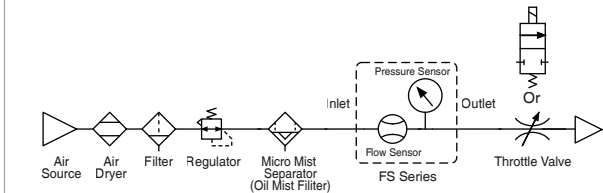
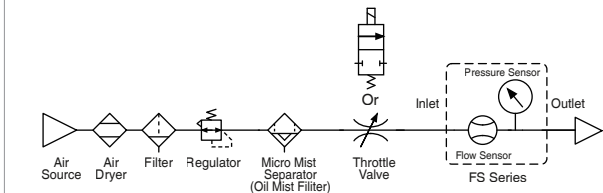


For your safety, please read the following before using.

- 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.
- The sensing element cannot measure properly if foreign matter adheres to it.
- On the inlet side, be sure to install an air filter below the filtration level of 10µm.
- Recommended Equipments and Installation Example

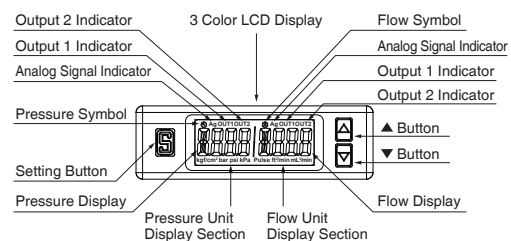


※ NOTE : When measuring the pressure of the inlet side, install a throttle valve or solenoid valve on the outlet side.



※ 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

FS - 5 - D - 2NA - K

Flow Rate Range Positive Pressure

- 5: 5 L/min
- 10: 10 L/min
- 50: 50 L/min
- 100: 100 L/min
- 200: 200 L/min

Output Specifications

- 2NA : 2 NPN output + Analog output 1-5V
- 2PA : 2 PNP output + Analog output 1-5V

Port Size

- G<sup>1</sup>/<sub>8</sub>" , with internal threads, for Flow Rate Range 5, 10, 50.
- G<sup>1</sup>/<sub>4</sub>" , with internal threads, for Flow Rate Range 100, 200.

Part No.	Code	Flow Rate Range Positive Pressure	Output Specification	Port Size
10.06.04.00001	FS-5-D-2NA-K	5 L/min	2 NPN output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>8</sub> "
10.06.04.00002	FS-5-D-2PA-K	5 L/min	2 PNP output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>8</sub> "
10.06.04.00003	FS-10-D-2NA-K	10 L/min	2 NPN output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>8</sub> "
10.06.04.00004	FS-10-D-2PA-K	10 L/min	2 PNP output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>8</sub> "
10.06.04.00005	FS-50-D-2NA-K	50 L/min	2 NPN output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>4</sub> "
10.06.04.00006	FS-50-D-2PA-K	50 L/min	2 PNP output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>4</sub> "
10.06.04.00007	FS-100-D-2NA-K	100 L/min	2 NPN output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>4</sub> "
10.06.04.00008	FS-100-D-2PA-K	100 L/min	2 PNP output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>4</sub> "
10.06.04.00009	FS-200-D-2NA-K	200 L/min	2 NPN output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>4</sub> "
10.06.04.00010	FS-200-D-2PA-K	200 L/min	2 PNP output + Analog output 1-5V	Thread G <sup>1</sup> / <sub>4</sub> "

\* Recommended flow rate range at negative pressure: 100L/min

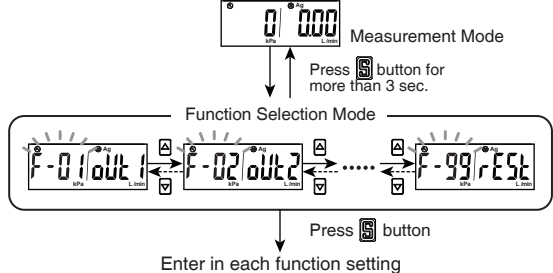
Optional Parts

- 10.06.04.00011 BEF-WIN-33.6-1X5 : Mounting bracket BT-26

C. OPERATION INSTRUCTIONS

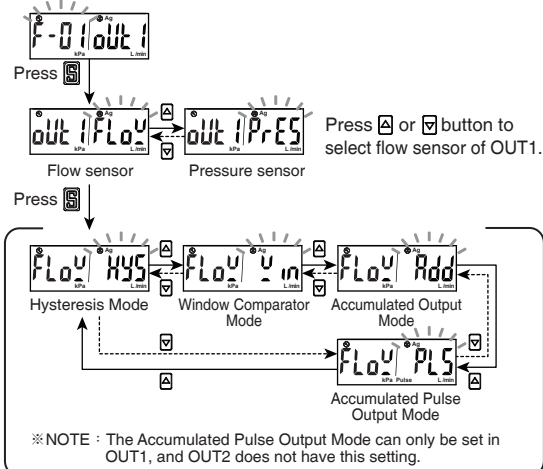
1 Function Selection Mode

At Measurement Mode, press [F-0] button for more than 3 sec. to display [F-0]. Press [F-1] or [F-2] button to select other setting functions. Press [F-0] for 3 sec. at Function Setting Mode to return to Measurement Mode.

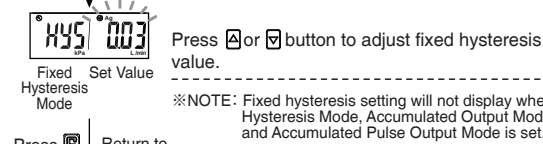
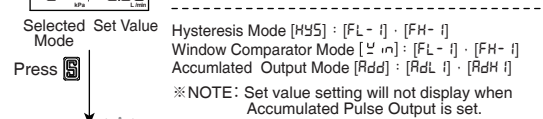
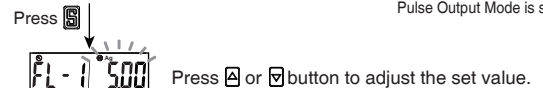
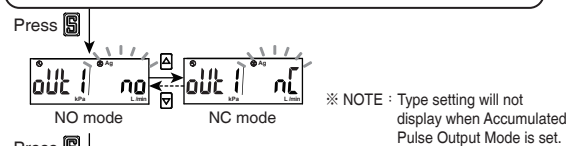


2 [F-0] OUT1 Setting Selection

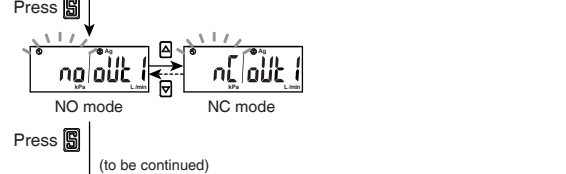
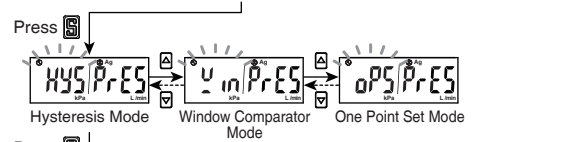
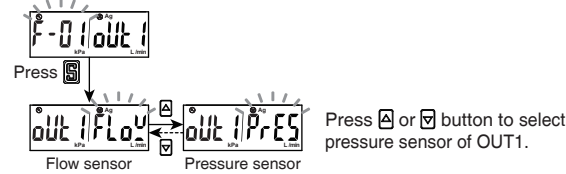
1. Flow sensor setting



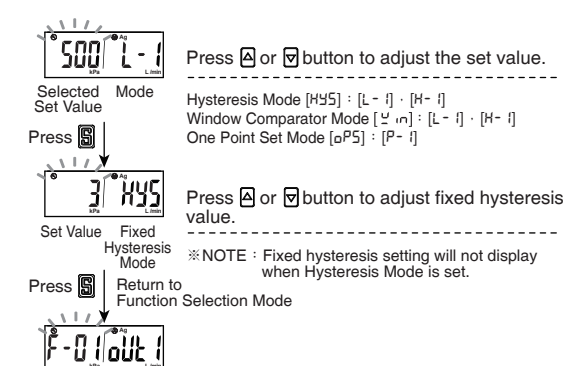
※ NOTE : The Accumulated Pulse Output Mode can only be set in OUT1, and OUT2 does not have this setting.



2. Pressure sensor setting

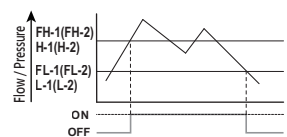


(to be continued)

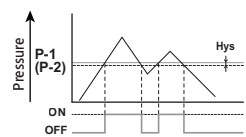


Normal Open Mode

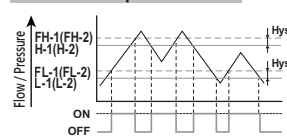
Hysteresis Mode



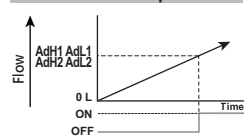
One Point Set Mode



Window Comparator Mode



Accumulated Output Mode



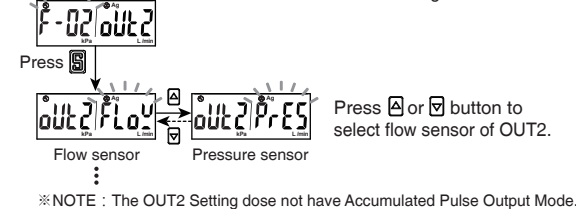
Accumulated Pulse Output Mode



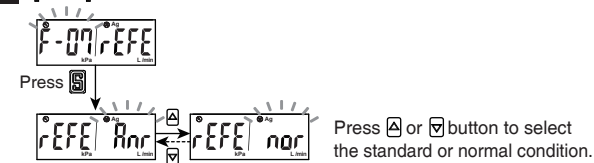
Flow Range	5L	10L	50L	100L	200L
Pulse Output Rate	0.05L	0.1L	0.5L	1L	2L

※ 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.

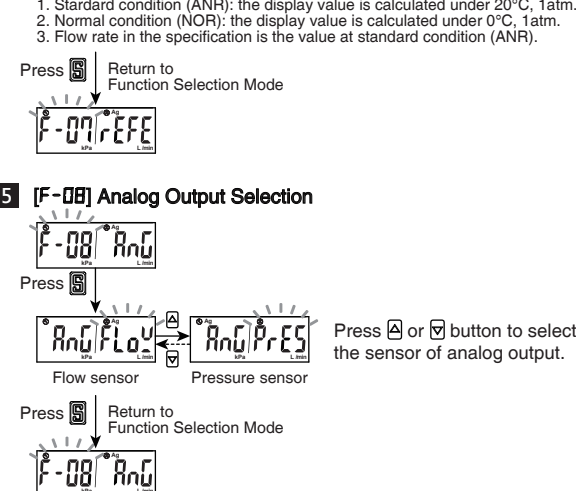
3 [F-02] OUT2 Setting Selection



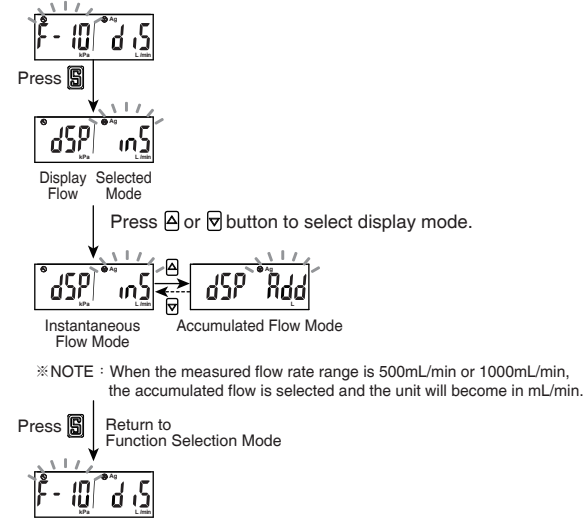
4 [F-07] Flow Reference Standard Selection



5 [F-08] Analog Output Selection

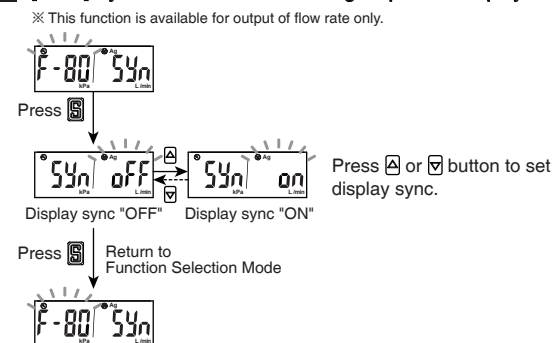


6 [F-10] Flow Sensor Display Mode Selection

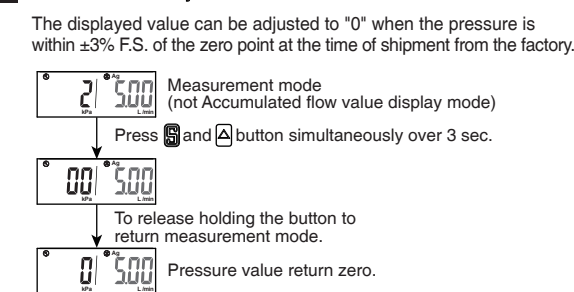


※ NOTE : When the measured flow rate range is 500mL/min or 1000mL/min, the accumulated flow is selected and the unit will become in mL/min.

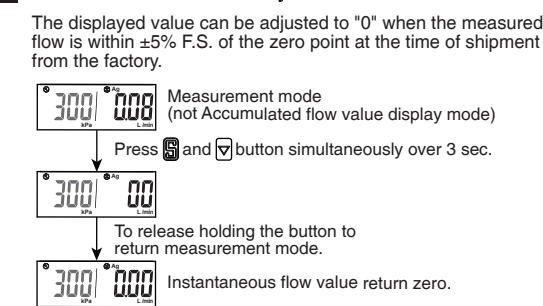
7 [F-80] Sync the value of flow analog output and display



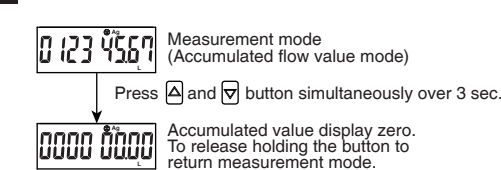
8 Pressure Zero Adjustment Function



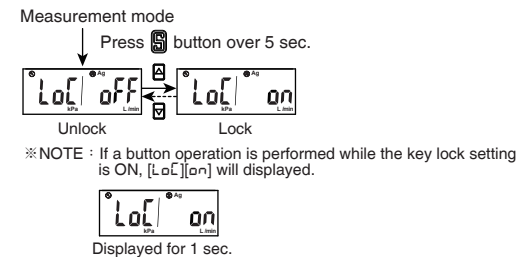
9 Instantaneous Flow Zero Adjustment Function



10 Reset Accumulated Flow Function



11 Key Lock / Unlock Mode



※ NOTE : If a button operation is performed while the key lock setting is ON, [LoC] [on] will be displayed.

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]	[UnT] 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]	[EEP] Accumulated value hold selection	To save the last accumulated flow value every 2 or 5 minutes.
[F-10]	[dS] Flow sensor display mode selection	Select to display Instantaneous Flow or Accumulated Flow Mode.
[F-80]	[59n] 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]	[rNE] 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	8000 Er1	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.
	Er1 2000		
OUT2 Excess Load Current Error	8000 Er2	Output 2 load current is more than 125 mA.	Perform the zero clear function again under no flow conditions.
	Er2 2000		
Zero Adjustment Error	8000 Er3	The instant flow is within ±5% F.S. of the zero point.	Perform the zero clear function again under no pressure conditions.
	Er3 2000		
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	8000 HHH	The instant flow has exceeded the upper limit of the flow display range.	Reduce the flow to the display range.
	HHH 2000	The pressure has exceeded the upper limit of the pressure display range.	Reduce the pressure to the display range.
	8000 LLL	The instant flow has exceeded the lower limit of the flow display range.	Ensure the flow is in the correct direction.
	LLL 2000	The pressure has exceeded the lower limit of the pressure display range.	Reduce the pressure to the display range.