Operation Manual

A 150

Weighing Indicator

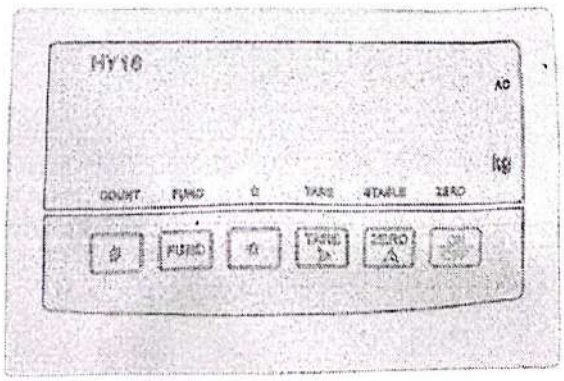
Content

Chapter 1 Main Specification

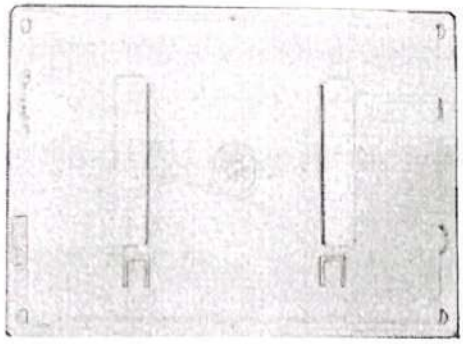
1. Model:	A 150 weighing indicator
2. Accuracy:	GradeIII, n=3000
3. Sample Rate:	80 times / second
4. Load cell sensitivity:	1.5～3mV / V
5. Scale interval:	1/2/5/10/20/50 for option
6. Display:	6 bits 1.2" LED，6 state indicating signals
7. Scoreboard interface:	In serial output mode：RS232, (Optional) transmission distance≤30m，
8. Communication interface:	RS232C; Baud rate 1200/2400/4800/9600 optional; RS485/Wireless Optional;
9. Save the data:	2000 records
9. Power supply:	Battery DC6V/4AH Charger DC8.4V/1000mA
10. Operating temperature/humidity:	-10～50℃； ≤90%RH
11. transporting temperature:	-20～50℃

Chapter 2 Installation

2.1 FRONT AND BACK VIEW OF THE INDICATOR



Front View



Back View

2.2 KEY FUNCTIONS

[PRINT] Short Press this button for print current record.
Long press this button for print total record and clear statistical record.

[#/TOTAL] Press this button while turn on ,it will enter to calibrate mode;
Print total record when weighing state.

[FUNC/SET] Keep pressing this button for 5 seconds more in weighing mode, it will come into operator setting mode; less than 5 seconds, it will come into counting mode.

[*/ACC] Press this button to accumulating the weight in weighing mode.
Press this button for sample taking in counting mode

[TARE/MOVE] Press this button to tare in weighing mode.

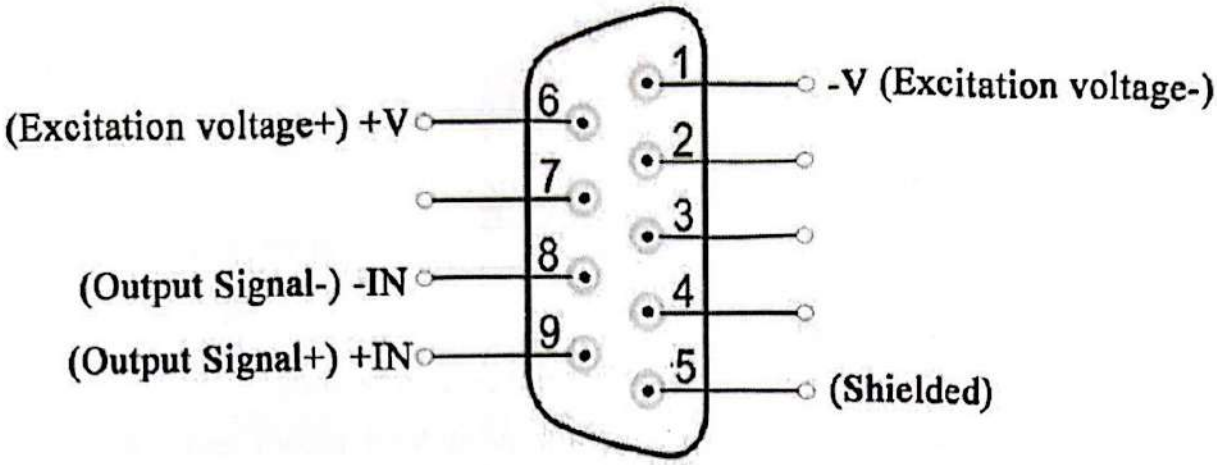
[ZERO/EDIT] Press this button to zero in weighing mode.

2.3 Connecting load cell to indicator

1. The DB9 plug is used for the link-up of load cell, which has been clearly shown in the graph 2-3.
2. The 4-pin shielded cable is used, and the indicator does not have the function of long distance compensation.
3. Indicator must be reliably connected to Load cell and shielded-cable of load cell must be reliably connected to underground. If indicator is powered on, the user should not insert or withdraw the plug in order to protect the indicator and load cell.
4. Sensor and indicator are static sensitive devices; you must adopt anti-static measures. The electric wielding operation and other strong electric operation are prohibited. In order to protect the operator, indicator, and relevant devices, you should

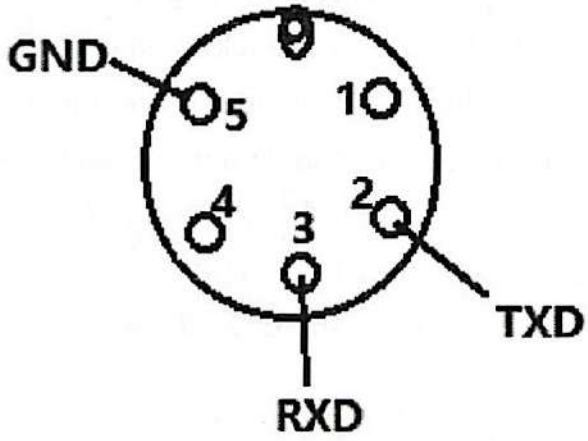
install lightning rod in the thunderstorm frequently happening area.

Port of load cell



(Graph 2-3) Drawing of connecting of load cell

2.4 CONNECT SCOREBOARD TO INDICATOR



2.5 SERIAL COMMUNICATION AND INDICATOR CONNECTION

■ Make sure that communication interface output lead and computer are correctly connected, if there is something wrong with connection, damage will happen to output port of instrument and input port of computer, sometimes, the damage is so big that instrument, computer and corresponding peripherals are got involved.

■ Necessary computer technology and programming expertise are required for computer communication, which should be participated and instructed by professionals. Non-professional staff is supposed not to be involved in this regard.

With RS232 serial communication interface, the HY16-P indicator can be connected to computer for communication.

1. All data are ASCII code, every set of which is composed of 10 bits: the 1st is starting bit, the 10th is stop bit, the middle in between are 8 data bits.

Communication mode as follows:

(1). In continuous mode1:

The data transmitted is weight (Gross weight or net weight)

The format of G.W.: ww000.000kg or ww000.000lb

The format of N.W: wn000.000kg or wn000.000lb

Note: The position of above decimal is decided by the decimal set on the indicator.

(2). In continuous mode2:

The data transmitted by the instrument displays the current weight (gross or net). Each data frame consists of 12 data.Format As follows:

BYTE	CONTENT	
1	02(XON)	Start
2	+or -	The symbol bit
3	Weigh data	High
:	Weigh data	:
:	Weigh data	:
8	Weigh data	Low
9	Point	Right to left（0～4）
10	XOR	Higt 4 bit
11	XOR	Low 4 bit
12	03(X0FF)	End

(3). **In continuous mode3:** (2400 baud rate, can connect the Yaohua large screen communication)

Old D2 + continuous communication format, the data output ASCII code way, 8

bytes per frame (including the decimal point). The data after the first pass low high between frames "=" split. Send data for the NW (instrument display value), such as the current instrument display is 70.15, the instrument continuously send 51.0700 = 51.0700 = 51.0700 .....

(4). In command mode:

All 2,000 weighing records can be read by computer software.

Chapter 3 Calibration

3.1 Connect load cell properly, then turn on the indicator, press [#] key while it is initialization, it will enter into the calibration mode and calibrate as following:

Step	Operation	Display	Notes
1	Press [Tare] for selection of division	[d X]	Select division optional(1/2/5/10/20/50),press [#] for confirm Example: 20
2	Press [Tare] for selection of decimal point selection	[P X]	Select decimal point optional: 0~3, press [#] for confirm Example:3
3	Set the full range	[FULL]	Press [Tare] for selection of the digit bit; Press [zero] for selection of the digit; Press [#] for confirm the input of full range
4	Zero point calibration: Press [#] when the stable signal is on	[nOLOAD]	Assure there is no load

5	Full range point calibration: Press [#] when the value input is the same as the loaded weight and the stable signal is on	[AdLOAD]	While inputting the loaded weight, Press [Tare] for selection of the digit bit; Press [zero] for selection of the digit; when the input value is the same as the loaded weight and the digit bit is at the highest bit, press [#] when the stable signal is on
6		[End]	
7	one second after the instrument automatically saved parameters, return to the weighing. (Optional instrument with the touch calibration switch, the meter will save the parameters and return to weighing).		

Chapter 4 Operation

3.1 POWER ON AND AUTO ZERO-SETTING

3.1.1 The indicator will perform "999999-000000" to self-checking when turning on. Then it will enter weighing mode.

3.1.2 When power on, if loading weight on the scale deviates from the zero point, but still within zero set range, the indicator will set zero automatically; if out of range, it is necessary to adjust the zero point or recalibrate or reset.

3.2 MANUAL ZERO SETTING (AUTOMATICALLY)

3.2.1 In weighing mode, when there is some error when unloaded, press **[Zero]** to make the indicator to be zero.

3.2.2 If the displayed value deviates from zero point, but still within zero-range, pressing **[Zero]** key is available. Otherwise, **[Zero]** key is invalid. (In this status, please recalibrate or reset zero parameters)

3.2.3 Only when stable annunciator is on, zero operation can be available。

3.3 TARE FUNCTION

When Indicator at weighing status, and displaying positive weight stable, press [**Tare**] key, indicator will deduct the displayed weight value as tare weight. Then indicator displays net weight as "0 ", and Tare sign annunciator is on.

3.4 ACCUMULATING FUNCTION(OPTIONAL)

3.5 COUNTING FUNCTION

In weighing mode, press **[Func]** to enter the counting state, it will display "count", and press **[*]** ,it will display "C00000", then press **[Tare]** to move the digit corresponding with the small triangle, the number corresponding with the small triangle will be increased one by one each time after pressing **[Zero]** key; and it will enter counting function after the sample number inputted and **[*]** pressed. "0" will be displayed and the counting annunciator will be on. Press **[Func]** key to return weighing mode.

3.6 USER'S FUNCTION SETTING

In weighing mode, keep pressing [F] for 5 seconds more, it will enter operator setting mode (mode P), there are 12 modes from P1 to P12 for option, press **[*]** to choose the mode and press **[Tare]** to choose the parameter. The description of parameter as follows:

1、P1 x kg Lb Kn change

X=1: kg

X=2: Lb

X=3 kN

2、P2 x automatically save power

X=1: No this function

X=2: Power off 10 minutes later

X=3: 20 minutes

X=4: 30 minutes

3、P3 x Baud rate setting

X=1: 9600

X=2: 4800

X=3: 2400

X=4: 1200

4、P4 x Choose the format of print

X=1: Print gross/tare/net

X=2: Print list records

5、P5 x RS232 output mode option

X=1: No transmission (RS232 stop)

X=2: Continuous transmission 1

X=3: Continuous transmission when stable

X=4: Command mode,export all 2000 records to PC

X=5: Big screen display signal(fixed baud :600)

X=6: Keep

X=7: Continuous transmission 2

X=8 Continuous transmission 3

6、P6 x LED brightness display settings

x=1: High bright

x=2: Low bright

7、P7 x Zero-tracking scope

X=1: 0.5e

X=2: 1.0e

X=3: 1.5e

X=4: 2.0e

X=5: 2.5e

X=6: 3.0e

X=7: 5.0e

8、P8 x Zero key scope

X=1: 2%FS

X=2: 4%FS

X=3: 10%FS

X=4: 20%FS

X=5: 100%FS

9、P9 x Zero scope upon starting

X=1: 2%FS

X=2: 4%FS

X=3: 10%FS

X=4: 20%FS

X=5: 100%FS

X=6: Boot is not set to 0

10、P10 x Lock data time

X=1~6: short~long

(X=6: Animal balance function)

11. P11 X Stabile time

X=1: quick

X=2: middle

X=3 low

12. P12 X Stable range

X=1: small

X=2: middle

X=3: big

Chapter 5 Add Features

Set date and time:

In weighing mode, keep pressing [FUNC] for 5 seconds more, it will enter operator setting mode (mode P),

Operate	Show Content	Explain
	[P* **]	Mode P
Press [#] and [ZERO]	[DATE]	Set date
Press[TARE/MOVE]	[**.**.**]	Show date
Press [TARE/MOVE] Or [ZERO/EDIT]	[08.13.18]	Change to current date For example:08.13.2018
Press[#]	[TIME]	Save date and set time
Press[TARE/MOVE]	[**.**.**]	Show time
Press [TARE/MOVE]	[12.13.14]	Change to current time

Or [ZERO/EDIT]		For example:12:13:14
Press[#]	[DATE]	Save date and set time
Press [FUNC]		Exit;

Print gross/tare/net

1- Once weighing and printing. For example: 201kg
Set 3.6,P4=1, At any time, press the save key to print a weight list.

Weight Report

Serial : 0001

Date:01/02/2019 Time:19:35:48

Gross wt: 200 kg

Tare wt: 0 kg

Net wt: 200 kg

*******You Are Welcome*******

2- Twice weighing and printing,for example:
First weigh the tare,then weigh the gross weight

Step	Key	Display	Explain
1		22	Load tare
2	[TARE]	0	Record as tare, TARE=22
3		84	Load net
4	[Print]		gross=tare+net Save net and print

5		-22	Remove all Or you can press twice [TARE] for exit
6		100	Load tare
7	[TARE]	0	Record as tare, TARE=100
8	....	....	Like step 3

Format :

Weight Report

Serial : 0001

Date:01/02/2019 Time:19:35:48

Gross wt: 106 kg

Tare wt: 22 kg

Net wt: 84 kg

*******You Are Welcome*******

Print [TOTAL] key for print toal weight.

Serial 0001+0002+.....

TOTAL

Number: 0085

Net wt: 540kg

Print list records

Set 3.6,P4=2, At any time, press the save key to print a weight list.

Weight Record

S/N 0001

Date:01/02/2019 Time:19:35:48

ID	Weight(kg)	Time
001	76.9	19:35:48
002	37.7	19:35:57
003	114.6	19:36:03
004	164.2	19:36:09
005	443.3	19:36:11
006	33.5	19:36:12
007	207.5	19:36:14

Print [TOTAL] key for print toal weight.

ID 001+002+.....

Total 1077.7(kg)

For Next print, S/N will start from 0002,ID will start from 001.

Print sub total and clear records

Press [PRINT] key and keep 5seconds, it will print sub total and show [DEL 0].
Press [ZERO] for modify the number, if you choose 0, press [FUNC] key for exit;
if you choose 1, press [FUNC] key,it will delete all records and exit;
S/N will start from 0001, ID will start from 001.

Weight Record

Date:01/03/2019 Time:10:26:52

Sub Total Weight 230.5(kg)

Chapter 6 Error Indication

EER 1	The AD value is too small when calibrated.
EER 2	The zero point is out of range when calibrated.
EER 3	The zero point is out or range upon starting
EER 4	The imputed sample number is zero when sampling n counting mode.
EER 5	The imputed weight is zero when full scale calibrated in calibrating mode.
EER 6	The unit weight is less than 0.25e when sampling in counting mode
bAt-lo	Low power
--ov--	Overload warning