CE

Approved for Digital Weigh Indicator

Digital Weighing Indicator

SI 4630

(For both External Display and Indicator)

Instruction Manual

SEWHACNM
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Version 1.03 (SEP. 2010)

CONTENTS

1. BEFORE INSTALLATION

1-1. Caution / Warning Marks

Warning

This mark warns the possibility to arrive death or serious injury in case of wrongly used.

Caution

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

1-2. Other Marks

Warning for Electric Shock or Damage.
Please do not touch by hand

Protective Ground(Earth) terminal

Prohibition of Operation process

1-3. Copy Rights

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2). Any kinds of copy or distribution without Sewhacnm Co.,Ltd's permission will be prohibited.

1-4. Inquiries

If you have any kinds of inquiries for this model, please contact with your local agent or Head Office.

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2. INTRODUCTION

Thank you for your choice, this "SI 4630"Industrial Digital Weighing Controller.
This SI4630, External Display Controller, is the most applied equipment for industrial weighing applications, like Platform Scale, Truck Scale, and Animal Scale.
This SI4630 has serial interface(RS232+Current Loop) as a standard, and 3.0 inch RED FND Display to maximize indicating capacity from far distance.
Enjoy your process efficiency with "SI 4630" Weighing controller.

2-1. Feature

- 3.0 inch RED FND Display to maximize indicating capacity.
- Strong for electric noise from outside.
- Self-Diagnosis function with several test modes.
- Display Resolution 1/20,000.
- Data-Back up Function.
- 4pcs External input terminal, as a standard.
- Serial interface(RS-232+Current Loop) standard built-in.
- Watch-Dog function.
- Full Automatic Zero adjustment (Without Dip switch adjustment).
- Tow different kinds of Calibration modes (Span Calibration and Simulating Calibration)
- Wireless Remote Control Key pad (Option).

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. Components

Standard

- SI4630 Controller
- Power Cable (AC220V) : 1pcs
- Load Cell Connector (N-16 connector) : 1pcs
- Wire Key Pad : 1pcs
- Operating Manual : 1pcs
- Mount Guide : 1pcs

Option

- Wireless Key Pad
- Rs-422/485

3. SPECIFICATION

3-1. Specification

Content			Specification
Performance	External Resolution		1/20,000
	Internal Resolution		1/2,097,152 (±1,048,576)
	Input Sensitivity		0.1μV/V
	Max. Input Signal		Max.3.2mV/V
	Load cell Excitation		+5VDC
	A/D Conversion Method		Sigma-Delta
	Decimal Point		0, 0.0, 0.00, 0.000
	Drift	Offset	<5PPM/℃
		Span	<5PPM/℃
	Linearity		0.001% of Full Scale
	Analog Sampling(sec)		Max. 60times / sec
Environment	Operating Temperature Range		-10℃ ~ +40℃ [14˚F ~ 104˚F]
	Operation Humidity Range		40% ~ 85% RH, Non-condensing
Function	Calibration Mode		Test Weight Calibration Mode Simulation Calibration Mode(Without Test Weight)
	Display		5 digit, 73.5mm(3inch) Red Color FND
	Key Pad		6EA Standard Key Select Key Function at F-Function 11
Communication	Serial Interface(RS-232)		Standard Installed (Only trans communication data) - Only support serial print (Not parallel print)
	Current Loop Interface		Standard Installed (Only trans communication data)
Option	Serial Interface(RS-485)		Factory Installed default (Not Installed locus)
	Remote Key Pad		Remote Control (Seem like SI 3060A)
Power Cable	ISOLATED Serial Communication		
	Input Power		AC 110V ~ 220V 1.0A ~ 0.55A 50~60Hz
	Internal Use Power		DC 24V 1,300mA
Size	461(L)x200(H)x160(W)mm Body:400(L)×148(H) ×160(W)		Weight : About 2.0kg

3-2. Front Panel (Display)

Weight Display
(Use the height of 73.5mm LED)

Status Display LED
(Indicator display the status of the action)

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

3-3. Key Pad

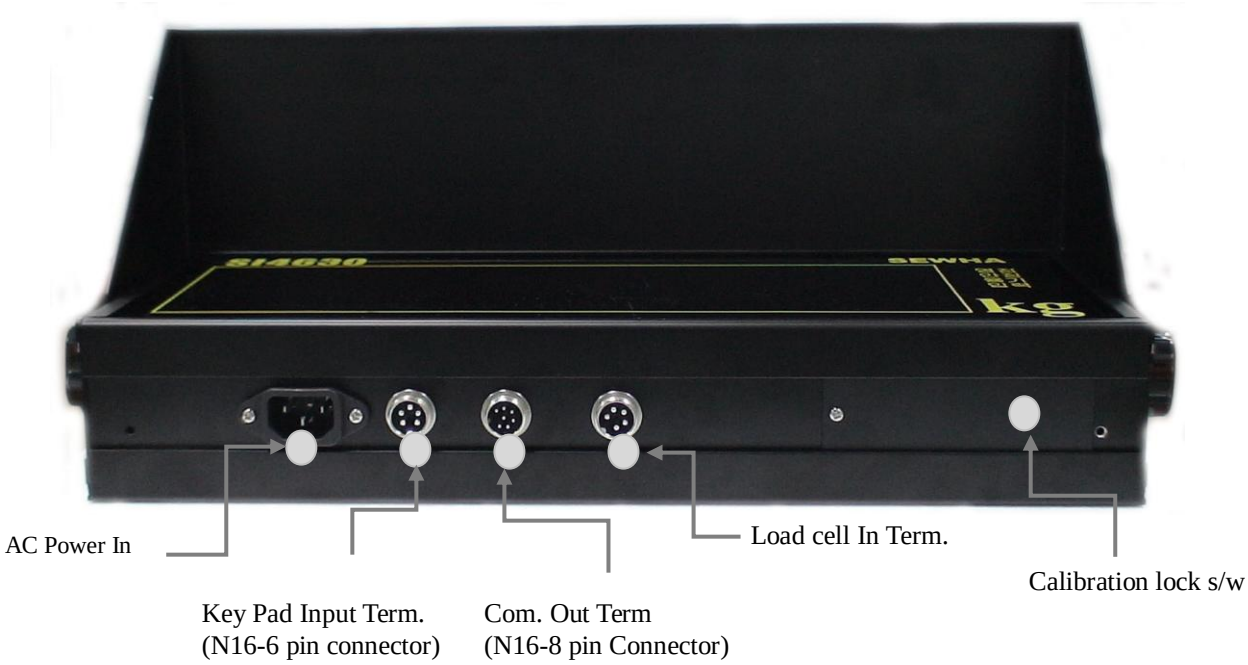
Make Current Weight value as Zero.
Under F08, you can set the Zero key operation range, from Min.2% to Max.100% of Capacity.

Under F-Function 11, you can set the Tare or Hold key.
Under F11-00 : Tare key.
Under F11-01 : Hold key.

Regarding to under F-Function 11, you can set Tare or Hold.
Under F11-00/01: Tare Reset / Hold Reset Key.
Under F11-02/03: Print Key.

1. Save set value during setting process.
2. Enter F-Function Mode
3. In case of press continuously 4 times, Enter SET-UP Mode.

4. BOTTOM PANEL



4-1. Bottom Panel connector

4-1-1. **AC POWER INPUT <R/T/E>**

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

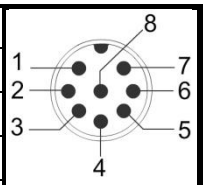
For protection of electric shock or wrong action must be earth, please.

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

4-1-2. Communication Output(SERIAL I/F)

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

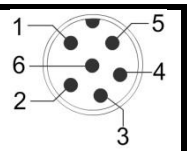
Pin No.	Content	Pin No.	Content
1	Receive Data(RX)	2	Transmit Data(TX)
3	Signal Ground(GND)	4	Current Loop +
5	Current Loop -	6	RS-485(RTX+) RS-422(TX+)
7	RS-485(RTX-)RS-422(TX-)	8	



(FEMALE)

4-1-3. Key Input Terminal(N16-6)

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



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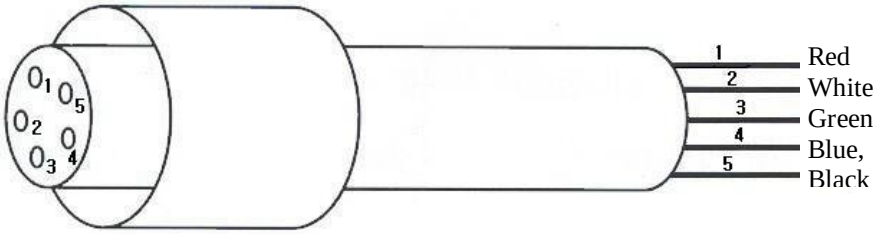
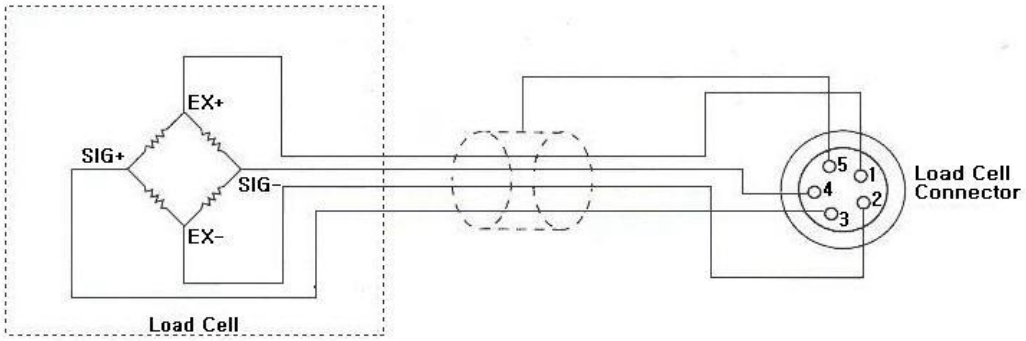
4-1-4. Load Cell Connector Specification





EXC+ …… PIN 1(Red)
EXC- …… PIN 2(White)
SIG + …… PIN 3(Green)
SIG - …… PIN 4(Blue, Black)
SHIELD …… PIN 5(Shield)

주의	**When connect Load cell, If short Ex+, Ex- of Load cell cable, it can be damage in Indicator.** **When connect Load cell, Please Indicator power off.**

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.

* Load Cell Wire Connection

1). Please connect Indicator's connector and Load cell cable basis on each color.

2). It is possible to connect Max. 8pcs same capacity load cells with parallel. (350Ω)

3). LOAD CELL Connector Standard : N16 - 05

4). The load cell cable color can be different from each manufacturer, please refer following data sheet.

5). Load Cell Wire Color Chart (Sorted by Manufacturer)

Manufacturers	EXC+	EXC-	SIG+	SIG-	SHIELD
Sewha CNM	Red	White	Green	Blue	Black
Bongshin, CAS ,TMI ,AND	Red	White	Green	Blue	Yellow(Shield)
Daesung	Red	Black	White	Green	Shield
Power MNC	Red	White	Green	Black	Shield
Disocell	Red	Blue	Green	White	Black
Dacell	Red	White	Green	Blue	Shield
BLH	Green	Black	White	Red	Yellow
INTERFACE	Red	Black	Green	White	Shield
KYOWA	Red	Black	Green	White	Shield
P.T	Red	Black	Green	White	Shield
SHOWA	Red	Blue	White	Black	Shield
SHINKOH	Red	Black	Green	White	Shield
TML	Red	Black	White	Green	Shield
TEAC	Red	Blue	White	Black	Yellow
HUNTLEIGH	Green	Black	Red	White	Shield

※ Each Wire's color specification can be changed without prior notice.

5. SET-UP

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.

주의 **Caution**	**Before adjust weight, for accurate weight measurement, please Indicator make warm-up more than 15minutes throughout input power. (If omit this process, it can make cause wrong weight measurement.)**

Key Function							
TARE HOLD ◀	Division position move	ZERO ▲	Division value setting	ENTER CAL.	Save	RESET PRINT	Move to Previous step

Before calibration – Check Point	
1-off	Before enter to SET-Up mode, please turn off the calibration lock switch. If the calibration lock switch is not off, Display shows "L-OFF" sign.

5-1. TEST WEIGHT CALIBRATION MODE

5-1-1 Enter Test Weight Calibration Mode

Please you have to press at the start ENTER CAL. Key continuously 4 times.

In the condition 5etUp, TARE HOLD ◀ Key press 1 time.

In the condition Cal, ZERO ▲ Key press 1 time.

(※ If you press TARE HOLD ◀ key, Enter 5-Ca 1 Simulation Calibration Mode [Refer 5-2])

5-1-2 Display Max. Weight Capacity Setting

After Capa will be display about 2 second,

In the condition 5000 blink display, after input Max. Weight Capacity,

Press ENTER CAL. Key and then save.

(If you input Max Weight Capacity 100kg, just input "100", Ignore decimal point)

5-1-3 Setting "Division (Division value) and Decimal Point"

After 

will be display about 2 second

In the condition 

blink display, after setting press ZERO Key and TARE HOLD Key for decimal point and division value, Press ENTER CAL. Key and then will save.

ZERO (Setting Division value), TARE HOLD (Move Decimal point)

※ Division value will be changed to 1-2-5-10-20-50

5-1-4 Measurement the "DEAD Weight of Weighing Scale"

In the condition 

, when you press ENTER CAL. Key, the indicator started measurement and find optimal "Dead weight value of Scale" automatically saved.

※Caution: This "DEAD Weight" is very important to make "ZERO" value of weighing scale, so please make sure that the weighing scale is empty and free from other external variations.

It is automatically count from 

to 

.

5-1-5 Input Test Weight value and Calculate SPAN value

In the condition 

, Input "Test weight" capacity, and press ENTER CAL. Key.

※ When the Setting "Test Weight", Recommendation.

(Digit/Division)	Weight of "Test Weight"
1/1000	Use more than 10% span of Capa
1/3000	Use more than 20% span of Capa
1/5000	Use more than 30% span of Capa
1/10000	Use more than 40% span of Capa
1/20000	Use more than 50% span of Capa

If you setting as above content, you can adjust weight calibration more accuracy.

EX

▶When setting Capacity with 100.00㎏

If you have not prepared 100.00㎏ of "Test Weight", you can adjust weight with 10.00㎏ more than 10% of "Test Weight" by input SPAN's value as 10.00㎏.

In the condition Up, after load "Test Weight" through prepared "Test Weight", Press ENTER CAL. key.

After automatically count from Cal10 to Cal19, it is calculated weight calibration the inside. **If calculated value is normal, it will be display SPAN value.**
And if calculated value is abnormal, it will be display error and then return to Input Span Process (5-1-5). (Refer 7-3 Calibration Process)

In the condition 0.5982, after check SPAN value, press ENTER CAL. Key.

In the condition end, down "Test Weight", Press ENTER CAL. Key and make default.

※ **After make default, please return Calibration Lock S/W "ON".**

5-2 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.

5-2-1 SIMULATION CALIBRATION MODE

Please you have to press at the start ENTER CAL. Key continuously 4 times.

In the condition 5etUp, TARE HOLD Key press 1 time.

In the condition Cal, TARE HOLD Key press 1 time.

In the condition 5-Cal, TARE HOLD Key press 1 time.

5-2-2 Display Max. Weight Capacity Setting

After 

will be display about 2 second,

In the condition 

blink display, after input Max. Weight Capacity,

Press 

Key and then will save.
(If you input Max Weight Capacity 100kg, just input "100", Ignore decimal point)

※ Caution
If the plural No. of load cells are installed, please make sum the all load cells capacity and input.
Ex) There are 4pcs of load cells are installed, and each load cell's Max. capacity is 1,000kg. Then, total Max. Capacity will be 4,000kg and you have to input 4,000kg.

5-2-3 Setting "Division (Division value) and Decimal Point"

After 

will be display about 2 second,

In the condition 

, blink display, after setting press 

Key and 

Key for decimal point and division value, Press 

Key and then will save.

(Setting Division value), 

(Move Decimal point)
※ Division value will be changed to 1-2-5-10-20-50

5-2-4 Measurement the "DEAD Weight of Weighing Scale"

In the condition 

, when you press 

Key, the indicator started measurement and find optimal "Dead weight value of Scale" automatically saved.

※Caution: This "DEAD Weight" is very important to make "ZERO" value of weighing scale, so please make sure that the weighing scale is empty and free from other external variations.

It is automatically count from Cal00 to Cal09.

5-2-5 Input Rated output voltage (mV/V) of Load cell

After rnU will be display about 2 second,

In the condition 0.000 blink display, input Max. Rated output of Load cell.

※Rated output (R.O) of Load cell is displayed the Load cell label or Calibration Certificate.

Under this step, input Max. Output rate(mV) of load cell.
The Output rate is stated on "Test report" or "Label" and please input this value with No. keys. Normally, the Output rate will be 4digits under Zero, then input 4digits and input "0" additionally and make full 6digits.

After press ENTER CAL. Key and then save, it is calculated weight calibration the inside.

※ Caution
Due to some variation between **"State output rate"** and **"Real Output rate"** of load cell, there might be some weight difference after finishing calibration.
If you want to make more precise weighing process, please measure real output rate of load cell and input the measured value.
Then the weight measurement will be more precise than before.

If calculated value is abnormal, it will be display bad, and then return to default of simulation Calibration Mode.

If calculated value is normal, it will be display done and SPAN value.

In the condition 0.5982, after check SPAN value and press ENTER CAL. Key.

In the condition end, down "Test Weight", Press ENTER CAL. Key and make default.

※ After make default, please return Calibration Lock S/W "ON".

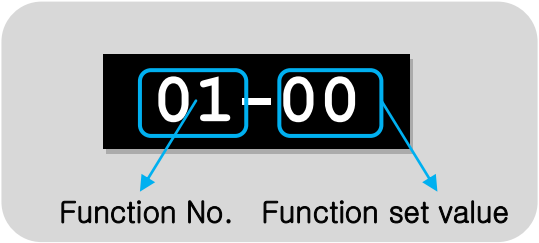
5-3 F-Function Setting

5-3-1 Enter F-Function Mode

Please you have to press at the start

ENTER CAL. Key continuously 4 times.

In the condition 5etUp, ZERO Key press 1 time.



After func will be display about 2 second,

In the condition 01-00, blink " — " display

Whenever press ZERO Key, the Function No. will be increased one by one.

5-3-2 F-Function No. Change

In the condition display 01-00, if you move to certain function No., press f-function no. with ZERO Key and TARE HOLD Key,

And press ENTER CAL. Key then, you can call "Fxx-xx" directly under F-Function Mode.

5-3-3 F-Function Set value Change

After 04-00 you move Function set value to want, press ZERO Key and TARE HOLD Key.

And press ENTER CAL. Key. If you don't press, the new set value will not be memorized.

Then display will be 5aUe, and set value will save.

5-4. 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	2	1 ∫ 9	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	2	0 ∫ 9	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	2	0~9	Weak vibration Strong Vibration 0 (Weak) ~ 9 (Strong)
Zero / Tare key Operation mode selection			
F07	●	0	Activate when "Steady" condition, only
		1	Activate when "Not Steady" condition
Zero key Operation Range selection			
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.
Tare key Operation Range selection			
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	Sample Hold : Hold current weight and hold on display. (When input Hold Key)			
		1	Peak Hold : Measure Max. weight value and hold on display.			
External Input selection						
F11	**Sat value**		**Input 1**	**Input 2**	**Input 3**	**Input 4**
		0	Zero	TARE	TARE RESET	INPUT
	●	1	Zero	HOLD	HOLD RESET	INPUT
		2	Zero	TARE /RESET	PRINT	INPUT
		3	Zero	HOLD/RESET	PRINT	INPUT
		4	Zero	TARE /RESET	GRAND-Total	INPUT
		5	Zero	HOLD/RESET	GRAND-Total	INPUT
		6	Zero	PRINT	GRAND-Total	INPUT
		7	Zero	TARE	TARE RESET	PRINT
		8	Zero	HOLD	HOLD RESET	PRINT
			※When input Key setting No.7 and 8, If you are power "ON" during press INPUT Key, It will enter SETUP Mode.			
"Steady" condition check time setting (Only for F03)						
F12	3	1 ∫ 9	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 (per 1sec)						
F13	●	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			
When display Unpass or OL, Weight display setting (Blink)						
F14	●	0	Not Use			
		1	Use			
Equipment No. setting						
F18	01	01 ∫ 99	Equipment No. setting with No. key. (01 ~99 settable)			
"Key TARE" selection						
F19	●	0	Key Tare Not Use			
		1	Key Tare Use			

■ Communication Mode setting (Serial Port No.1 – Standard installed port)

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

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

Serial Port setting – Standard installed Serial Port			
F35	●	0	Data Transference Mode(Connect to External Display or P.C)
		1	Print Mode

DATA Transference Mode selection (Under F32-00, F35-00 setting, only)			
F36	●	0	Stream Mode : Weighing Data will be transferred continuously.
		1	Steady Mode : When Weight is Steady, one time Data Transference.

DATA Transference Mode Format selection (Under F32-00, F35-00 setting, only)			
F37	●	0	Format 1.
		1	Format 2. (Format 1 + ID No.)
		2	CAS Format

Print Setting Selection			
F38	●	0	Hand print (when input key pad, out print)
		1	When Weight is steady over than Empty Range, Automatically print.
		2	Over than Empty Range, Steady Lamp is “ON”, Automatically Print.

■ Print Mode Setting

Weight Unit selection			
F41	●	0	Kg
		1	g
		2	t

Print Format selection (If you install on Standard Serial Port)			
F42	●	0	**Single Print** Date, Time, S/N, ID No. Weighing Data will be print
		1	**Continuous Print** Serial No. and Weight will be printed continuously.

GRAND Total Data Delete selection			
F44	●	0	**Not use Automatically Delete Mode**
		1	**Automatic Delete Mode** After GRAND Total Print, Automatically Deleted.
Paper Withdraw Rate setting (After GRAND Total Print)			
F45	3	0~9	Whenever set value increased, 1line will be added.
Paper Withdraw Rate setting (After Single/Continuous Print)			
F46	3	0~9	Whenever set value increased, 1line will be added.
Printing Language Selection (If you install on Standard Serial Port)			
F47	●	0	KOREAN
		1	ENGLISH
Minus(-) symbol Print selection			
F49	●	0	Print minus(-) symbol, if the weight is minus(-).
		1	Ignore minus(-) symbol
Tracking Mode setting			
F50	●	0	Not use(Recommend))
		1	Due to Temperature, indicator will compensation the weight difference(Must be special environment)

■ Other Setting

EMPTY Range setting		
F80	X.X.X.X.X.X.	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.
SPAN Calibration Value Check		
F89	X.X.X.X.X.X.	**Span Calibration Value Check** ※ If you have difficulty to process Calibration again, the best way to matching the net weight and display weight is doing Calibration process once again.
TIME check / Change		
F90	Check Current TIME data or you can Change to new date.	
DATE Check / Change		
F91	Check Current DATE data or you can Change to new date.	

※ As Special Function with F80, F89, F90, F91, it only can by F-Function No change.
[Refer 5-3-2 F-Function No. change]

5-5. TEST MODE

5-5-1 Enter Test Mode

Please you have to press at the start 

Key continuously 4 times. Then, 

, press Key 1 time again.

5-5-2 ANALOGUE VALUE Test Mode1

In the condition 

if you press 

Key,
You can check analogue value (0~1,040,000).

If you press 

Key, 

Key, 

Key, you can check analogue value by move digits.

.On the optimal position, stop pressing 

Key, and move back to previous mode.

※ If the analogue value is unstable, or there is no change although pressing or loading some force on/in weighing part, please check load cell, load cell cable, connector, A/D board.

5-5-3 ANALOGUE VALUE Test Mode2

In the condition 

, if you press 

Key,
You can check the rate of change analogue's value.

Press 

Key, and analogue value is Zero.

Press 

Key and 

Key, you can check analogue value by move digits.

On the optimal position, stop pressing 

Key, and move back to previous mode.

5-5-4 Key Test Mode

In the condition 

, press 

Key and then enter KEY – TEST MODE.

Press 

Key, it will be displayed 

and press 

Key, will be displayed 

And press 

Key, will be displayed 

.

On the optimal position, stop pressing 

Key, , and move back to previous mode.

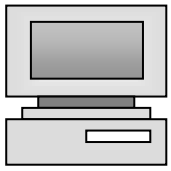
※If you have problem Key for remote control, please contact to distributor or Head office for after service(A/S).

6. INTERFACE

6-1. Serial Interface (RS-232C, Standard install Serial Port)

RS-232C Serial Interface is sensitive/weak for electric Noise.
So, please isolate with AC power cable and use shield cable to reduce the electric noise effect.

6-1-1. Communication with PC(Personal Computer) or Other devices



P.C
(9pins Standard)

2 : RxD TxD : 2
3 : TxD RxD : 1
5 : SG SG : 3

SI4630

6-1-2. Data Format(1) : ID Number will not be transferred. (Refer "F-function 37")

		,			,	+/-	Including Decimal point		k	g	CR	LF

Header 1
Header 2
Data Byte (7 or 8 byte)
(F37 setting)
Unit

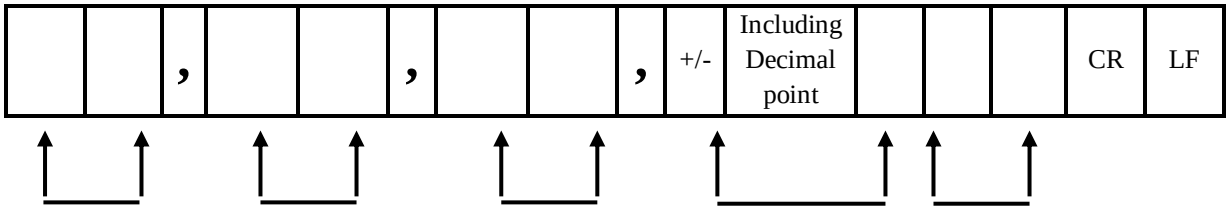
①. Header 1. : OL : Over Load, Under Load
ST : Display weight "Steady"
US : Display "Un-Steady"

②. Header 2. : NT : Net-Weight
GS : Net-Weight, under TARE

③. Data Bit(Number) 2B(H) : "+" Plus
2D(H) : "-" Minus
2D(H) : " " Space
2E(H) : "." Decimal Point

④. Unit : kg, g, t

6-1-3. Data Format(2) : ID Number + Data Transference (Refer "F-function 18,37)



ID Number | Header 1 | Header 2 | Data Byte (7 or 8 byte) (F37 setting) | Unit

①. Header 1. : OL : Over Load, Under Load

ST : Display "Steady"

US : Display "Un-Steady"

②. Header 2. : NT : Net-Weight

GS : Net-Weight, under TARE.

③. Data Bit(Number) 2B(H) : "+" Plus

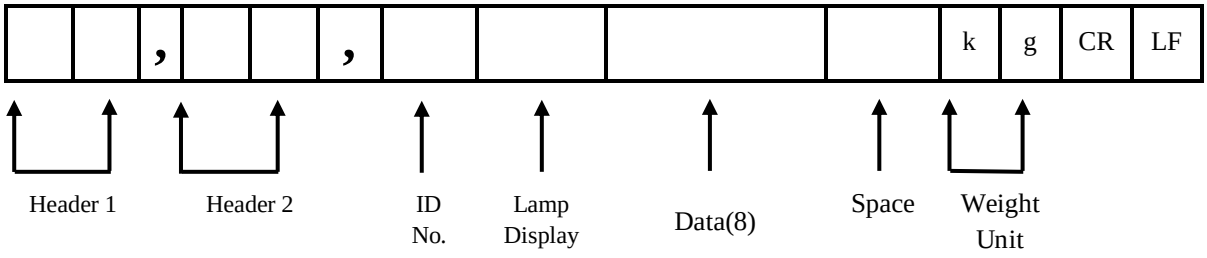
2D(H) : "-" Minus

2D(H) : " " Space

2E(H) : "." Decimal Point

④. Unit : kg, g, t

6-1-4. Data Format(3) : CAS "CI5101A" Data Transference) – CAS 22byte Format



①. Header 1. : OL : Over Load, Under Load

ST : Display "Steady"

US : Display "Un-Steady"

②. Header 2. : NT : Net-Weight

GS : Net-Weight, under TARE.

③. Lamp Display : Current Lamp Condition (ON/Off Data)

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

④. Data Bit(Number) 2B(H) : "+" Plus

2D(H) : "-" Minus

2D(H) : " " Space

2E(H) : "." Decimal Point

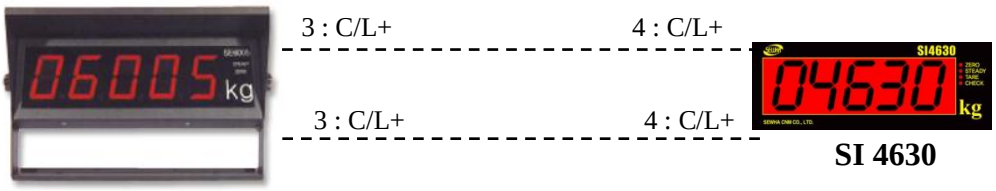
⑤. Unit : kg, g, t

6-2. Current Loop Interface

"Current Loop" Interface is stronger for Electric Noise than "RS-232C" interface.
So, it can be used for long distance communication.(About 100m long distance).

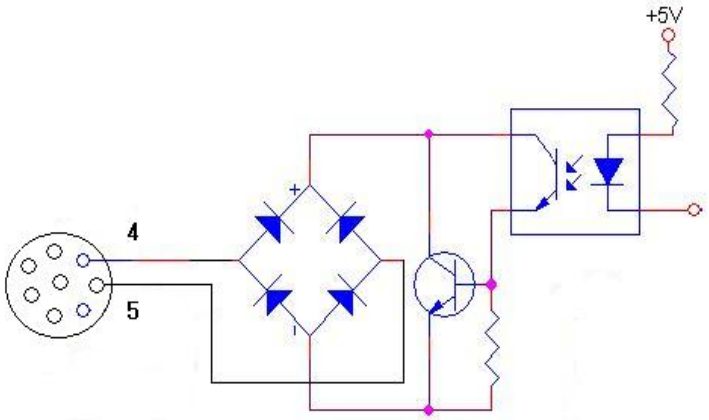
※ Current Loop Interface supports, up to 9,600 Communication Speed, only.

6-2-1. Communication with Other Devices (Remote Display / External Display)



(External Display)

6-2-2. Current Loop Circuit



6-2-3. DATA Format

As same as "RS-232C" Interface.

7. Error & Treatment

7-1. Load Cell Installation

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. 4) Replacement Summing Board	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 Check Load cell connection Check	
	Power was "ON" when some weight is on the load cell?	1) Press RESET/PRINT Key and Check weight. 2) Remove weight on the Load cell	
"OL" or "UL" display	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

Error	Cause	Treatment
Err 01	When Max.capacity/digit value is over 20.00	Re-input the Max. Capacity, less than 20.00 (Max. Capacity / Digit)
Err 04	Standard weight value is over than Max. Capacity	Re-input Standard weight value with Number keys, under Max. Capacity
Err 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

Err 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)
Err 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)
Err 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

7-3. Digital Weighing Indicator

Display	Cause	Treatment
"**CELL-Er**" or "**--OL--**"	1. Load cell Error 2. Load cell cable Error 3.Load cell connection Error 4. A/D Board Error	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 indicator condition. If you have same problem, please replace new indicator and check A/D board error.
"**Un-Pass**"	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.	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.
"A-Err"	Analog B/D Error ※Power is ON, When DISPLAY for Initial is becoming responding slower.	1. Please contact to distributor or Head office.
Whenever power is ON, "Err-0" or "SET"	MEMORY Component Problem	1. Please contact to distributor or Head office.

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
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Made in KOREA

Product	Digital Weighing Indicator
Model	SI 4630
Serial No.	
AUTHORIZED STAMP	Sewha CNM Co.,Ltd