LOAD LIMITER
SOC-200

Instruction Manual

CONTENT

1. BEFORE INSTALLATION

Caution / Warning Marks

	This mark warns the possibility to arrive death or serious injury in case of wrongly used.
	This mark cautions the possibility to arrive serious human body injury or product lose in case of wrongly used

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Inquiries

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2. INTRODUCTION

2-1. Introduction

Thank you for your choice of this SOC-200 Load Limiter.

SOC-200 is electric load Limiter that digitally indicates the changed weight based on principle that strain gauge operates sensitively as electric resistance value.

Convenient use by equipping 1 port serial communication, analog output (0~10V, 4~20mA)

Please review this instruction Manual and learn more information about "SOC-200".

Enjoy your process efficiency with "SOC-200" Load Limiter

2-2. Cautions

1) Don't drop on the ground to avoid serious external damage on item.
2) Don't install under sunshine or heavy vibrated condition.
3) Don't install place where high voltage or heavy electric noise condition.
4) When you connect with other devices, please turn off the power of item.
5) Avoid from water damage.
6) For the improvement of function or performance, we can change item specification without prior notice or permission.
7) Item's performance will be up-dated continuously base on previous version's performance.

2-3. Features

1. Mounting type for convenience installation to panel
2. Polycarbonate film panel, strong against dust and water.
3. Serial Interface - RS-232C is standard installed.
4. User can set up analog output personally. (4~20mA & 0~10V)

3. SPECIFICATION

3-1 Specification

Parts			Specification
Analog	Display Resolution(External)		1/20,000
	Internal Resolution		1/2,000,000 (±1,000,000)
	Input Sensitivity		Minimum 0.1μV/V
	Max. Input Signal		Max.3.2mV/V
	Load Cell Excitation		DC +5V
	A/D Conversion Method		Sigma-Delta
	Point		0, 0.0, 0.00, 0.000
	Drift	ZERO	10PPM/℃
		SPAN	10PPM/℃
	Non-Linearity		0.001% of Full Scale
	Sampling Rate		60times / sec(MAX)
Operating Environment	Operating Temperature Range		-10℃ ~ +40℃ [14℉ ~ 104℉]
	Operating Humidity Range		40% ~ 85% RH, Non-condensing
Function	Calibration Mode		TEST Weight Calibration Mode Simulation Calibration Mode
	Display		6 digits, 15mm(0.6inch) Red FND
	Keypad		5 standard key
Communication	Serial Port 1 (RS-232)		Data transmission, Command Mode
Output	Analog Output (2Port)		Port 1 : 0~10V Port 2 : 4~20mA
	Relay output (2EA)		HIGH, LOW
Power Supply	AC220V power consumed maximum 8W		
External Dimension	200mm(W) x 270mm(H) x 80mm(D) (Except mounting hole)		Gross Weight : 3kg

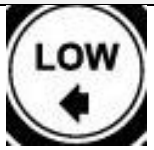
3-2. Front Panel

3-2-1 Front Panel (Display / Key Pad)

3-2-2. Status Lamp

Status	Explanation
STEADY	When the weight is Steady, "LED" Lamp is "ON"
ZERO	When the current weight is Zero, "LED" Lamp is "ON"
SET	When it shows Set value, "LED" Lamp is "ON"
HIGH	When current weight is same with set HIGH value, or bigger than it, "LED" Lamp is "ON"
LOW	When current weight is same with set LOW value or smaller than it, "LED" Lamp is "ON"

3-2-3 Key Operation

	1. Cancel. Going back to previous menu
	1. Enter into F-FUNCTION mode from SETUP mode 2. When changing Set value, a cipher to change move to left 3. Enter into Test weight calibration in Calibration mode
	1. Enter into Calibration mode from SETUP mode 2. When changing Set value, a cipher to change move to right 3. Enter into Simulation calibration mode from Calibration mode
	1. Enter into Test mode from SETUP mode 2. When changing Set value, increase Set value one step.
	1. Enter into SETUP mode when button is pressed 4 times (4 times in 2 seconds) 2. When changing Set value, Save and move to next step

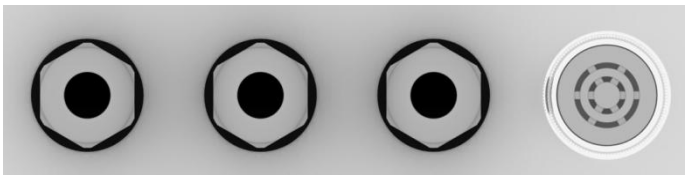
●Setup Mode : Setting Calibration, Function of SOC-200

3-3. Terminal block

POWER		
220V	EARTH	220V

R1	R2	R1	R2	R2	R2	Buzz	
OPEN	COM	CLOSE	OPEN	COM	CLOSE	+	-

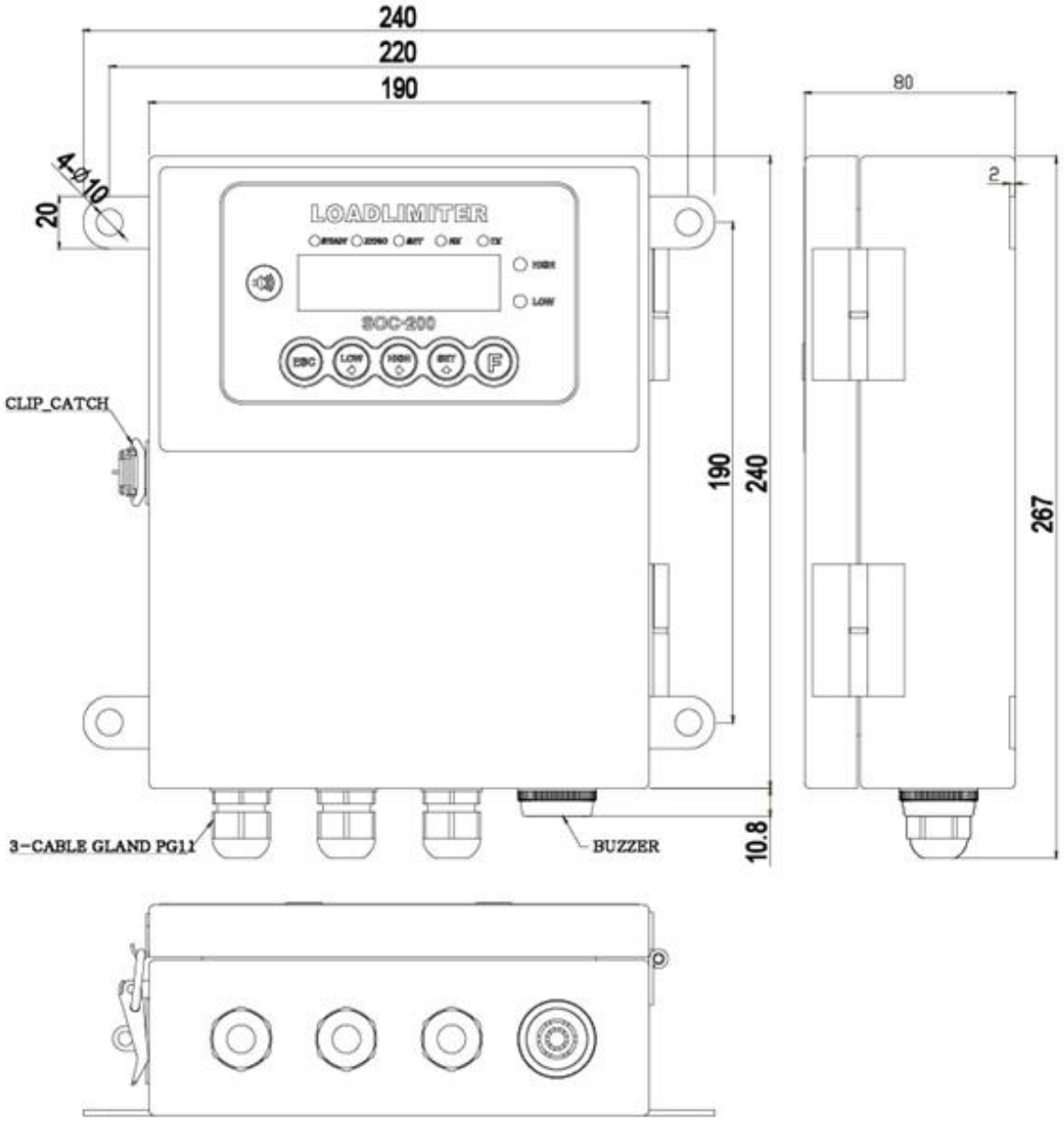
I		V		SERIAL			LOAD CELL				
OUT	COM	OUT	COM	RX	TX	GND	EXC+	EXC-	SIG+	SIG-	SHLD



When you disconnect, refer the “Basic communication specification” displayed on top of SOC-200.

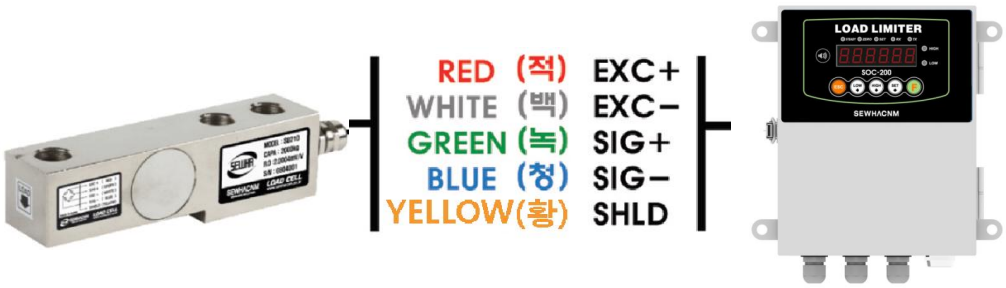
4. Installation

4-1 External Dimension & Cutting Size (unit : mm)



4-2 Load cell Installation

How to install load cell to SOC200 (Remind that the color of connection line can be different)



Caution

- When you use as tension type, cross SIG+ and SIG-

- If you connect other socket instead of load cell's socket, analog part can be broken.

– When you connect load cell cable, you must turn off the power of SOC- 200. And be careful of misconnection of socket.

- Do not arc discharge or electric welding at the near of load cell installed.

■ load cell installation

1) You can connect Max. 8pcs of same capacity Load cells at once. (350Ω)
2) You have to make horizontal balance on the ground.
3) If you install more than 2pcs of Load cells, use Summing box and adjust output signal difference as minimum. It can make wrong weighing process caused by each load cell's variation.
4) If there is some temperature difference around Load cell, it can cause wrong weight measurement.
5) Don't do Welding job or Arc discharge around installation place. But, there is no choice, please disconnect power cable and Load cell cable.
6) If you measure static electricity material, please make earth between down part and up part of Load cell.

5. Set-up

5-1. SET UP mode

Menu for setting or test every basic function of equipment

5-1-1. Enter into Set up mode

	
Press  key 4 times consecutively	**When "Password"** is showed, enter into SETUP mode by entering password

At the first time, password has set "1234".

If you enter wrong password, it will go back to normal mode.

Refer the F95 - SETUP mode lock key setting

Serial I/F communication will stop after entering to calibration mode, test mode.

- **Short cut to each mode**

Calibration	Test weight calibration	F key 4 times →password→ HIGH → LOW
	Simulation calibration	F key 4 times →password→ HIGH → HIGH → F
F-FUNCTION mode		F key 4 times →password→ LOW
Test mode 1	Analog value	F key 4 times →password→ SET → LOW
	Analog deviation	F key 4 times →password→ SET → HIGH
	Key/external input	F key 4 times →password→ SET → SET
Test mode 2	Relay output	F key 4 times →password→ SET → F → LOW
	Analog output	F key 4 times →password→ SET → F → HIGH
	Serial I/F	F key 4 times →password→ SET → F → SET
Weighing Input Set value	LOW value	F key 4 times →password→ F → LOW
	High value	F key 4 times →password→ F → HIGH
	Set value	F key 4 times →password→ F → SET
	Zero	F key 4 times →password→ F → F

ESC key for move to cancel/Previous step F key for save data.

Remind that you need password to enter SETUP mode.

Serial I/F communication will stop after entering to calibration mode, test mode.

■ Calibration

Adjust weight balance between "Real weight" on the load cell (Weight Part) and "Displayed weight of Indicator". When you replace LOAD CELL or Indicator, you have to do Calibration process once again

Before calibration, turn on SOC-200 for about 15mins to warm up.

Calibration Key Function				
ESC	LOW	HIGH	SET	F
Previous Menu	Move to left	Move to right	Increase set value	ENTER

5-2 TEST Weight Calibration Mode

5-2-1. Enter test weight calibration mode

If "SETUP" is showed, press HIGH key.

If "CALIBR" is showed, press LOW key to start calibration mode

5-2-2. Max Capacity setting

If you see the "CAPA", set the max capa by using arrow key and press F key to save data.

Tip

Ex) When the Max capa is 2,000kg, if you want to set dead weight as 0. 1(100g), input 2,000.

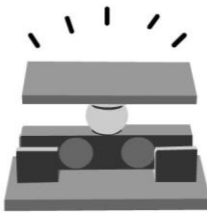
5-2-3. Point and division setting

After "DIVI" is showed, set the point with HIGH key and set the division with SET key. Save data with F key.

Three figures are available for decimal point, and the division should be 1, 2, 5, 10, 20, 50.

Caution : (division value / Max. capacity value) cannot be over 1/20,000.
If the value is over 1/20,000, Error message " Err 01 " will be displayed and move back "CAPA" mode again.

5-2-4. Calculation of span value



If "DEAD" is showed, clear the weighbridge and press F key to calculate span value.

During about 10~20 secs, it calculate span value automatically.

※ If you set resolution over the 1/10,000, It calculate two times for precise measurement.

Tip

If weight is loaded on the weighbridge during the calculation, "err-a" is displayed. Remove weight and do calibration again.

5-2-5. Span Calibration mode

If "SPAN" is showed, enter the weight of "Test weight" capacity. And press F key to save. Test weight have to be more than minimum 10% of Max capa.

After displaying "UP" ,please load "Test Weight" and press F key.

Indicator will calculate span value during 5sec, automatically.

※ If you set resolution over the 1/10,000, It calculate two times for precise measurement.

After calculation, span value displays on the display.

And then press F key to save all calibration process.

After then it resets automatically.

5-3 Simulation Calibration Mode (Calibrate without Test weight)

Through this "Simulation Calibration Mode" you can make simple calibration without Test weight. This calibration mode uses "Load cells' max. capacity" and "Max. Output Rate(mV)", the weight adjustment degree might be less than "Test weight Calibration".
The guaranteed resolution of this "Simulation Calibration" is 1/3,000.

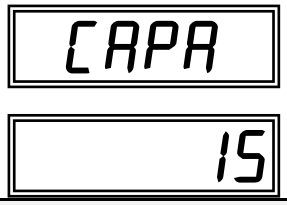
5-3-1. Entering into simulation calibration mode

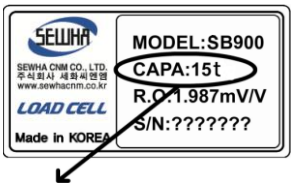
If "SETUP" is showed press HIGH key..

If "CALIBR" is showed press HIGH key.

.If "S-CAL" is showed, press F key to enter into simulation calibration mode.

5-3-2. Max Capacity setting





After input Max capacity of your weighing scale (at the label), press F key to save.

Tip

In case of simulation calibration, CAPA means load cell's max capa that written on label.

And you should input the amount of all load cell's max capa

(Quantity of load cell x load cell max capacity)

5-3-3. Point and division setting

After "DIVI" is showed, set the point with HIGH key and set the division with SET key. Save data with F key.

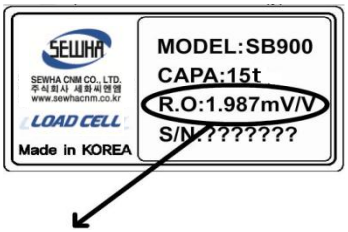
5-3-4. Calculation of span value

If "DEAD" is showed, clear the weighbridge and press F key to calculate span value.

During about 10~20 secs, it calculate span value automatically.

If you set resolution over the 1/10,000, It calculate two times for precise measurement.

5-3-5. Entering load cell max output value(Rated Output Voltage / mV)



After "mV" is displayed, input Max. Output rate(mV) of load cell with arrow key.

And then save by pressing 

key.

If "BAD" is displayed, it means that you had input wrong value. Please check label on load cell and try again

"DONE" means calibration has over without problem.

It shows calculated span value. After check this span value and press 

key to finish..

Tip **Even the case that you are using several load cells, output value should be set as one load cell's output value like 2.000mV or 3.000mV. (Load cell connection is parallel. So if you input amount of each load cell's output value, weight might be inaccurate.)**

load cell maximum output value of test report can be different with installed load cell output value. Therefore after calibration, measured weight can be inaccurate.

If you want to make more precise weighing result, measure load cell's output value and use that value.

5-4. Calibration process

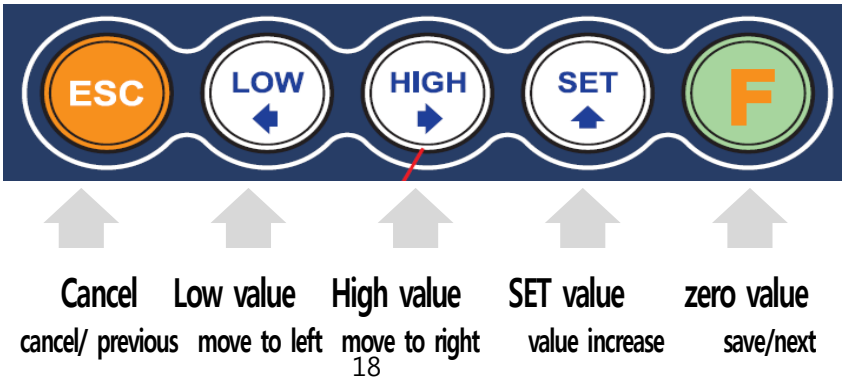
Error	Cause
Err-01	When Max.capacity/digit value is over 20,000
Err-04	Standard weight value is over than Max. Capa
Err-05	Standard weight value is less than 10% of Max. Capa
Err-06	1. Amp. Gain is too big 2. Sig+ and Sig- wire connection error 3. Test weight is not loaded
Err-07	1. Amp. Gain is too small 2. Sig+ and Sig- wire connection error 3. Test weight is not loaded
Err-08	Under "F-function" model, set value is "N.A"
Err-A	When there is continuous vibration on the weighing part,, indicator can not process calibration any more.

5-5. Set value input mode

5-5-1. Enter into Set value input mode

SOC200	P-UU
Press F key 4 times.	Enter the Password to enter into setup mode
SEtUP	SEt-t
"SETUP" press F key	to enter into set value mode.

When SET-T is displayed, each key's function :

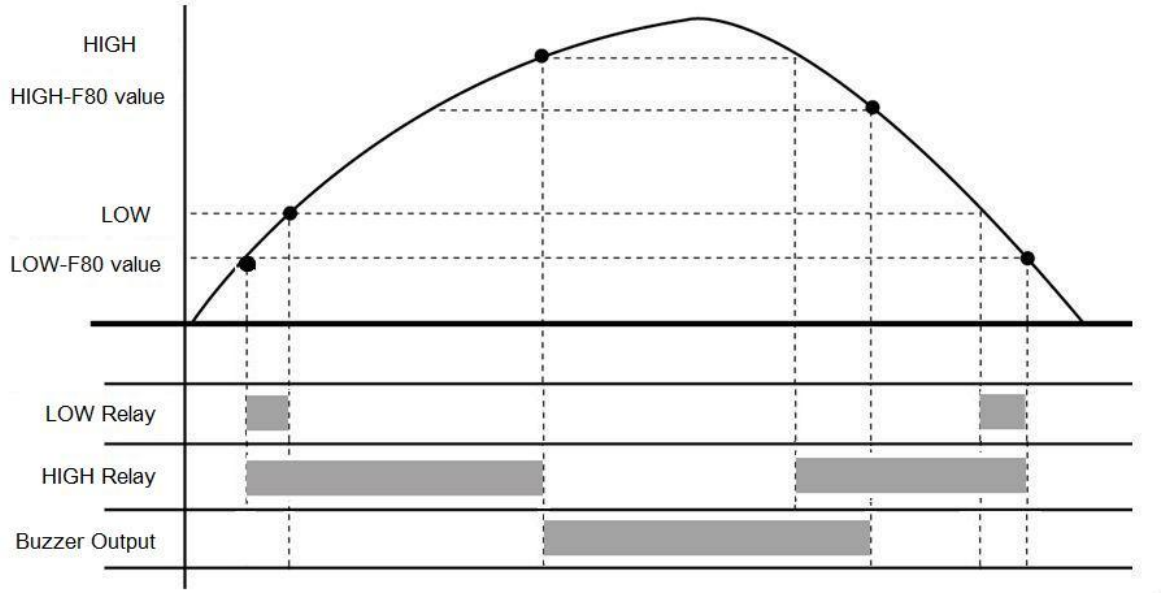


5-5-2. Set value

- In the process of calibration, input capacity will be saved as basic value of LOW, HIGH, SET.
- LOW, HIGH, SET values are able to be saved as much as 2 times of CAPA.

 Low value input	Weight <= LOW Set value : LOW RELAY , BUZZ RELAY output - LOW value should be smaller than HIGH value.
 High value input	Weight <= HIGH Set value : HIGH RELAY output - HIGH value should be larger than LOW value.
 SET value input	SET value is maximum output value of 0~10V, 4~20mA.
 ZERO input	ZERO value mode make current weight to be perceived as "0". (Same role with "Zero" key)

Time chart

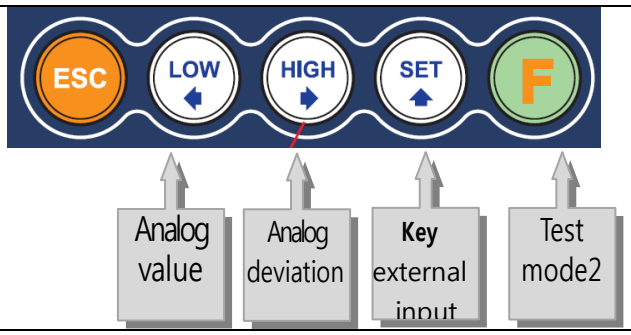


5-6. Test mode

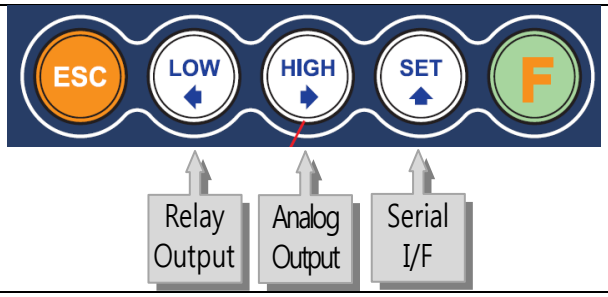
Disconnect every device when you test SOC-200.

	
Press  key 4 times continuously.	When "Password" is showed, enter into SETUP mode by entering password .
	
If "SETUP" is showed press  key	to start Test mode.

5-6-1. Test mode 1



5-6-2. Test mode2



-  **key for move to cancel/Previous step**  **key for save data.**

5-6-1. Analog value check mode

This mode converts analog value to digital value, and display it. The last figure's value is keep changing.
(Display range : -1,048,575~1,048,575)

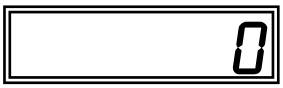
If analog value changes, even there is nothing on weighbridge, or if analog value doesn't change when you push weighbridge with hands, there is possibility of abnormality of load cell or SOC-200 analog conversion component

From 100,000's place

From 1,000,000's place

From 10,000,000's place

5-6-2. Analog deviation check mode



This mode displays digital value, and set the zero point to check analog value's deviation

Zero key

From 1,000,000's place

From 10,000,000's place

- 

key for cancel / previous step, 

key for save.

5-6-3. key/external input check mode

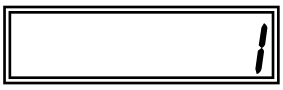
This mode test key and external input.

1 2 3 4

If you input key, you can check result at the unit's place.

If you input external input, you can check result at the ten's place.

5-6-4. Relay output check mode



This mode check relay output by operating relay output , start from 1 and gradually in order.

Disconnect every other devices from SOC-200.

5-6-5. Analog Output 4~20mA, 0~10V check mode

This mode simulate analog output 4~20mA, 0~10V to check.

You can simulate by printing virtual value out from SOC-200 - 0(4mV,0V)~100(20mV,10V).

value increase

value decrease

100% output

0% output

- 

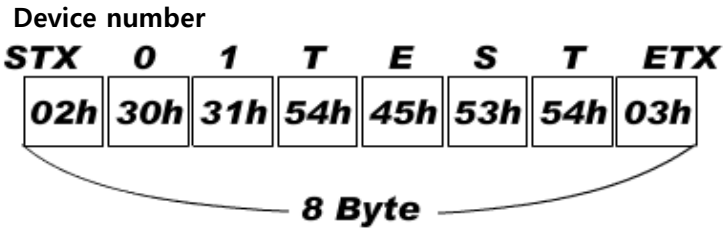
key for move to cancel/Previous step 

key for save data.

5-6-6. Check serial interface mode

Connect device that will communicate with SOC-200 (ex. PC) and send test protocol.
Display is supposed to turned off when SOC-200 send or receive, therefore if communicate is normal, display will flicker.

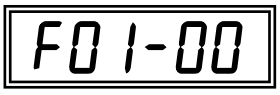
Protocol for Test



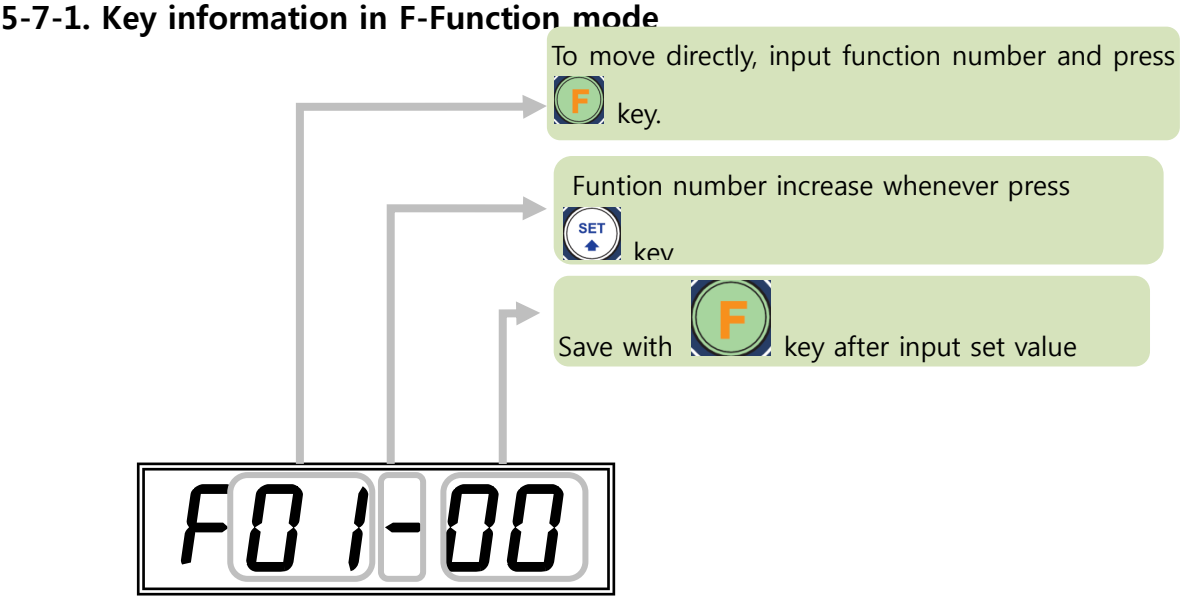
Basic, expanded serial interface test can't be conducted at the same.

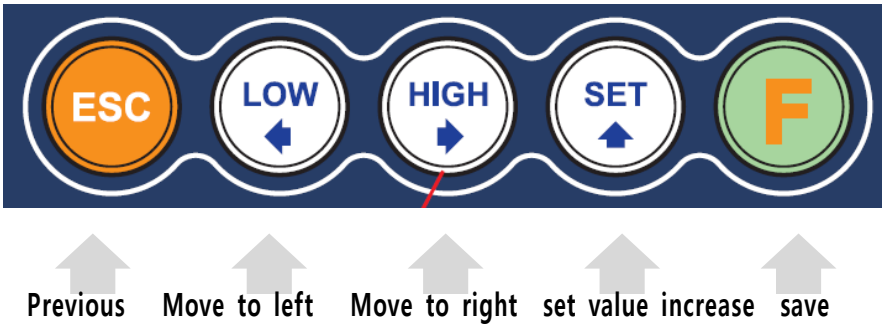
5-7. F-FUNCTION

■ Enter into F-FUNCTION Mode

	
Press F key 4 times consecutively.	If "Password" is showed enter the password and go into SETUP mode.
	
When the"SETUP" is showed press LOW key.	Enter into F-Function mode.

5-7-1. Key information in F-Function mode





5-7-1. F-Function Detailed information

Weight-Back up selection			
F01		0	No saving (weight data , **accumulated data**)
	●	1	**Weight-Back up** (weight data , **accumulated data**)
Motion Band Range setting			
F03	5	1 ∫ 99	This is set "Steady" acceptable range of weighing part. If there is vibration on weighing part, you can set this function and reduce the vibration effect on weighing process. (0 : Weak vibration ~ 50 : Strong Vibration)
Zero Tracking Compensation Range setting			
F04	5	0 ∫ 99	Due to external causes(Temperature, wind, and dust), there are small weight difference, indicator will ignore the weight difference and display Zero. For this compensation function, indicator will estimate the weight difference is over the set range during fixed time period. If there is large weight difference over set range within fixed time period, the "Zero" is breaking and will find new zero point.
Auto Zero Range setting			
F05	00	00 ∫ 99	Within the "Auto Zero" range, weighing part is steady, indicator will display current weight as "Zero" If the weighing part is not "Steady", indicator will display current weight. (Auto Zero Range : ± Set value + weight unit)
Digital Filter setting			
F06	4	0~40	A : Frequency Filter setting value (0~3) (0 : about 200Hz/sec, 1 : about 500Hz/sec) B : Buffer Filter setting value (1~9)
"STEADY" condition check time setting			
F11	3	0 ∫ 99	During the set time period, estimate weighing part's "STEADY" condition and display. If you set small value, indicator will take "STEADY" fast, if you set large value, indicator will take "STEADY" slow.
Display Up-date rate selection			
F12	●	1	60/sec
		2	30/sec
		3	20/sec
		3	15/sec
		5	10/sec
		6	6/sec
		7	3/sec
		8	2/sec
		9	1/sec

How to show weight in the situation of UNPASS/OVER LOAD (Regardless of +, - it is base on absolute value)			
F13		0	no display weight (only UNPASS or –OL-)
	●	1	display weight (flicker)
Equipment No. setting			
F18	01	01~99	Equipment No. setting with No. key.

■ 통신 모드 설정

Parity Bit selection Mode					
F30	●	0	DATA bit (8bit)	STOP bit (1bit)	Parity bit (Non)
		1	DATA bit (8bit)	STOP bit (1bit)	Parity bit (Odd)
		2	DATA bit (8bit)	STOP bit (1bit)	Parity bit (Even)
		3	DATA bit (8bit)	STOP bit (2bit)	Parity bit (Non)
		4	DATA bit (8bit)	STOP bit (2bit)	Parity bit (Odd)
		5	DATA bit (8bit)	STOP bit (2bit)	Parity bit (Even)
		6	DATA bit (7bit)	STOP bit (1bit)	Parity bit (Odd)
		7	DATA bit (7bit)	STOP bit (1bit)	Parity bit (Even)
		8	DATA bit (7bit)	STOP bit (2bit)	Parity bit (Odd)
		9	DATA bit (7bit)	STOP bit (2bit)	Parity bit (Even)

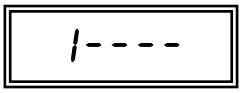
Serial Communication Speed selection			
F31		0	2,400bps
		1	4,800bps
	●	2	9,600bps
		3	14,400bps
		4	19,200bps
		5	28,800bps
		6	38,400bps
		7	57,600bps
		8	76,800bps
		9	115,200bps
DATA Transference Method selection			
F32		0	Simplex Mode / Stream Mode
	●	1	Duplex Mode / Command Mode
“Check-Sum” detection selection (Under F32-01 setting, only)			
F34	●	0	Disuse check-Sum
		1	Use check-Sum

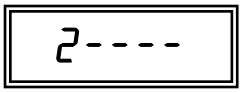
Data frame transmission method in Stream Mode (basic port)			
F35	●	0	protocol standard transmission
		1	Frame standard transmission (If you use frame receive device)
If you set "Frame standard transmission" below 14400bps (F31), system can be slow			
Setting data output time in Simplex mode			
F36	●	0	Always
		1	when the weight is stable, 1 time (every stable states on above EMPTY range)
		2	when the weight is stable, 1 time (the first stable states on above EMPTY range)
		3	When you press the key.
DATA Transference Format selection			
F37	●	0	Format 1. (Recommend for external display)
		1	Format 2
		2	Format 3 (Recommend for PLC or PC connection)
		3	Format 4(CAS format)

■**Analog output setting** (enter the function number that you want to move and press 'F' key)

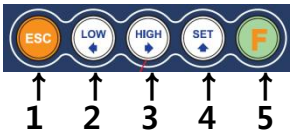
EMPTY Range setting		
F80	10	You can set "EMPTY" Range. Within set range, indicator will not display current weight and just display "Zero". "0.000" setting : When Net Zero, "Zero" status lamp and Near Zero relay will be output. "0.190" setting : Within 190, "Zero" Status lamp and Near Zero relay will be output.
4~20mA minimum analog output setting		
F81	setting minimum analog output 4mA	
4~20mA maximum analog output setting		
F82	setting maximum analog output 20mA	
0~10V minimum analog output setting		
F83	setting minimum analog output 0V	
0~10V maximum analog output setting		
F84	setting maximum analog output 10V.	

■**ETC** (Enter the Function number that you want to move directly, and press 'F'key)

<table>
<tr><th colspan="2">Time(H,M,S) confirm and amend mode (24 hours period)</th></tr>
<tr><td>F90</td><td>Check current time or modify the time.</td></tr>
<tr><th colspan="2">Date(Y,M,D) confirm and amend mode</th></tr>
<tr><td>F91</td><td>Check current date or modify the date.</td></tr>
<tr><th colspan="2">SETUP mode lock key setting and change</th></tr>
<tr><td>F95</td><td>
-Lock function, set the password




1) Enter 4 digit number for password.
2) Enter 4 digit number again to confirm.
-Change password

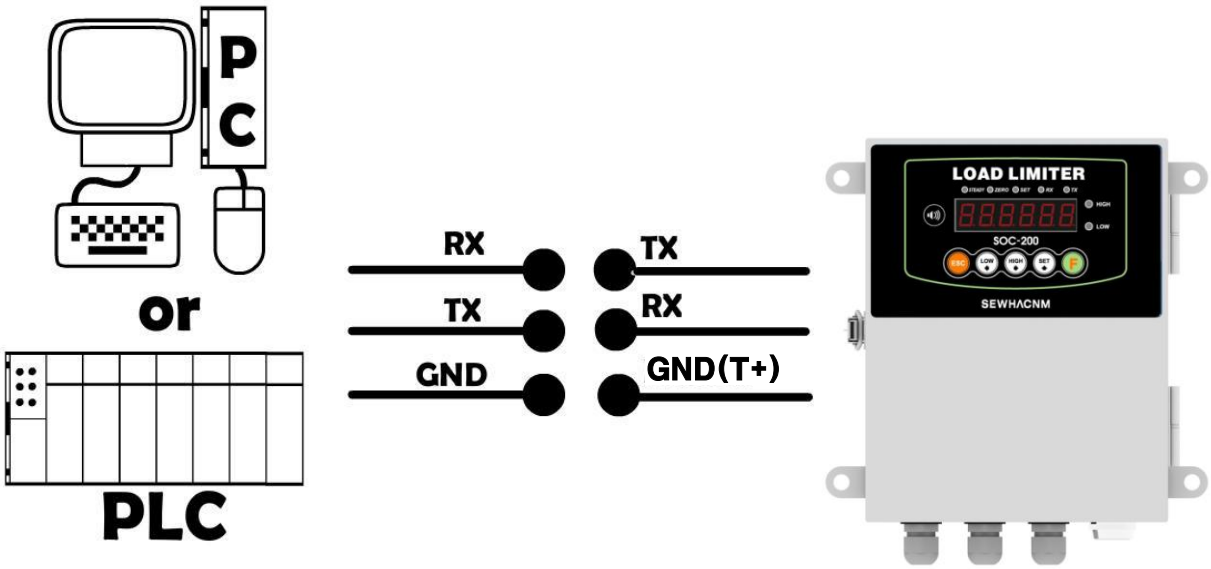

If it showed "P-W", enter the password that you set before. After you enter password, remained process is same with setting password.


-Unlock
Enter the password F F F F (1324) for unlock.


After system format, original password : F F F F (1324)
After password lock mode activated, you can't enter into SETUP mode without entering password. So do not forget password.
</td></tr>
<tr><th colspan="2">Program & Hard ware Version Check</th></tr>
<tr><td>F98</td><td>Check the Program & Hard ware version (H/W : X.XX, S/W : X.XX.X)</td></tr>
</table>

6. Interface

6-1. Serial interface RS232C

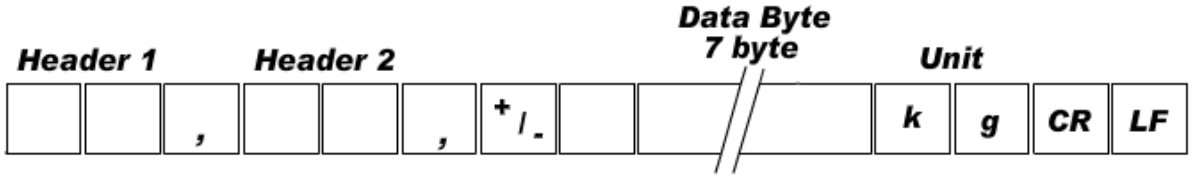


Caution **Serial interface is sensitive about electric noise.**

Connect wire distantly in where AC power cable or electric wiring, electric noise are complicated, and must use twist SHIELD cable.

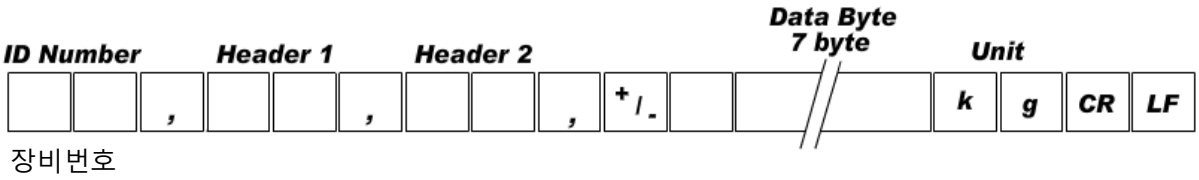
6-2. DATA Transference Format

1. Data Format(1) : ID Number will not be transferred. (Refer F-function 37-0")



Header1	Header2
OL : OVER LOAD	NT : NET-WEIGHT
ST : Stable	GS : Under TARE NET-WEIGHT
US : Unstable	

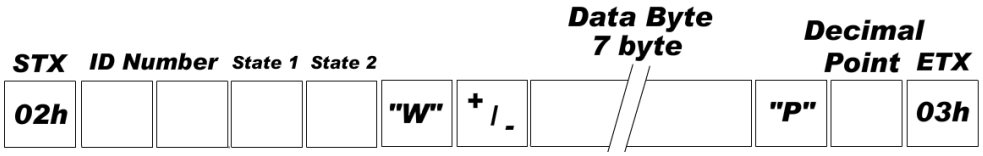
2. Data Format(2) : ID Number + Data Transference (Refer F-function 18, 37-01)



장비번호

Header1	Header2
OL : OVER LOAD	NT : NET-WEIGHT
ST : Stable	GS : Under TARE NET-WEIGHT
US : Unstable	

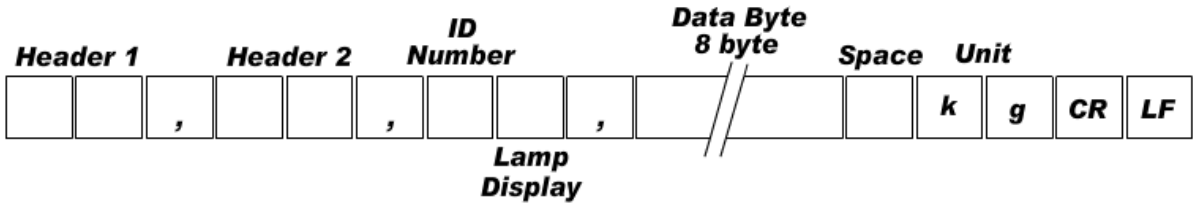
3. Data Format(3) : ID Number + Data Transference (Refer F-function 18, 37-02)



device number

State 1	State 2
Over load : O	Gross weight : G
Stable : S	Net weight : N
Unstable : U	

4. Format 4 (CAS format, Refer F-function 18, 37-01) (22 Byte)



Header1	Header2
OL : OVER LOAD	NT : Net weight
ST : Stable	GS : Gross weight
US : Unstable	

LAMP DISPLAY

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
1	0	1	1	1	1	1	1
1	stable	1	Hold	Print	Gross Weight	Tare	Zero

6-3. Analog Output (4~20mA)

This Option card converts weight value to Analog Voltage output(4~20V) and transfers to external devices(Recorder, P.L.C), controlled by voltage output.

6-3-1. Specification

Output Current	Accuracy	Temperature Co-efficiency	Max. Loaded Impedance
4~20mA (Output Range : 2~22mA)	1/5,000	0.01%℃	500Ω MAX.

6-4. Analog Output (0~10V)

This Option card converts weight value to Analog Voltage output(0~10V) and transfers to external devices(Recorder, P.L.C), controlled by voltage output.

.

6-4-1. Specification

Output Voltage	0~10V DC output
Accuracy	1/5,000

7. Error & Treatment

7-1. Load cell

Error	Cause	Treatment	Remark
Weight Value is unstable	1.Load cell broken 2. Load cell isolation resistance error 3. Weighing part touches other devices or some weight is on the weighing part 4. Summing Board Error	1. Measure input/output resistance of Load cell. 2.Measure Load cell isolation resistance 3. Check attach point with other devices.	1. Input Resistance of "EXC+" and "EXC-" is about 400Ω ±30 2. Output Resistance of "SIG+" and "SIG-" is about 350Ω ±3.5 3. Isolate Resistance is more than 100MΩ
Weight Value is increased regular rate, but not return to "Zero"	1. Load cell Error 2. Load cell connection Error	1. Check Load cell connection 2. Measure Load cell Resistance	
Weight Value is increased to under Zero	Load cell Output wire (SIG+, SIG-) is switched	Make wire correction	
"UN PASS" display	Load cell broken or Indicator connection Error	Load cell damage Check Load cell connection Check	
	Power was "ON" when some weight is on the load cell?	Remove weight on the Load cell	
"OL" or "UL" display	1. Load cell broken or Indicator connection Error 2. Loading over than Max. Capa.	1. Load cell Check 2. Load cell connection Check 3. Remove over loaded weight	OL is shown when weight excess max capa by repeating TARE Key

7-2. Calibration

Error	Treatment
Eerr-01	When Max.capacity/digit value is over 20,000
Eerr-04	Standard weight value is over than Max. Capa
Eerr-05	Standard weight value is less than 10% of Max. Capa
Eerr-06	1. Amp. Gain is too big 2. Sig+ and Sig- wire connection error 3. Test weight is not loaded
Eerr-07	1. Amp. Gain is too small 2. Sig+ and Sig- wire connection error 3. Test weight is not loaded
Eerr-08	Under "F-function" model, set value is "N.A"
err-a	When there is continuous vibration on the weighing part,, indicator can not process calibration any more.

※ In case of Err 06 / Err 07, occur when SOC-200 can't indicate exact weight with present calibration conditions.

7-3. Load Limiter

Below Error marks are show that weighing process can't be go on because of error of SOC-200, or can't measure exact weight value.

Error	Cause	Treatment
"Cell-er" **or** **"0Uer"**	1. Load cell Error 2. Load cell cable Error 3.Load cell connection Error 4. A/D Board Error 5. Analog value range is over 10,400,00 ※ even it is minus (-) weight, if it excess max capa "OVER" is shown. EX) When max capa is set as "100" if current weight is over the "-100", "OVER" is show,	1. Under "TEST" mode 1, check analogue value. If you can not get any analogue value or there is no change although adding load, please check load cell, load cell cable, connection conditions first. 2. Replace another load cell, and check the SOC-200 condition. If you have same problem, please replace new SOC-200 and check A/D board error. 3. Check power supply is stable 4. Check connection between load cell and SOC-200, or check power supply socket
"UNpa55"	1. Power is ON, when some materials are on weighing part. ※ Under "Normal Mode", if there are more than 20% loading of Max. capacity, "**Un-Pass**" display will be appeared and indicator will stay until removing the load. ※Setting Back-up mode it can memory empty value, and it becomes set value without displaying "Un-pass")	1.If you set "Normal Mode", please check weighing part empty or not before turn on the power. If there are some materials in/on weighing part, please remove those materials and turn on the power. 2. Please try to set F02-01(Back-up) mode so that the SOC-200 can remember first empty value.
"5et"	1. when power on "SET" is showed, EEPROM defective	1. Please contact the distributor or Head Office.
"Halt"	1. disorder of H/W	1. Please contact the distributor or Head Office.
"t-err"	1.Battery is defective or discharged	1. Please contact the distributor or Head Office.

※ – When the CELL ERROR is on, still 4~20mA, 0~10V output is on.

WARRANTEE CETIFICATION

This product is passed "Sewhacnm"s strict quality test.

If there is defect of manufacturing or abnormal detection within warrantee period, please contact our Agent or Distributor with this Warrantee certificate.

Then, we will repair or replace free of charge.

WARRANTEE CLAUSE

1. The Warrantee period, we can guarantee, is one(1) year from your purchasing date

2. Warrantee Exception Clause

- Warrantee period is expired.
- Any kinds of Mal-function or defection caused by Modification or Repair without Sewhacnm's permission.
- Any kinds of Mal-function, Defection, or External damage, caused by operator
- Any kinds of Mal-function, Defection, caused by using spare part from Non-Authorized Distributor or Agent.
- Any kinds of Mal-function, Defection, caused by not following Warnings or Cautions mentioned on this manual.
- Any kinds of Mal-function, Defection caused by "Force Majeur", like Fire, Flood.
- Without presentation of this **"Warrantee Certification".**

3. Other

- Any kinds of "Warrantee Certification" without authorized Stamp is out of validity

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http://www.sewhacnm.co.kr

Made in KOREA

Product	LOAD LIMITER
Model	SOC- 200
Serial No.	
AUTHORIZED STAMP