

For your safety, please read the following before using.

- Do not use corrosive or flammable gas or liquid with this product.
- Please use within the rating pressure range. Do not apply pressure beyond recommended maximum withstand pressure, permanent damage to the pressure sensor may occur.
- Do not drop, hit or allow excessive shock. Even if switch body appears undamaged, internal components may be broken and can cause malfunction.
- Turn power off before connecting wiring. Wrong wiring or short circuit will damage and / or cause malfunction.
- Do not use in environment containing steam or oil vapor.
- This product is not explosion-proof rated. Do not use in atmosphere containing flammable or explosive gases.
- Wiring for pressure sensor should avoid power source line and high voltage line. If use in the same circuit, noise may cause malfunction.
- Sensors at end-of-life must be disposed of in accordance with E-Waste regulations of the country/region, NOT disposed of with regular garbage.

A SPECIFICATIONS

MODEL		EDPK
Rated pressure range		-101.3 ~ 1000.0 kPa
Set pressure range		-101.3 ~ 1000.0 kPa
Withstand pressure		1500 kPa
Fluid		Filtered air, Non-corrosive / Non-flammable gas
Set Pressure Resolution	kPa	0.1
	kgf/cm ²	0.001
	bar	0.001
	psi	0.01
	inHg	0.1
	mmHg	1
mmAq (mmH ₂ O)		1 (※1)
Power supply voltage		15 ~ 24 V DC · Ripple (P-P) ≤ 10 %
Current consumption		≤ 40 mA (With no load)
Switch output		2 NPN : open collector 2 outputs Max. load current : 150 mA Max. supply voltage : 30 V DC Residual voltage : ≤ 1 V 2 PNP : open collector 2 outputs Max. load current : 150 mA Max. supply voltage : 24 V DC Residual voltage : ≤ 1 V
Repeatability (※2)		± 0.2 % S.R. (Ambient temperature 25±3°C)
Hysteresis	One point set mode	Adjustable (※3)
	Hysteresis mode	
	Window comparator mode	
Response time of digital filter (※4)		oFF, 25 ms, 100 ms, 250 ms, 500 ms, 1000 ms, 1500 ms, 3000 ms selectable
Overcurrent protection		Yes
Display		4 ½ digital, 7 segment LCD display (Red / White / Pink / Orange) Sampling rate : 0.2, 0.5, 1 sec. / time selectable
Indicator accuracy (※2)	C	-100.0 ~ 100.0 kPa ± 1 % S.R.
	V	-101.3 ~ 0.0 kPa ± 1 % S.R.
		(Ambient temperature 25±3°C)
Switch on indicator		Orange indicator 1 : OUT1 & Orange indicator 2 : OUT2
Analog output (Voltage output)		Output voltage : 0 ~ 10 V ± 0.5 % F.S. Linearity : ± 0.5 % F.S. Output impedance : about 1 KΩ
Analog output (Current output)		Output current : 4 ~ 20 mA ± 0.5 % F.S. Linearity : ± 0.5 % F.S. Max. load impedance : 250Ω at power supply of 15V 600Ω at power supply of 24V Min. load impedance : 50Ω
Environment	Enclosure	IP40
	Ambient temp. range	Operation : 0 ~ 50 °C · Storage : -10 ~ 60 °C (No condensation or freezing)
	Ambient humidity range	Operation/Storage : 35 ~ 85 % RH (No condensation)
	Withstand voltage	1000V AC in 1-min. (between case and lead wire)
	Insulation resistance	≥ 50 MΩ (at 500V DC) (between case and lead wire)
	Vibration	Total amplitude 1.5mm or 10G, 10Hz ~ 150Hz ~ 10Hz scan for 1 minute, 2 hours each direction of X, Y and Z
Shock		100 m/s ² (10 G), 3 times each in direction of X, Y and Z
Temperature characteristic		± 0.5 % F.S. of detected pressure (25 °C) at temp. (Range of 0 ~ 50 °C)
Port size		F1 : R1/8, M5 ; F3 : G1/8 (BSPP), M5 ; M5 : M5 female thread
Lead wire		Ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 5 cores
Weight		Approx. 67g (with 2 meter lead wire)

- ※ 1. The actual value is 10 times display value while the pressure unit is mmAq.
 ※ 2. S.R.: Set range
 ※ 3. Hysteresis value is adjustable within 1 - 8 digits for one point set mode and window comparator mode.
 ※ 4. When digital filter function is OFF, the response time is 4ms ~ 6ms.

B ORDERING INFORMATION

EDPK - 010 - F1

Output Specifications

010 : 2 NPN Output & Analog Output (0 ~ 10 V)
 011 : 2 NPN Output & Analog Output (4 ~ 20 mA)
 030 : 2 PNP Output & Analog Output (0 ~ 10 V)
 031 : 2 PNP Output & Analog Output (4 ~ 20 mA)

Pressure Port

F1 : R1/8, M5
 F3 : G1/8 (BSPP), M5
 M5 : M5 female thread

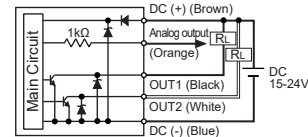
Optional Parts

BT-22 : Mounting bracket PA-C : Panel adapter
 BT-23 : Mounting bracket PA-D : Panel adapter + Front protective lid

C OUTPUT CIRCUIT WIRING DIAGRAMS

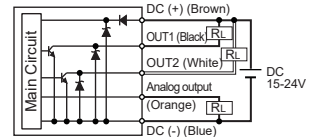
EDPK - 010 - □

2 NPN + Analog Output (0 ~ 10 V)



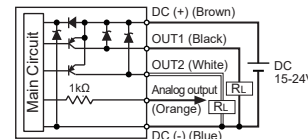
EDPK - 011 - □

2 NPN + Analog Output (4 ~ 20 mA)



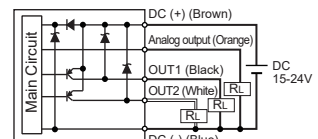
EDPK - 030 - □

2 PNP + Analog Output (0 ~ 10 V)

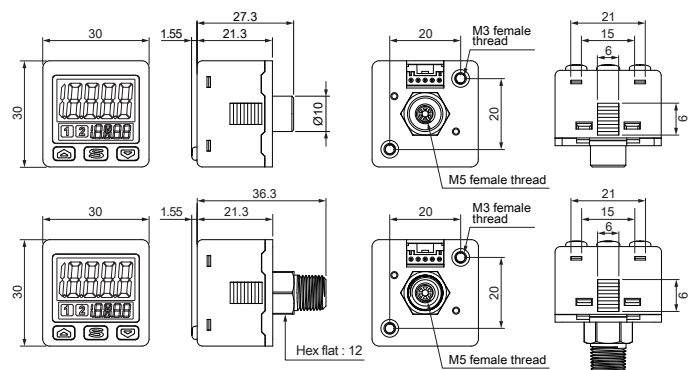


EDPK - 031 - □

2 PNP + Analog Output (4 ~ 20 mA)



D DIMENSIONS



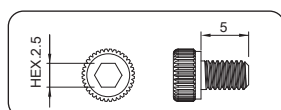
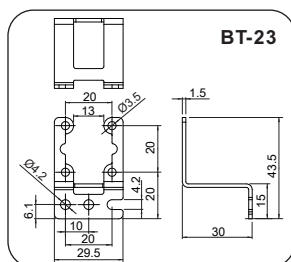
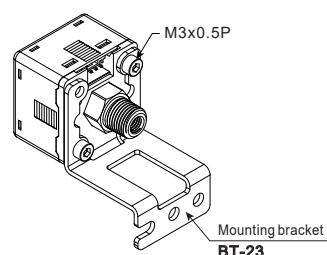
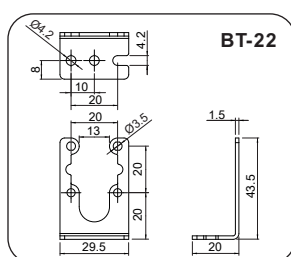
Unit : mm

G SUB-DISPLAY DISPLAY SETTING

M3x0.5P

Mounting bracket

BT-22



- ※1. Use 2.5 mm hexagonal wrench.
- ※2. The length of screw should be 5mm.
- ※3. Tightening torque 5 kgf · cm

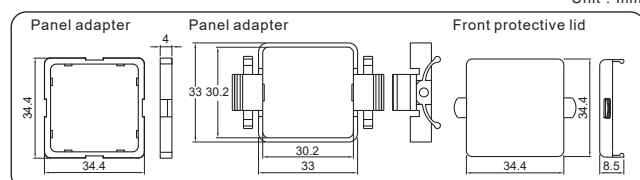
Front protective lid

$31 \times 31^{+0}_{-0.4}$

Panel adapter

$t \leq 4.5$

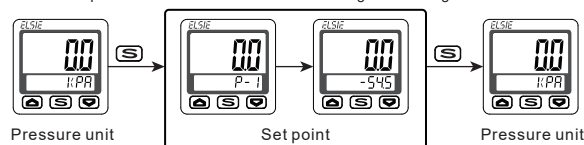
Panel adapter



The diagram shows the ELSIE device with the following components labeled:

- Output 1 Indicator**: Points to the top-left corner of the display area.
- Output 2 Indicator**: Points to the bottom-left corner of the display area.
- 3 Color Main Display**: Points to the large central display showing '18888'.
- Sub-display Section**: Points to the smaller display at the bottom showing '1 2 18888'.
- (▲) Button**: Points to the button with an upward-pointing triangle icon.
- Setting Button**: Points to the button with an 'S' icon.
- (♥) Button**: Points to the button with a heart icon.

G SUB-DISPLAY DISPLAY SETTING



※ Press or button to adjust set value.

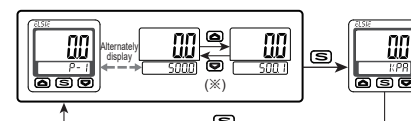


Figure 1-10 illustrates the sequence of display alternation. It shows four stages of the display's behavior:

- Stage 1:** The display shows "00" after the "AL-SET" button is pressed.
- Stage 2:** The display alternates to "5000" and then back to "00".
- Stage 3:** The display alternates to "5000" and then back to "00".
- Stage 4:** The display alternates to "5000" and then back to "00".

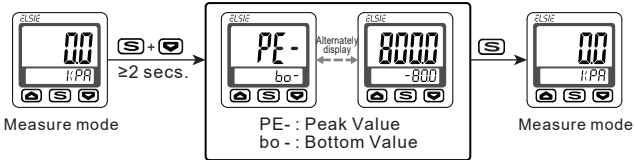
The sequence is indicated by arrows and the text "Alternately display".

H ZERO POINT SETTING

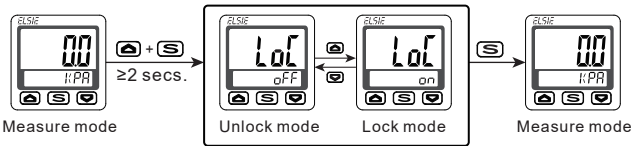
Press the + button at the same time until the "00" is shown.



I PEAK/BOTTOM HOLD FUNCTION



J KEY LOCK/UNLOCK MODE



- Use key lock mode to prevent unauthorized or accidental tampering setting values.
- When lock mode is selected, panel will display "LoL".



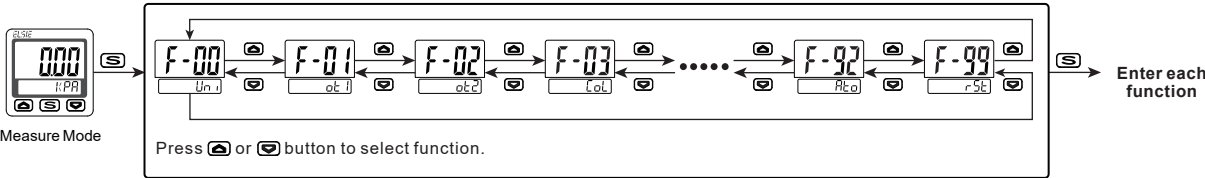
K ERROR CODE INSTRUCTION

Error Type	Error Code	Error Condition	Troubleshooting
Excess load current error	Er 1	Output 1 load current is more than 150 mA	Turn power off and check the cause of overload current or lower the current load under 150 mA, then restart.
	Er 2	Output 2 load current is more than 150 mA	
Residual pressure error	Er 3	During zero point setting, ambient pressure is over ±3% F.S.	Change input pressure to ambient pressure and perform zero point setting again.
Applied pressure error	HHH	Supply pressure exceeds the upper limit of pressure setting.	Adjust the pressure within operating pressure range.
System error	Er 4	Internal system error	Turn power off, and then restart. If error condition remains, please return to factory for inspection.
	Er 5	Internal system error	
	Er 6	Internal data error	
	Er 7	Internal data error	

N OPERATION INSTRUCTIONS

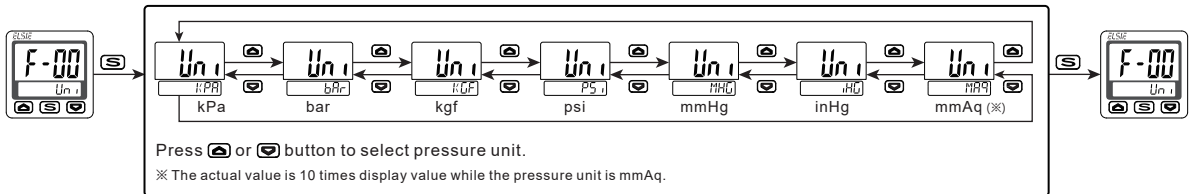
Function Selection

In Measure Mode, press button for more than 3 sec. to display [F-00] [Un].
Press for 3 sec. to return to Measure Mode.



[F-00] Unit Setting

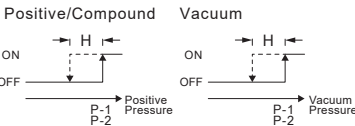
Press or button at Function Selection to [F-00] [Un].



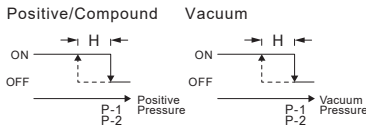
L OUTPUT MODE

(1) One point set mode :

Normal open mode

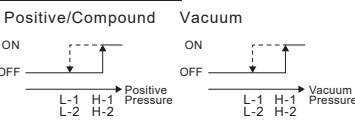


Normal close mode

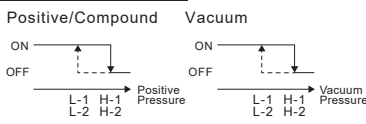


(2) Hysteresis mode :

Normal open mode

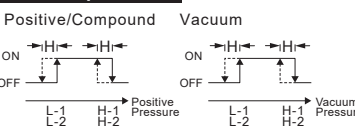


Normal close mode

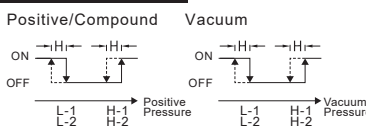


(3) Window comparator mode :

Normal open mode



Normal close mode



- [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.

M PRESSURE UNIT CONVERSION TABLE

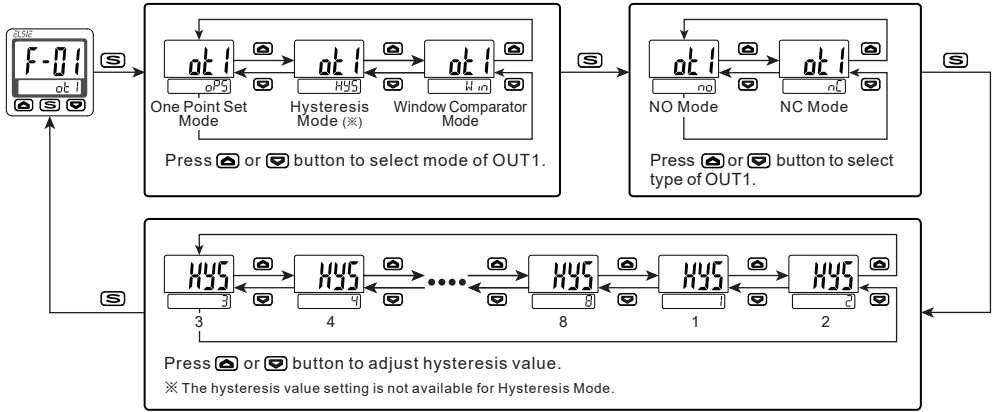
From To	kPa	kgf/cm²	mmHg	psi	bar	inHg	mmAq
1 kPa	1	0.010197	7.500616	0.145038	0.010000	0.2953	101.97
1 kgf/cm²	98.0665	1	735.559	14.2233	0.980665	28.95979	10000
1 mmHg	0.13332	0.0013595	1	0.019336	0.0013332	0.039370	13.595
1 psi	6.895	0.07031	51.7157	1	0.06895	2.036074	703.1
1 bar	100.0000	1.01972	750.062	14.5038	1	29.52998	10197.2
1 inHg	3.386388	0.034530	25.40000	0.491141	0.033863	1	345.30
1 mmAq	0.009806	0.0001	0.0735559	0.001423	0.000098	0.0029	1

※ The actual value is 10 times display value while the pressure unit is mmAq.

N OPERATION INSTRUCTIONS

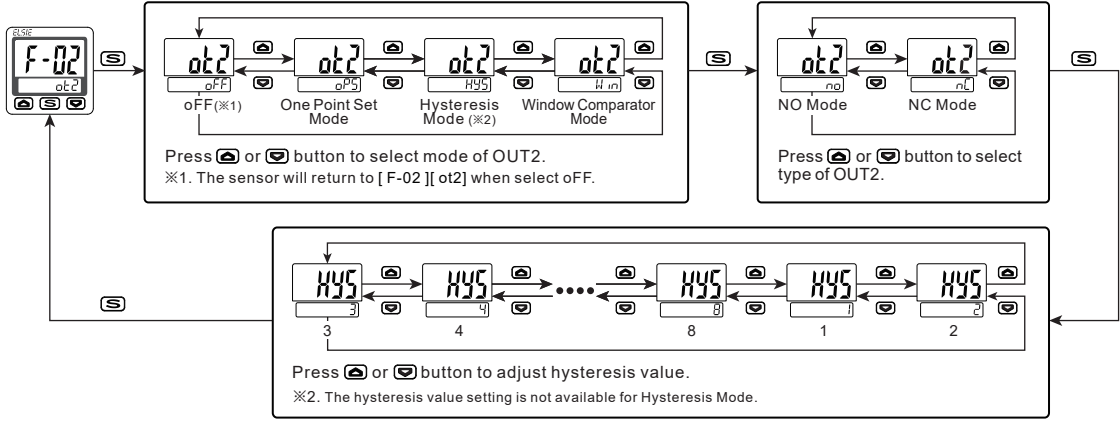
[F-01] OUT1 Setting

Press or button at Function Selection to [F-01] [ot1].



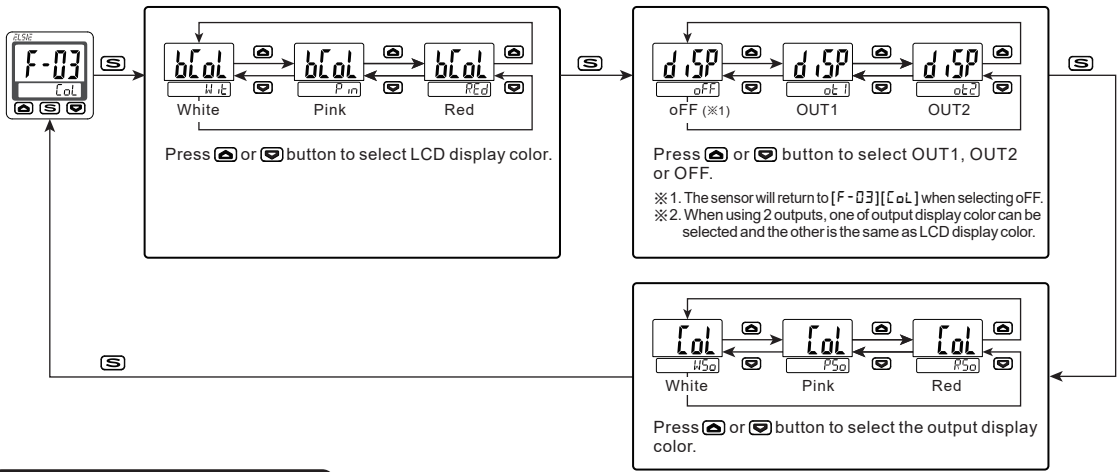
[F-02] OUT2 Setting

Press or button at Function Selection to [F-02] [ot2].



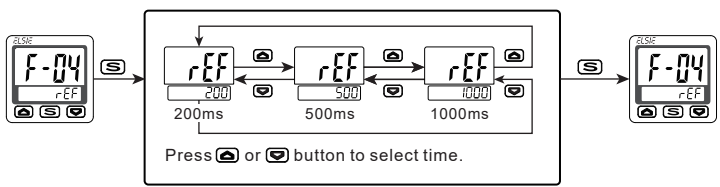
[F-03] LCD Display Color Setting

Press or button at Function Selection to [F-03] [CoL]. The color of LCD display and output display can be different.



[F-04] Sampling Rate Setting

Press or button at Function Selection to [F-04] [rEF].

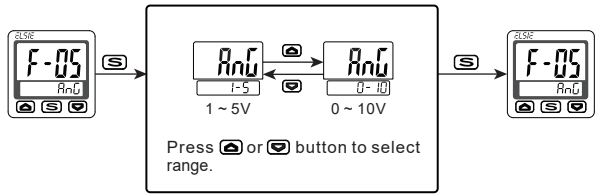


OPERATION INSTRUCTIONS

[F-05] Voltage Analog Output Range Setting

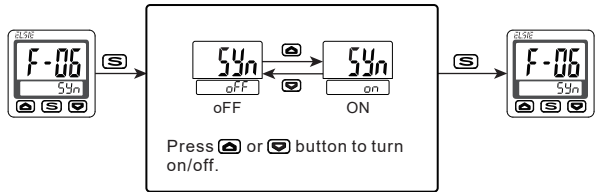
※ The function is not available for analog current output.

Press or button at Function Selection to [F-05] [RnG].



[F-06] Output & Display Sync

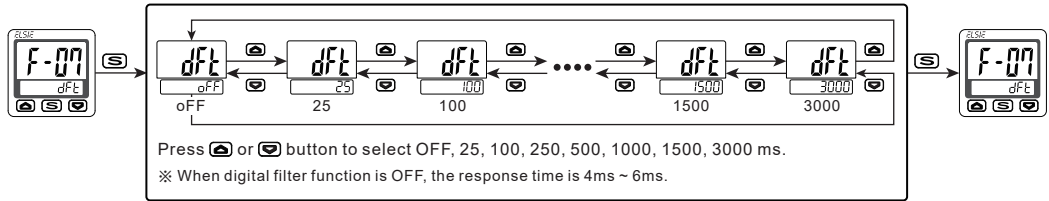
Press or button at Function Selection to [F-06] [SYn].



※ When turning on the sync function, the value of analog output and switch output will be the same as display value.

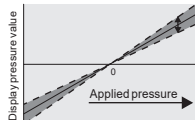
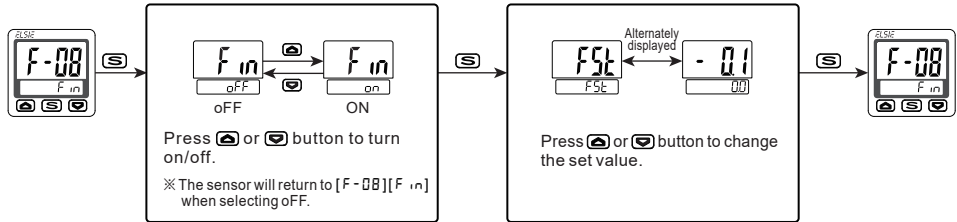
[F-07] Response Time of Digital Filter Setting

Press or button at Function Selection to [F-07] [dFt].



[F-08] Fine Adjustment Setting

Press or button at Function Selection to [F-08] [F in].



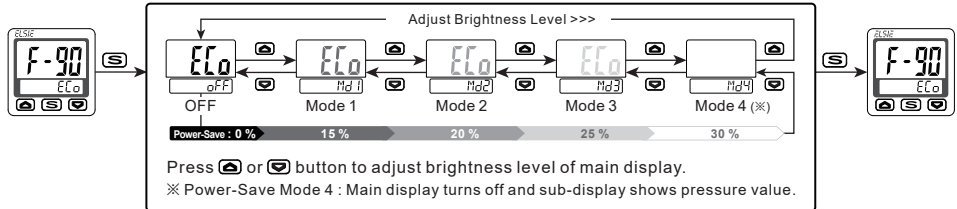
This function eliminates slight differences of display pressure value.

- ※ 1. Setting resolution is $\pm 0.1\%$ R.D. (Real Detect)
- 2. The output value will change according to adjusted display pressure value.

[F-90] Power-Save Mode Setting

Press or button at Function Selection to [F-90] [EC o].

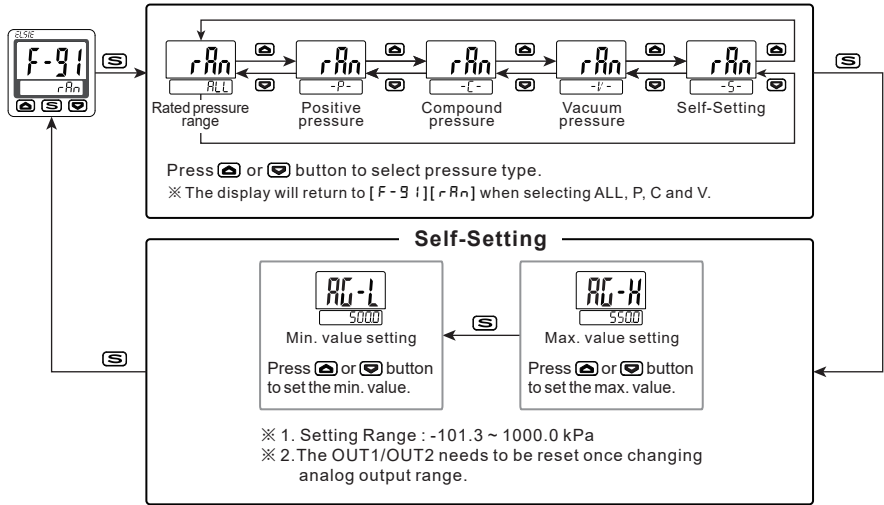
- When Power-Save Mode turns on,
- 1. the main-display will be into the selected mode (Mode1 ~ 4), if no buttons are pressed after 30 seconds.
- 2. the output indicator may not sync, but the sensor still work functionally.
- 3. press any button back to measure mode.



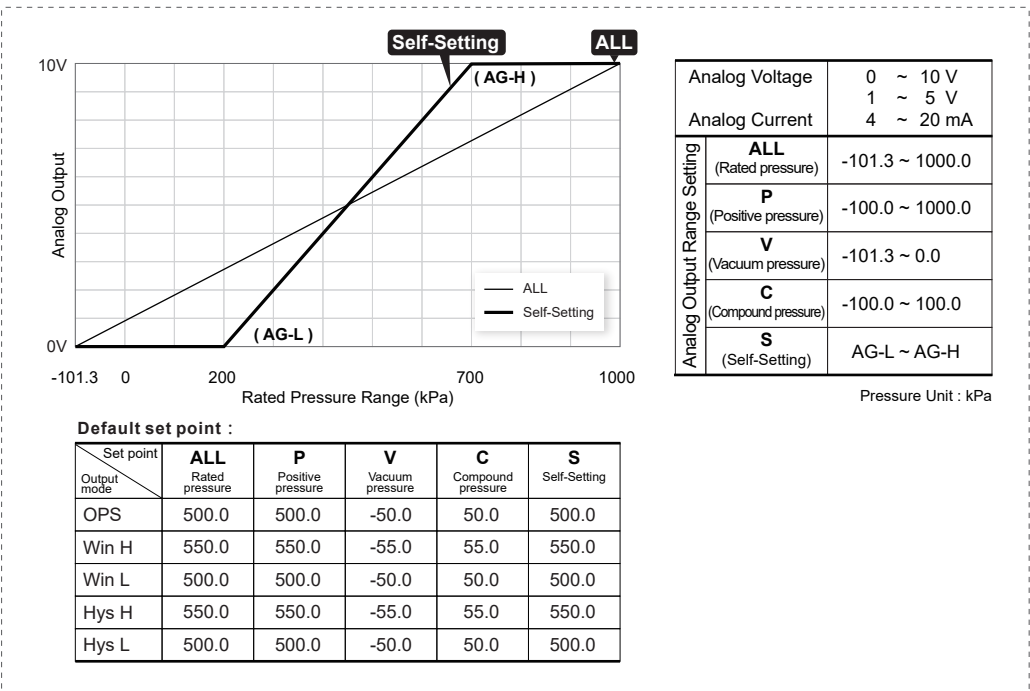
N OPERATION INSTRUCTIONS

[F-91] Analog Output Range Setting

Press or button at Function Selection to [F-91] [rAn].

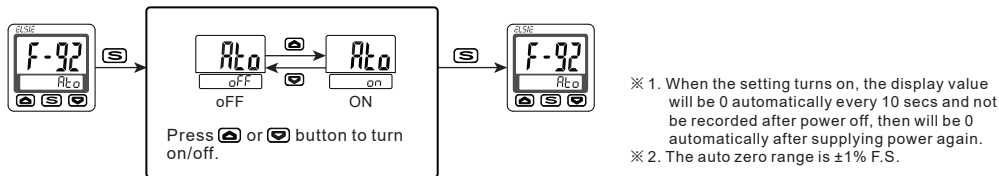


Example:



[F-92] Auto Zero Point Setting

Press or button at Function Selection to [F-92] [RLo].



[F-99] Reset to the Default Setting

Press or button at Function Selection to [F-99] [r5t].

