turn power off and check the cause of overload current or lower the current load under 125 mA, then restart.
OUT2 Excess Load Current Error	800 Er2 / Er2 200	Output 2 load current is more than 125 mA.	
Zero Adjustment Error	800 Er3	The instant flow is within ±5% F.S. of the zero point.	Perform the zero clear function again under no flow conditions.
	Er3 200	The pressure value is over ±3% F.S. of the zero point.	Perform the zero clear function again under no pressure conditions.
System Error	Er4 Er4	Memory error	Turn power off, and then restart. If error condition remains, please return to factory for inspection.
	Er5 Er5	Internal data error	
	Er6 Er6	Internal data error	
	Er7 Er7	System parameter error	
Applied Flow/ Pressure Error	800 XXX	The instant flow has exceeded the upper limit of the flow display range.	Reduce the flow to the display range.
	XXX 200	The pressure has exceeded the upper limit of the pressure display range.	Reduce the pressure to the display range.
	800 LLL	The instant flow has exceeded the lower limit of the flow display range.	Ensure the flow is in the correct direction.
	LLL 200	The pressure has exceeded the lower limit of the pressure display range.	Increase the pressure to the display range.

AIGNEP **PR03 Series** CE

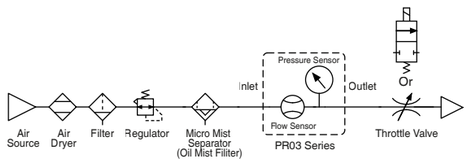
For your safety, please read the following before using.

① **Check the regulator and flow adjustment valve before introducing the fluid.**
If the pressure or flow rate exceeded the specified range, the sensing element may be damaged.

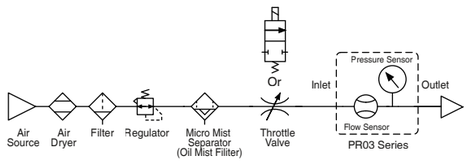
② **The sensing element cannot measure properly if foreign matter adheres to it.**

③ **On the inlet side, be sure to install an air filter below the filtration level of 10um.**

④ **Recommended Equipments and Installation Example**

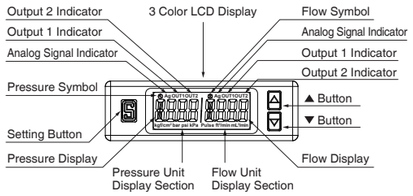


※ NOTE：
When measuring the pressure of the inlet side, install a throttle valve or solenoid valve on the outlet side.



※ NOTE：
When measuring the pressure of the outlet side, install a throttle valve or solenoid valve on the inlet side.

A. PANEL DESCRIPTION



B. ORDERING INFORMATION

P R 0 3 0 1 0 3 P 1

Flow Rate Range
01：100 L/min
02：200 L/min

Port Size
03：Rc1/4", with internal threads

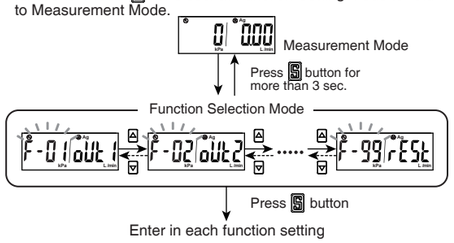
Output Specifications
P1：2 PNP output + Analog output 1~5V
P2：2 PNP output + Analog output 4~20mA

Optional Parts
PR03B01：Mounting bracket

C. OPERATION INSTRUCTIONS

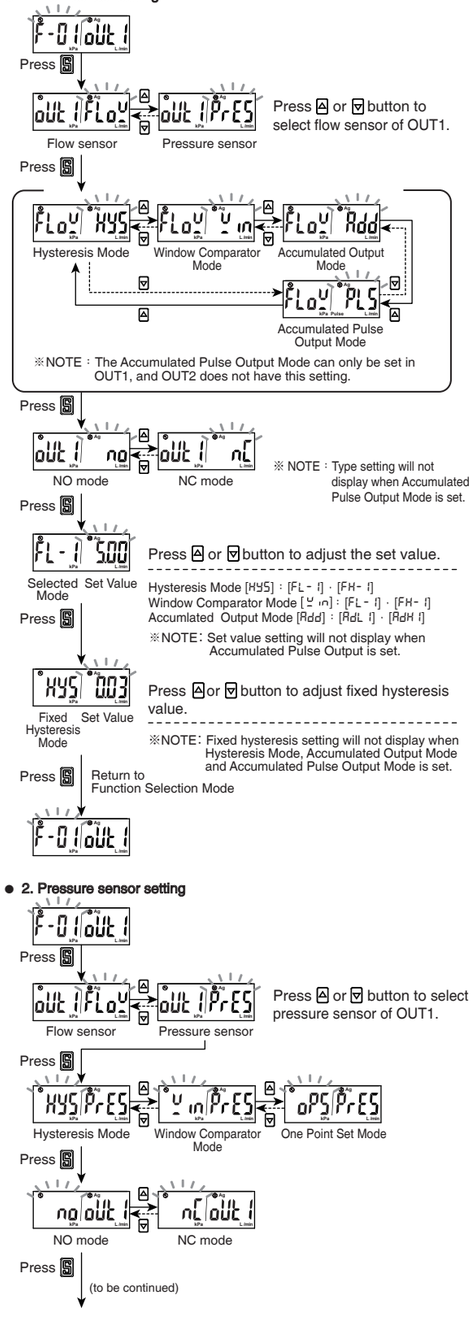
1 Function Selection Mode

At Measurement Mode, press [S] button for more than 3 sec. to display [F-01]. Press [△] or [▽] button to select other setting functions. Press [S] for 3 sec. at Function Setting Mode to return to Measurement Mode.

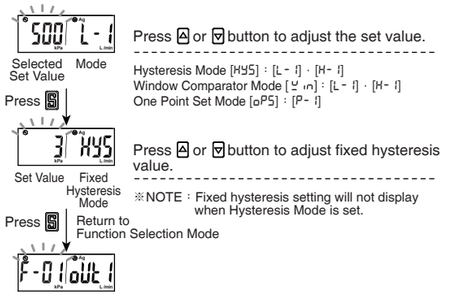


2 [F-01] OUT1 Setting Selection

● **1. Flow sensor setting**

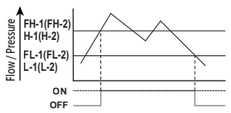


● **2. Pressure sensor setting**

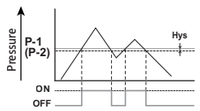


Normal Open Mode

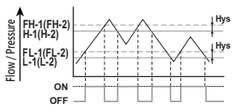
Hysteresis Mode



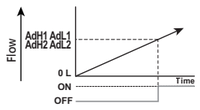
One Point Set Mode



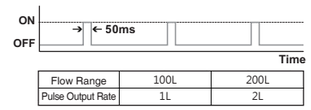
Window Comparator Mode



Accumulated Output Mode



Accumulated Pulse Output Mode

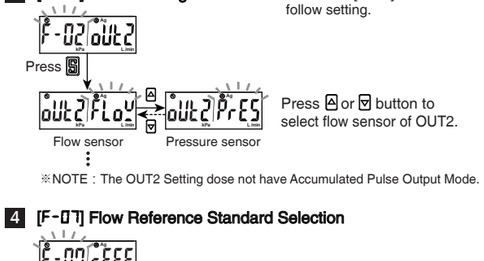


Flow Range	100L	200L
Pulse Output Rate	1L	2L

※ NOTE:
*1. In case hysteresis is set at less than or equal to 2 digits, switch output may chatter if input pressure fluctuates near the set point.
*2. When using window comparator mode, the difference between two set points must be greater than the fixed hysteresis, otherwise will cause the switch output to malfunction.

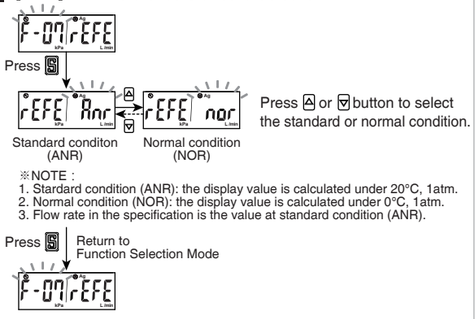
3 [F-02] OUT2 Setting Selection

※ Check the [F-01] for the same follow setting.



※NOTE：The OUT2 Setting dose not have Accumulated Pulse Output Mode.

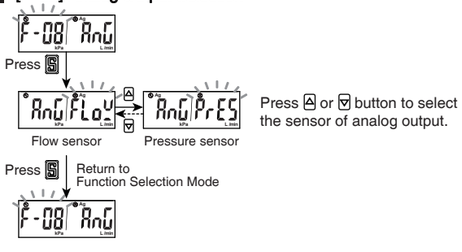
4 [F-07] Flow Reference Standard Selection



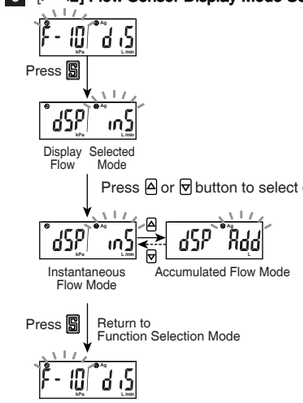
※NOTE：
1. Standard condition (ANR): the display value is calculated under 20°C, 1atm.
2. Normal condition (NOR): the display value is calculated under 0°C, 1atm.
3. Flow rate in the specification is the value at standard condition (ANR).

Press [S] Return to Function Selection Mode
F-07 rEFE

5 [F-08] Analog Output Selection

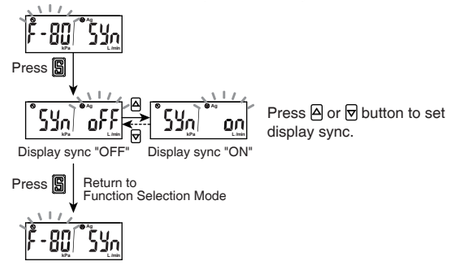


6 [F-10] Flow Sensor Display Mode Selection



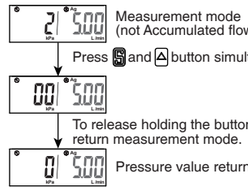
7 [F-80] Sync the value of flow analog output and display

※ This function is available for output of flow rate only.



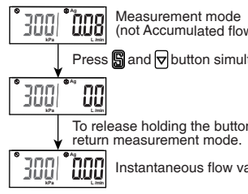
8 Pressure Zero Adjustment Function

The displayed value can be adjusted to "0" when the pressure is within ±3% F.S. of the zero point at the time of shipment from the factory.

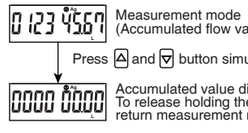


9 Instantaneous Flow Zero Adjustment Function

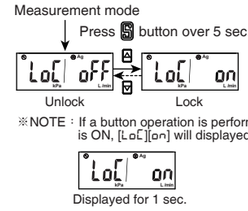
The displayed value can be adjusted to "0" when the measured flow is within ±5% F.S. of the zero point at the time of shipment from the factory.



10 Reset Accumulated Flow Function



11 Key Lock / Unlock Mode



D. FUNCTION INSTRUCTION

Function Code	Item	Explanation
[F-01]	[oUt1] OUT 1 setting	Select Output 1 corresponding to flow sensor or pressure sensor. Set the flow rate or pressure value to switch ON/OFF.
[F-02]	[oUt2] OUT 2 setting	Select Output 2 corresponding to flow sensor or pressure sensor. Set the flow rate or pressure value to switch ON/OFF.
[F-03]	[CLor] LCD Display color selection	Select back light color and display mode.
[F-04]	[rESP] Response time selection	Select the response time for analog output. Pressure sensor: 2.5ms ~ 1500ms. Flow sensor: 50ms ~ 1500ms.
[F-05]	[UPdR] Display refresh time selection	Display refresh cycle can be set in 200ms, 500ms or 1000ms.
[F-06]	[Un it] Unit selection	Select the UNIT of pressure / flow sensor.
[F-07]	[rEFE] Flow reference standard selection	Select the flow value is shown under standard (ANR) or normal condition (NOR).
[F-08]	[AnG] Analog output selection	Select the analog corresponding to pressure or flow sensor.
[F-09]	[EEPr] Accumulated value hold selection	To save the last accumulated flow value every 2 or 5 minutes.
[F-10]	[diS] Flow sensor display mode selection	Select to display Instantaneous Flow or Accumulated Flow Mode.
[F-80]	[SYn] Sync the value of flow analog output and display	Turn ON to synchronize the value of flow analog output and display. (※) (Default setting : OFF)
[F-91]	[ECo] Power-Save mode selection	Select if turn on power-save mode to reduce power consumption
[F-92]	[inP] External input selection	Select for Accumulated flow rate zero clear, Auto-Shift or Auto-Shift zero.
[F-94]	[F inE] Fine adjustment setting	The displayed value can be adjusted slightly.
[F-95]	[FoUt] Forced output function	To force output ON/OFF to test the switch function.
[F-99]	[rESt] Reset to the default setting	Return to the factory default setting.

※ Note：This function is available for output of flow rate only.

E. ERROR CODE INSTRUCTION

Error Type	Error Code	Error Condition	Troubleshooting
OUT1 Excess Load Current Error	800 Er1 / Er1 200	Output 1 load current is more than 125 mA.	Turn power off and check the cause of overload current or lower the current load under 125 mA, then restart.
OUT2 Excess Load Current Error	800 Er2 / Er2 200	Output 2 load current is more than 125 mA.	
Zero Adjustment Error	800 Er3	The instant flow is within ±5% F.S. of the zero point.	Perform the zero clear function again under no flow conditions.
	Er3 200	The pressure value is over ±3% F.S. of the zero point.	Perform the zero clear function again under no pressure conditions.
System Error	Er4 Er4	Memory error	Turn power off, and then restart. If error condition remains, please return to factory for inspection.
	Er5 Er5	Internal data error	
	Er6 Er6	Internal data error	
	Er7 Er7	System parameter error	
Applied Flow/ Pressure Error	800 HHH	The instant flow has exceeded the upper limit of the flow display range.	Reduce the flow to the display range.
	HHH 200	The pressure has exceeded the upper limit of the pressure display range.	Reduce the pressure to the display range.
	800 LLL	The instant flow has exceeded the lower limit of the flow display range.	Ensure the flow is in the correct direction.
	LLL 200	The pressure has exceeded the lower limit of the pressure display range.	Increase the pressure to the display range.