Operation Manual

HY16-W

Weighing Indicator

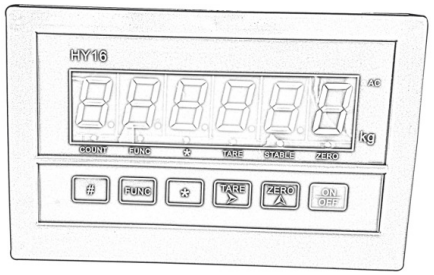
Content

Chapter 1 Main Specification

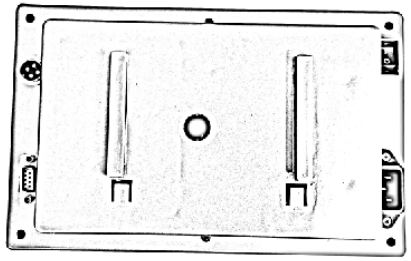
1. Model：	HY16-W weighing indicator
2. Accuracy:	GradeⅢ, n=3000
3. Sample Rate：	20 times / second
4. Scale interval：	1/2/5/10/20/50 for option
5. Display：	6 bits 1.2” LED，6 state indicating signals
6. Scoreboard interface：	Wireless scoreboard
7. Communication interface：	RS232C；Baud rate 1200/2400/4800/9600 optional；RS485/Wireless Optional;
8. Power supply:	Battery DC6V/4AH AC80V~300V /50HZ
9. Operating temperature/humidity:	-10～50℃； ≤90%RH
10. transporting temperature:	-20～50℃
11.Wireless frequency:	433MHZ~470MHZ

Chapter 2 Installation

2.1 FRONT AND BACK VIEW OF THE INDICATOR



Front View



Back View

2.2 KEY FUNCTIONS

[#] Press this button while open ,it will enter to calibrate mode.

[FUNC] 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.

[*] Press this button to accumulating the weight in weighing mode.

Press this button for sample taking in counting mode

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

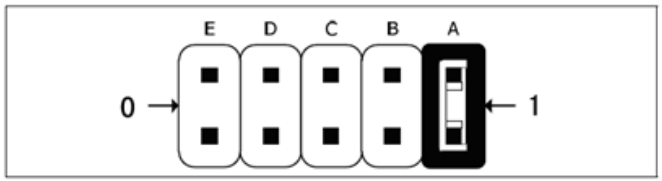
[ZERO] Press this button to zero in weighing mode.

[ON/OFF] Press this button to start the indicator when it is off; and press it to shut off upon on.

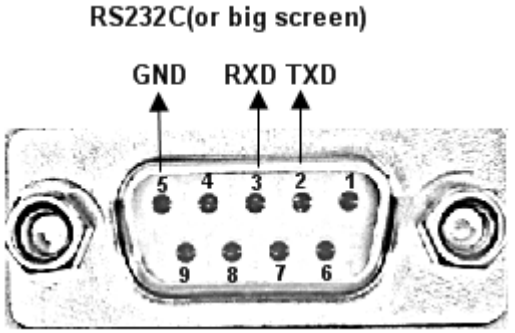
2.3 Connecting load cell to indicator

1. Received the wireless signal from ATW/ATW-A/ATW-S/ATW-AN ;
2. Please refer to ATW specification for connecting.
3. For set channel of wireless：

You can set 1~15 channels with jumper, and set 1~99 channels with software, we usually set it with jumper,



Jumper	Defined	Explanation
A	Channel selection	DCBA jumper choose channel： 0001 ： channel 1　0010 ： channel 2 0011 ： channel 3　0100 ： channel 4 0101 ： channel 5　0110 ： channel 6 0111 ： channel 7　1000 ： channel 8 1001 ： channel 9　1010 ： channel 10 1011 ： channel 11　1100 ： channel 12 1101 ： channel 13　1110 ： channel 14 1111：channel 15
B		
C		
D		
E	Channel set(For software set)	0 ： working state 1 ： set state



(Graph 2-4)

2.4 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-W 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:

The indicator performs the corresponding operation according to the command transmitted from the indicator.

Command R The indicator receives and sends weight data once time (the format is the same as the continuous mode)

Command T The indicator receive the command and tare (the same as tare key); if no receipt of the command. The indicator returns CR LF

Command Z The indicator receives the command and zero (the same as zero key); if no receipt of the command, the indicator returns CR LF.

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		Select decimal point optional: 0~3,

	selection of decimal point selection	[P X]	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).		

3.2 FAST CALIBRATION FOR ZERO POINT AND FULL RANGE POINT

Press [#] while it is initialization, it enters into the calibration mode.

3.2.1 Fast calibration for zero point:

At any time before it shows [nOLOAD], press [FUNC], it keeps the original division, decimal point, full range and enter into the zero point calibration mode. Press [ZERO] when the stable signal is on, it displays [End] and keeps the original full range point calibration..

3.2.2 Fast calibration for full range point:

At any time before it shows [AdLOAD], press [*], it keeps the original division, decimal point, full range, zero point calibration and enter into the full range point calibration mode. When it is finished, press the calibration switch under the lead sealing board at the back of the indicator, it saves the setting and back to the weighing status.

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

In weighing mode, press the [Function] key to enter the counting status display count, put a single weight is stable, press the [*] key to display C00000, press the [peeled] key indicator to move the selection, press [zero] key indicator corresponding bit plus one increment, the total number of input goods, press the [*] key to enter the counting state, corresponding to the count indicator is lit, the total weight of the instrument display. Press the [Function] key to return to weighing. Count state, the count, press the [*] key twice, directly into the count, calculations show that the instrument will be carried out in accordance with the results of the last sampling. (This process, "ERR" means that the sample fails, the instrument retains the last sampling results)

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. After entering counting mode, “count” will be displayed, press **[*]** twice times to enter counting mode directly, indicator will display according to the result of the sampling last time. (In this process, if the ERR4 appears, it means sampling failed, the indicator will keep the result from the last sampling)

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 change

X=1: kg display

X=2: Lb display

2、P2 x automatically power off

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 RS232 Net/Gross weight output option

X=1: Net weight output

X=2: Gross weight output

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（Z：zero，T：tare，R：transmit weight data once time）

X=5: None

X=6: Keep（Printer）

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 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

Chapter 6 Chargeable Battery

6.1 Turing on the AC power, the indicator will charge the battery automatically. So if you don't use battery frequently, you should take battery out.

■ Note: red end is +, black end is -. Wrong connection will destroy indicator.

■ Note: The built-in battery should be fully charged before it is used for the first time.

6.2 Only when you turn off the AC power, and push start key, battery works. Displaying [**bAt-lo**] means the insufficient of voltage, it needs charge.

6.3 When you use the battery first time, you should charge the battery for 20 hours in order to prevent low voltage resulted from the self leakage of the battery.

6.4 If you don't use battery for a long time, you should charge the battery for 10-12 hours for each 2 month to prolong using life of battery.

6.5 The battery is easily exhausted products. And it is not granted free guarantee.