

Weighing Indicator

XK3190-A12S

User Manual

Content

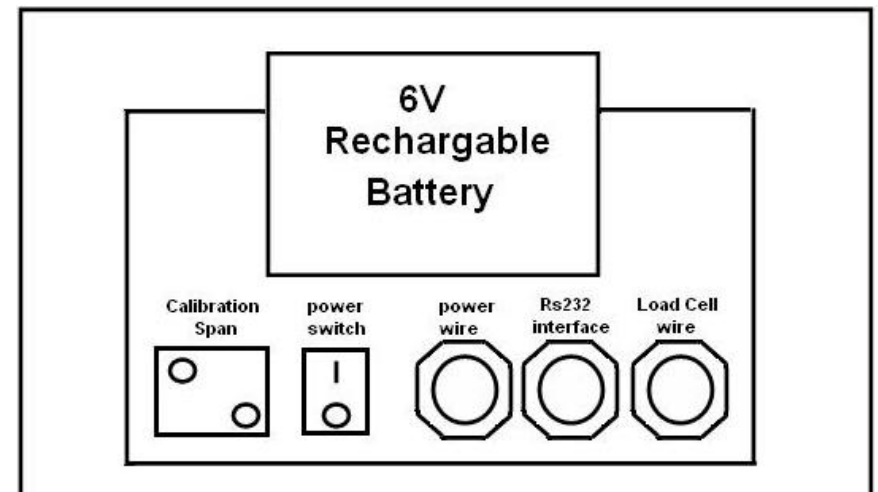
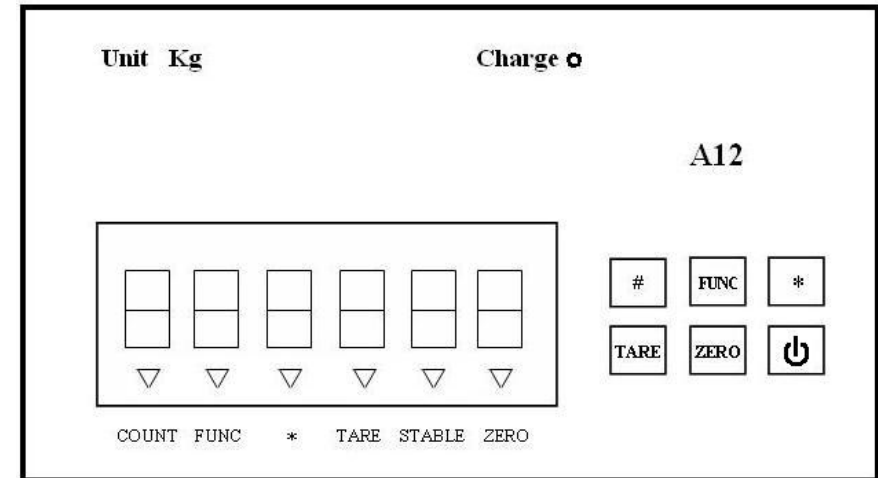
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Chapter 1 Main Specification

1. Model : XK3190 - A12S weighing indicator
2. Accuracy: GradeIII, n=3000
3. Sample Rate : 10 times / second A/D conversion: $\Delta - \Sigma$
4. Load cell sensitivity : 1.5 ~ 3mV / V
5. Division : 1/2/5/10/20/50 for selection
6. Display : 6 bits LCD , 6 state indication
7. Scoreboard interface (optional) :
In serial output mode : current loop signal,
transmission distance $\leq 50\text{m}$,
8. Communication interface (optional) :
RS232C ; Baud rate 1200/2400/4800/9600
optional
9. Power supply: Battery DC6V/4AH (display Bat lo when
voltage below 5.4V)
10. Operating temperature/humidity:
0 ~ 40°C ; $\leq 85\%RH$
11. Transportation temperature:
-25°C ~ 55°C
12. Water proof IP63

Chapter 2 Installation

2.1 FRONT AND BACK VIEW OF THE INDICATOR



2.2 KEY FUNCTIONS

- [FUNC]** Keep pressing this button for 5 seconds more in weighing mode, it will come into user function setting mode; less than 5 seconds, it will come into counting mode.
- [*]** Press this button to accumulate the weight in weighing mode
Press this button to input sample quantity in counting mode
- [TARE]** Press this button to tare in weighing mode.
- [ZERO]** Press this button to zero in weighing mode.
- [⏻]** Press this button to start the indicator when it is off; and press it to shut off when it is on.
- [#]** Press this button to hold in weighing mode, press this button to save/move in set mode.

2.3 CONNECTING LOAD CELL TO INDICATOR

1. The 5-pin (2.54MM) socket is used for connection of load cell, which has been defined as following:
Pin 1 EX+; Pin 2 EX-; Pin 3 SHIELD; Pin 4 IN+; Pin 5: In-
2. The 4-wire shielded cable is used, and the indicator does not have the function of long distance compensation function.
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. Load cell and indicator are static sensitive devices; you must adopt anti-static measures. The electric welding 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

Chapter 3 Operation

3.1 POWER ON AND ZERO AUTO

- 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 auto zero setting range, the indicator will perform zero automatically; if it is out of auto zero setting range, it is necessary to adjust the zero point or recalibrate or reset.

3.2 ZERO MANUALLY

- 3.2.1 In weighing mode, when there is some tolerance 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 manual zero-range, pressing **[Zero]** key is efficient. Otherwise, **[Zero]** key is invalid. (In this status, please recalibrate or reset zero parameters)
- 3.2.3 Only when stable indication is on, zero operation can be allowed.

3.3 TARE

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 indication is on.

3.4 ACCUMULATING

In weighing mode, when the displayed value is positive and stable as well, press **[*]** key to accumulate the present weight and display the accumulated weight, the accumulate indication “(*)” will be on. Press this key again, it will back to weighing mode and the accumulate indication “(*)” will be off. The next accumulating operation must be

performed after the weight return to be zero. When the accumulated weight displayed, press **[Func]** key to clean the accumulated weight in Memory and press **[*]** to return weighing mode. If the accumulated weight needs to be checked, please keep the load of platform to be zero, then press **[*]** to display the accumulated weight.

3.5 COUNTING

In weighing mode, press **[Func]** to enter into the counting state, it will display “count”, and press **[*]** it will display “C00000”, then press **[Tare]** to move the digit directed by 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 into counting function after the sample quantity input and **[*]** pressed. “0” will be displayed and the counting indication will be on. Press **[Func]** key to return back to 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 FUNCTION SETTING

In weighing mode, keep pressing **[Func]** for 5 seconds more, it will enter user function 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 is 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 :	Power off 20 minutes
	X=4 :	Power off 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
	X=3:	Continuous transmission when stable
	X=4:	Command mode (Z : zero; T : tare; R : transmit weight data once time)
	X=5:	Current loop output
	X=6:	Keep for Printing
6、 P6	x	Backlight setting
	X=1:	No backlight
	X=2:	Automatic backlight
	X=3:	Keep backlight all the time
7、 P7	x	Zero-tracking range
	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	Manual zero range
	X=1:	2%FS
	X=2:	4%FS
	X=3:	10%FS
	X=4:	20%FS

9, P9	x	Auto zero range
	X=1:	2%FS
	X=2:	4%FS
	X=3:	10%FS
	X=4:	20%FS
10, P10	x	Digital filtering intensity
	X=1:	high
	X=2:	middle
	X=3:	low
11, P11	x	Stable time
	X=1:	high
	X=2:	middle
	X=3:	low
12, P12	x	Stable scope
	X=1:	low
	X=2:	middle
	X=3:	high

3.7 CONNECT SCOREBOARD TO INDICATOR (FUNCTION OPTIONAL)

3.7.1. Current loop or RS232 signal is used for scoreboard connection, which is transmitted in serial binary code style. The baud rate is 600.

- Make sure that scoreboard and signal output is connected correctly. If there is something wrong with connection, damage will happen to output port of instrument and input port of scoreboard, sometimes, the damage is so big to influence the instrument and scoreboard. Only specially provided connecting cable is allowed to be used.

3.8 SERIAL COMMUNICATION AND INDICATOR CONNECTION

- Make sure that communication interface output and computer is 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.

Data format for RS232 output is as followed:

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 mode:

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 command mode:

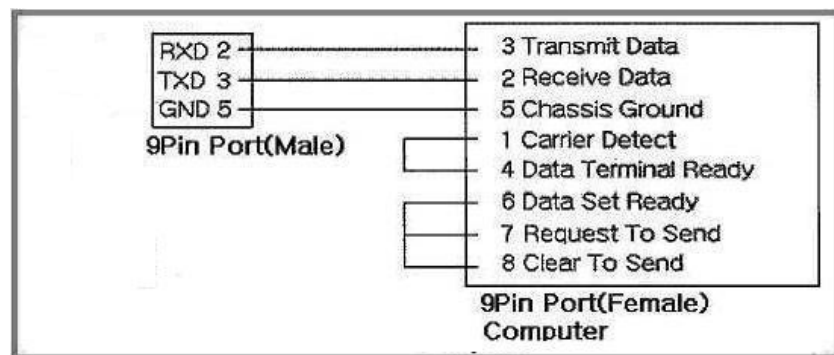
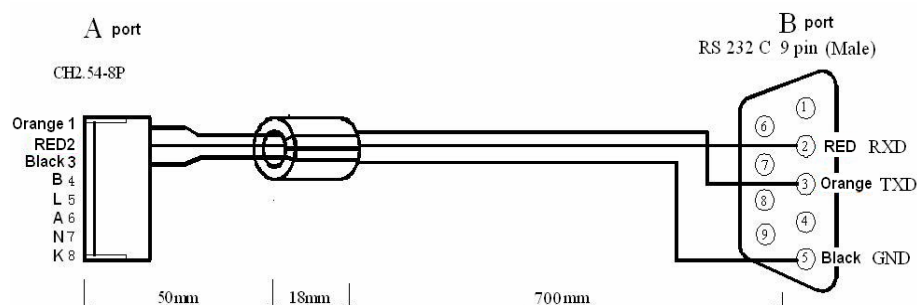
The indicator performs the corresponding operation according to the command transmitted from the pc.

Command R The indicator sends weight data once on receive of command R from pc (the format is the same as the continuous mode)

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

Command Z The indicator zero on receive of command Z from pc (the same as zero key); if no receipt of the command, the indicator returns CR LF.

(Graph 3-1) RS232 Connection A12S



Chapter 4 Calibration

4.1 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	Press the calibration switch under the lead sealing board at the back of the indicator		It saves the calibration parameter and back to the weighing status. Attention: if no pressing the calibration switch, all the parameters won't be saved.

4.2 FAST CALIBRATION FOR ZERO POINT AND FULL RANGE POINT

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

4.2.1 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. 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.

4.2.2 Fast calibration for full range point:

At any time before it shows [AdLOAD], press [ACCU], 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 5 Error Indication

EER 1	The AD value is too small when calibrated at full range point.
EER 2	The zero point is out of range when calibrated at zero point.
EER 3	The zero point is out or auto zero range upon starting
EER 4	The input sample quantity is zero when sampling in counting mode.
EER 5	The input 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

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 [LouoL] 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.

Chapter 7 Maintenance

- 7.1 To guarantee indicator clarity and using life, the indicator shouldn't be placed directly under sunshine and should be set in the plain space.
- 7.2 The indicator can't be placed into the place where the dust pollution and vibration are serious.
- 7.3 Load cell should connect with indicator reliably, and the system should be well connected into ground. The indicator must be protected from high electrical field and high magnetic field.
- Please avoid to use the indicator in the place that have burnable Ogas or burnable steam: Also cannot apply to the filling system for the pressure case.
 - In order to protect the operator, indicator and relevant device, you should mount lightning rod in thunderstorm frequently happening area.
 - Load cell and indicator are static sensitive device, you must adopt anti static measures.
- 7.4 It is strictly forbidden to clean the case of indicator with intensive solvents (for example: benzene and nitro oils)
- 7.5 Liquid and conducting particle should not be poured into the indicator, otherwise the electronic components will be damaged and electric shock is likely to happen.
- 7.6 You should cut off power supply of indicator and relevant device before you pull-in and out the connecting line of indicator and external device.
- You must cut off power supply of indicator, before pulling out connecting line of load cell.
- 7.7 During operation, if trouble occurs, operator must pull off the power supply plug immediately, and user should return this indicator to our company for repair. Non-weighing manufacturer should not repair it, or by yourself, otherwise further destruction may happen.

- 7.8 The storage is not granted the free repair guarantee, because it is easily exhausted products.
- In order to prolong using life, please charge the cell fully before using it. If you don't use the indicator for a long time, you must charge the cell every two month and for eight hours/each charging time.
 - Moving or installation must be carefully taken and must avoid strong vibration, impact and bump in order to protect the storage cell from being damaged.
- 7.9 From invoice date, the indicator has a one-year free repair period. If any non-artificially obstacle about the indicator happens under correct using conditions within this period, the user is allowed to send the product with its guarantee card (of the correct number) back to our corporation for free repair. The indicator shouldn't be taken apart, otherwise free guarantee will be cancelled.