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USER MANUAL

Model:

i1-7 WEIGHING INDICATOR

NOTE:

A. i1P series inside-printer weighing indicator must work with rechargeable internal 6V battery.

B. Switch on indicator first, and then switch on printer; switch off printer after finished printing work.

1 Introductions

1.1 Safety precautions

WARNING!

- ▲ Don't use i1 series indicators in hazardous area or in dusty environments.
- ▲ Never flood the indicator, immerse it in liquid or pour liquids on it.
- ▲ Don't expose indicator to either direct sun light or any heat sources.
- ▲ Don't open the indicator!
- ▲ The warranty is void if this stipulation is ignored. The indicator may only be opened by authorized persons.

DANGER!

Electric shock hazard!

- ▲ Always unplug AC adapter before performing any work on the indicator hazard of electric shock if the power cable is damaged!
- ▲ Check the power cable for damage regularly. Unplug the power cord immediately if the power cable is damaged.

DISPOSAL!

In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE), this device may not be disposed of in domestic waste. This also applies to countries outside the EU as per their specific regulations.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this indicator.

Should this indicator be passed on to other parties (for private or professional use), the content of this regulation must also be related.

The indicator has a rechargeable internal battery. The battery contains heavy metals. Please observe the local regulations on the disposal of environmentally hazardous materials.

1.2 Descriptions

The purpose of this manual is to help the user get to know the indicator's various weighing modes, keys' functions and display indications.

In addition to having all the characteristics of a high precision scale, the indicator has weight unit in kg and lb, gross and net weighing, manual and automatic weight accumulation with serial output, counting functions and 4 set points. The indicator is applicable in either industrial settings or legal for trade applications. It provides the frequently needed ability to transmit and print the data through its serial ports.

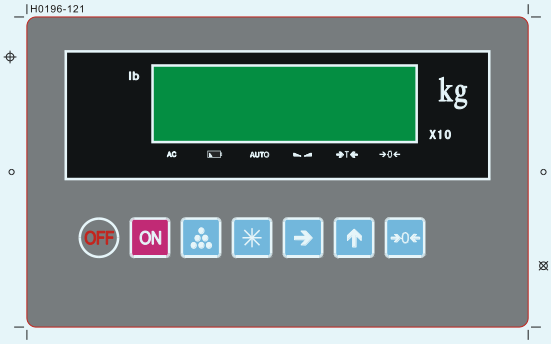
Please carefully follow the instructions to configure the indicator. By taking actions not indicated this manual, one could cause the indicator to not work properly.

2 Specifications

Version number	• 7.9
Accuracy class	• III
Maximum number of verification scale intervals	• nind = 3000
Divisions	• 3000 – 15000

Load cell excitation voltage	• Uexc = 5 V
Minimum input voltage	• Umin = 0.5 Mv
Minimum input voltage per verification scale interval	• Δumin = 1 Mv
Minimum/maximum load cell impedance	• 87 Ω to 1000 Ω
Fraction of mpe	• pind = 0.5
Cable connection	• 4 wires
Maximum value of cable length per wire cross section	• (L/A)max = 150 m/mm^2
Maximum number of load cells	• 4 x 350 Ω load cells • 8 x 700 Ω load cells
Display	• 6-bit Display: 0.8 inches LED • High Resolution (×10) display • Weight unit in kg / lb
Display resolution	• 1/2/5/0.1/0.2/0.5/0.01/0.02/0.05/0.001/ • 0.002/0.00510/20/50/100/200/500 • 0.10/0.20/0.50/0.010/0.020/0.050
Weighing modes	• Gross and net weight weighing • Manual and automatic weight accumulation
Serial interface	• RS232 interface with continuous ASCII data output • Baud rate 1200, 2400, 4800, 9600 • Optional RS485 interface
External AC adapter	• 100-240VAC 50/60Hz
Rechargeable internal battery	• 6V/2.8AH
Full charge battery operation	• 20 hours
Full charge battery recharge time	• 12 hours
Operating temperature	• –10 °C to +40 °C
Storage temperature	• –25 °C to +55 °C
Relative humidity	• 10% to 85% non-condensing
Housing	• stainless steel

3 Front Panels



3.1 Status indicators

Status	Meaning
AC	Mains power is applied to the indicator.
	Battery capacity less than 20%.
AUTO	Automatic accumulation
	Weight is stable

→T←	A weight is tare and display net weight
→O←	-1/4 e < weight < 1/4 e
lb 〖- 0〗	Unit of weighing is lb
〖 0.〗 ×10	Display is temporarily set to high resolution

3.2 Keypad functions

Keys	Meaning
【OFF】	Off function
【ON】	On function
【∴】	Manual accumulation function
【 * 】	Function selection during normal operation and configuration
【→】	Move flashing digit to the right during configuration or setting preset tare
【↑】	The display is temporarily set to high resolution increment flashing digit during configuration or setting preset tare
【→O←】	Zero the display, set the zero point or enter a tare value

3.3 Error code

Code	Meaning
〖 OUEr 〗	Weight > FS + 9d
〖–OUEr 〗	Weight < -2%FS
〖Error 〗	Calibration error
〖 OFF 〗	Low battery warning to recharge the battery

4 Basic Functions

4.1 Switching on

In power off states, press【ON】key switch on the indicator. The indicator will check the LED.

4.2 Switching off

Press【OFF】to switch off the indicator.

4.3 Weight unit

The weight unit is kg and lb.

4.4 Enter a number

1. Press【→】to move the flashing digit that can be changed to the right by 1 digit.
2. Press【 ↑ 】to increment the flashing digit by 1.
3. Repeat the above 2 steps until the desired value is set.

4.5 Select a parameter value

Press【 ↑ 】to scroll to the next available value.

4.6 Zero

1. The display can be zeroed only when the weight is less than 2%FS.
2. Unload the platform.
3. Press【→O←】 for 2 seconds to set the zero point and zero the display.
4. The zero status →O← is turned on.

4.7 Tare

4.7.1 Acquire tare

1. Tare can be set only after the display has been zeroed. Check to make sure zero status →O← is turned on.
2. Place the empty container on the platform.
3. Wait until the weight is stable when the stable status ◣◢ is displayed.
4. Press【→O←】 to set tare and zero the display.
5. The tare status →T← is turned on.

6. The indicator switches to in net weight mode.

4.7.2 Digital tare

1. Press【→】to set digital tare and the 1st on the right is flashing.
2. Press【→】to move the flashing digit to desired digit.
3. Press【↑】to increment the flashing digit to the desired value.
4. Repeat step 2 and 3 until the digital tare is entered.
5. Press【→O←】to set the digital tare.
6. The tare status →T← is turned on.
7. The indicator switches to in net weight mode.

4.7.3 Remove tare

1. Check that the tare status →T← is displayed.
2. Press【→O←】to remove tare and switch to gross weight mode.

4.8 Simple weighing

1. Place sample on the platform.
2. Wait until the weight is stable when the stable status ◣◢ is displayed.
3. Read the weight of the sample

5 Applications

5.1 Accumulation mode

There are 8 accumulation modes AUt = 0 to 7. The factory default AUt is 0.

Step	Operation	Displaying	Contents
1	Press【 * 】	〖n 12〗	To display times of accumulation.
2	Press【 * 】	〖AUt 0〗	The selection of manual/automatic accumulation. AUt=0, manual accumulation. AUt=1, automatic accumulation and print when weight is added, 〖AUTO〗is on. AUt=2, automatic memorize displayed value when weight is added. Accumulate and print final stable values after load down to below 20d. 〖AUTO〗is on. AUt=3, dynamic weighing method. At weighing >20d: the buzzer sounds “du” and lock is displayed for 6 seconds. When a new data is fixed, lock is displayed again for 6 seconds. Then lock is released for weighing <20d; automatic accumulation and print. Suggest FLt>30, 〖AUTO〗is on. AUt=4, peak value fixed weighing method. At weighing>20d, the buzzer sounds “du” and lock is displayed. When weighing <20d, fixed data displays with flash, automatic accumulation and print. Lock can be released by pressing any key. 〖AUTO〗is on. AUt=5, dynamic weighing method. Manual accumulation and print. AUt=6, peak value fixed weighing method. Manual accumulation and print. AUt=7, counting function. ★note
3	Press【↑】	〖AUt 0〗	Digit displays with flash
4	Press【↑】 Press【↑】 Press【↑】 Press【↑】	〖AUt 0〗 〖AUt 1〗 〖AUt 2〗 〖AUt 3〗	Sets F·S. Move blinking digit to the right bit. E.g. AUt=3 expresses dynamic weighing method.
5	Press【 * 】	〖 0〗	Return to normal weighing status

Note: (1) sampling: When net weight on scale is zero (tare can be removed by pressing tare key if net weight is not zero), the sample, which must be <200 pieces, i.e. from 1 to 199, is put on the scale. Press【→】and【↑】, input quantity of the sample (e.g.30), 〖Cnt030〗 is displayed. Press【*】, confirm

the completion of sampling. Weighing status is redisplayed. Sampling is memorized even with power off.

Step	Operation	Display	Description
1	Place sample		Place selected sample, weight: 27, quantity: 30.
2	Press【→】 Press【→】	〖Cnt000〗 〖Cnt000〗	Ready to input sample's quantity. Decimal digit display with flash.
3	Press【↑】 Press【↑】 Press【↑】	〖Cnt010〗 〖Cnt020〗 〖Cnt030〗	
4	Press【 * 】	〖 27〗	Display sample weight:27,【*】is a confirmation key, sample collection completed.
5	Press【↑】	〖C 30〗	Display sample quantity,【↑】is change-over key between weight and quantity display.

(2) Counting operation: place object on scale, weight is displayed, press【↑】, 〖C 255〗is displayed, and the display changes over to the quantity of the object. When the display is stable, press【∴】, accumulate the weight and quantity. Accumulation can be done only at counting status.

Step	Operation	Display	Description
1	Place object	〖 230〗	Object weight: 230.
2	Press【↑】	〖C 255〗	Object quantity: 255.
3	Press【∴】	〖n 4〗 〖C 255〗	Display after 1.5 seconds. At counting status.

(3) Accumulate inquiries and delete: both at weighing stage and counting status.

Step	Operation	Display	Description
1	Press【 * 】	〖C 1203〗	Display the total quantity of the object: 1203.
2	Press【↑】	〖H 0〗	Display accumulated weight 4 digits higher.
3	Press【↑】	〖L 1085〗	Display accumulated weight 4 digits lower=1085.
4	Press【↑】	〖C 1203〗	Back to counting status.
5	Press 【→0←】	〖C 0〗	Delete accumulated quantity.

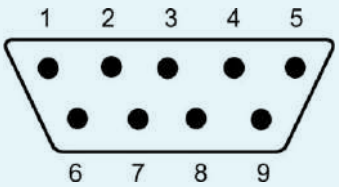
5.2 High resolution display mode

Press【 ↑ 】to display the weight in X10 resolution for 5 seconds. The last digit of the display will be blinking. Press【 ↑ 】key return to normal weight display mode.

6 External interfaces

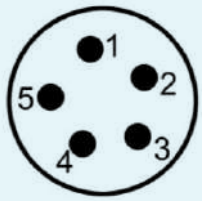
6.1 Load cell connector

6.1.1 Load cells to indicator DB 9 Pin plug



Indicator		Load cell
1	----------	+ Excitation
5	----------	+ Excitation
7	----------	- Signal
8	----------	- Signal
3	----------	GND

6.1.2 Load cells to indicator 5 Pin plug



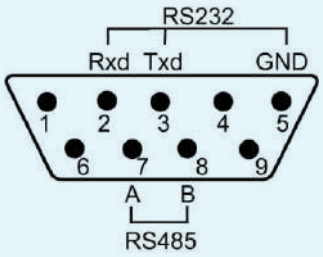
Indicator		Load cell
1	----------	+ Excitation
2	----------	+ Signal
3	----------	- Signal
4	----------	- Excitation
5	----------	GND

6.2 RS232 serial interface

6.2.1 RS232 settings

Number of bits	Parity	Number of stop bit
8	No	1

6.2.2 RS232 / RS485 connector



6.2.3

6.2.4 Connecting to PC

i1-1x DB9 Pin No.	PC DB9 Pin No.
3(TxD)	2 (RxD)
2 (RxD)	3 (TxD)
5(GND)	5 (GND)

6.2.5 Connecting to a printer (Adr=01-98, baud=2400)

At weighing status, weighing data >20d and display is stable, press【∴】, weighing sheet is printed out. The second printing can be operated only when the weighing data is back to <20d.

At weighing status, press【*】, then press【∴】, accumulated printing can be operated.

i1-1x DB9 Pin No.	Printer DB25 Pin No.
3 (TxD)	2 (RxD)
5 (GND)	7 (GND)

6.2.6 RS232 continuous ASCII output

When the indicator address (Adr) is set to 00 or 99, the indicator continuously transmits the weight in RS232 ASCII data format.

Display format

Digit position	X6	X5	X4	X3	X2	X1
Weight –1234.5	–	1	2	3	4.	5

Adr = 00 output format

Byte No.	1	2	3	4	5	6	7	8
Output format	=	X1	X2	X3	X4	X5	X6	S
HEX	3D	35	2E	34	33	32	31	2D
Weight –1234.5	=	5	.	4	3	2	1	–

Adr = 99 output format

Byte No.	1	2	3	4	5	6	7	8
Output format	=	S	X6	X5	X4	X3	X2	X1
HEX	3D	20	31	32	33	34	35	36
Weight 1234.5	=	‘‘	1	2	3	4	.	5

6.3 Printer format

n = 3, gross = 88.69kg, tare = 29.41kg, net = 59.28kg

```
No:XXXX                                   No:   3
G:XXXXXXkg                G: 88.69kg
T:XXXXXXkg                      T: 29.41kg
N:XXXXXXkg                      N: 59.28kg
```

Accumulated weight

```
No:XXXX                                   No:   3
W:XXXXXXXkg                  W:  118.09kg
```

7 Services

Services include a full range of technical on site services and workshop repair, preventative maintenance and calibration facilities.

NOTE: Battery is not under warranty