

Digital Weighing Indicator SI 4630E

(For both External Display and Indicator)

Instruction Manual



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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 of product

Thank you for your choice, this “SI 4630E” Industrial Digital Weighing Controller.

This SI4630E, External Display Relay Controller, is the most applied equipment for industrial weighing applications, like Platform Scale, Truck Scale, and Animal Scale.

This SI4630E supports various external interface(Extra Option) —2 ports serial communication, wireless communication (Bluetooth, IR), analog output(0~10V, 4~20mA) —, and 3.0 inch RED FND Display to maximize indicating capacity from far distance.

Enjoy your process efficiency with “SI 4630” Weighing controller.

2-2. Cautions



Cautions

- 1). Don't drop on the ground or 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

- 3.0 inch RED FND Display to maximize indicating capacity.
- Strong for dust and moist from outside, by using polycarbonate film.
- RS232C, Current Loop , PRINT I/F(Serial) standard built-in.
- RS422, RS485 interface (Option)
- Analog output 4~20mA, 0~10V (Option)
- Wireless communication (Blue Tooth) (Option)
- Watch-Dog function.

3. SPECIFICATION

3-1 Specification

3-1-1 Standard

Contents		Specification	
Performance	External Resolution	1/20,000	
	Internal Resolution	1/2,000,000 (±1,000,000)	
	Input Sensitivity	Min.0.1μ V/V	
	Max Input Signal	3.0mV/V	
	Load cell Excitation	DC +5V	
	A/D Conversion Method	Sigma-Delta	
	Decimal Point	0, 0.0, 0.00, 0.000	
	Drift	Offset	20PPM/°C
		Span	20PPM/°C
	Linearity	0.001% of Full Scale	
Analog Sampling(sec)	60times / sec(MAX)		
Environment	Operating Temperature Range	-10°C ~ +40°C [14°F ~ 104°F]	
	Operation Humidity Range	40% ~ 85% RH, Non-condensing	
Interface	Display	5 digit, 73.5mm(3inch) Red Color FND	
	Key pad	Cabled key pad with 4 button	
External Communication	COMM 1	RS-232C 1EA	
		One-way, Two-way, Printer output	
		Current Loop 1EA One-way	
Input Power	Free Voltage : AC100V ~ AC240V (50Hz/60Hz)		
Size	Main Body (without cover)	400(W) x 150(H) x 70(D)	
	Total dimension (with cover)	450.6(W) x 150(H) x 170(D)	

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3-1-2 Option

Contents		Specification
Interface	Wireless key pad	IR method (4 button) Distance range 10M
		Bluetooth method Using mobile device Distance range 15M(Visibility Range)
External Communication	COMM 2	Select RS-422 or RS-485 One-way, Two-way
	Bluetooth	
Control Relay Output	External Input	4EA external digital input
	Control Relay Output	4EA relay output
	Analog Output	0~10V , 4~20mA (Selectable)

- IR needs radiation angle 90 degree without any obstacles.

3-1-3 Bluetooth (Option)

Contents		Specification
Bluetooth	Specification	Bluetooth v2.0 + EDR
		Class1
		Profile: SPP (Serial Port)
		Distance range (for data transmission) : 200m
	Transmit Power	+18dBm Typical
	Receive Sensitivity	-90dBm (0.1% BER)
	Frequency range	2402 MHz – 2480
Certificates	FCC, CE, IC, KC, TELEC, SIG	

SI 4630E WEIGHING CONTROLER

3-2. Front Panel (Display)

3-2-1 Front Panel (display)







3-2-2. Status Display LED

STEADY	When the current weight is Zero, "0" Lamp is turn on.
ZERO	Tare function is set, Lamp is turn on.
TARE	When the weight is Steady, Lamp is turn on.
CHECK	When key pad input, Lamp is blink.







SI 4630E WEIGHING CONTROLER

3-2-3 Key Operation

	<ol style="list-style-type: none"> 1. Make Weight value as Zero. (F07, F08 setting) 2. When Tare is on, Tare reset 3. Increase set value 4. Under “SETUP” Mode, Enter into the “F-function” Mode.
	<ol style="list-style-type: none"> 1. Function of this key can be changed according setting of F19 2. When change set value, move to left of place of number 3. Under “SETUP” Mode, Enter into the “Calibration” Mode.
	<ol style="list-style-type: none"> 1. Function of this key can be changed according setting of F19 2. Under SETUP mode, move to previous step.
	<ol style="list-style-type: none"> 1. Press this key 4times, within 2secs, enter “SET-UP” mode 2. Press this key during 4secs, enter TEST MODE 3. ‘F’ Key 4. When change set value, Save the value go to next step

- Setup Mode: It is a mode can SET UP the calibration, Function of SI4630E. (Refer CH5. SET UP)

3-2-4. Hot key (F key Combination)

  	<p>Continuous “TARE” setting (From the second TARE setting, use this key)</p>
  	<p>If the Printer is installed, You can print out the “Grand-total data”. (GRAND-total data can be checked though Print output).</p>

Tip

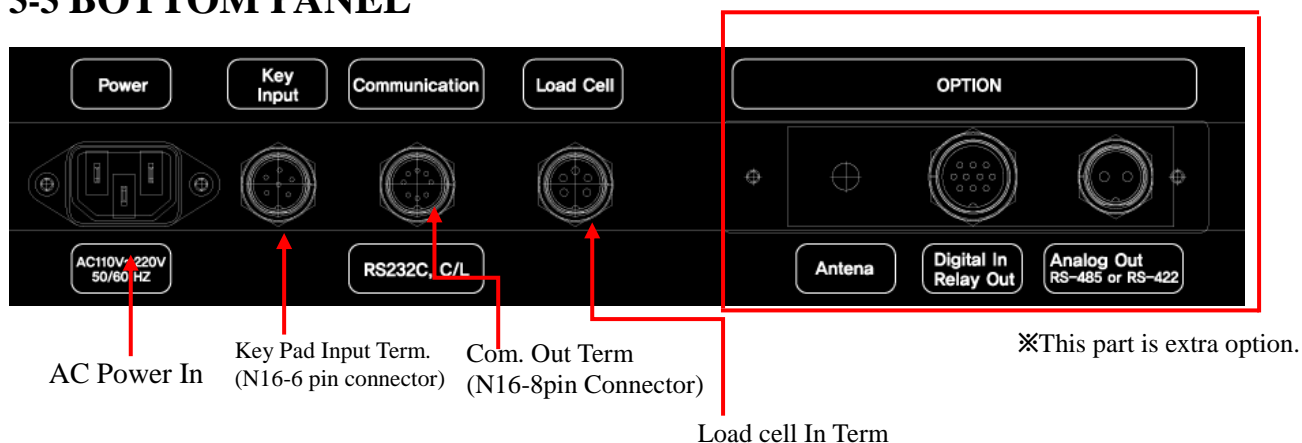
Max accumulated weighing count : 999,999times

Over 999,999times → return to “0” time

Max accumulated weight display : 999999999 (g, kg, ton)

Over 999,999,999 (g, kg, ton) → return to “0” (g, kg, ton)

3-3 BOTTOM PANEL



1. AC POWER INPUT <R/T/E> : AC 220V



① AC Power IN < AC110V ~ 240V 50/60Hz >

For protection of electric shock or wrong action must be earth, please.

If this product is not used on earth, it can be wrong action by electric damage or electric static.

② Key Input Terminal (N16-6)

Pin No.	Contents	Pin No.	Contents
1	KEY1	2	KEY2
3	KEY3	4	KEY4
5	COMMON	6	COMMON

(FEMALE)

③ Communication output Terminal (N16-8)

-Standard installed RS232C/CURRENT LOOP (N16-8)

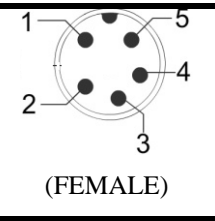
Pin No.	Contents	Pin No.	Contents
1	Transmit Data(RX)	2	Receive Data(TX)
3	Signal Ground(GND)	4	Current Loop -
5	Current Loop +	6	
7		8	

(FEMALE)

SI 4630E WEIGHING CONTROLER

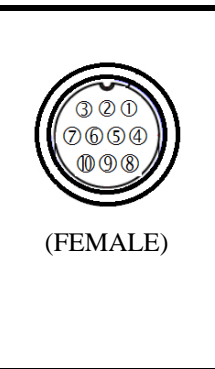
④ Load cell Input Terminal N16-5

Pin No.	Contents	Pin No.	Contents
1	EXC+	2	EXC-
3	SIG+	4	SIG-
5	SHIELD		



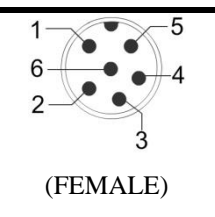
⑤ IN/OUT Terminal N20-10

Pin No.	Contents	Pin No.	Contents
1	OUT1	2	OUT2
3	OUT2	4	OUT4
5	OUT_COM	6	IN1
7	IN2	8	IN3
9	IN4	10	IN_COM



⑥ Analog Out Terminal N20-6

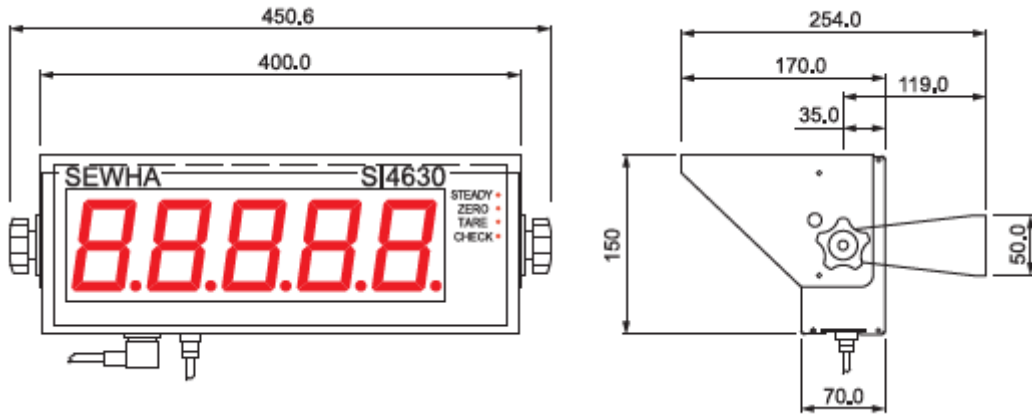
Pin No.	Contents	Pin No.	Contents
1	+ Analog output	2	- Analog output
3	RX+, RTX+	4	RX-, RTX-
5	TX+	6	TX-



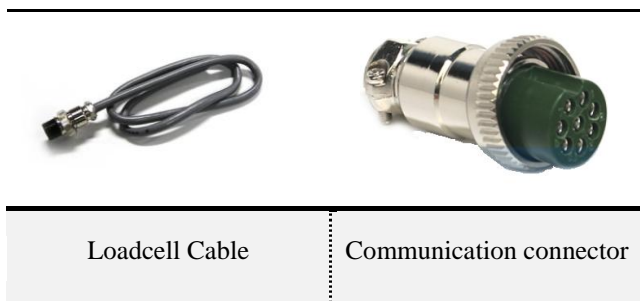
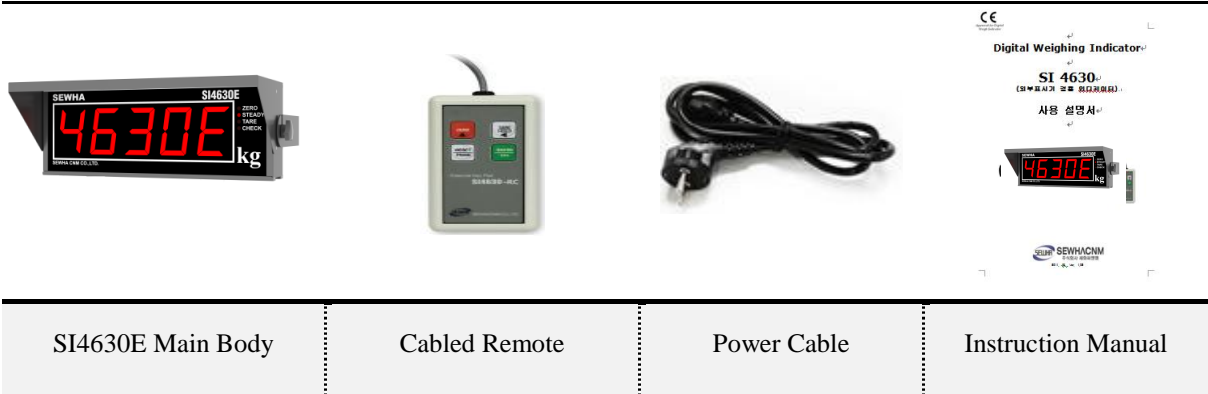

Please check the Comm. and other specification in the label, attached on the cover plate first, and make connection according to that information.

4. Installation

4-1 External dimension size (Unit: mm)



4-2. Components



4-3 Loadcell installation

Load Cell Wire Connection (In case of SEWHACNM's Load cell)

It depends on the manufacturer of load cell, please check the specification.



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 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

This is the Menu which can set the all of the functions.

5-1-1. Start “SET UP” Mode

	
Press  key 4 times consecutively.	When “SET UP” is displayed, SETUP Mode is activated

- SETUP mode incase of locking “on” (Basic : locking is off, refer F95)

	
Press  key 4 times consecutively.	When “P-W” is showed, enter 4 digit lock key.
	
If Password is correct, entering to “SETUP” mode	If password is wrong, going back to weight display



After password lock mode activated, you can't enter into SETUP mode without entering password. So do not forget password.” Serial I/F communication will stop after entering to calibration mode and test mode.

At the default, password lock mode is off. Default password : 4444

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

■ Calibration

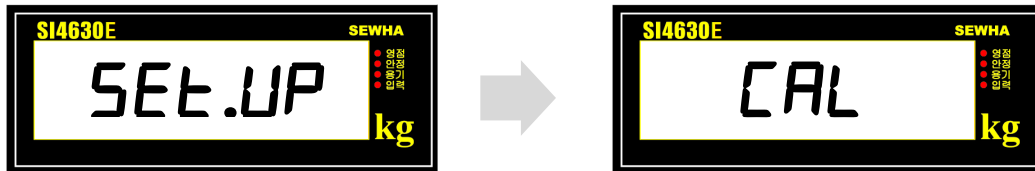
Calibration is the process of adjusting weight balance between "Real weight" on the load cell and "Displayed weight of Indicator". When you replace LOAD CELL or Indicator, you have to do Calibration process once again


 Before processing calibration, please warm up the indicator during 15 min to guarantee more preciseness.

			
Move to Previous step	Move to left	Increase Set value	ENTER

5-2 TEST WEIGHT CALIBRATION MODE

5-2-1. Enter Test Weight Calibration Mode




If "SETUP" is showed press  key.

If "CAL" is showed press  key to start calibration mode.

5-2-2. Max Capacity setting

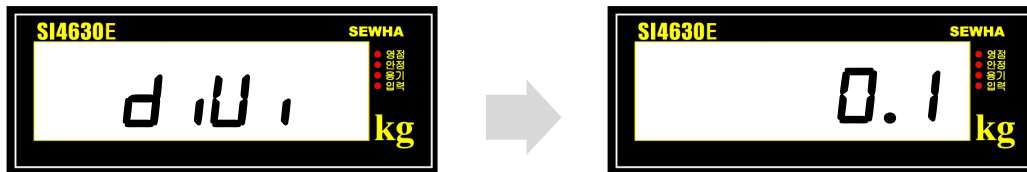





If you see the “CAPA”, set the max capacity by using direction key, and press  key to save.

Tip

Ex) When the Max capa is 1,000kg, if you want to set dead weight as 0.1(100g), input 1,000.

5-2-3. Point and division setting



After “DIVI” is showed, set the point with  key, and set the division with  key Save data with  key.

Tip

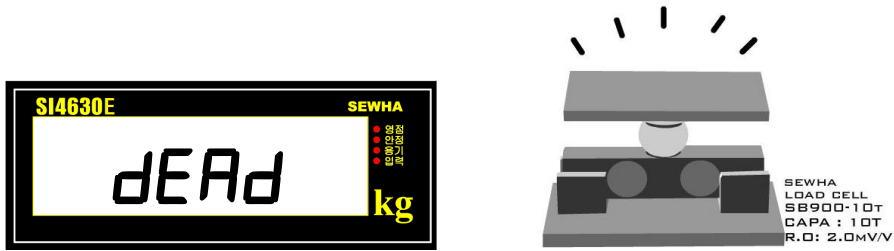
Three figures are available for decimal point, and the division should be 1, 2, 5, 10, 20, 50.

(Division value /Max capacity value) cannot over 1/20,000.

If the division is so small compare with max capacity, Error message “ Err 01 “ will be displayed and move back to “CAPA” step again.

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5-2-4. Calculation of span value



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



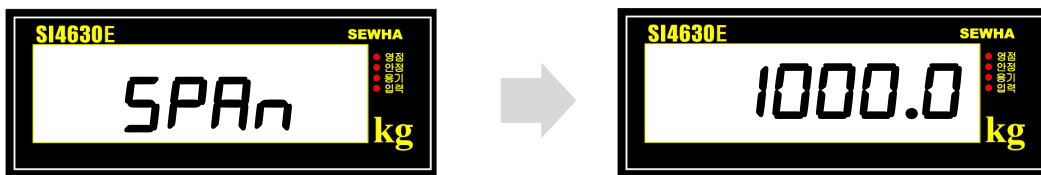
During about 10~20 secs, it calculate span value automatically.


※ 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  key to save data.

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After displaying “UP”, please load “Test Weight” and press  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.  key to save all calibration process.

After then it resets automatically.

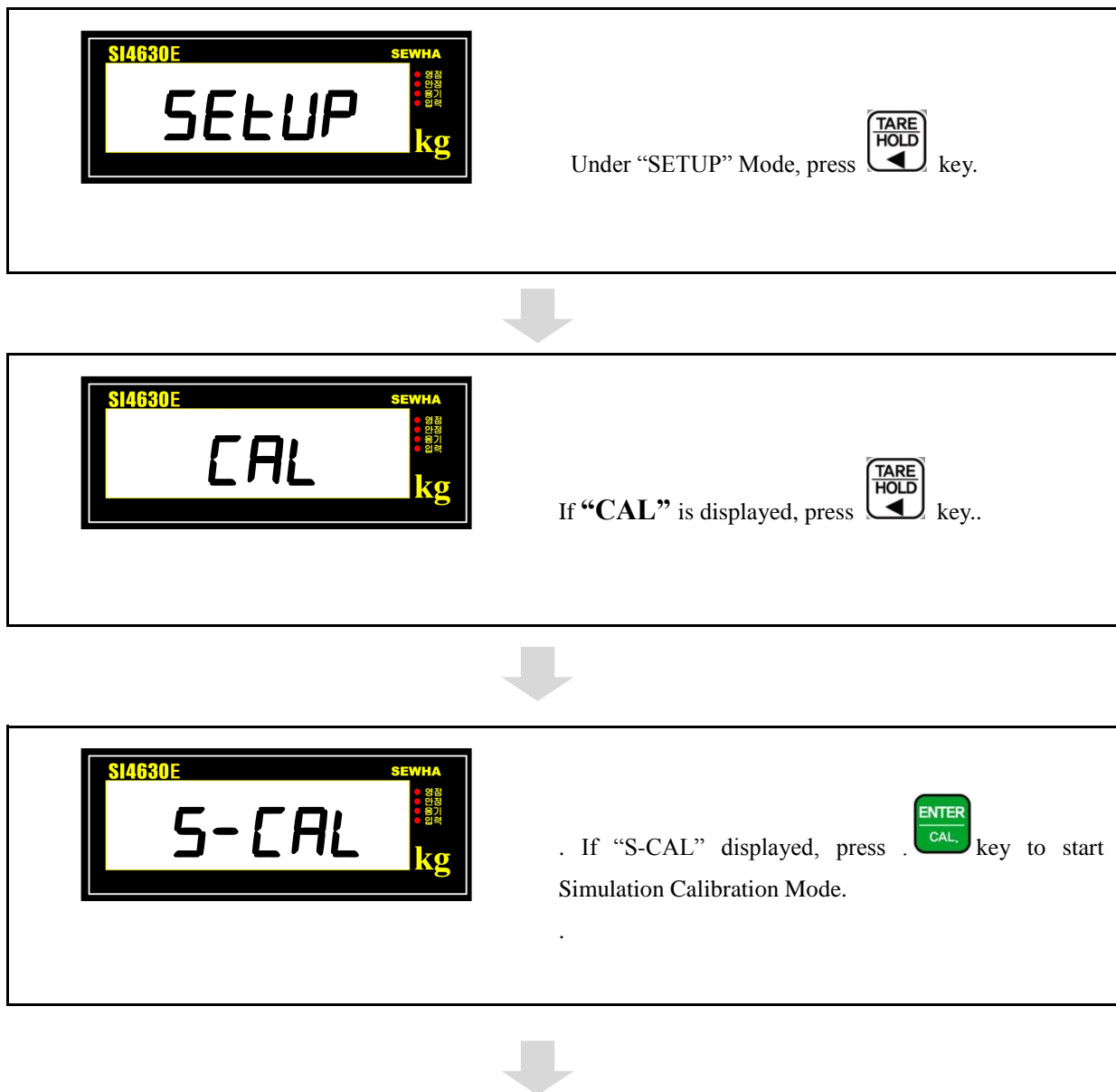
5-3 Simulation Calibration Mode (Calibrate without Test weight)

With this “Simulation Calibration Mode” you can make simple calibration without any “TEST weight”

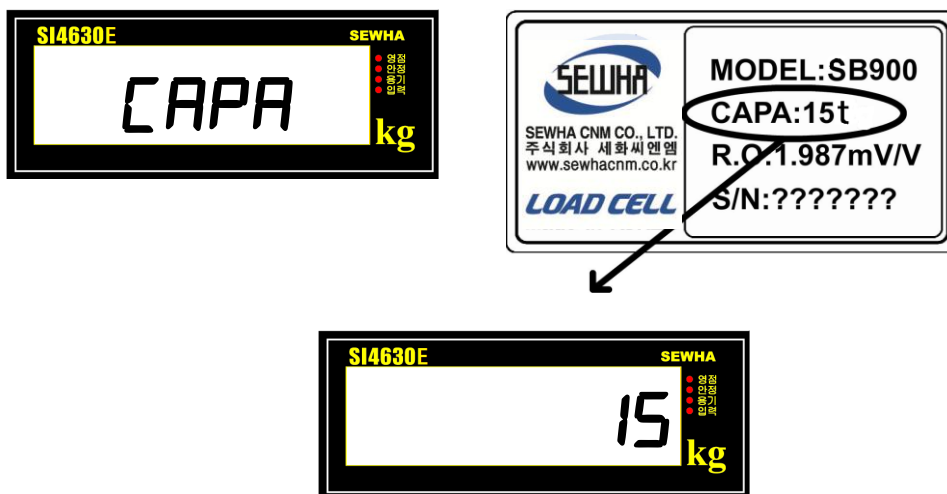
This calibration mode uses “Load cells’ max capacity” and “Max Output Rate(mV)”, so the weight adjustment degree might be less than “Test weight Calibration”.

The guaranteed resolution of this “Simulation Calibration” is 1/3,000.

5-3-1. Simulation Calibration Mode Start



5-3-2. Setting “Capacity of Load Cell”



After “CAPA” displayed, Check Max Capacity of Load cell.
(refer the load cell label, or Test Report)

Input the Max Capacity of Load cell. And press  key to save data.

Tip



In case of plural piece of load cells are installed, Please make sum of each load cell’s capacity and make setting with Max Capacity.


EX) There are 4pcs of load cells, and each load cell’s Max capa is 1,000kg.

Then, total Max Capacity will be 4x1,000kg and you have to input 4,000kg.

5-3-3. Setting “Digit / Division” value

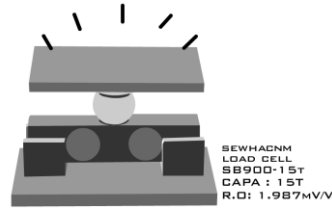



After “DIVI” is displayed select Decimal point with  key and select optimal division with  key.

Finally press  key to save and move to next step.

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5-3-4. Measurement the “DEAD Weight of Weighing Scale”



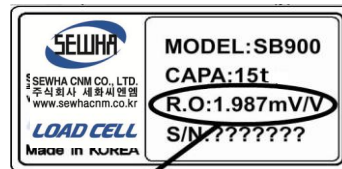
“DEAD” is displayed. Please press  key with empty scale. Then the indicator starts to measure and find optimal “Dead weight value of Scale” automatically.



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


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

5-3-5. Input Max Output (Rated Output Voltage / mV)



Input the output value load cell following fixed decimal point..




After displaying “MV”, input Load cell Output Rate(mV), referring the load cell label. And press  key to save.

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If input wrong value, there will display “BAD”, please go back to Setting “Capacity of Load Cell”.


After recheck the label of load cell and retry the process.

After displaying “MV”, input Load cell Output Rate(mV), referring the load cell label. And press  key to save.



After finishing calculation, calculated “Span value” will be display with “DONE”



Now, the Simulation Calibration is done, press  key to complete the calibration process.

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. F-FUNCTION Setting

Set-up means set the F-function and make optimal operation of SI 4630E Indicator.

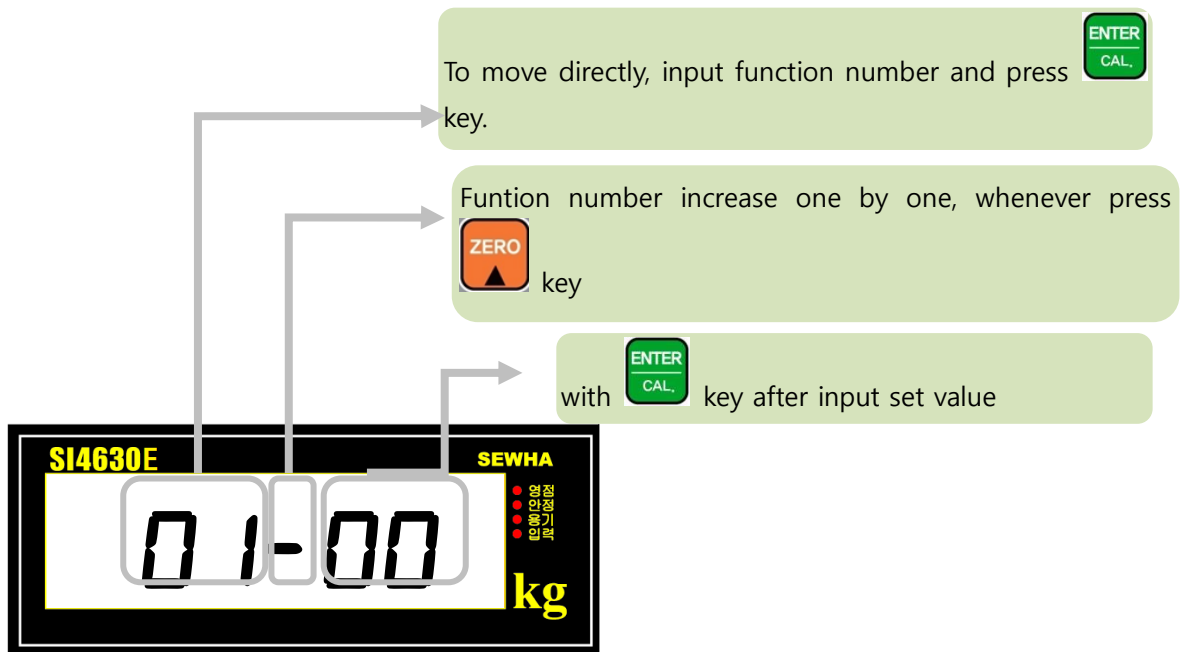
■ Starting F-FUNCTION Mode



key 4 times consecutively. → Enter the password



→ In the condition of “SETUP”, press Key 1 time.



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F-FUNCTION LIST

General Function Setting (“•” Factory default set value)

Save Weight Data			
F01	•	0	Save not Weight Data
		1	Save Weight Data
Weight-Back up selection			
F02		0	Normal Mode
	•	1	Weight Back up Mode
Motion Band Range setting			
F03	05	01 ┆ 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. 1 : Weak vibration ~ 99 : Strong Vibration
Zero Tracking Compensation Range setting			
F04	05	00 ┆ 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	04	00~40	Weak vibration Strong vibration 0 (Weak) ~ 40 (Strong)
Zero key Operation mode selection			
F07		0	Activate when “Steady” condition, only
	•	1	Activate when “Steady” and “Not steady” both condition
Zero key Operation Range selection (Regardless of +, - it is base on absolute value)			
F08		0	Activated within 2% of Max Capacity
		1	Activated within 5% of Max Capacity
	•	2	Activated within 10% of Max Capacity
		3	Activated within 20% of Max Capacity
		4	Activated within 50% of Max Capacity
		5	Activated within 100% of Max Capacity
		6	Non limited.
CAUTION : If setting over than 10%, The display weight could be over than Load cell input signal or Max Capacity and it may display “CELL-Err” or incorrect weight value.			
Tare key Operation Range selection : (-) value is same to (+)			
F09		0	Activated within 10% of Max Capacity
		1	Activated within 20% of Max Capacity
	•	2	Activated within 50% of Max Capacity
		3	Activated within 100% of Max Capacity
“HOLD” Mode selection			
F10	•	0	Peak Hold : Measure Max weight value and hold on display.
		1	Sample Hold : Hold current weight until “Hold Reset”
		2	Average Hold : Hold average value (Refer F-F54)

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“STEADY” condition check time setting					
F11	03	00 ┆ 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 value, indicator will take “STEADY” slow. (0.5sec per set value)		
Display Up-Date rate selection (per 1sec)					
F12	●	1	About 60 times		
		2	About 30 times		
		3	About 20 times		
		3	About 15 times		
		5	About 10 times		
		6	About 6 times		
		7	About 3 times		
		8	About 2 times		
		9	About 1 time		
Weight Display selection under “Unpass / OL” condition (Regardless of +, - it is base on absolute value)					
F13		0	Not Display Weight (just “UNPASS” or “-OL-“ is displayed)		
	●	1	Display Weight (Blink)		
External Input Selection 1 (IN1) – Input Terminal No.1 (OPTION)					
F14		0	NONE	7	HOLD / HOLD RESET
	●	1	ZERO	8	RUN(F21 Under Packer Mode , Accumulating Mode)
		2	TARE	9	STOP(F21 Under Packer Mode , Accumulating Mode)
		3	TARE RESET	10	RUN/STOP(F21 Under Packer Mode , Accumulating Mode)
		4	TARE / TARE RESET	11	PRINT
		5	HOLD	12	PRINT the amount
		6	HOLD RESET		
External Input Selection 2 (IN2) – Input terminal No.2 (OPTION)					
F15		0	NONE	7	HOLD/HOLD RESET
		1	ZERO	8	RUN(F21 Under Packer Mode , Accumulating Mode)
		2	TARE	9	STOP(F21 Under Packer Mode , Accumulating Mode)
		3	TARE RESET	10	RUN/STOP(F21 Under Packer Mode , Accumulating Mode)
	●	4	TARE / TARE RESET	11	PRINT
		5	HOLD	12	PRINT the amount
		6	HOLD RESET		
External Input Selection 3 (IN3) – Input terminal No.3 (OPTION)					
F16		0	NONE	● 7	HOLD/HOLD RESET
		1	ZERO	8	RUN(F21 Under Packer Mode , Accumulating Mode)
		2	TARE	9	STOP(F21 Under Packer Mode , Accumulating Mode)
		3	TARE RESET	10	RUN/STOP(F21 Under Packer Mode , Accumulating Mode)
		4	TARE / TARE RESET	11	PRINT
		5	HOLD	12	PRINT the amount
		6	HOLD RESET		

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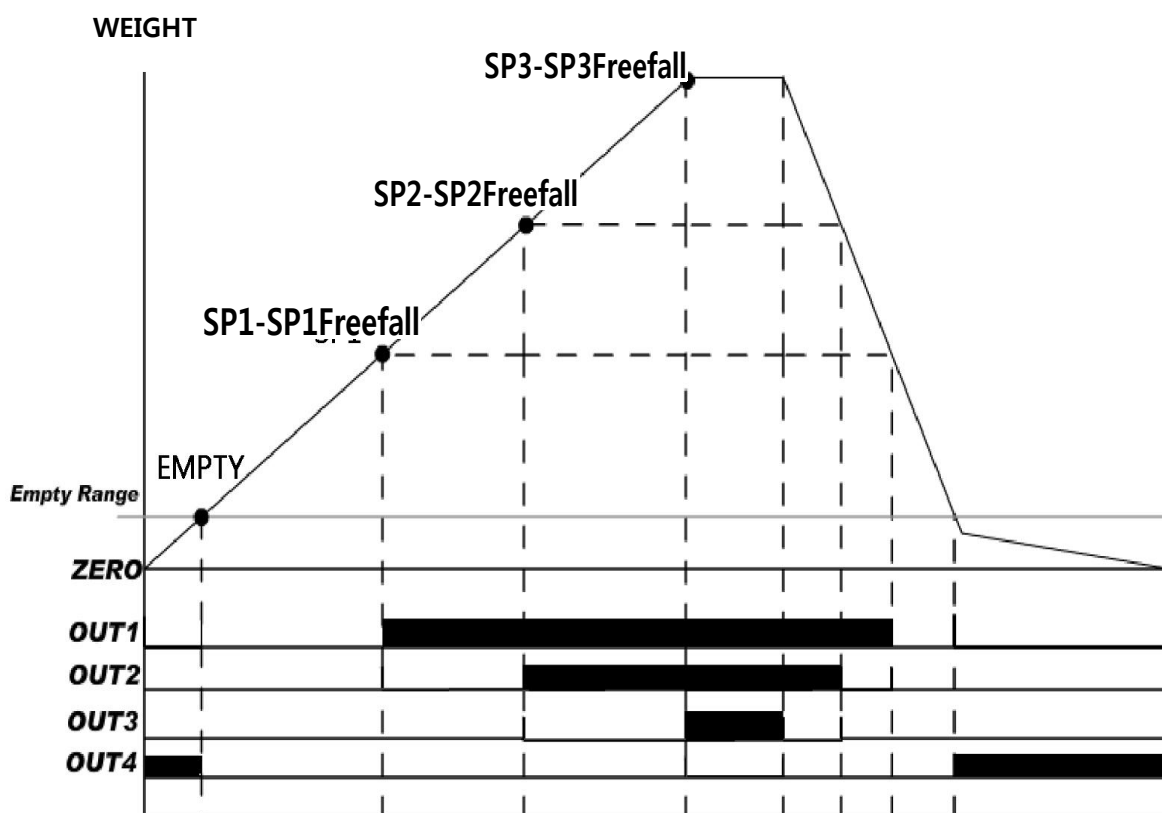
External Input Selection 4 (IN4) – Input terminal No.4 (OPTION)						
F17		0	NONE		7	HOLD/HOLD RESET
		1	ZERO		8	RUN(F21 Under Packer Mode , Accumulating Mode)
		2	TARE		9	STOP(F21 Under Packer Mode , Accumulating Mode)
		3	TARE RESET		10	RUN/STOP(F21 Under Packer Mode , Accumulating Mode)
		4	TARE / TARE RESET	●	11	PRINT
		5	HOLD		12	PRINT the amount
		6	HOLD RESET			
Equipment No. setting – ID No.setting						
F18	01	01~99	ID No. setting with No. key. (01~99 settable)			
Function of Key setting						
F19			Key1	Key2	Key3	Key4
	●	0	ZERO	TARE	TARE RESET	INPUT
		1	ZERO	HOLD	HOLD RESET	INPUT
		2	ZERO	TARE/TARE RESET	PRINT	INPUT
	3	ZERO	HOLD/HOLD RESET	PRINT	INPUT	

■ Relay Output Mode Setting (refer 5-5. SET-POINT setting) (OPTION)

Weighing Mode Selection			
F21	●	1	Limit mode 1 : SP1 / SP2 / SP3/ Empty output Setting
		2	Limit mode 2 : SP1 / SP2 / SP3 / SP4 output Setting “A” dry, User’s relay
		3	Packer Mode 1 : Target / SP1 / Finish / Empty Output Setting
		4	Packer Mode 2 : Target / SP2 / SP3 / Finish Output Setting
		5	Packer Mode 3 : Target / SP2 / SP3 / Empty Output Setting
		6	Limit Mode 3. : SP1 / SP2 / SP3 / SP4 Output Setting “B” dry , User’s relay
		7	Accumulating Mode1 : SP1 / SP2 / SP3 / Finish Output setting
		8	Accumulating Mode2 : SP1 / SP2 / SP3 / SP4 Output setting

SI 4630E WEIGHING CONTROLER

- ◆ Weighing Mode 1 – Limit Mode 1 (F21 – 01 Setting)
– Relay “ON” when weight reaches set value



Relay Output

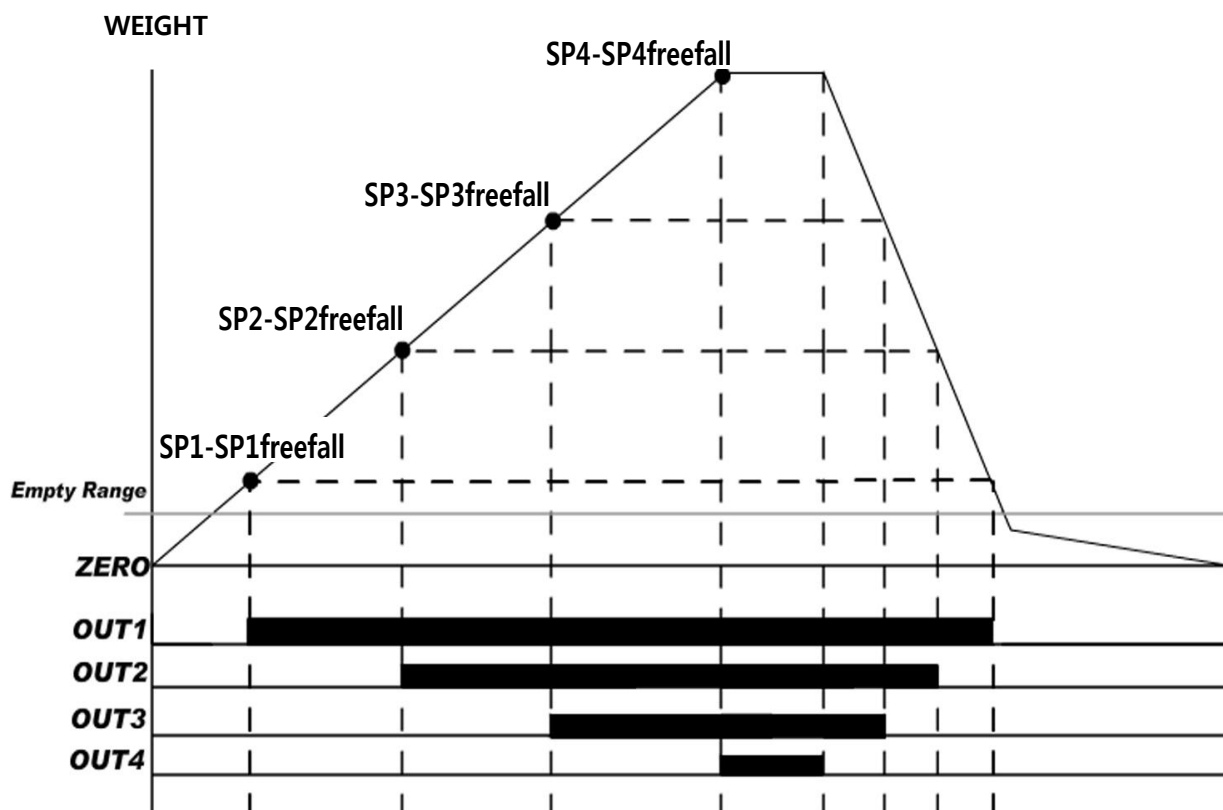
Relay	Contents	Relay	Contents
OUT 1	Current weight \geq SP1-SP1 freefall(ON)	OUT 2	Current weight \geq SP2-SP2 freefall(ON)
	Current weight $<$ SP1- SP1 freefall (OFF)		Current weight $<$ SP2-SP2 freefall(OFF)
OUT 3	Current weight \geq SP3-SP3 freefall(ON)	OUT 4	Within “EMPTY” range “ON” (Refer F80)
	Current weight $<$ SP3-SP3 freefall(OFF)		

- Free fall setting mode can be set only weighing mode F21 -1, F21-2, F21-6, F21-7, F21-8.
- Free fall value $<$ Target value, If you set wrongly,” err-8” shows.
- Default Free fall value is “0”.
- Refer the 5.5 Setting Point(Target Weight, Free fall)

SI 4630E WEIGHING CONTROLER

◆ Weighing Mode 2 – Limit Mode 2 (F21 – 02 Setting)

– Relay “ON” when weight reaches set value. User’s relay, “A” dry



Relay Output

Relay	Contents	Relay	Contents
OUT 1	current weight \geq SP1-SP1 freefall(ON) current weight $<$ SP1-SP1 freefall(OFF)	OUT 2	current weight \geq SP2-SP2 freefall(ON) current weight $<$ SP2-SP2 freefall(OFF)
OUT 3	current weight \geq SP3-SP3 freefall(ON) current weight $<$ SP3-SP3 freefall(OFF)	OUT 4	current weight \geq SP4-SP4 freefall(ON) current weight $<$ SP4-SP4 freefall(OFF)

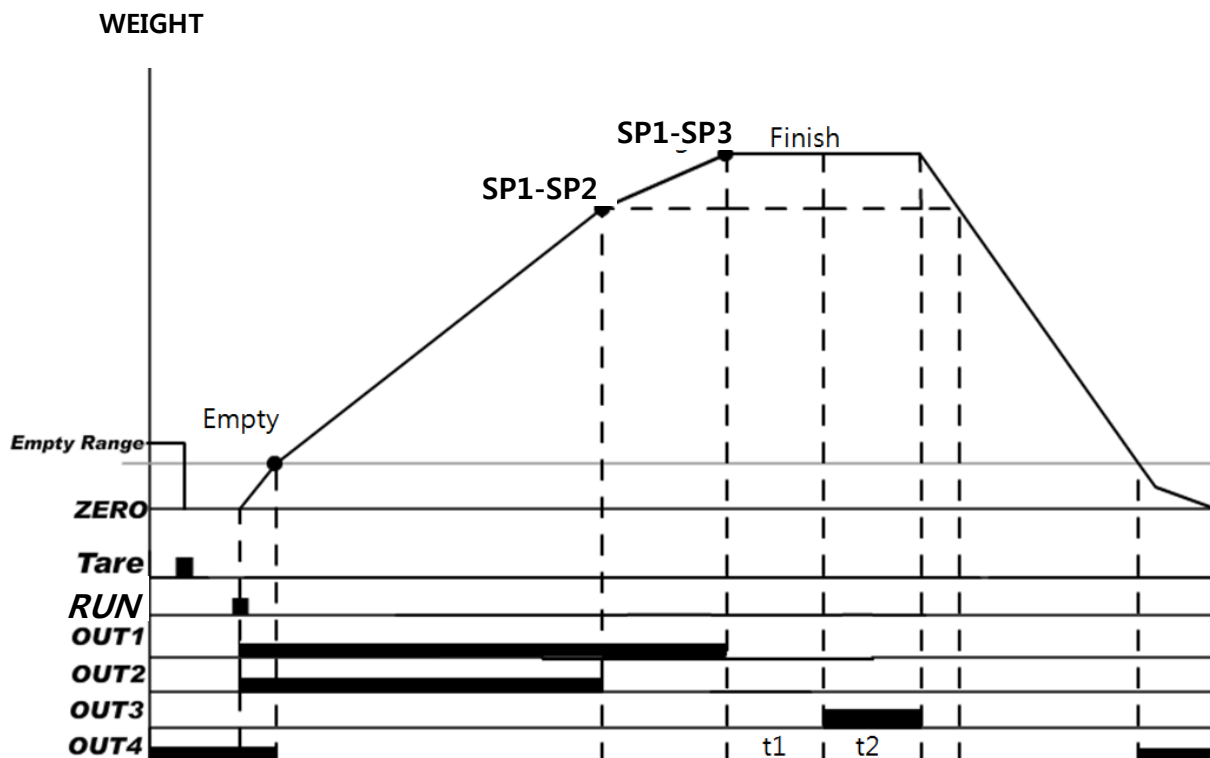
- Free fall setting mode can be set only weighing mode F21 -1, F21-2, F21-6, F21-7, F21-8.
- Free fall value $<$ Target value, If you set wrongly,” err-8” shows.
- Default Free fall value is “0”.

◆ Weighing Mode 3 – Packer Mode 1

2 Step control Packer Mode -F21 – 03 Setting

– Relay “ON” when weight reaches set value

- Relay “ON” Within “EMPTY” range



Ex) When input set value as SP1(Target) = 1000, SP2(Drib) = 500, Empty range = 10,

SP3(free fall) = 0

Start Input: OUT1, 2 will be “ON”. And when empty Range ≥ 10 , OUT4 will be “OFF”.

Current weight will be reaches to (SP1-SP2=500) value, OUT2 will be “OFF”.

Current weight will be reaches to SP1, (SP1-SP3=0), OUT1 will be “OFF”.

OUT3 will be “ON” after OUT1 off and delay during the “t1” time.

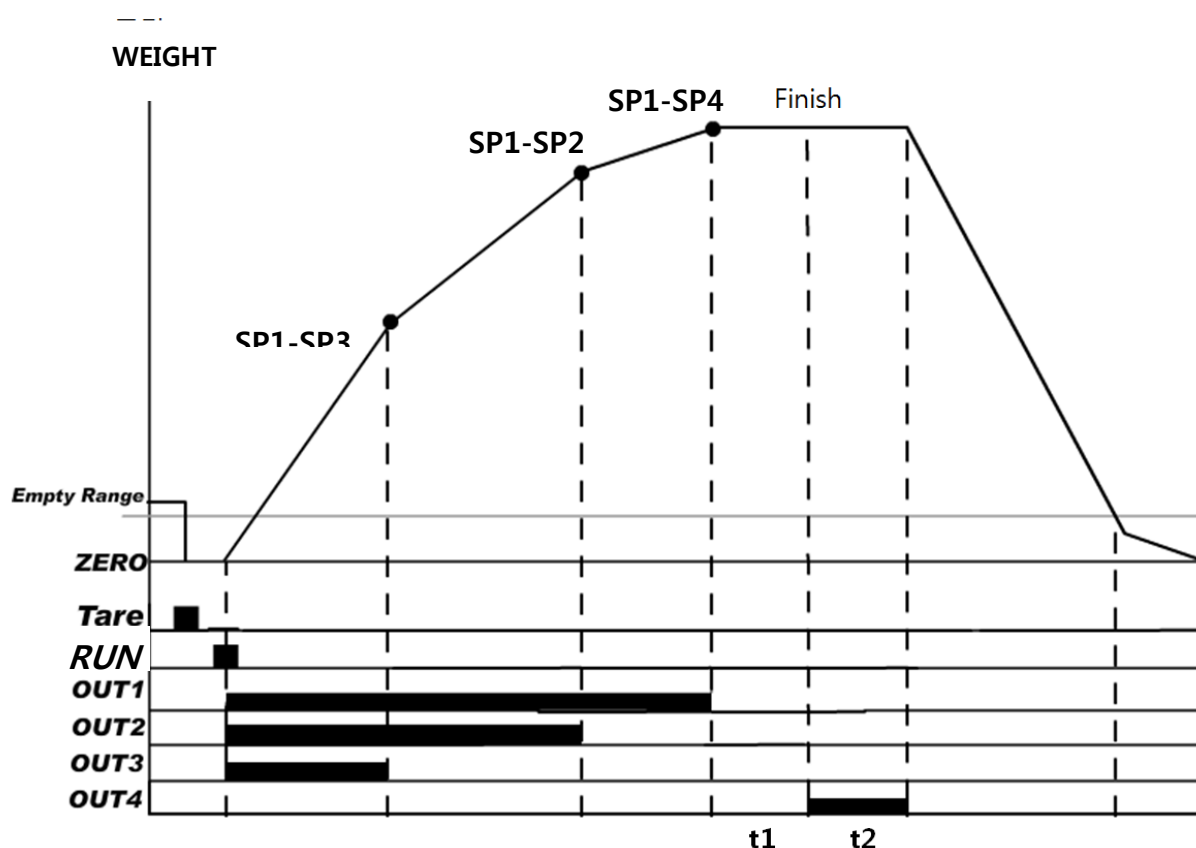
※ T1 = Finish Relay Output delay time, T2= Finish Relay output duration time

Relay Output

Relay	Contents	Relay	Contents
OUT 1 (Target)	Input “RUN” : “ON” Current weight = SP1 - SP3 ”OFF”	OUT 2 (Drib)	Input “RUN” : “ON” Current Weight = SP1 – SP2 ”OFF”
OUT 3 (Finish)	After reaching target value After “t1” time, “ON” during “t2” time	OUT 4 (Empty)	Within “EMPTY(F80 setting)” range “ON”

◆ Weighing Mode 4

– 3 Steps (F21 – 04 Setting) , Relay “ON” at finish point



EX) SP1(Target) = 1000, SP2(Drib) = 200, SP3(Bulk) = 500, SP4(Finish)= 50

Start Input : OUT1, OUT2, OUT3 will be “ON”

Current weight will reaches to 500(SP1-SP3), OUT3 will be “OFF”.

Current weight will reaches to 800(SP1-SP2), OUT2 will be “OFF”.

Current weight will reaches to 950(SP1-SP4), OUT1 will be “OFF”.

OUT4 (Finish) will be “ON, after OUT1 relay off and delay during “t1”time setting.

When OUT4 is “ON”, the weight value is saved.

※T1 = Finish Relay Output delay time, T2= Finish Relay output duration time

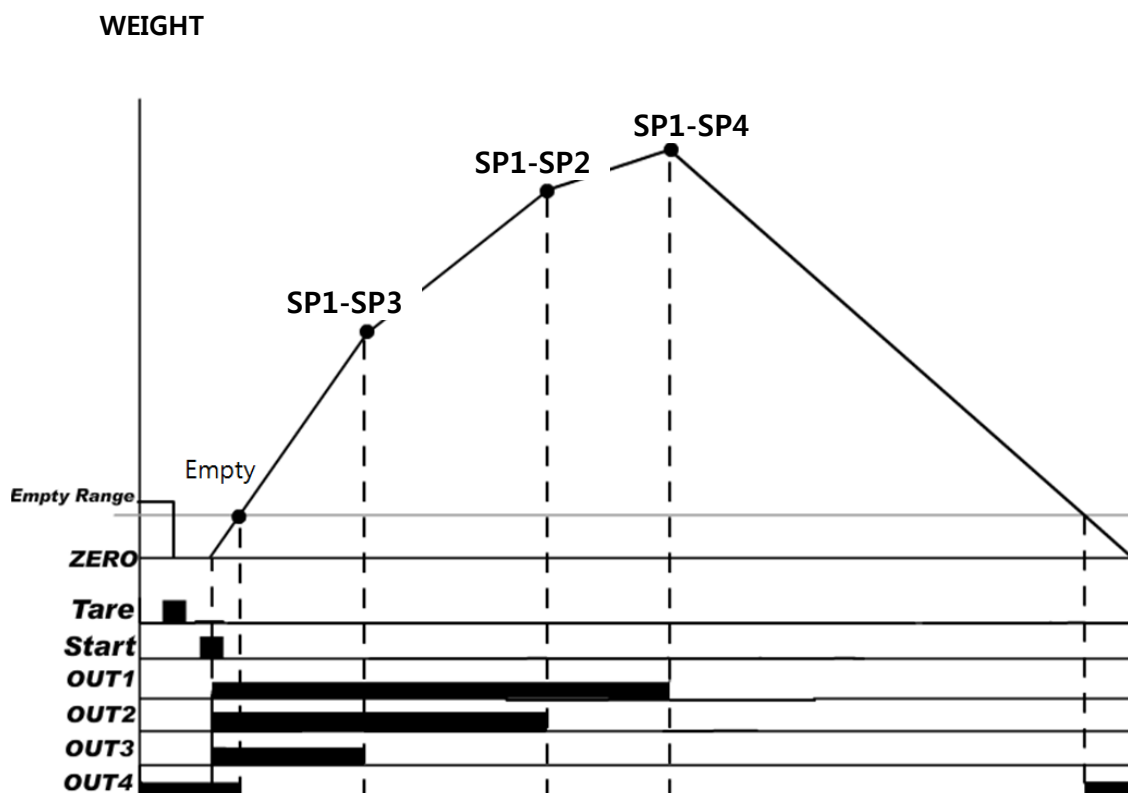
Relay Output

Relay	Contents	Relay	Contents
OUT 1 (Target)	Input “RUN” : “ON” Current weight = SP1 – SP4: ”OFF”	OUT 2 (Drib)	Input “RUN” : “ON” Current weight = SP1 - SP2 ”OFF”
OUT 3 (Bulk)	Input “RUN” : “ON” Current weight = SP1 - SP3 ”OFF”	OUT 4 (Finish)	After reaching SP1-SP4 After “t1” time, “ON” during “t2” time

SI 4630E WEIGHING CONTROLER

◆ Weighing Mode 5 – Packer Mode 3

3 Steps Control Packer Mode (F21 – 05 Setting), Relay “ON” at Empty range



EX) SP1(Target) = 1000, SP2 = 200, SP3 = 500, SP4 = 50, Empty Range=10

Start Input : SP1, SP2, SP4 will be “ON”.

Current Weight reaches to Empty range(=10) , SP4 will be “OFF”.

Current Weight reaches to 500(SP1-SP3), OUT3 will be “OFF”.

Current Weight reaches to 800(SP1-SP2), OUT2 will be “OFF”.

Current Weight reaches to 950(SP1-SP4), OUT1 will be “OFF”.

Within the Empty Range again, SP4 will “ON” .

When Out is “OFF”, the weight value is saved.

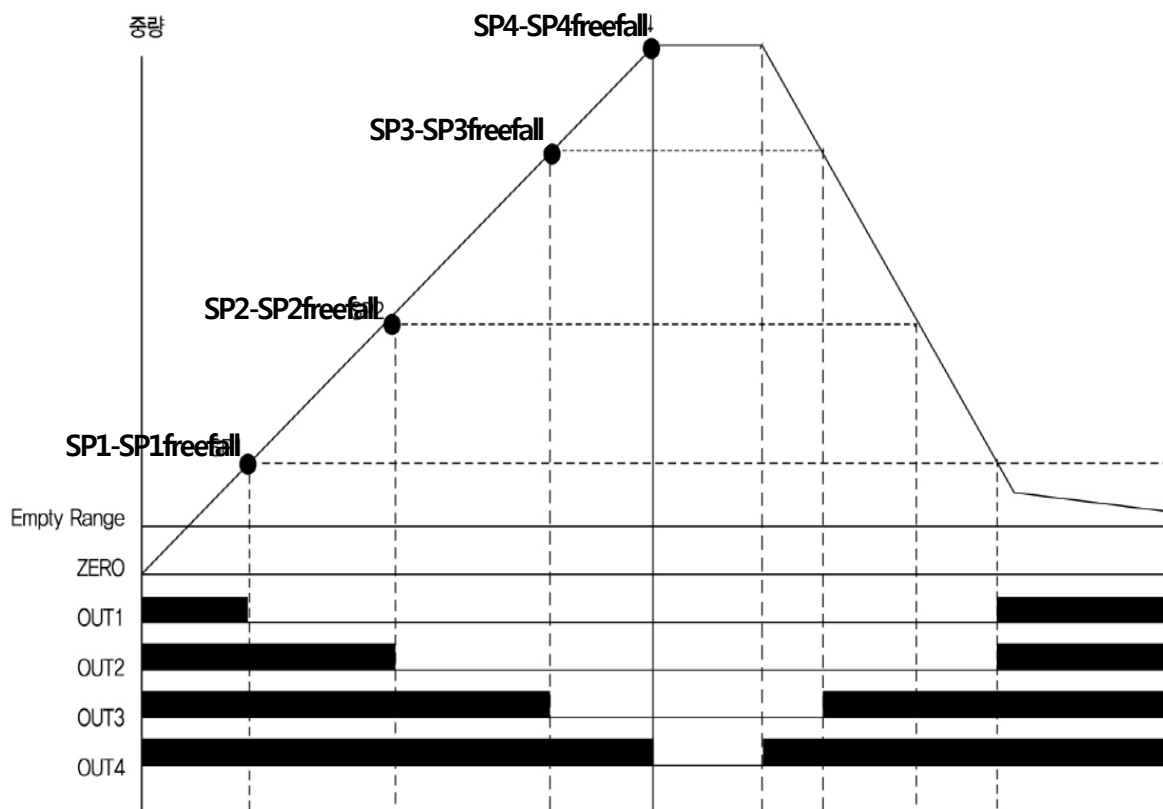
Relay Output

Relay	Contents	Relay	Contents
OUT 1 (Target)	Input “RUN” : “ON” Current weight =SP1 – SP4 :”OFF”	OUT 2 (Drib)	Input “RUN” : “ON” Current weight =SP1 - SP2 : ”OFF”
OUT 3 (Bulk)	Input “RUN” : “ON” Current weight = SP1 - SP3 : ”OFF”	OUT 4 (Empty)	Within “EMPTY”(F80 setting) range “ON”

SI 4630E WEIGHING CONTROLER

◆ Weighing Mode 6 – Limit Mode 3 (F21 – 06 Setting)

– Relay “ON” when weight reaches set value. User’s relay, “B” dry

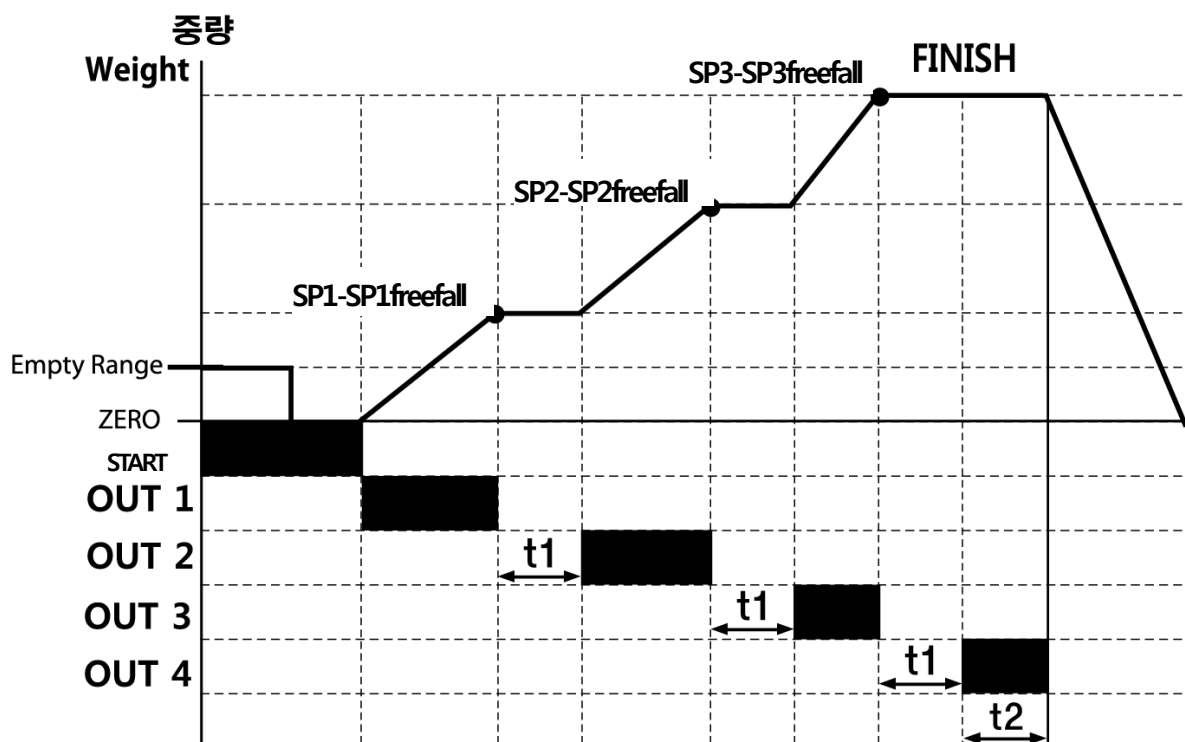


Relay Output

Relay	Output	Relay	Output
OUT 1	Current weight < SP1-SP1 freefall (ON)	OUT 2	Current weight < SP2-SP2 freefall (ON)
	Current weight ≥ SP1-SP1 freefall (OFF)		Current weight ≥ SP2-SP2 freefall (OFF)
OUT 3	Current weight < SP3-SP3 freefall (ON)	OUT 4	Current weight < SP4-SP4 freefall (ON)
	Current weight ≥ SP3-SP3 freefall (OFF)		Current weight ≥ SP4-SP freefall (OFF)

- Free fall setting mode can be set only weighing mode F21 -1, F21-2, F21-6, F21-7, F21-8.
- Free fall value < Target value, If you set wrongly, "err-8" shows.
- Default Free fall value is "0".

◆ Weighing Mode 7 – Accumulating Mode 1 (F21 – 07 Setting)

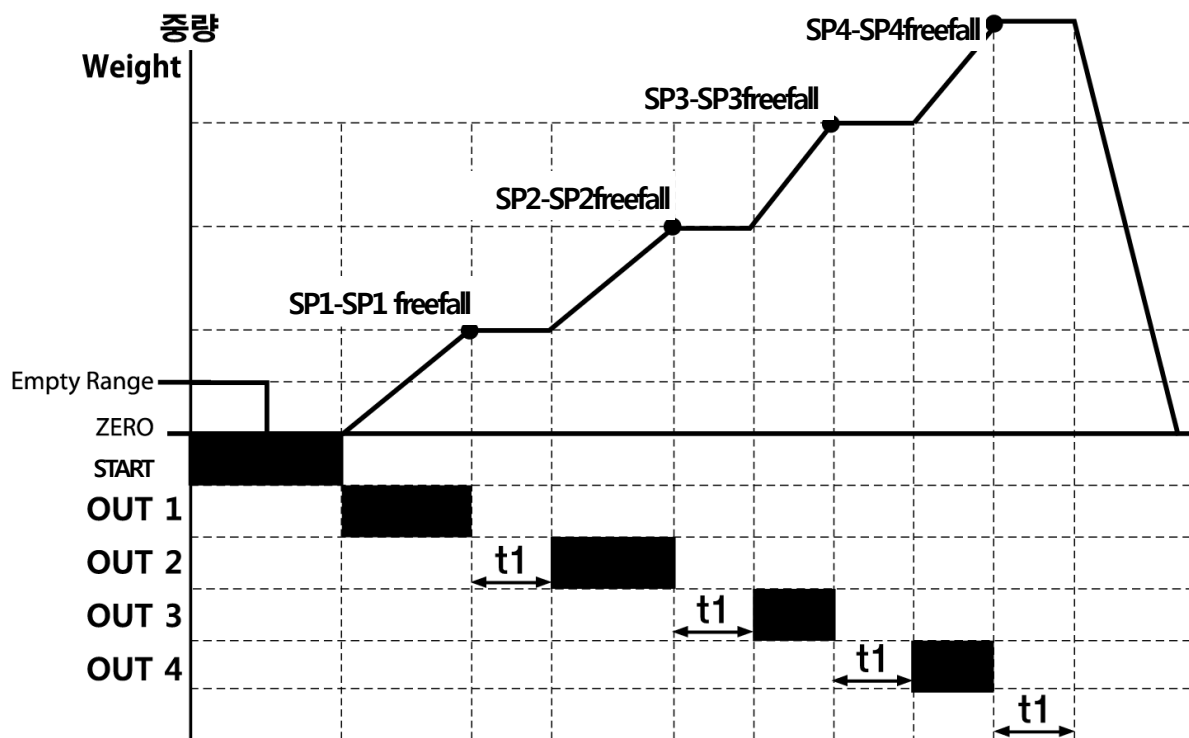


Relay Output

Relay	output	Relay	output
OUT 1	Current weight < SP1-SP1 freefall (ON) Current weight ≥ SP1-SP1 freefall(OFF)	OUT 2	SP1 ≤ Current weight < SP2-SP2 freefall (ON) Current weight ≥ SP2-SP2 freefall (OFF)
OUT 3	SP2 ≤ Current weight < SP3-SP3 freefall(OFF) Current weight ≥ SP3-SP3 freefall (OFF)	OUT 4	over At SP3-SP3 freefall after “t1” during “t2” ON

- Free fall setting mode can be set only weighing mode F21 -1, F21-2, F21-6, F21-7, F21-8.
- Free fall value < Target value, If you set wrongly, ”err-8” shows.
- Default Free fall value is “0”.

◆ Weighing Mode 8 – Accumulating Mode 2 (F21 – 08 Setting)



Relay Output

Relay	output	Relay	output
OUT 1	Current weight < SP1-SP1 freefall (ON)	OUT 2	Current weight < SP2-SP2 freefall(ON)
	Current weight ≥ SP1-SP1 freefall (OFF)		Current weight ≥ SP2-SP2 freefall(OFF)
OUT 3	Current weight < SP3-SP3 freefall(ON)	OUT 4	Current weight < SP4-SP4 freefall(ON)
	Current weight ≥ SP3-SP3 freefall (OFF)		Current weight ≥ SP4-SP freefall(OFF)

- Free fall setting mode can be set only weighing mode F21 -1, F21-2, F21-6, F21-7, F21-8.
- Free fall value < Target value, If you set wrongly, "err-8" shows.
- Default Free fall value is "0".

SI 4630E WEIGHING CONTROLLER

"FINISH Relay" delay time setting			
F22	10	00 ┆ 99	<p>EX) Weighing Mode3</p> <p>0.1 sec / Unit Ex)10 : 0.1 x 10 = 1 sec</p>
"Finish Relay" "ON" time setting			
F23	10	00 ┆ 99	<p>Ex) Weighing Mode 3</p> <p>0.1 sec</p>
F27	•	0	Absolute *When 4-20mA / 0-10V analogue output: Both +/- of weighing data.
		1	Positive weight weighing mode (only plus weight) *When 4-20mA / 0-10V analogue output: Only "+" of weighing data

■ Communication Mode Setting – Standard Serial port setting

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)

SI 4630E WEIGHING CONTROLER

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 Transmission Method selection			
F32		0	Simplex Mode / Stream Mode
	•	1	Duplex Mode / Command Mode
		2	Print Mode
“Check-Sum” detection selection (Under F32-01 setting, only)			
F34	•	0	Check-Sum Not Use
		1	Check-Sum Use
Under Stream Mode select the way transmit data protocol/frame (basic port)			
F35	•	0	Transmit by Protocol
		1	Transmit by frame (in case of using specific utility)
Caution: In case of “Transmit by frame” & under 14400bps setting (F31), the speed of system will be slow.			
DATA Transference Mode selection			
F36	•	0	Weighing Data will be transferred continuously
		1	Single time data transference, at first steady point, over than Empty range.
		2	Single time data transference, first weight steady point over than Empty range.
		3	Data transference, Whenever “Print” key input
DATA Transference Format selection (Under F32-00 setting, only)			
F37	•	0	Format 1 (recommended when using external display)
		1	Format 2. (Format 1 + ID No.)
		2	Format 3 (recommended when connecting to PLC or PC)
		3	CAS Format

Print Mode selection			
F38	•	0	Manual Print : Whenever “Print” key input.
		1	Auto print (at the first Steady point over “EMPTY” range or Whenever “Print” key input.)
		2	Auto print (Whenever Steady status at over “EMPTY” rage or Whenever “Print” key input.)
		3	Auto print : Whenever finish weigh(under F21-3, 4, 5 setting, only)

SI 4630E WEIGHING CONTROLER

■ Print Mode Setting

Weight Unit selection			
F41	●	0	Kg
		1	G
		2	T
Print Format selection			
F42	●	0	Continuous Print - Serial No. and Weight will be printed continuously.
		1	Single Print - Date, Time, S/N, ID No. Weighing Data will be print
SUB/GRAND Total Data Delete selection			
F44	●	0	Not deleted (manual Delete mode)
		1	Automatically Deleted.-After print out SBU/GRAND Total.
Paper Withdraw Rate setting (After SUB/GRAND Total Print)			
F45	03	00 ┆ 09	Whenever set value increased, 1 line will be added.

Paper Withdraw Rate setting (After Continuous/Single Print)			
F46	03	00 ┆ 09	Whenever set value increased, 1 line will be added.
Printing Language Selection			
F47	●	0	KOREAN
		1	ENGLISH
Minus(-) symbol Print selection			
F49	●	0	Print minus(-) symbol, if the weight is minus(-).
		1	Ignore minus(-) symbol

■ OPTION Setting

4~20mA/0~10V output Setting			
F50	●	0	Positive Output (Max Capacity : 20mA output)
		1	Negative Output (Max Capacity : 4mA output)
Analogue Output Selection (4~20mA or 0~10V output point selection)			
F51	●	0	Max Capacity : 20mA or 10V will be output
		1	SP1 set point : 20mA or 10V will be output
		2	SP2 set point : 20mA or 10V will be output
		3	SP3 set point : 20mA or 10V will be output
		4	SP4 set point : 20mA or 10V will be output
		5	GROSS value = Max Capacity(When "TARE" GROSS value): 20mA or 10V
"NEAR ZERO" relay output mode selection			
F53	●	0	Display weight is Zero → Near Zero relay output
		1	Only Gross Zero(Net weight + TARE) → Near Zero relay output
Set time of "Average Hold"			
F54	03	00 ┆ 09	When setting "Average Hold", set the time. (unit : sec)

SI 4630E WEIGHING CONTROLER

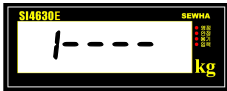
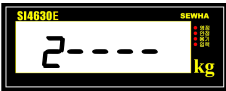










Parity Bit selection Mode			
F60	●	0	DATA Bit (8 Bit) STOP Bit (1 Bit) Parity Bit (Non)
		1	DATA Bit (8 Bit) STOP Bit (1 Bit) Parity Bit (Odd)
		2	DATA Bit (8 Bit) STOP Bit (1 Bit) Parity Bit (Even)
		3	DATA Bit (8 Bit) STOP Bit (2 Bit) Parity Bit (Non)
		4	DATA Bit (8 Bit) STOP Bit (2 Bit) Parity Bit (Odd)
		5	DATA Bit (8 Bit) STOP Bit (2 Bit) Parity Bit (Even)
		6	DATA Bit (7 Bit) STOP Bit (1 Bit) Parity Bit (Odd)
		7	DATA Bit (7 Bit) STOP Bit (1 Bit) Parity Bit (Even)
		8	DATA Bit (7 Bit) STOP Bit (2 Bit) Parity Bit (Odd)
		9	DATA Bit (7 Bit) STOP Bit (2 Bit) Parity Bit (Even)
Serial Communication Speed selection			
F61		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			
F62	●	0	Simplex Mode / Stream Mode
		1	Duplex Mode / Command Mode
		2	Print mode
Bluetooth Communication			
F63	●	0	Bluetooth Communication Off
		0	Bluetooth Communication On
“Check Sum” setting (Refer F62-01) in the Command Mode			
F64	●	0	Check-Sum Not Use
		1	Check-Sum Use

SI 4630E WEIGHING CONTROLER

Under Stream Mode select the way transmit data protocol/frame (extended port)			
F65	•	0	Transmit by Protocol
		1	Transmit by frame (in case of using specific utility)
Caution: In case of “Transmit by frame” & under 14400bps setting(F61), the speed of system will be slow.			
DATA Transference Mode selection			
F66	•	0	Weighing Data will be transferred continuously
		1	Single time data transference, Whenever the weight is steady over than Empty range.
		2	Single time data transference, first weight steady point over than Empty range.
		3	Data transference, Whenever “Print” key input
DATA Transference Format selection			
F67	•	0	Format 1 (recommended when use external display)
		1	Format 2. (Format 1 + ID No.)
		2	Format 3.
		3	CAS Format
Print Mode selection (Extended Serial port)			
F68	•	0	Manual Print : Whenever “Print” key input.
		1	Auto print (When the first Steady point over “EMPTY” range or Whenever “Print” key input.)
		2	Auto print (Whenever Steady status at over the range of “EMPTY” or Whenever “Print” key input.)
		3	Auto print(After weighing finished) Refer the F21-3,4,5 setting



■ Other Setting Mode

EMPTY Range setting		
F80	10	You can set “EMPTY” Range. Ex) “0” setting : When Net Zero, “Zero” status lamp is ON. “200” setting : Under “200”, “Zero” Status lamp is ON.
Minimum Analog Output Setting		
F81		You can set the minimum analog output setting (4~20mA/0~10V).
Maximum Analog Output Setting		
F82		You can set the maximum analog output setting (4~20mA/0~10V).
TIME(H,M,S) Check / Change (24Hours)		
F90		Check Current DATE data or you can Change to new date
DATE(Y,M,D) Check / Change		
F91		Check Current TIME data or you can Change to new time

SETUP Mode Password Key Setting / Change	
F95	<p>- Setting the password</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <p>1) When “1” displays, input 4 numbers</p> <p>2) If “2” display, input the 4 numbers once more. (recheck the password)</p> </div>
	<p>- Change the password</p> <div style="display: flex; align-items: center; margin-top: 10px;">  <div style="margin-left: 20px;"> <p>If “P-W” display, input the previous saved password .</p> <p>And set the “FFFF” as New password.</p> </div> </div>
	<p>- Deactivate Lock setting</p> <div style="margin-top: 10px;">  <p>If you set password four times     (4444), it is unlocked.</p> </div> <div style="background-color: #d9ead3; padding: 10px; margin-top: 10px;"> <p>After initialization (F77) the default password is    .</p> <p>When setting password you cannot start “SETUP” mode without password, do not forget your password.</p> </div>
Program & Hard ware Version Check	
F98	<p>Check the Program & Hard ware version</p> <p>Ex) “100 1.04” means H/W : ver.1.00 & S/W : ver.1.04</p>



5-5. SET-POINT Setting



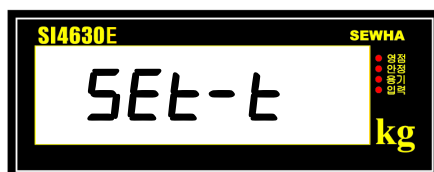
Press  key 4times → Enter the password → Displaying “SETUP” → Press  Key



When displaying “SET-P”,
Select Target setting mode or Freefall setting mode by

pressing  key and enter with  key

5-5-1. TARGET setting



5-5-1. Free Fall setting



Move to the number that you want to input with  key and Press  key to select.

Input target weight with  key and  key, and save data with  key.

- Free fall setting mode can be set only weighing mode F21 -1, F21-2, F21-6, F21-7, F21-8
- Free fall value < Target value, If you set wrongly, ”err-8” shows.
- Default Free fall value is “0”.


-  key means ESC/going to previous step ,  key means SAVE.


5-6. Test Mode





Before starting the TEST mode, please remove other connected devices.


Entering to Test mode 1.

Press  key for 4 secs





Select Test NO. with  key





and press  key

Entering to Test mode 2

Press  key



Press  Key when "F" is displaying.



TEST1. Analog Value Check Mode

TEST2. Analog Deviation Check Mode

TEST3. Key/External Input Check Mode

TEST4. Relay Output Check Mode

TEST5. Analog Output 4~20mA, 0~10V Check Mode

TEST6. COMM1 (RS232) Interface Check Mode

TEST7. COMM2 (422) interface Check mode(OPTION)



key means ESC/going to previous step ,



key means SAVE.

SI 4630E WEIGHING CONTROLER

5-6-1. Analog 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.



Move the place of number

5-6-2. Analog deviation check mode



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



key means ESC/going to previous step ,



key means SAVE.

5-6-3. Key/External Input Check Mode



This mode test key and external input.



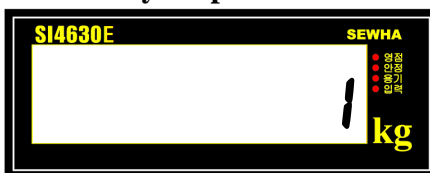
If you input key, you can check result at the unit's place.



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

SI 4630E WEIGHING CONTROLER

5-6-4. Relay output check mode

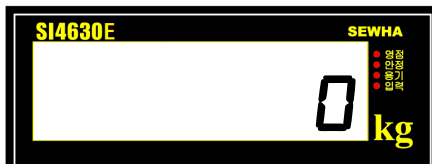


This mode check relay output by operating relay output , star 1 and gradually in order.

Disconnect every other devices from SI4630E.



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%, 0% Output



key means ESC/going to previous step ,



key means SAVE.

SI 4630E WEIGHING CONTROLER

5-6-6. COMM1(RS232) interface Check mode



Connect device that will communicate with SI4630E (ex. PC) and send test protocol.

Display is supposed to turned off when SI4630E send or receive, therefore if communicate is normal, display will flicker.

5-6-7. COMM2(422) interface Check mode(OPTION)



Connect device that will communicate with SI4630E (ex. PC) and send test protocol.

Display is supposed to turned off when SI4630E send or receive, therefore if communicate is normal, display will flicker.

TESTING PROTOCOL

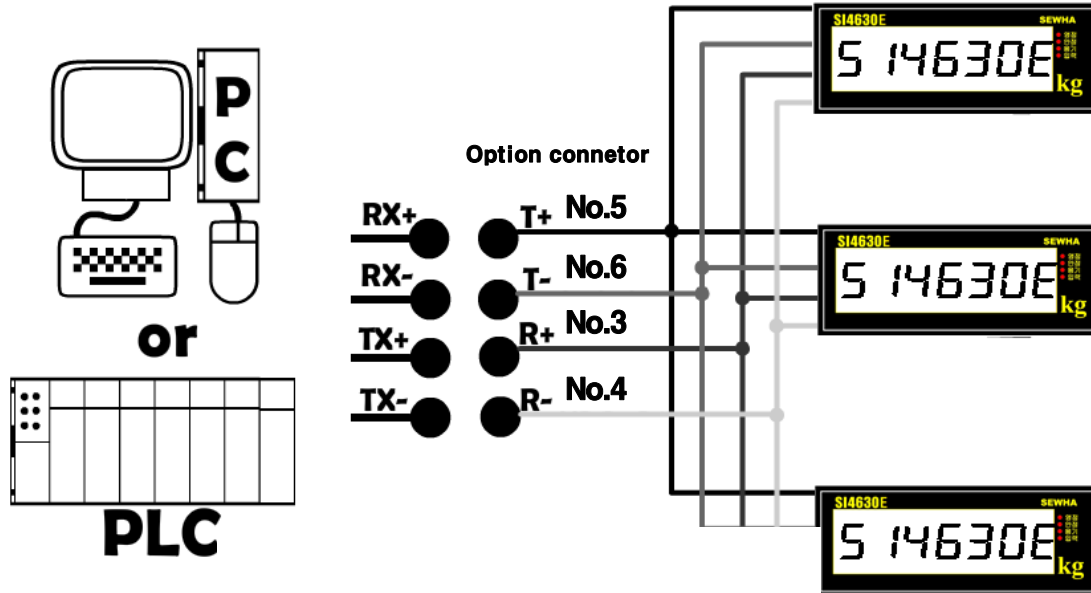


You cannot test Standard and Extended Serial Interface at the same time.

6. INTERFACE

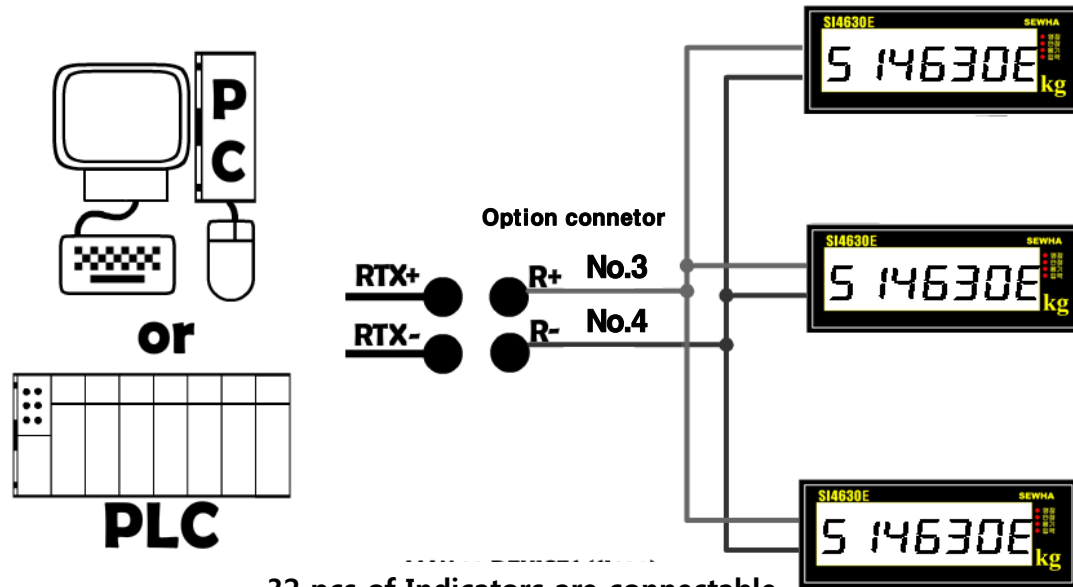
6-1. Serial interface

6-1-1. RS – 422(OPTION)



32 pcs of Indicators are connectable.

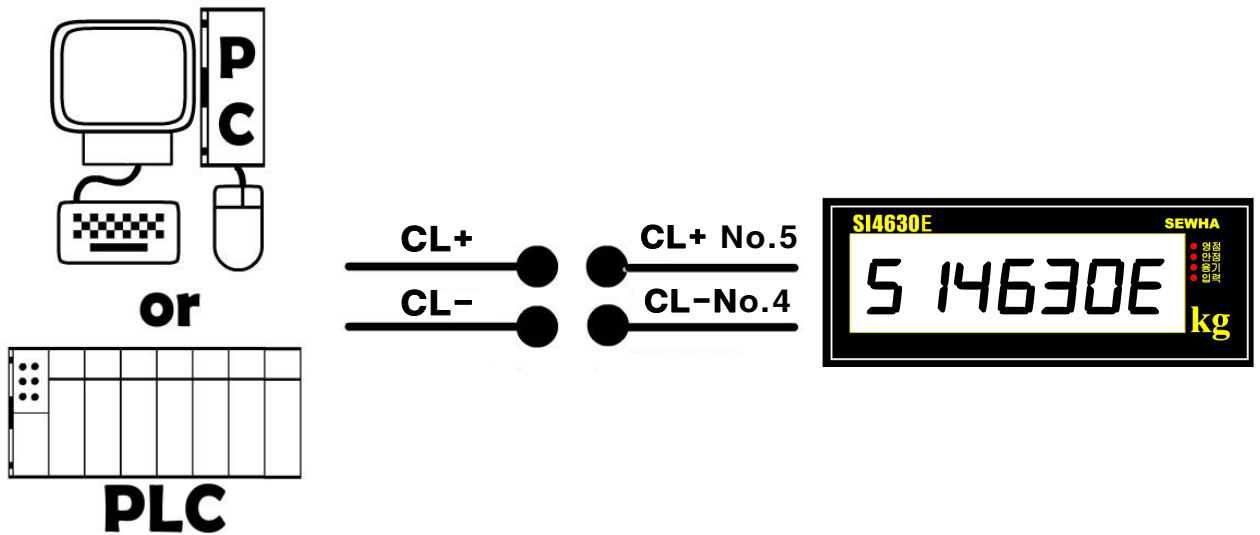
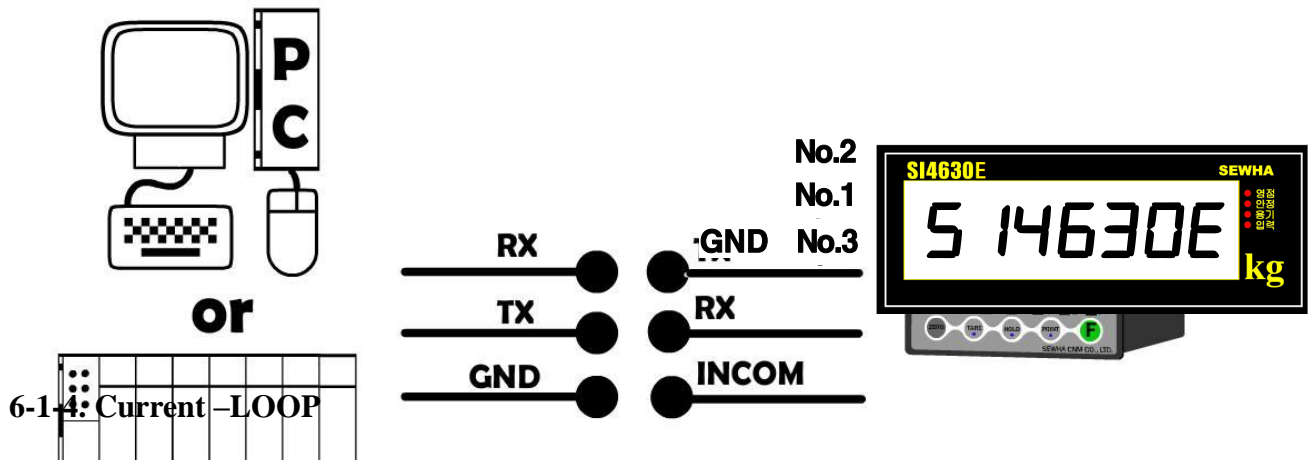
6-1-2. RS – 485(OPTION)



32 pcs of Indicators are connectable.

SI 4630E WEIGHING CONTROLER

6-1-3. RS – 232



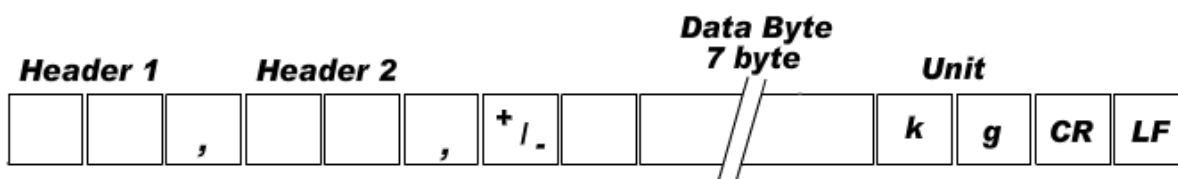
Serial communication **interface** is sensitive to electric noise.

Install isolated place from Power cable or other electric cables and wires, and please use shielded cable for better performance.

SI 4630E WEIGHING CONTROLER

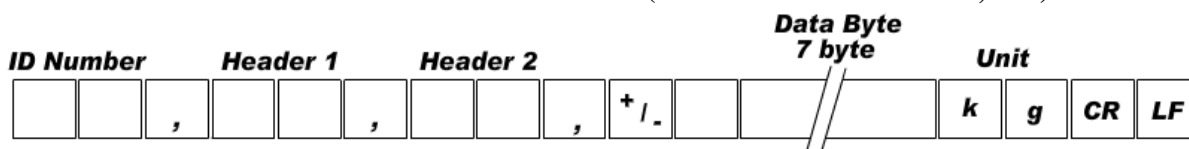
6-1-4. Data Format

1. Data Format1 : ID Number is not be transferred.(Refer “FUNCTION 37/67-00”)



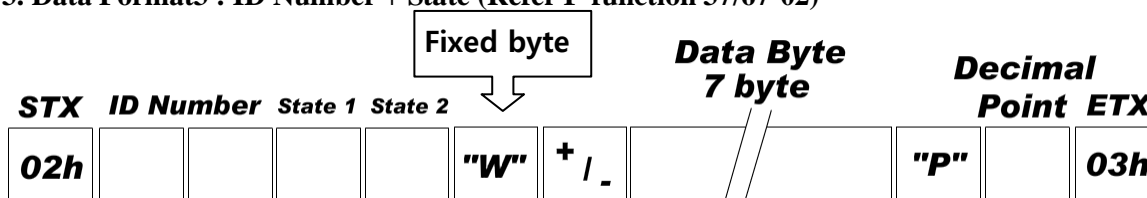
Header1	Header2
OL : OVER LOAD	NT : NET-WEIGHT(Tare is not set)
ST : Stable	GS : when setting TARE
US : Unstable	

2. Data Format2 : ID Number + Data Transference (Refer F-function 37/67-01, F18)



Header1	Header2
OL : OVER LOAD	NT : NET-WEIGHT(Tare is not set)
ST : Stable	GS : when setting TARE
US : Unstable	

3. Data Format3 : ID Number + State (Refer F-function 37/67-02)



State 1	State 2
O : OVER	G : Gross weight
S : STEADY	N : Net weight
U : UNSTABLE	

SI 4630E WEIGHING CONTROLER

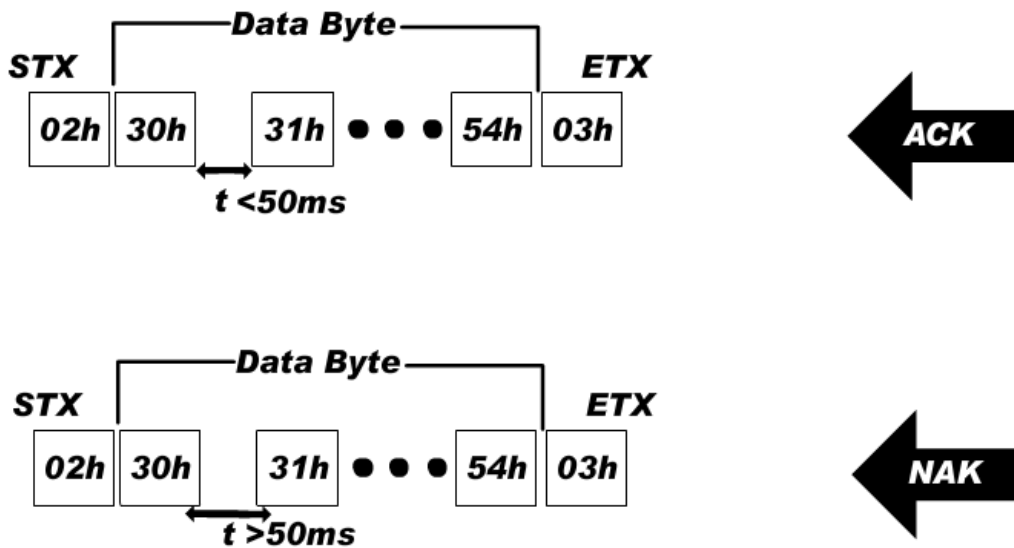
4. CAS Format (22byte) (Refer F-function 37/67-03)

Header 1		Header 2		ID Number		Data Byte 8 byte		Space	Unit			
LAMP	DISPLAY			,		,			k	g	CR	LF
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0					
1	0	1	Lamp Display	1	1	1	1					
1	STABLE	1	Hold	Print	Gross Weight	TARE	ZERO					

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

6-1-5. Command Mode

Under "Command Mode", Indicator will recognize the receipt of Order based on 02h(Header) and 03h(END) signal, and transfers ACK/ NAK).



Although wrong value is transmitted, the communication format is not matched, then ACK is transmitted.

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6-1-6. Read Command

Current Weight																																																																																							
ASCII : STX ID(2Byte) RCWT ETX	HEX : 02 30 31 52 43 57 54 03																																																																																						
SI 4630E response	STX ID RCWT State1(1byte) State2(1byte) P decimal point(1byte) +/- (1byte) Current weight(7byte) Weight unit(2byte) ETX																																																																																						
	State1 : O(over weight) , S(Steady), U(Unsteady) State2 : N(Net weight), G(Gross weight)																																																																																						
Ex) Steady(S), TARE not used(N), 0.000kg <u>State1, State2, Decimal point</u>																																																																																							
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 0 5px;">STX</td> <td style="padding: 0 5px;">ID</td> <td style="padding: 0 5px;">R</td> <td style="padding: 0 5px;">C</td> <td style="padding: 0 5px;">W</td> <td style="padding: 0 5px;">T</td> <td style="padding: 0 5px;">S</td> <td style="padding: 0 5px;">N</td> <td style="padding: 0 5px;">P</td> <td style="padding: 0 5px;">3</td> <td style="padding: 0 5px;">+</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">k</td> <td style="padding: 0 5px;">g</td> <td style="padding: 0 5px;">ETX</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">02h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">52h</td> <td style="border: 1px solid black; text-align: center;">43h</td> <td style="border: 1px solid black; text-align: center;">57h</td> <td style="border: 1px solid black; text-align: center;">54h</td> <td style="border: 1px solid black; text-align: center;">53h</td> <td style="border: 1px solid black; text-align: center;">4Eh</td> <td style="border: 1px solid black; text-align: center;">50h</td> <td style="border: 1px solid black; text-align: center;">33h</td> <td style="border: 1px solid black; text-align: center;">2Bh</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">6Bh</td> <td style="border: 1px solid black; text-align: center;">67h</td> <td style="border: 1px solid black; text-align: center;">03h</td> </tr> </table>		STX	ID	R	C	W	T	S	N	P	3	+	0	0	0	0	0	0	0	0	k	g	ETX	02h	30h	31h	52h	43h	57h	54h	53h	4Eh	50h	33h	2Bh	30h	30h	30h	30h	30h	30h	30h	6Bh	67h	03h																																										
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ASCII : STX ID(2Byte) RCWD ETX	HEX : 02 30 31 52 43 57 44 03																																																																																						
SI 4630E response	STX ID RCWD P decimal point No.(1byte)DATE(6byte) TIME(6byte) S/N(6byte) +/- TARE(7Byte) +/- (1byte) current tare weight(7byte) +/- (1byte) current weight(7byte) weight unit(2byte) ETX																																																																																						
	Ex) DATE : Aug 12 th ,2009 TIME : 12:00:00 P/N : 10 TARE : 2.000kg current weight : 3.000kg <u>decimal point</u>																																																																																						
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STX	ID	R	F	I	N	P	3	+	0	0	0	2	0	0	0	ETX																																																																							
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SI 4630E WEIGHING CONTROLER

Set Point3 set value																																																																																					
ASCII : STX ID(2Byte) RSP3 ETX	HEX : 02 30 31 52 53 50 33 03																																																																																				
SI 4630E response	STX ID RSP3 P decimal point(1byte) set value(7byte) ETX																																																																																				
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SI 4630E response	STX ID RSP4 P decimal point(1byte) set value(7byte) ETX																																																																																				
Ex) SP4 set value : 8.000 <u>decimal point</u>																																																																																					
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 0 5px;">STX</td> <td style="padding: 0 5px;">ID</td> <td style="padding: 0 5px;">R</td> <td style="padding: 0 5px;">S</td> <td style="padding: 0 5px;">P</td> <td style="padding: 0 5px;">4</td> <td style="padding: 0 5px;">P</td> <td style="padding: 0 5px;">3</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">8</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">ETX</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">02h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">31h</td> <td style="border: 1px solid black; padding: 2px;">52h</td> <td style="border: 1px solid black; padding: 2px;">53h</td> <td style="border: 1px solid black; padding: 2px;">50h</td> <td style="border: 1px solid black; padding: 2px;">34h</td> <td style="border: 1px solid black; padding: 2px;">50h</td> <td style="border: 1px solid black; padding: 2px;">33h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">38h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">03h</td> </tr> </table>		STX	ID	R	S	P	4	P	3	0	0	0	8	0	0	0	ETX	02h	30h	31h	52h	53h	50h	34h	50h	33h	30h	30h	30h	38h	30h	30h	03h																																																				
STX	ID	R	S	P	4	P	3	0	0	0	8	0	0	0	ETX																																																																						
02h	30h	31h	52h	53h	50h	34h	50h	33h	30h	30h	30h	38h	30h	30h	03h																																																																						
SP 1,2,3,4 set value																																																																																					
ASCII : STX ID(2Byte) RSPA ETX	HEX : 02 30 31 52 53 50 41 03																																																																																				
SI 4630E response	STX ID RSP4 P decimal point(1byte) SP1 set value(7byte) SP2 Set value(7byte) SP3Set value(7byte) SP4Set value(7byte) ETX																																																																																				
Ex) SP1 set value : 5.000, SP2 set value : 6.000, SP3 set value : 7.000, SP4 set value : 8.000																																																																																					
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 0 5px;">STX</td> <td style="padding: 0 5px;">ID</td> <td style="padding: 0 5px;">R</td> <td style="padding: 0 5px;">S</td> <td style="padding: 0 5px;">P</td> <td style="padding: 0 5px;">A</td> <td style="padding: 0 5px;">P</td> <td style="padding: 0 5px;">3</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">5</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">02h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">31h</td> <td style="border: 1px solid black; padding: 2px;">52h</td> <td style="border: 1px solid black; padding: 2px;">53h</td> <td style="border: 1px solid black; padding: 2px;">41h</td> <td style="border: 1px solid black; padding: 2px;">50h</td> <td style="border: 1px solid black; padding: 2px;">33h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">35h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> </tr> <tr> <td style="padding: 0 5px;">6</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">7</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">8</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">36h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">37h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">38h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> </tr> <tr> <td style="padding: 0 5px;">ETX</td> <td colspan="15"></td> </tr> </table>		STX	ID	R	S	P	A	P	3	0	0	0	5	0	0	0	0	0	02h	30h	31h	52h	53h	41h	50h	33h	30h	30h	30h	35h	30h	30h	30h	30h	30h	6	0	0	0	0	0	0	7	0	0	0	0	0	0	8	0	0	36h	30h	30h	30h	30h	30h	30h	37h	30h	30h	30h	30h	30h	30h	38h	30h	30h	ETX															
STX	ID	R	S	P	A	P	3	0	0	0	5	0	0	0	0	0																																																																					
02h	30h	31h	52h	53h	41h	50h	33h	30h	30h	30h	35h	30h	30h	30h	30h	30h																																																																					
6	0	0	0	0	0	0	7	0	0	0	0	0	0	8	0	0																																																																					
36h	30h	30h	30h	30h	30h	30h	37h	30h	30h	30h	30h	30h	30h	38h	30h	30h																																																																					
ETX																																																																																					
Current weight, Input, Output situation																																																																																					
ASCII : STX ID(2Byte) RWRS ETX	HEX : 02 30 31 52 57 52 53 03																																																																																				
SI 4630E response	STX ID RSP4 P decimal point(1byte) +/- (1byte) current weight(7byte) INPUT1,2,3,4(4byte) OUTPUT1,2,3,4(4byte) ETX (input or output : 1 , if not : 1)																																																																																				
Ex) Current weight 7.000kg input : IN1,IN3 , output : OUT2,OUT4																																																																																					
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 0 5px;">STX</td> <td style="padding: 0 5px;">ID</td> <td style="padding: 0 5px;">R</td> <td style="padding: 0 5px;">W</td> <td style="padding: 0 5px;">R</td> <td style="padding: 0 5px;">S</td> <td style="padding: 0 5px;">P</td> <td style="padding: 0 5px;">3</td> <td style="padding: 0 5px;">+</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">7</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">02h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">31h</td> <td style="border: 1px solid black; padding: 2px;">52h</td> <td style="border: 1px solid black; padding: 2px;">57h</td> <td style="border: 1px solid black; padding: 2px;">52h</td> <td style="border: 1px solid black; padding: 2px;">53h</td> <td style="border: 1px solid black; padding: 2px;">50h</td> <td style="border: 1px solid black; padding: 2px;">33h</td> <td style="border: 1px solid black; padding: 2px;">2Bh</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">37h</td> </tr> <tr> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">1</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">1</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">1</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">1</td> <td style="padding: 0 5px;">0</td> <td style="padding: 0 5px;">1</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">31h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">31h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">31h</td> <td style="border: 1px solid black; padding: 2px;">30h</td> <td style="border: 1px solid black; padding: 2px;">31h</td> <td style="border: 1px solid black; padding: 2px;">03h</td> <td></td> </tr> <tr> <td style="padding: 0 5px;">ETX</td> <td colspan="12"></td> </tr> </table>		STX	ID	R	W	R	S	P	3	+	0	0	0	7	02h	30h	31h	52h	57h	52h	53h	50h	33h	2Bh	30h	30h	30h	37h	0	0	0	1	0	1	0	0	1	0	1	0	1	30h	30h	30h	31h	30h	31h	30h	30h	31h	30h	31h	03h		ETX																														
STX	ID	R	W	R	S	P	3	+	0	0	0	7																																																																									
02h	30h	31h	52h	57h	52h	53h	50h	33h	2Bh	30h	30h	30h	37h																																																																								
0	0	0	1	0	1	0	0	1	0	1	0	1																																																																									
30h	30h	30h	31h	30h	31h	30h	30h	31h	30h	31h	03h																																																																										
ETX																																																																																					

SI 4630E WEIGHING CONTROLER

■ Write Command

Set as Zero (same as "ZERO" key)	
ASCII : STX ID(2Byte) WZER ETX	HEX: 02 30 31 57 5A 45 52 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
TARE	
ASCII : STX ID(2Byte) WTAR ETX	HEX: 02 30 31 57 54 41 52 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
TARE Reset	
ASCII : STX ID(2Byte) WTRS ETX	HEX: 02 30 31 57 54 52 53 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
Hold	
ASCII : STX ID(2Byte) WHOL ETX	HEX: 02 30 31 57 48 4F 4C 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
Hold Reset	
ASCII : STX ID(2Byte) WHRS ETX	HEX: 02 30 31 57 48 52 53 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
Print	
ASCII : STX ID(2Byte) WPRT ETX	HEX: 02 30 31 57 50 52 54 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
Print Grand Total	
ASCII : STX ID(2Byte) WGPR ETX	HEX: 02 30 31 57 47 50 52 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
Delete Grand Total	
ASCII : STX ID(2Byte) WGTC ETX	HEX: 02 30 31 57 47 54 43 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
RUN	
ASCII : STX ID(2Byte) WSTR ETX	HEX: 02 30 31 57 53 54 52 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX
STOP	
ASCII : STX ID(2Byte) WSTP ETX	HEX: 02 30 31 57 53 54 50 03
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX

SI 4630E WEIGHING CONTROLER

DATE Setting																													
ASCII : STX ID(2Byte) WDAT current DATE (6byte) ETX																													
Ex) Date : Aug 12 th ,2009																													
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">STX</td> <td style="padding: 2px 5px;">ID</td> <td style="padding: 2px 5px;">W</td> <td style="padding: 2px 5px;">D</td> <td style="padding: 2px 5px;">A</td> <td style="padding: 2px 5px;">T</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">9</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">8</td> <td style="padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">2</td> <td style="padding: 2px 5px;">ETX</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">02h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">57h</td> <td style="border: 1px solid black; text-align: center;">44h</td> <td style="border: 1px solid black; text-align: center;">41h</td> <td style="border: 1px solid black; text-align: center;">54h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">39h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">38h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">32h</td> <td style="border: 1px solid black; text-align: center;">03h</td> </tr> </table>	STX	ID	W	D	A	T	0	9	0	8	1	2	ETX	02h	30h	31h	57h	44h	41h	54h	30h	39h	30h	38h	31h	32h	03h		
STX	ID	W	D	A	T	0	9	0	8	1	2	ETX																	
02h	30h	31h	57h	44h	41h	54h	30h	39h	30h	38h	31h	32h	03h																
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX																												
TIME Setting																													
ASCII : STX ID(2Byte) WTIM Time (6byte)ETX																													
Ex) Time : 12:00:00																													
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">STX</td> <td style="padding: 2px 5px;">ID</td> <td style="padding: 2px 5px;">W</td> <td style="padding: 2px 5px;">T</td> <td style="padding: 2px 5px;">I</td> <td style="padding: 2px 5px;">M</td> <td style="padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">2</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">ETX</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">02h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">57h</td> <td style="border: 1px solid black; text-align: center;">54h</td> <td style="border: 1px solid black; text-align: center;">49h</td> <td style="border: 1px solid black; text-align: center;">4Dh</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">32h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">03h</td> </tr> </table>	STX	ID	W	T	I	M	1	2	0	0	0	0	ETX	02h	30h	31h	57h	54h	49h	4Dh	31h	32h	30h	30h	30h	30h	03h		
STX	ID	W	T	I	M	1	2	0	0	0	0	ETX																	
02h	30h	31h	57h	54h	49h	4Dh	31h	32h	30h	30h	30h	30h	03h																
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX																												
Change S/N																													
ASCII : STX ID(2Byte) WSNO S/N(6byte)ETX																													
Ex) S/N is changed to 100																													
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">STX</td> <td style="padding: 2px 5px;">ID</td> <td style="padding: 2px 5px;">W</td> <td style="padding: 2px 5px;">S</td> <td style="padding: 2px 5px;">N</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">ETX</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">02h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">57h</td> <td style="border: 1px solid black; text-align: center;">53h</td> <td style="border: 1px solid black; text-align: center;">4Eh</td> <td style="border: 1px solid black; text-align: center;">4Fh</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">03h</td> </tr> </table>	STX	ID	W	S	N	0	0	0	0	1	0	0	ETX	02h	30h	31h	57h	53h	4Eh	4Fh	30h	30h	30h	31h	30h	30h	03h		
STX	ID	W	S	N	0	0	0	0	1	0	0	ETX																	
02h	30h	31h	57h	53h	4Eh	4Fh	30h	30h	30h	31h	30h	30h	03h																
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX																												
Setting SP1																													
ASCII : STX ID(2Byte) WSP1 SP1set value(7byte) ETX																													
Ex) SP1 : 5.000kg (decimal point : 0.000)																													
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">STX</td> <td style="padding: 2px 5px;">ID</td> <td style="padding: 2px 5px;">W</td> <td style="padding: 2px 5px;">S</td> <td style="padding: 2px 5px;">P</td> <td style="padding: 2px 5px;">1</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">5</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">0</td> <td style="padding: 2px 5px;">ETX</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">02h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">57h</td> <td style="border: 1px solid black; text-align: center;">53h</td> <td style="border: 1px solid black; text-align: center;">50h</td> <td style="border: 1px solid black; text-align: center;">31h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">35h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">30h</td> <td style="border: 1px solid black; text-align: center;">03h</td> </tr> </table>	STX	ID	W	S	P	1	0	0	0	5	0	0	0	ETX	02h	30h	31h	57h	53h	50h	31h	30h	30h	30h	35h	30h	30h	03h	
STX	ID	W	S	P	1	0	0	0	5	0	0	0	ETX																
02h	30h	31h	57h	53h	50h	31h	30h	30h	30h	35h	30h	30h	03h																
SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX																												

SI 4630E WEIGHING CONTROLER

Setting SP2																																																																									
ASCII : STX ID(2Byte) WSP2 SP2set value(7byte) ETX																																																																									
Ex) SP2 : 6.000kg (decimal point : 0.000)																																																																									
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SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX																																																																								
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SI 4630E response	normal: STX ID ACK ETX error: STX ID NAK ETX																																																																								

Tip

Recommended Comm. Interval of WRITE COMMAND is Min. 100ms.

Comm. Interval of WPRT is Min.300ms

You have to guarantee Min. 100ms interval between two different commands.

Response for WPRT will be output through Print Port, set by F32-0 or F62-02).

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■ Command Mode Example

● READ COMMAND

Ex.) Current Weight Command(RCWT), ID No. : 01, Current Weight : 1,000kg

1) P.C Read Command Format (STX ID NO. RCWT ETX) "Check-sum" not used.

* PC transmits to SI4630E

STX	ID	R	C	W	T	ETX	
02h	30h	31h	52h	43h	57h	54h	03h

* SI4630E Response to PC

STX	ID	R	C	W	T	S	N	P	3	+	0	0	0	7	0	0	0	ETX	
02h	30h	31h	52h	57h	52h	53h	53h	4Eh	50h	33h	2Bh	30h	30h	30h	37h	30h	30h	30h	03h

2) When PC requests to Indicator, Format(STX ID RCWT ETX) CHCEK SUM is used.

* PC transmits to SI4630E

STX	ID	R	C	W	T	BCC	ETX		
02h	30h	31h	52h	43h	57h	54h	41h	36h	03h

* SI4630E Response to PC

STX	ID	R	C	W	T	S	N	P	3	+	0	0	0	7	0	0	0	5	A	ETX	
02h	30h	31h	52h	57h	52h	53h	53h	4Eh	50h	33h	2Bh	30h	30h	30h	37h	30h	30h	30h	35h	41h	03h

● WRITE COMMAND

Ex) SP1 Setting Command, ID No : 01, New SP1 Set value : 0.600kg

1) PC Write command format (STX ID WPR1 000.600 ETX) "CHECK SUM" not use.

* PC transmits to SI4630E

STX	ID	W	T	I	M	1	2	0	0	0	0	ETX	
02h	30h	31h	57h	54h	49h	4Dh	31h	32h	30h	30h	30h	30h	03h

* SI4630E Response to PC

STX	ID	ACK	ETX	
02h	30h	31h	06h	03h

Normal operation

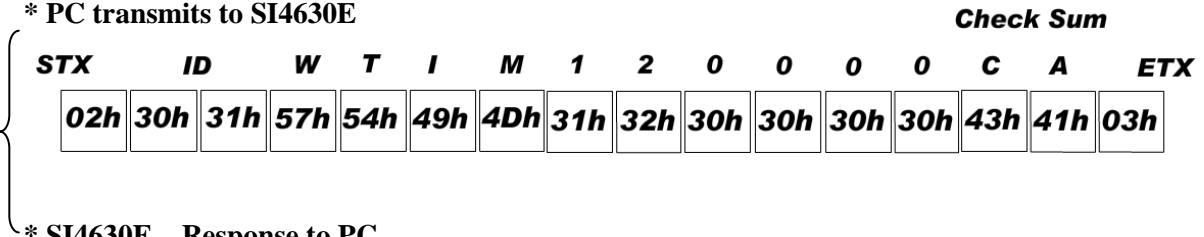
STX	ID	NAK	ETX	
02h	30h	31h	15h	03h

Incorrect operation

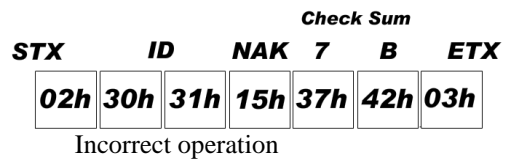
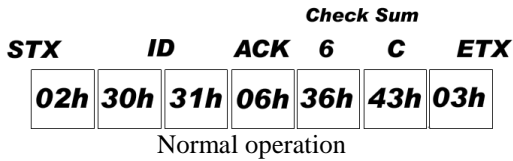
SI 4630E WEIGHING CONTROLER

1) PC Write command format (STX ID WPR1 000.600 ETX) “CHECK SUM” use.

* PC transmits to SI4630E



* SI4630E Response to PC



All Read/Write command must be use “HEX CODE”.

Tip How to Calculate Check sum.

Sum the value from “STX” to “ETX” and converts to ASCII(2byte) and transfer.

Convert the Sum value(HEX) to ASCII and transmit(28byte) .

ex) The sum HEX value from STX to ETX(02,30,31,52,43,57,54,03) is 1A6h.

Then, divide 1A6h by 100h(1A6h/100h). t

he rest of result is A6h.

Calculated remainder value is A6h, then convert A6h to ASCII, 41(A), 36(6), and transfer.

6-2. Relay Output

4pcs Control Relay output is installed in Output Terminal.

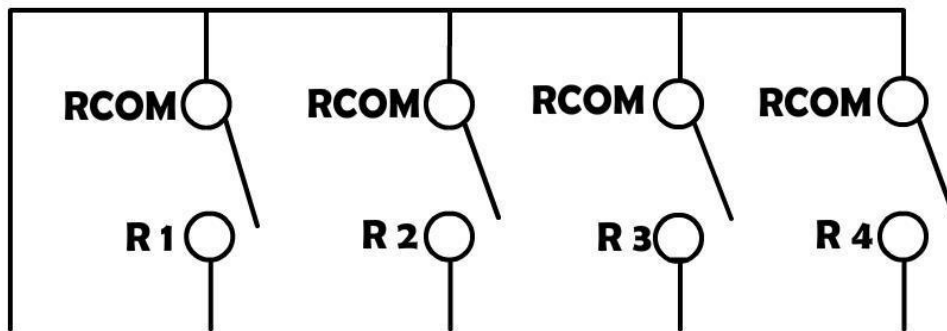
You can make setting for these relay output through F21 function.. (A/B Dry Contact).

6-2-1. Relay Specification

Coiling Rating	12VDC
Contact Ratings	1A 24VDC

6-2-2. Relay

Output Diagram.



Tip Under TEST Mode ,Calibration mode and SET-POINT setting mode, the relay output will be OFF.



Please check the optimal voltage of output terminal, if the high voltage power will be connected with output terminal, it may cause damage or relay or main board of indicator.

6-3. Analogue I-Output Interface. (4~20mA)

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

6-3-1. Specification

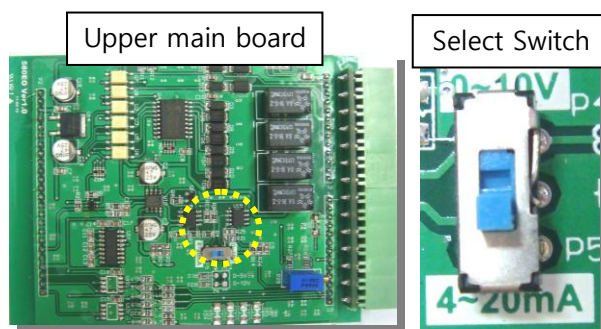
Output Current	Output Range :2~22mA (Default : 4~20mA)
Accuracy	More than 1/5,000
Temperature Coefficient	0.01% °C
. Max Loaded Impedance	500Ω MAX

Tip

Under Calibration mode or "CELL-ERR" condition, Analogue output will not activated.
If the output is deactivated, the last output signal value will be hold until next activation.

6-3-2. Output Adjustment

- ① Default analog output value is 4mA(weight zero) , 20mA(Full using capa).
- ② The analogue output value is adjusted with DIGITAL MULTI-METER.



Check the setting to use the analog output switch in the upper main board.
(Default : 4~20mA)

③ How to adjust analog output value.

Step1) Connect Digital multi meter to the Indicator (A out terminal).

Step2) Enter "F81 Minimum Analog Output Setting" mode.

Step3) Adjust the displaying value of indicator with keys(by 9,999) to make Digital multi meter's value as minimum(ex:4mA) and save.(When the SI4630E indicate about 5,200 , the Digital multi meter indicates about 4mA)

Step4) Enter "F82 Maximum Analog Output Setting" mode

Step5) after connect digital multi meter to the indicator, then adjust the displaying value of indicator with keys (by 32,768) to make Digital multi meter's value as maximum (ex:20mA).

※ This D/A Converter has Max 1/5,000 accuracy, so this output is not suitable for high accuracy application, more than 1/5,000.

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

This output card converts weight value to Analog output signal (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	More than 1/1,000

Tip

According to display weight of indicator, analogue signal will be output.

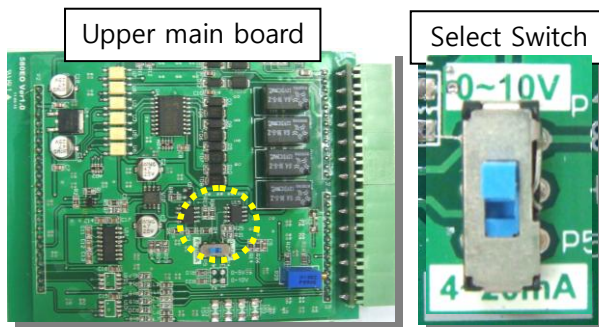
The operator can determine 10V output spot by setting F51 function.

Under Calibration mode or "CELL-ERR" condition, Analogue output will not activated.

If the output is deactivated, the last output signal value will be hold until next activation

6-4-2. Output Adjustment

- ① Default analog output value is 0V(weight zero) , 10V(Full using capa).
- ② The analogue output value is adjusted with DIGITAL MULTI-METER.



Check the setting to use the analog output switch in the upper main board.

(Default : 4~20mA)

③ How to adjust analog output value.

Step1) Connect Digital multi meter to the Indicator (A out terminal).

Step2) Enter "F81 Minimum Analog Output Setting" mode.

Step3) Adjust the displaying value of indicator with keys(by 9,999) to make Digital multi meter's value as minimum(ex:0V) and save.(When the SI4630E indicates about 30,150 , the Digital multi meter indicates about 10V)

Step4) Enter "F82 Maximum Analog Output Setting" mode

Step5) after connect digital multi meter to the indicator, then adjust the displaying value of indicator with keys (by 32,768) to make Digital multi meter's value as maximum (ex:10V).

※ This D/A Converter has Max 1/5,000 accuracy, so this output is not suitable for high accuracy application, more than 1/5,000.

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6-5. Print interface

It can be connected with all kinds of Serial interface printer, but the printing format is already programmed and fixed with SE7200/7300 model.

● Printing Format (F32-02 setting)

English format (F47-01)	
Continuous Print F42-00	<pre>===== DATE : 2011-05-10 TIME : 18:00:10 COUNT WEIGHT 1 + 1.330kg 2 + 5.350kg 3 + 1.380kg 4 + 2.330kg =====</pre>
Single Print F42-01	<pre>===== DATE : 2011-05-10 TIME : 18:00:10 COUNT WEIGHT 2 + 5.350kg ===== ===== DATE : 2009-05-10 TIME : 18:00:10 COUNT WEIGHT 3 + 1.280kg =====</pre>
Grand Total F44-00 (Grand Total Print delete setting, F44-01)	<pre>===== TOTAL DATE : 2011-05-10 TIME : 18:00:10 COUNT : 10 TOTAL WEIGHT : 258.145kg ===== TOTAL DELETE =====</pre>

7. Error & Treatment

7-1. Load Cell Installation

Error	Cause	Treatment	Remarks
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	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 100Ω
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 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(Over Load)	1. Load cell broken or Indicator connection Error 2. Loading over than Max Capacity	1. Load cell Check 2. Load cell connection Check 3. Remove over loaded weight	

7-2. Calibration Process

Display	Cause	Treatment
Eerr-01	When Maxcapacity/digit value is over 20,000	Re-input the Max Capacity, less than 20.00 (Max Capacity / Digit)
Eerr-04	Standard weight value is over than Max Capacity	Re-input Standard weight value with Number keys, under Max Capacity
Eerr-05	Standard weight value is less than 10% of Max Capacity	Re-input Standard weight value with Number keys, more than 10% of Max Capacity
Eerr-06	1. Amp. Gain is too big 2. Sig+ and Sig- wire connection error 3. Test weight is not loaded	Check standard weight's weight with set value. If there is difference between set value and real weight, please re-input the value (set value is too small)
Eerr-07	1. Amp. Gain is too small 2. Sig+ and Sig- wire connection error 3. Test weight is not loaded	Check standard weight's weight with set value. If there is difference between set value and real weight, please re-input the value (set value is too big)
Eerr-08	Under "F-function" model, set value is "N.A"	Check the correct value and re-input
err-a	When there is continuous vibration on the weighing part,, indicator cannot process calibration any more.	- Find vibration cause and remove - Load cell check - Load cell cable and connecting condition check

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7-3. Digital Weighing Indicator

Display	Cause	Treatment
<p>“Cell-er”</p> <p>or</p> <p>“0Uer”</p>	<p>1. Load cell Error</p> <p>2. Load cell cable Error</p> <p>3. Load cell connection Error</p> <p>4. A/D Board Error</p> <p>5. If Analogue value is over 1,040,000.</p> <p>※ When weigh “-“ value, If it is over set max capa, “OVER” is displayed.</p> <p>Ex) Even though set max capa is “100” and it is over “-100”, “OVER” is displayed.</p>	<p>1. Under “TEST” mode 1, check analogue value. If you cannot get any analogue value or there is no change although adding load, please check load cell, load cell cable, connection conditions first.</p> <p>2. Replace another load cell, and check the indicator condition. If you have same problem, please replace new indicator and check A/D board error.</p> <p>3. Try to connect the indicator’s A/D with the other indicator.</p> <p>4. Check the power and connection of terminal.</p>
“UNpa55”	<p>1. Power is ON, when some materials are on weighing part.</p> <p>※ 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.</p> <p>※ Setting Back-up mode it can memory empty value, and it becomes set value without displaying” Un-pass”)</p>	<p>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.</p> <p>2. Please try to set F02-01(Back-up) mode so that the indicator can remember first empty value.</p>
“5et”	<p>When Power is on, “SET” displays.</p> <p>It means EEPROM has some problem.</p>	Please contact the distributor or Head Office.
“Halt”	H/W has some problem.	
“t-err”	The dead Battery	

※ Under **“Cell-er”**, ZERO key, PRINT key, Relay output and analog output(4-20mA / 0~10V) will not be activated.

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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

Manufacturer : SEWHACNM Co.,Ltd.

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Bucheon-si, Gyeonggi-do, Korea

Tel : +82 70) 4754 6140

Fax: +82 32) 624 0065

sales@sewhacnm.co.kr

<http://www.sewhacnm.co.kr> ,

Made in KOREA

Product

Digital Weighing Indicator

Model

SI 4630E

Serial No.

AUTHORIZED
STAMP

