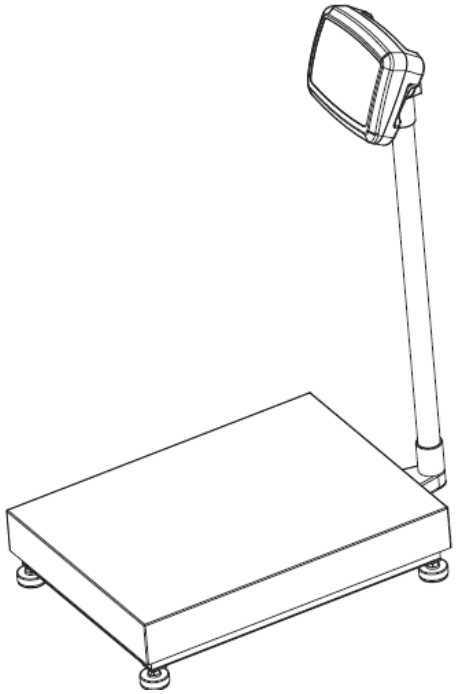
Army Aviation TCS/TSS series platform scale manual



CONTENTS

First of all, thank you for purchasing the Army Aviation SCT series electronic counting scale of our company. The high quality and reliability of the product will make you satisfied. By means of the product, you will be able to fully realize the high quality and reliability of our scale, and believe that our product can fully meet your requirements. There are specific methods of installation, operation and maintenance in this manual. In order to apply the scale well ， you must read the manual carefully before using.

【1】ATTENTION

1.1 CONVENTIONAL ATTENTION

- **The object is forbidden to fall down on the pan.**
- **Don’t locate the scale in poor working condition.**
- **Locate the scale in stipulated condition to apply.**
- **Don’t take scale out or move around by pan.**
- **Keep the scale clean if the product will not be used for a long time and recharge the battery once every three months. When applying the product again a long time later, you must recharge the battery at first.**
- **The maintenance must be done by specialist.**

1.2 ATTENTION BEFORE USING

1. Locate the scale on a clean, firm working table with flat surface to keep away from vibration, heat sources, or rapidly changed temperature. Adjust the 4 leveling feet so that the bubble is centered in the circle and be sure the scale is level each time after its location is changed.

2. Connect the AC adapter to the independent power supply for avoiding interference from other equipments.

3. Be sure no loads on the pan when turn scale on.

4. Electrify to preheat the scale for 3-5 minutes before using.

5. For weighing accuracy, the center of gravity of object should be placed in the central area of and beyond the edge of pan.

【2】INSTALLATION

2.1 BODY INSTALLATION

1. Contents in Carton

No.	Name	Unit	Qty.
1	Body	pc	1
2	Pan and Pipe	pc	1
3	Manual	pc	1
4	Qualification	pc	1

5	T and U fixture	Set	1
6	Indicator and Adapter	Set	1

2. Locate the scale's body on firm and horizontal ground with the flat surface , adjust the feet to keep the scale stable and level as when the bubble is centered in the circle.

3. Put the pan on the body and press【ON/OFF】key to turn on the scale in weighing interface.

2.2 BATTERY REPLACEMENT

1. Take down the indicator, open the housing and disconnect the battery joints.

2. Put new battery in the position and connect poles correctly.

Warning：The positive and negative poles of lead-acid battery can not be in short circuit or electrode reverse, which otherwise make the battery damaged and burn.

Connection: Red wire to red pole and black wire to black pole.

3. Screwing the housing and put the indicator on again, battery replacement is over.

【3】INSTRUCTION

3.1 PARAMETERS

Accuracy：III

Precision：(3000-300000）d

Sample Rate: 20 times/Sec.

Resolution：1 million

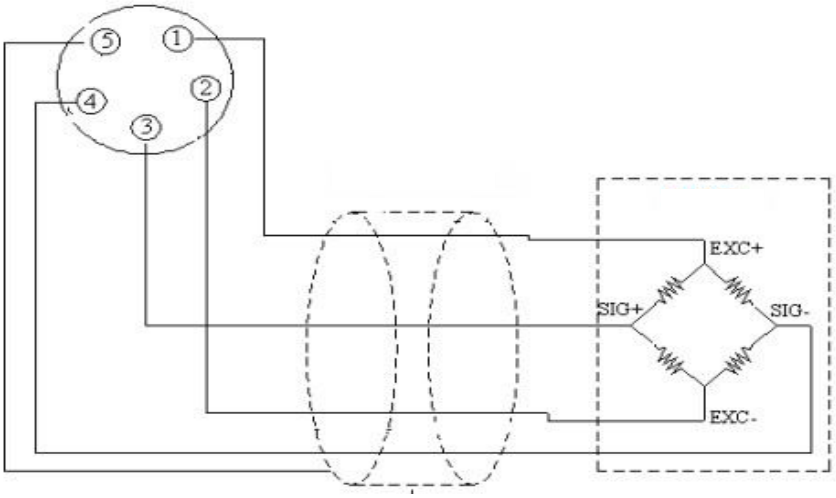
3.2 POWER SUPPLY

AC Adapter：Input 100V~240V，Output 12V/1A

Battery Specification: 6V/2.8AH

3.3 Connection between load cell and indicator

Load cell connection by 5 pin plug as shown as the following description:

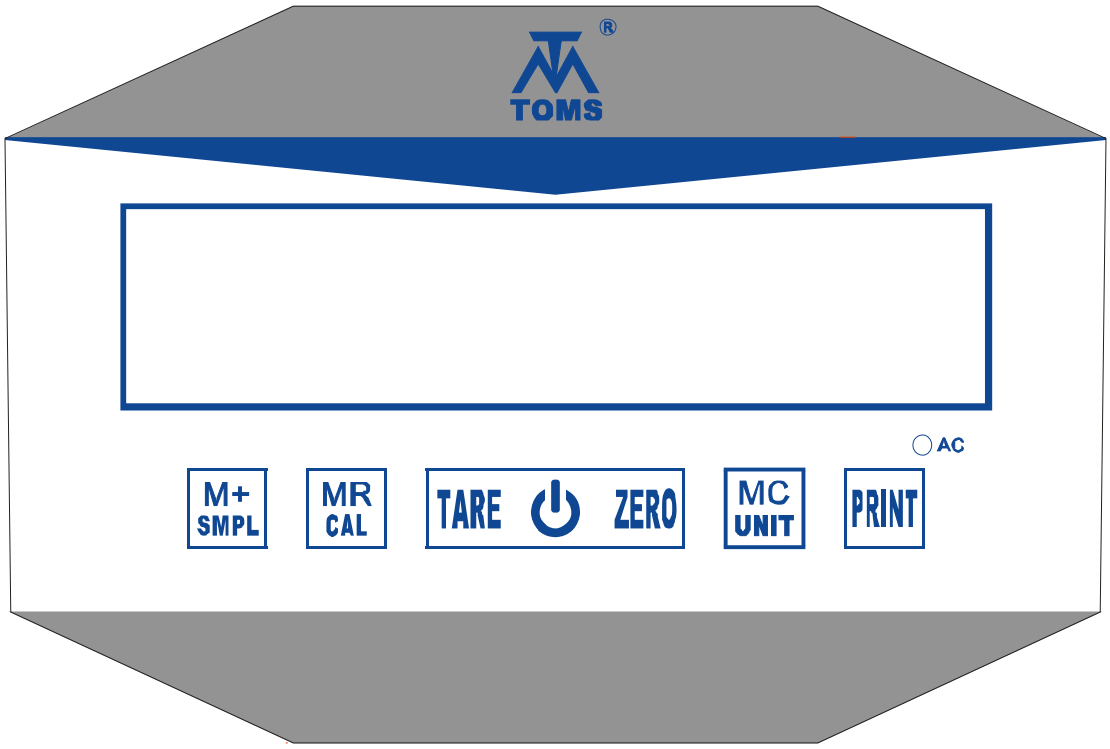


PIN 1:Excitation power supply+（E+） PIN 2:Excitation power

supply-（E-） PIN 3:Output signal+（S+） PIN 4:Output signal-（S-） PIN 5：Ground connection(GND)

【4】DISPLAY

4.1 PANEL DESCRIPTION



TCS/TSS Panel

Description：AC-charge lamp is connected with adapter to light up. When it is red, battery is charging; it is green, battery has been charged. In general, battery charge takes 12 hours.

4.2 KEY DESCRIPTION

【M+/SMPL】：perform weighing cumulative function or perform sample function when the unit is PCS or %. Press it for 3 seconds to enter function setting mode.

【MR/CAL】：display again the cumulated messages and long press it for 3 seconds to enter external calibration mode.

【TARE】：perform tare function, tare full capacity and display when it is stable.

【ZERO】：perform zeroing in the scope of 2% capacity when stable symbol is displayed.

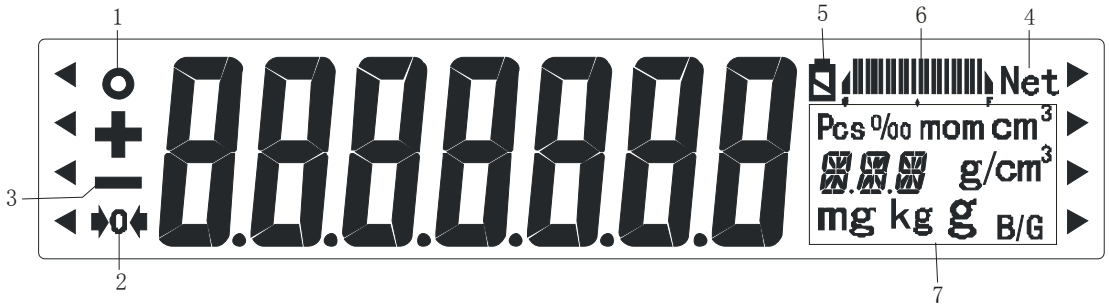
【 ⏻ 】：OFF/ON, short press is to turn on and again, display OFF to turn off.

【MC/UNIT】：clear the cumulated messages.

【PRINT】：Short press to perform print function and long press to enter RS232 function setting mode.

Note: The time of short press is less than 1 second.

4.3 DISPLAY DESCRIPTION



No.	Description	No.	Description
1	Stable symbol	5	Battery Symbol
2	Zero symbol	6	Simulation strip symbol
3	-Symbol	7	Unit symbol
4	NET Symbol		

【5】INDICATOR OPERATION

5.1 TURN ON/OFF INDICATOR

On：press【 ⏻ 】key to display software version number and specification on screen, then enter weigh mode.

Off：press【 ⏻ 】key to display “OFF”turn off scale.

5.2 ACCUMULATED MODE

The accumulative function can be performed by pressing 【M+/SMPL】key ， the most accumulated times is 99.

Note： Only when the stable symbol is displayed, the accumulative function can be performed. The accumulative function must be performed after zeroing the previous accumulated value.

Put the object on pan and display weight value.

1. **press【M+/SMPL】key to display“M-01”for short time and 1 second later, display the total accumulated weight value, another 1 second later, return in weigh mode.**
2. **Take down the object and zero, put the other object on pan again to perform the accumulative function many times.**

5.2 REDISPLAY FUNCTION

The redisplay function can be used to check accumulated results and to examine accumulated messages time by time.。

1. **One or more times accumulative operation can be performed according to item 5.2**

2. **Press【MR/CAL】key to display“M-XX”for 1 second and then display “the accumulated weight value” for 1 second 。**
3. **Return by itself in weigh mode.**

5.3 CLEAR ACCUMULATION FUNCTION

Clear Accumulation Function can be used to clear the accumulated results and the accumulated value each time.

1. **One or more times accumulated operation can be performed according to item 5.2**
2. **Press【MC/UNIT】key to display “CLr-M” and return by it self in weigh mode. After clearing accumulated messages, next accumulative operation can be performed.**

5.4 COUNTING MODE

TCS bench scale has sample counting function.

1. **In weighing mode, press【MC/UNIT】key to change in PCS mode.**
2. **Put some samples on pan.**
3. **Press【M+/SMPL】key to display“S- 5”**
4. **Press【ZERO】key to select 5,10,20,50,100,200,500,1000 circularly.**

5. **Corresponding sample quantity, press【M+/SMPL】key to finish the sample.**

5.5 % MODE

TCS scale has % sample function.

1. **In weighing mode, press【MC/UNIT】key to change in % mode.**
2. **Put some samples on pan.**
3. **Press【M+/SMPL】key to display“S- 5”**
4. **Press【ZERO】key to select 5,10,20,50,100,200,500,1000 circularly.**
5. **Corresponding sample quantity, press【M+/SMPL】key to finish the sample.**
6. **Put other samples need to count and display the total % value.**

5.6 EXTERNAL CALIBRATION（UNAPPROVED）

Single Point Calibration can be used to calibrate the deviation of gravity when the scale is used at first or calibrate the scale when it is inaccuracy.

Notice: please calibrate the scale in working condition.

1. **In the condition of power on, hold on【redisplay/calibration】key for 3 second and enter in calibration mode to display“CAL”.**
2. **Confirm no load on the pan and press【M+/SMPL】key to perform zero point calibration ,display “zero” on screen, then display “value of weight to load”.**
3. **If“ value of weight to load” need be changed, respectively press【TARE】key to move and press【ZERO】key to change the value of weight to load.**
4. **Put required weight on the pan for 3-5 seconds and press【M+/SMPL】key to display “SPAN”, and display “PASS” to return by it self in weighing mode.**

5.7 UNIT SETTING (UNAPPROVED)

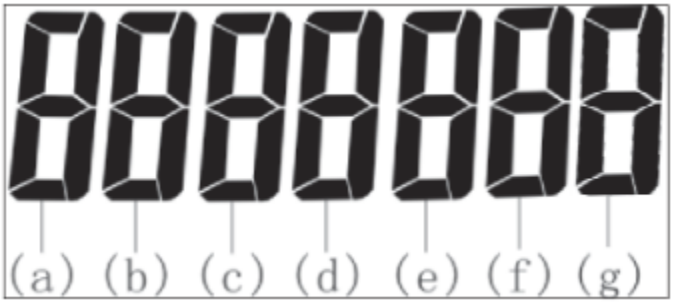
In general, the units need not reset because they were already set before delivery. If setting need, the steps are shown as the followings, units :kg，lb，oz，PCS，%，GSM，g

Notice: The units kg and g are only allowed by rules to be legal measure unit.

1. **In the condition of power on, hold on【MC/UNIT】key for 3 seconds to enter in unit setting, display “UNITSET” and “on g” again on screen.**
2. **In the condition of power on, hold on【MC/UNIT】key for 3 seconds to enter in unit setting, display“UNITSET” and “on g” again on screen.**
3. **Press【PRINT】key to turn on or off corresponding unit.**
4. **Press【MC/UNIT】key to change different units.**
5. **After setting, press【M+/SMPL】key to return in weighing mode.**

5.8 FUNCTION SETTING（UNAPPROVED）

In general, function setting need not reset because they were already set before delivery. If setting need, the steps are shown as the followings.



1. **In the condition of power off, hold on【M+/SMPL】key for 3 seconds to enter in function setting interface and display“3505120”(default) on screen.**

2. **Press【TARE】key to move and press【ZERO】key to change digit.**

   (a) BAUD RANGE

   0 ~9 the higher the value, the better the filter effect

   (b) SMOOTHING ANTI-VIBRATION

   0 ~9 the higher the value, the better the filter effect

   (c) 0

   (d) ZERO TRACKING RANGE

   0 ~9 due to 0.0~0.9d

   (e) ZEROING RANGE

   0 ~9 due to 0~9d

   (f) ZEROING RANGE AFTER LOAD

   0 ~9 due to 0~9d

   (g) AUTOMATIC POWER OFF SETTING

   0= no automatic power off 1=5 min. 2= 10min. 3= 30min.

3. **After setting, press【M+/SMPL】key to return in weighing mode.**
4. **The above settings must be performed in the condition of power on again after power off.**

【7】RS232 SETTING

7.1 RS232 CONNECTION

DB9 plug is used to connect with other device for communication.

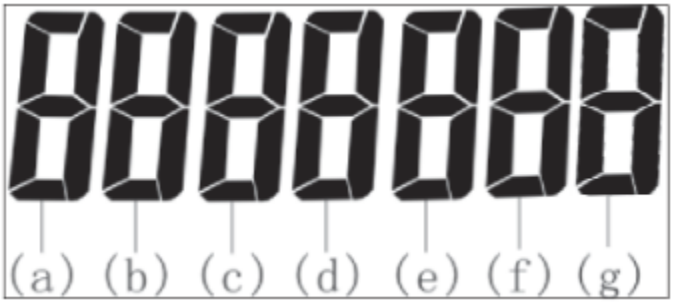
The pins are distributed as follows:

PIN2=TXD，PIN3=RXD，PIN5=GND

Set mode:

8 data bits, no parity, 1 stop bit, baud rate adjustable.

7.2 RS232 SETTING



(a) 0=9600 1=19200

(b) 0=continuous output 1=stable output 2=press 【PRINT】key output 3=accumulative output

(c) 0=PC computer instruction work 1=continuous paper print 2=micro printer

(d) 0

(e) 0

(f) 0

(g) 2

Default:0220002

7.3 RS232 FORMAT

Continuous, press key and stable print format:

G: 5.00kg	**G Gross weight**
T: 0.00kg	**T Tare weight**
N: 5.00kg	**N Net weight**

Accumulative print format:

01 : 5.00 kg	**The first accumulated output**
02 : 5.00 kg	**The second accumulated output**
03: 5.00 kg	**The third accumulated output**
TOTAL : 15.00 kg	**Accumulated total output**

【8】ERROR MESSAGES

Symptom	Possible Reason	Solution
Unable to boot	No power or dead battery	Check power and battery connection
Can't be calibrated	Hostile working condition Unsuitable weight	Working condition Suitable weight
W-over	Exceed maximum capacity+9d	Lessen objects
LOW-BAT	Dead battery	Charge battery

Battery symbol	**Battery is low**	**Charge battery**
ZEROErr	**Exceed 20% max. capacity**	**Take down the load**
M-Err	**Zero load or can't accumulate before zeroing or accumulate times exceeded**	**Put objects, zeroing, clear the accumulated time**
-ERR-1	**The zero point is less than -20d**	**Put the pan on and turn on again**
Not zeroing	**Hostile working condition touch the pan** **Load cell damaged or PCB problem**	**Working condition Eliminate** **Repair in factory**
System halted	**Can't power off, key no response, can't weigh, etc.**	**Power and battery cut, reconnect them to turn on**

【10】WARRANTY

Thank you for using our products. We shall supply good service after sales and solve your problem in time in the future.

During one year warranty period, repair or at it option, replace any component(s) that proves to be defective at no charge exclude the artificial damage, in the meantime you must show the invoice and valid warranty card of product to our service center.

In the following situation, you must pay for the item:

1.The artificial damage

2.The damage by nature and man made disaster

3.The user's own disassembly or the other unauthorized man's maintenance

4.The battery is consumable to not be in the scope of warranty.

Version：VER-1.0

Subject to change without prior notice