WEIGHT INDICATOR **X706**

User Manual

v.201811

Before Use

1.1　Safety precautions

WARNING!

▲　Do not use X706 weighing terminal in hazardous area! Do not use it within areas classified as hazardous division 1/2 or zone 0/1/2/21/22 because of combustible or explosive atmospheres.

▲　Never immerse it in corrosive chemical liquid.

▲　Static sensitive device, it must be handled only by qualified technicians. Improper handling may damage the circuit card and the device, which is not covered by the warranty.

DANGER!

Electric shock hazard!
▲　Make sure the indicator is grounded well.

▲　Always unplug AC cable before performing any service work on the indicator! And wait for at least 30 seconds before any operation on the indicator.

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.

OPERATION

●　Use an independent electric source to prevent electronic disturbances.

●　Don't place any object on the platform when switch on the indicator.

●　Please warm-up the scale for 2-3 minutes before operation of it.

●　Avoid sudden changes in temperature and humidity.

●　Don't overload the scale – do not exceed its maximum capacity.

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1. Technical Specifications

Model	X706
Enclosure Type	ABS
Product Dimension	180x220x85mm
Accuracy	Class III
Display Resolution	1/3,000 – 1/15,000
Internal Resolution	1/300,000 – 1/600,000
Sampling Rate	20times/s
Display	6 digits LCD (30mm) with backlit
Power	100-240V-10V600mA AC/DC Adapter
Rechargeable Battery	6V4Ah
Working Time	160hours (no backlight) | 120hours (with backlight)
Load cell Sensitivity	1.5 – 3.0mV/V
Load Cell Quantity	1-4 * 350OΩ or 1-8*750Ω
Excitation voltage	5 VDC
Power consumption	about 18mA about 32mA with backlit about 48mA with backlit and RS232
Units	Kg | lb, g | oz, etc.
Operating Temperature	-10℃~40℃
Storage Temperature	-25℃~55℃
Relative humidity	85%Rh non-condensing
Communication	Optional RS232, Bluetooth, etc.
Shipping Weight	2.2kg

2. Model Identification

```
Model:          X706   N  -  UK   0   0
Corresponding:   A     B     C    D   E
```

A = Main model name
B = Display: -None: Standard
                        -C: 3-Color backlit

C = Plug type, examples:

> AU = Australia Type
> CN = China Type
> EU = EU Type
> US = USA Type
> SA = South Africa Type
> UK = UK Type

D = Output: 0 = RS232
                        1 = Bluetooth

E = Bracket   0 = Column adapter
                        1 = ABS wall bracket
                        2 = S.S. bracket

3. Packing List

After the weighing terminal received, please open the box carefully and check the following items included:

- Indicator   x 1
- Connectors and screws bag   x 1
- Column adapter   x 1
- Manual   x 1
- Other parts   Optional

4. Connecting

4.1 LOAD CELL

For 4-wire load cells

+EXC	………………	Excitation +
+SIG	………………	Signal +
SHIELD	………………	Shield
-SIG	………………	Signal −
-EXC	………………	Excitation −

for 6-wire load cells (short connect: **+EXC and +SEN**, **−SEN and -EXC.**)

+EXC	………………	Excitation +
+SEN	………………	Excitation+
+SIG	………………	Signal +
SHIELD	………………	Shield
-SIG	………………	Signal −
-SEN	………………	Excitation −
-EXC	………………	Excitation −

Pin1 - Excitation+
Pin2 − Excitation -
Pin3 - Signal +
Pin4 - Signal -
Pin5 - GND

4.2 RS232
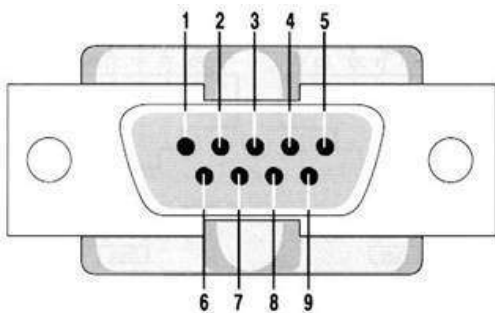
INDICATOR		COMPUTER
Pin2 (RXD)	---	Pin2 (TXD)
Pin3 (TXD)	---	Pin3 (RXD)
Pin5 (GND)	---	Pin5 (GND)

5. Keypad Description
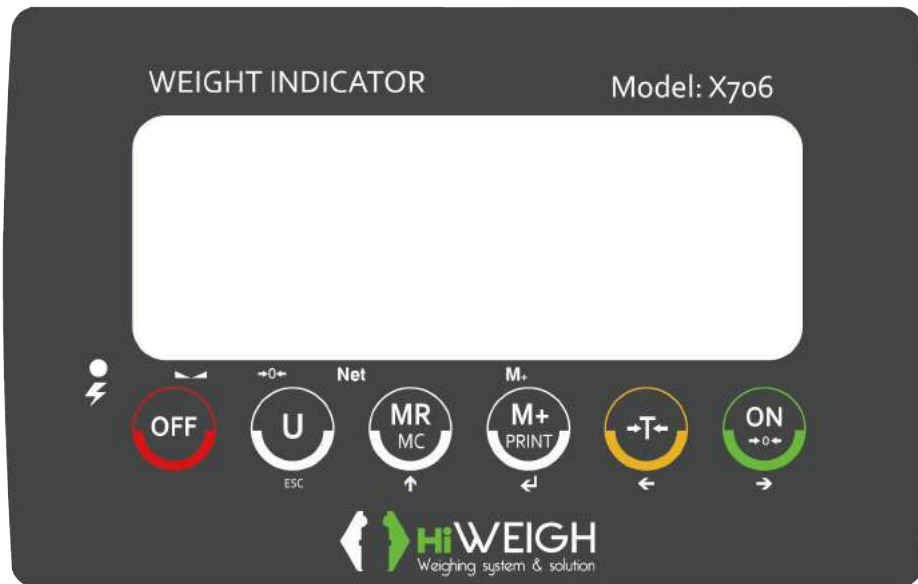
1ˢᵗ function: Press this key to switch on the scale.
2ⁿᵈ function: To place the reading of the display at "0", the value of the display must be lower to +2% of the maximum capacity.
3ʳᵈ function: To move to the right in the programming mode.

1ˢᵗ function: Press and hold the key during 3 seconds to switch of the indicator.

1ˢᵗ function: To choose the unit of weight.
2ⁿᵈ function: To exit from the programming mode.

1ˢᵗ function: To remove (tare) the weight of a container.
2ⁿᵈ function: To move to the left

1ˢᵗ function: To view the number of accumulations and the accumulated weight. **(TOTALIZING)**
2ⁿᵈ function: To remove the memory of the accumulations.
3ʳᵈ function: To increase the values inside the programming.

1ˢᵗ function: To accumulate in memory the value of the weight that appears in the screen.
2ⁿᵈ function: Manual transmission of data through RS-232 port to a PC or printer.
3ʳᵈ function: Confirmation key in the programming mode.

6. User Functions

6.1 Weighing Operation

Switch on the equipment when all the parameters have been correctly configured and the equipment has been calibrated
- If there is nothing on the platform (without load on the platform), it should display 0, if not, please press 🟢
- Place the weight on the platform and the platform will show the weight.
- The accumulation and sending of data will depend on the mode chosen in the section of RS232 (UF-6)
- You can display the accumulated values at any time by pressing ⚪ **(TOTALIZING)**

6.2 Counting Operation

Switch on the equipment when all the parameters have been correctly configured. If there is nothing on the platform (with no load on the platform), it should display 0, if not, please press the key 🟢

1. Press the key ⚪ until the symbol **Pcs** appears on the screen
2. Press the key ⚪ successively to choose the quantity of pieces of the sample. On the screen, it will appear successively, C10/C20/ C50/C100/C200.
3. Place the sample on the platform, and wait until the sign of stability and press the key ⚪
4. Place the product on the platform and the screen will show the number of pieces.

The accumulation and the sending of data will depend on the mode chosen in the section UF-6.
- To turn to the normal weighing mode, press the key ⚪
- If the user wants to go back to the counting mode, using the same sample of reference, press the key ⚪ again.
- If the user want to change the sample of reference, the user must repeat the steps described above.

6.3 Checkweigh

The user can configure the superior and inferior limits of the sample placed on the platform.

The display will show if the sample is lower to the inferior limit **Lo**, above the superior limit **Hi** or in the zone between the two limits **OK**. The user can configure when he wants to make the alarm ring and the stability needed to make it happen. All the procedure is described in the section UF-2.

If the user wants to define the limits in the normal weighing mode and wants to use the limits in piece counting mode, he must define the new limits for this mode, when it changes to weight mode again, the user will recover the limits he already has. The same happens otherwise.

6.4 Multi-Range | Multi-Interval

The indicator can be configured with an only range, a maximum weight and a value of step. It can also be configured as multi range or multi interval, in such cases there is a maximum weight.
From 0 to the medium weight of these maximum weight it is used the value of the chosen step (step 1) and from the half to the maximum weight it is used the next value in the step (step 2).
The screen indicators R1 and R2 point out the range which the user is using at every moment.
On the multi interval mode the weight increases, in the range use it used step 1, when the user goes to range 2 the step 2 is used.

When the weight decreases and the user go back to range 1, the step 1 is used again. On the contrary, in mode multi-range, when the weight decreases and the device go back to range 1, the device continues using step 2 until it reaches 0. In the section LF2 of the technical parameters the user can choose the range mode.

7. User's Parameter Configuration

Parameter	Description
UF-1	Internal calculation (A/D)
UF-2	Limit Configuration of weight (checkweigh)
UF-3	auto auto off
UF-4	Back illumination of display
UF-5	4 modes of hold
UF-6	RS-232 Output (PC/PRINT)
UF-7	Configuration of the speed of the converter (A/D)
UF-8	blind
UF-9	Configuration of gravity

To access the configuration of parameters when the screen display of zero, the user must press the keys (M+ PRINT) and (ON →0←) at the same time.

Press the key (→T→) or (ON) to choose the desired character *(UF-1 ~ UF-11)*.

To go back to the previous mode, press the key (U)

7.1 Internal Code (A/D) | *UF-1*

1. Press the key (M+ PRINT) to view the internal code of the indicator.

2. To go to the next parameter, press the key (M+ PRINT), the screen will show the value of the voltage of the battery.

3. To exit this mode and go back to the normal weighing, the user must press the key (M+ PRINT) or (U)

7.2 Configuration of Checkweigh | *UF-2*

1. Press the key (M+ PRINT) to access this parameter.
2. The display will show the message "000.000L" (lower limitation = Lo).

3. Use the keys (→T→) and (ON →0←) to move the cursor and the key (MR MC) to choose the number desired.

4. Press the key (M+ PRINT) to confirm.

5. The display will show the message "000.000h" (higher limitation = Hi).

6. Use the keys (→T→) and (ON →0←) to move the cursor and the key (MR MC) to choose the number desired.

7. Press the key (M+ PRINT) to confirm.
8. The display will show the weight value.

A	B	C
0	0	0

(configuration of the alarm)

DISPLAY	VALUE	DESCRIPTION
A	0	There is no need to stabilize the alarm to make it ring
	1	The alarm must be stabilized to ring
B	0	Always 0
C	0	Alarm switched off

1   The alarm ring if it is within range of **OK** (between the limits **Lo** and **Hi**)

2   The alarm rings if it is below the inferior limit **Lo** or above superior limit **Hi**

9. Press the keys (→T→) and (ON →0←) to move the cursor and the key (MR MC) to choose the desired number.

10. Press the key (M+ PRINT) to confirm.

7.3 Auto Off| *UF-3*

Modes:
- **AoFF 00** – Auto switch off deactivated
- **AoFF 01** – Auto switch off activated in a minute. The scale is going to switch off automatically after 1 minute of not being used.
- You can configure the value wished from 1 to 99 minutes.

1. Press the key to have an access to the parameter.

2. Press the key and to move the cursor and the key to choose the desired number.

3. Press the key to confirm.

7.4 Display Backlight | *UF-4*

Modes:
- **A:**   Automatic.
- **ON**: Illumination Activated.
- **OFF**: Illumination Deactivated.

1. Press the key to have an access to the parameter.

2. Press the key to select the desired mode.

3. Press the key to confirm.

7.5 Hold Function | *UF-5*

(Once the object is retired from the plate, the display maintains the weight fixed for a period. This function is very useful for the weighing of animals)

1. Press the key to have an access to the parameter.

4. Press the key to select the desired mode.

5. Press the key to confirm.

Modes:
- **HOLD 0** : Deactivated.
- **HOLD 1** : Animal in movement
- **HOLD 2** : Value of peak
- **HOLD 3** : Hold steady
- **HOLD 4** : Hold steady with self cancelling at zero.

HOLD 1.

- When the user can access this parameter, the screen shows the message **PCt**,
- Use the keys and to move the cursor and the key to choose the desired value of the range of HOLD, you can choose a number from 001 to 100.

- Press the key to confirm.
- It will appear on the screen the message **time 8,** use the keys and to move the cursor and the key to choose the number of times you want to repeat during the range of hold.

- Press the key to confirm. *Example: PCt small and big time means more accuracy and longer stabilization.*

7.6 RS-232 Data Output | *UF-6*

232 0 EXIT RS-232 Deactivated

FORMAT OF THE DATA
Format 1 PC
ST, GS, +0005. 28kg <CR> <LF>
ST, GS, +0000150pcs <CR> <LF>

232 1 Stable output, without accumulation, when it achieves a stability with **Format 1**
232 2 Continuous sending with **Format 1**
232 3 Manual output, without accumulation, manual by pressing the key (M+ PRINT) with **Format 1**

Format 2 PC
+0005. 28kg <CR> <LF>
+0000150pcs <CR> <LF>

232 4 Stable output, without accumulation, when it achieves a stability with **Format 2**
232 5 Continuous sending with **Format 2**
232 6 Manual output, without accumulation, manual by pressing the key (M+ PRINT) with **Format 2**

Format 3 Printer

<table>
<tr><td align="center">*Weighing Bill*</td><td align="center">*Counting Bill*</td></tr>
</table>

S/N	WT/kg

0001	0.25
0002	0.20
0003	0.75

0003	1.20

S/N	WT/pcs

0001	20
0002	10
0003	55

0003	85

232 7 Manual accumulation, and press the key (M+ PRINT) to output **Format 3**

232 8 Automatic accumulation when the weight stable, and output **Format 3**

If the user presses the key (M+ PRINT) twice (when the display back of 0), the total line to be printed:
```
------------------------      -------------------------
    0003    1.2                  0003     85
```
And the memory of the weights will be cleaned.

Format 4 Printer

<table>
<tr><td align="center">*Weighing Bill*</td><td align="center">*Counting Bill*</td></tr>
</table>

```
TICKET NO.0002                TICKET NO.0002
G    0.52kg                   G    20pcs
T    0.00kg                   T    0pcs
N    0.52kg                   N    20pcs


TOTAL NUMBER OF              TOTAL NUMBER OF
TICKETS 0002                TICKETS 0002
NET   2.12                  NET   50
```

232 9 Manual accumulation, and press the key (M+ PRINT) to output **Format 4**

232 10 Automatic accumulation when the weight stable, and output **Format 4**

If the user presses the key (M+ PRINT) twice (when the display back of 0), the summarization to be printed:

TOTAL NUMBER OF	TOTAL NUMBER OF
TICKETS 0002	TICKETS 0002
NET 2.12	NET 50

And the memory of the weights will be cleaned.

7.6.1 Speed of Communication

1. Press the key (M+ PRINT) to access the parameter
2. Press the key (MR MC) to choose the data exit mode wanted.
3. Press the key (M+ PRINT) to confirm.

Speed of Transmission	
b1200	1200 baud
b2400	2400 baud
b4800	4800 baud
b9600	9600 baud
b19200	19200 baud
b38400	38400 baud

4. Press the key (MR MC) to choose the speed of transmission needed.
5. Press the key (M+ PRINT) to confirm.

7.6.2 Protocol of Communication

− UART SIGNAL OF EIA-RS232-C

Baud rate	1200 / 2400 / 4800 / 9600 / 19200 / 34800 bps
Bits of data	8 bits
Bits of data	8 bits
Bits of parity	No
Bits of stop	1 bit

headboards information

Headboard 1 (2 BYTES)	Headboard 2 (2 BYTES)
OL – overweight	
ST – steady	NT – Net weight
US – unsteady	GS – Gross weight

Format 1 (232 1 ~ 3):

18BYTES ASCII FOR THE UNITIES kg, g, t, lb

1	2	,	1	2	,	1	2	3	4	5	6	7	8	1	2	CR	LF
Head-board 1			Head-board 2			data								Unit			

21BYTES ASCII FOR THE UNITIES tl, T, lboz

1	2	,	1	2	,	1	2	3	4	5	6	7	8	9	1	2	3	4	CR	LF
Head-1			Head-2			data									Unit					

19BYTES ASCII FOR THE UNIt pcs

1	2	,	1	2	,	1	2	3	4	5	6	7	8	1	2	3	CR	LF
Head-board 1			Head-board 2			data								Unit				

Format 2 (232 4 ~ 6):

12BYTES ASCII FOR THE UNITIES kg, g, t, lb

1	2	3	4	5	6	7	8	1	2	CR	LF
data								Unit			

15BYTES ASCII FOR THE UNITIES tl, T, lboz

1	2	3	4	5	6	7	8	9	1	2	3	4	CR	LF
data									Unit					

13BYTES ASCII FOR THE UNIT pcs

1	2	3	4	5	6	7	8	1	2	3	CR	LF
data								Unit				

7.7 Configuration of the Speed of the Converter |*UF-7*

1. Press the key (M+ PRINT) to access the parameter.

2. Press the key (MR MC) to choose the desired mode:

   - Mode 1:   Normal
   - Mode 2:   Fast
   - Mode 3:   Slow

3. Press the key (M+ PRINT) to confirm.

7.8 Initial Weighing Value|*UF-8*

It appears 0 on screen until the next division is selected. It starts to show values from that division.

Example:
   Scale with e =2g
   Blind in 5 divisions
   It will show 0 until it reaches 25= 10 g, the first value it will show will be 12g.

1. Press the key (M+ PRINT) to access the parameter.

2. Press the key (MR MC) to select.

3. Press the key (M+ PRINT) to confirm.

7.9 Configuration of Gravity|*UF-9*

1. Press the key (M+ PRINT) to view the value of the actual gravity.

2. To change the value, press the key (M+ PRINT), next you must use the key (→T←) and (ON →0←) to move the cursor and the key (MR MC) to select the desired number.

3. Press the key (M+ PRINT) to confirm.

8. User's Calibration

1. When the user is in the normal mode of weighing, he must press the keys (→T←) and (M+ PRINT), the message **ECF-1** is going to appear on the display.

2. Press the keys (ON →0←) or (→T←) to select the desired function: **ECF-1, ECF-2 or ECF-3**

8.1 ECF-1 CALIBRATION OF ZERO + WEIGHT

Press the key (M+ PRINT), the display will show CALZ.

Press the key (M+ PRINT), to zero the reading of the display.

Press the keys ⊙ and ⊙ to move the cursor.

Press the key ⊙ to introduce the value of the weight of calibration.

Place the calibration weight on the platform and press the key ⊙ to do calibration when the reading is stable.

8.2 ECF-2 CALIBRATION OF ZERO

Press the key ⊙, the display will show CALZ.

Press the key ⊙, to zero the reading of the display.

press the key ⊙ to do calibration of zero.

8.3 ECF-1 CALIBRATION OF WEIGHT (SPAN)

Press the key ⊙, the display will show the value of the calibration weight.

Press the keys ⊙ and ⊙ to move the cursor.

Press the key ⊙ to modify the value of the weight of calibration.

Place the calibration weight on the platform and press the key ⊙ to do calibration when the reading is stable.
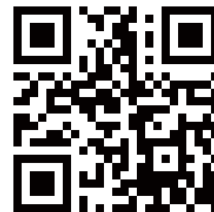
9. Trouble Shooting

Code	Description	Solution
	Can't switch on	Power adapter connected well or not? Adapter or battery problem - Replace Keypad problem – Replace
Err H	Zero point too high	Recalibration firstly to see whether it can be solved. Load cell connector loose – weld and connect again Load cell problem – Replace
Z Err	Zero point too high	
Err L	Zero point too low	
E4	Internal code is not stable	
Err n	Weight is not stable	Put the platform steadily on ground or floor If for animal weighing, use HOLD function Load cell problem - Replace
OL	Overloading	Remove the overload items
O Err	Overloading	
hhhhhh	Overloading	
E3	Linearity not correct or cancel	Do linearity calibration again
LLLLLLL	Weight is too low	Add more object
E5	Internal code is too low	Load cell connector check and readjust Load cell problem - Replace
Err4	E2ROM abnormal	Change the mainboard
B Err	Battery volume is too low	Recharge or replace the battery

10. Warranty

This indicator has a warranty against all manufacture and material defects, for a period of a year starting with the delivery date. During this period, HiWEIGH, will be in charge of the repairing of it.
This warranty does not include the damages done by overload or wrong use.
The warranty does not cover the delivery expenses necessary for the repair of the indicator.

Value Each Gram A professional weighing products manufacturer and supplier

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