

# **GC INDICATOR**

(P.N. 3056610550, Revision C6, August 2010)

Software Rev 2.18 and up

**Easy Reference:**

Model name of the indicator/scale:	
Serial number of the unit:	
Software revision number (Displayed when power is first turned on):	
Date of Purchase:	
Name of the supplier and place:	

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## 1.0 INTRODUCTION

- The GC series provides accurate, fast and versatile parts counting scales.
- There are 2 types of scales within the **GC** series : **GC** indicators are kilogram/gram scales and the **GC-a** indicators are changeable from pounds to kilograms if the user requires it. The indicators have the same functions except that **GC-a** scales have the ability to toggle between the two weighing units.
- The indicators can be set to display up to 30000 divisions
- All indicators are supplied with a RS-232 bi-directional interface and real time clock (RTC).
- The indicator has a sealed keypad with colour coded membrane switches and there is a large, easy to read liquid crystal type display (LCD). The LCD is supplied with a backlight.
- The indicators include automatic zero tracking, audible alarm for pre-set counts, automatic tare, pre-set tare, an accumulation facility that allows the count to be stored and recalled as an accumulated total.

## 2.0 SPECIFICATIONS

<b>INPUT SECTION</b>	
Load Cells	Up to 4, 350 ohm load cells Minimum 87 ohms, maximum 1120 ohms
Connection	4 wire or 6 wire load cells
Excitation	5Vdc
Sensitivity	0.15uv/d
Linearity	0.01% FS
Zero Range	0-10mv
Signal range	0-40mv
ADC Sensitivity	Approximately 0.015 uv/ADCount
<b>DIGITAL SECTION</b>	
Maximum Range	100 g – 30000 g 1 kg – 30000 kg 1 lb to 30000 lb
Divisions	Up to 30,000
Stabilization Time	2 Seconds typical
Operating Temperature	-10°C - 40°C 14°F - 104°F
Power supply	230 VAC 50/60 Hz OR 12VDC @ 800ma adaptor for CKa type units.
Battery	Internal rechargeable battery
Calibration	Automatic External
Display	3 x 6 digits LCD digital displays
Indicator Housing	ABS Plastic

Overall Dimensions (wxdxh)	260 x 115 x 170mm 10.2" x 4.5" x 6.7"
Net Weight	1.8kg /4 lb
Applications	Counting Scales
Functions	Parts counting, weighing, accumulating memory, pre-set count with alarm
Interface	RS-232 bi-directional interface English, German, French, Spanish selectable text
Date/Time	Real Time Clock (RTC), To print date and time information (Dates in year/month/day, day/month/year or month/day/year formats- Battery backed)



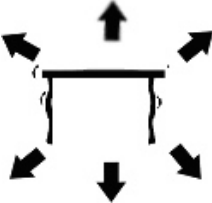
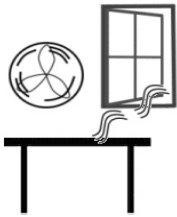
### 3.0 INSTALLATION

#### 3.1 UNPACKING

This indicator must be connected to a load cell platform and calibrated as necessary to match the platform and user requirements. See Section 12.0 for set-up information.

The user's application and the technical specifications of the platform or load cell will determine the necessary configuration.

#### 3.2 LOCATING

	<ul style="list-style-type: none"><li>• The scales should not be placed in a location that will reduce the accuracy.</li><li>• Avoid extremes of temperature. Do not place in direct sunlight or near air conditioning vents.</li></ul>
	<ul style="list-style-type: none"><li>• Avoid unsuitable tables. The table or floor must be rigid and not vibrate.</li><li>• Avoid unstable power sources. Do not use near large users of electricity such as welding equipment or large motors.</li><li>• Do not place near vibrating machinery.</li></ul>
	<ul style="list-style-type: none"><li>• Avoid high humidity that might cause condensation. Avoid direct contact with water. Do not spray or immerse the scales in water.</li><li>• Avoid air movement such as from fans or opening doors. Do not place near open windows or air-conditioning vents.</li></ul>
	<ul style="list-style-type: none"><li>• Keep the scales clean. Do not stack material on the scales when they are not in use.</li></ul>





### 3.3 CONNECTION

This indicator must be connected to a load cell platform and calibrated as necessary to match the platform and user requirements.

The GC has a connector configured for either 4 or 6 wire load cells. Connect the load cells/platform to the indicator as shown below. The cable length should be as short as possible, using a large size wire to minimise errors due to resistance in the leads.

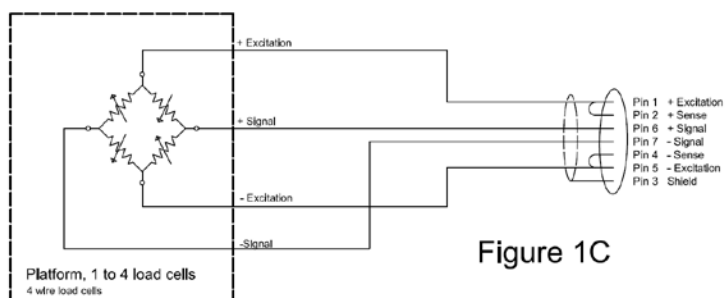
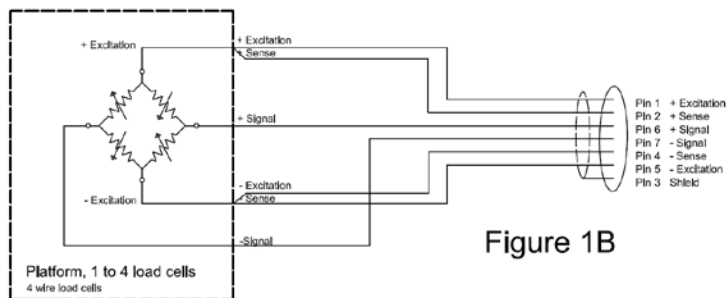
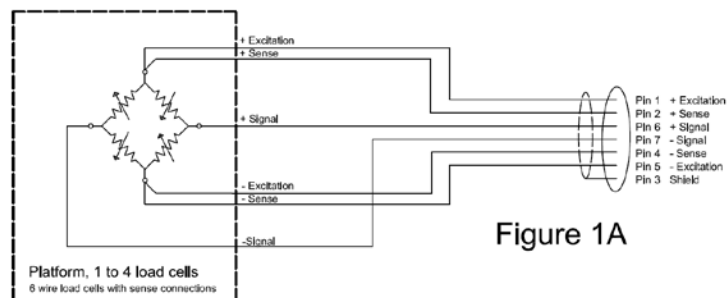
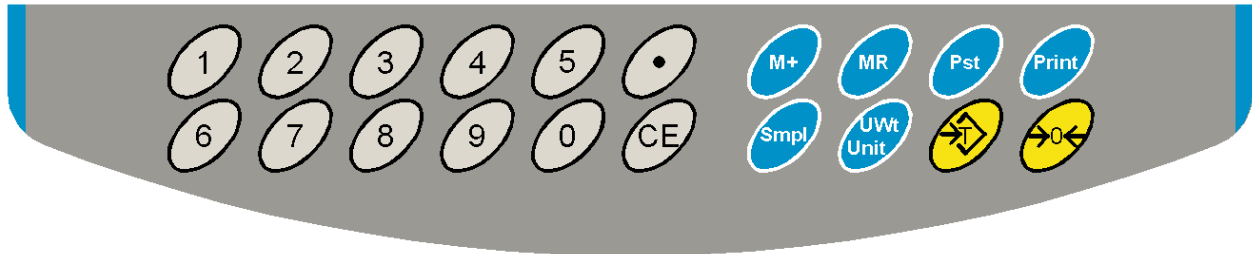


Figure 1A shows the connections to a 6 wire load cell. Figure 1B and 1C show 2 different ways to attach a 4 wire load cell, 1B uses a 6 conductor cable to go from the indicator to the platform or load cell where it connects to the 4 wires from the load cells.

The Excitation and sense wires are connected internally in the GC indicator.

## 4.0 KEY DESCRIPTIONS

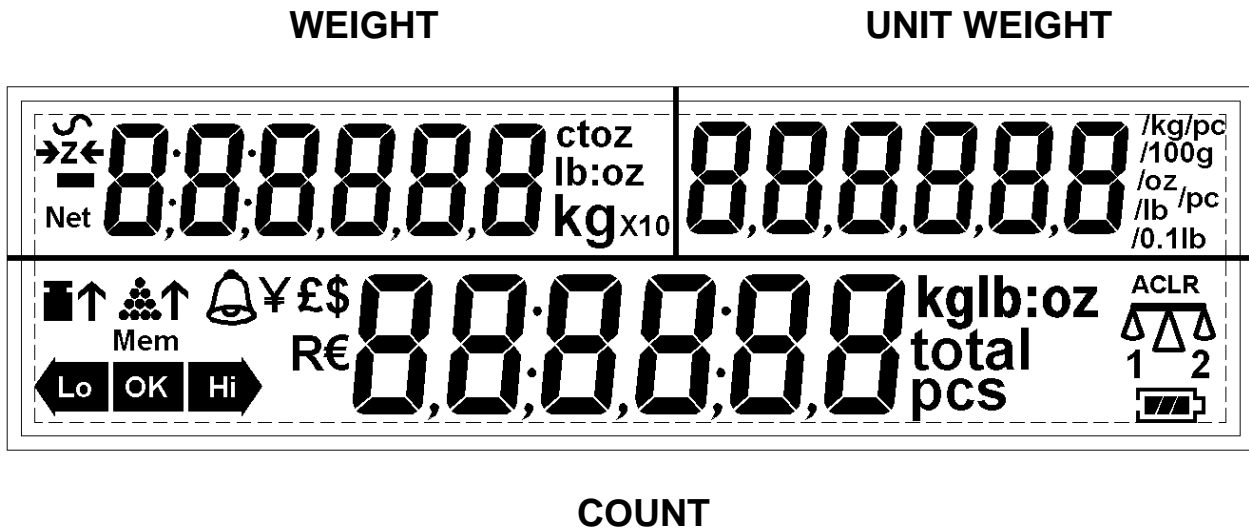


Keys	Functions
[0-9, .]	Numeric entry keys, used to manually enter a value for tare weights, unit weight, and sample size.
[CE]	Used to clear the unit weight or an erroneous entry.
[M+]	Add the current count to the accumulator. Up to 99 values or full capacity of the weight display can be added. Also prints the displayed values when Auto print is switched off.
[MR]	To recall the accumulated memory.
[Pst]	To set the upper limit for the number of items counted. When this upper limit is exceeded the scale will sound the beeper.
[Print]	To print the weight/ unit weight and count to a PC or printer using the RS-232 interface. Print the totals from memory when [MR] is pressed first.
[Smpl]	Used to input the number of items in a sample.
[U.Wt./Units]	Used to enter the weight of a sample manually.  Select the weighing unit when the “Unit Weight” display is at zero if enabled.
[Tare]	Tares the scale. Stores the current weight in memory as a tare value, subtracts the tare value from the weight and shows the results. This is the net weight. Entering a value using the keypad will store that as the tare value.
[Zero]	Sets the zero point for all subsequent weighing to show zero.

## 5.0 DISPLAYS

The scales have three sections. These are “Weight”, “Unit Weight” and “Count”.

The LCD design is:




### 5.1 WEIGHT DISPLAY

It has 6-digit display to indicate the weight on the scale.

Net Weight Display, "Net"

Stability indicator,  symbol

Zero indicator,  symbol

The weighing unit: kg, lb




## 5.2 UNIT WEIGHT DISPLAY

This display will show the unit weight of a sample. This value is either input by the user or computed by the scale. The unit of measurement is grams if grams or kilograms is selected for the weighing unit, or pounds if pounds is selected.

## 5.3 COUNT DISPLAY

This display will show the number of items on the scale or the value of the accumulated count. See the next section on OPERATION.

## 5.4 OTHER SYMBOLS

- The  symbol, when there is insufficient number of samples to accurately determine the count.
- When the unit weight is not large enough to determine an accurate count, the  symbol will be on.
- In both cases the scale continues to operate and the indications are to alert the user for a potential problem.
- If a preset count has been stored the  symbol will be on.
- A low battery symbol will turn on if the battery should be recharged.
- The Lo, OK, Hi symbols will be used when the preset count has been set.
- The symbol "Mem" will be seen when the internal memory has a record of previous weighings stored in it.

## 6.0 OPERATION

### **NOTE: GC-a Scales only**

SETTING THE WEIGHING UNIT, lb or kg

The scale will turn on displaying the last weighing unit selected, either kilograms or pounds. To change the weighing unit press the [**U. Wt./Units**] key when the “**Unit Weight**” display shows zero. If necessary press the [**CE**] key to clear the unit weight before changing.

### **6.1 ZEROING THE DISPLAY**

- You can press the [**Zero**] key at any time to set the zero point from which all other weighing and counting is measured. This will usually be necessary only when the platform is empty. When the zero point is obtained the “**Weight**” display will show the indicator for zero, “>Z<”.
- The scale has an automatic re-zeroing function to account for minor drifting or accumulation of material on the platform. However you may need to press [**Zero**] to re-zero the scale if small amounts of weight are still shown when the platform is empty.

### **6.2 TARING**

- Zero the scale by pressing the [**Zero**] key if necessary. The indicator “>Z<” will be ON.
- Place a container on the platform and its weight will be displayed.
- Press [**Tare**] to tare the scale. The weight that was displayed is stored as the tare value which is subtracted from the display, leaving zero on the display. The indicators “Net” and “>Z<” will be ON.
- As a product is added only the weight of the product will be shown. The scale could be tared a second time if another type of product was to be added to the first one. Again only the weight that is added after taring will be displayed.
- When the container is removed a negative value will be shown. If the scale was tared just before removing the container, this value is the gross weight of the container plus all products those were removed.

The indicator ">Z<" will also be ON because the platform is back to the same condition as it was when the **[Zero]** key was pressed last.

### 6.2.1 Preset Tare

- The user can enter a preset tare value if the display is at zero or gross weight. Enter the value for preset tare using the keypad, then press the **[Tare]** key to set the preset zero value.
- If the display was at zero the weight will show a negative value equal to the preset tare value entered and the "Net" indicator will be on. If a weight was on the platform then the preset value will be subtracted from the weight, displaying the NET weight only.

## **6.3 PARTS COUNTING**

### 6.3.1 Setting Unit Weight

In order to do parts counting it is necessary to know the average weight of the items to be counted. This can be done by weighing a known number of the items and letting the scale determine the average unit weight or by manually inputting a known unit weight using the keypad.

#### ***A. Weighing a sample to determine the Unit Weight***

To determine the average weight of the items to be counted, you will need to place a known quantity of the items on the scale and then to key in the number of items being weighed. The scale will then divide the total weight by the number of items and display the average unit weight. Press **[CE]** anytime to clear the unit weight.

- Zero the scale by pressing the **[Zero]** key if necessary. If a container is to be used, place the container on the scale and tare by pressing **[Tare]** as discussed earlier.
- Place a known quantity of items on the scale. After the weight display is stable, enter the quantity of items using the numeric keys and then press the **[Smpl]** key.
- The number of units will be displayed on the "**Count**" display and the computed average weight will be shown on the "**Unit Weight**" display.

- As more items are added to the scale, the weight and the quantity will increase.
- If a quantity which is smaller than the sample is placed on the scale, then the scale will automatically enhance the Unit Weight by re-calculating it. To lock the Unit Weight and avoid re-sampling, press [**U. Wt./Units**].
- If the scale is not stable, the calculation will not be completed. If the weight is below zero, the "**Count**" display will show negative count.

### ***B. Entering a known Unit Weight***

- If the unit weight is already known then it is possible to enter that value using the keypad.
- Enter the value of the unit weight in grams, using the numeric keys followed by pressing the [**U. Wt./Units**] key. The "**Unit Weight**" display will show the value as it was entered.
- The sample is then added to the scale and the weight will be displayed as well as the quantity, based on the unit weight.

### 6.3.2 Counting more parts

- After the unit weight has been determined or entered, it is possible to use the scale for parts counting. The scale can be tared to account for the container weight as discussed in the earlier section.
- After the scale is tared the items to be counted are added and the "**Count**" display will show the number of items, computed using the total weight and the unit weight.
- It is possible to increase the accuracy of the unit weight at any time during the counting process by entering the count displayed and then pressing the [**Smpl**] key. You must be certain that the quantity displayed matches the quantity on the scale before pressing the key. The unit weight can be adjusted based upon a larger sample quantity. This will give greater accuracy when counting larger sample sizes.

### 6.3.3 Check-counting

- Check-counting is a procedure to cause an alarm to sound when the number of items counted on the scale meets or exceeds a number stored in the memory by using the [**Pst**] key.



- The value to be stored is entered from the keyboard. Enter the numeric value to be stored using the numeric keys. Then press the **[Pst]** key to store the value.
- To clear the value from the memory and thereby turn off the check-counting feature, enter the value "0" and press **[Pst]**.
- During counting if the count is below the setpoint the "Lo" indicator will be on, if it is equal to the set point the "OK" indicator will be on and if it is above the limit the "Hi" indicator will be on.

#### 6.3.4 Manually Accumulated Totals

- The values (weight and count) shown on the display can be added to the values in the memory by pressing the **[M+]** key. The "**Weight**" display will show the total weight, the "**Count**" display will show the total accumulated count and the "**Unit Weight**" display shows the number of times, the items have been added to the memory for accumulation. The values will be displayed for 2 seconds before returning to normal. If the accumulated number exceeds 6 digits the display will show "diSPeR", the count is still being stored correctly and the RS232 printout will still show the correct values.
- The "Mem" symbol will be on when there are values stored in the accumulation memory.
- The scale must return to zero or a negative number, before another sample can be added to the memory.
- More products can then be added and the **[M+]** key to be pressed again. This can continue for up to 99 entries or until the capacity of the "**Weight**" display is exceeded. When the weight exceeds 6 digits the display will show "diSPeR".
- To observe the total stored value, press the **[MR]** key. The total will be displayed for 2 seconds.
- To clear the memory- first press **[MR]** to recall the totals from memory and then press the **[CE]** key to clear all values from the memory.

#### 6.3.6 Automatic Accumulated Totals

- The scale can be set to automatically accumulate totals when a weight is placed on the scale. This eliminates the need to press the **[M+]** key to store values into the memory. However the **[M+]** key is still active and can be pressed to store the values immediately. In this case the values will not be stored when the scale returns to zero.
- See the Section 9.0 on RS-232 Interface for details on how to enable Automatic Accumulation.

## 7.0 USER PARAMETERS

The parameters are set to customise the scale to suit the weighing applications. You need to enter a secure menu by entering a password when requested.

- Press **[Tare]** once, during the initial counting of the display after the power is turned on.
- The “**Weight**” display will show "Pln " requesting for the password number.
- The default password is "0000" but other numbers can be set using the parameter menus. Press the **[0]** key four times.
- Press the **[Tare]** key.
- There are 3 functions that can be cycled through using the **[U. Wt./Units]** key. The **Weight window** will show the parameter number and the **Unit Price window** will show the word describing the function.
- The first parameter is "F1" "CAL". (See section 8.0 for details)
- To enter into Calibration function, press the **[Tare]** key.
- To exit a parameter, press the **[Zero]** key.
- To select the second parameter press the **[U. Wt./Units]** key.

## 7.1 SETTING OF PIN

- Display will show "F2" "Pin". This parameter allows setting of a new password number. The default password is "0000".
- Press **[Tare]**. The "**Weight**" display will show "Pin 1".
- Enter the new password number. The "**Unit Weight**" display will show dashes. Press **[Tare]**.
- The "**Weight**" display will change to "Pin 2 ", Enter the password again and press **[Tare]**.
- The display will show "donE" to show the new password has been accepted and will return to the menu. Record the new password in a secured place.
- To exit a parameter, press the **[Zero]** key.

## 7.2 ENABLE WEIGHING UNITS

- Display will show "F3" "Unit". This parameter allows weighing units to be enabled or disabled. If enabled the weighing units will change when the **[U.Wt./Unit]** key is pressed. See section 6.0.
- To enter this function press the **[Tare]** key.
- The display will show the first weighing unit and if it is currently On or Off. Press the **[U.Wt./Unit]** key to change the setting and then press the **[Tare]** key to go to the next weighing unit. The weighing units selected will depend upon the model and the capacity of the scales. See Section 12.2, Service Parameters.
- Press the **[Zero]** key to return to the weighing mode.

## 8.0 CALIBRATION

- The GC scales are calibrated using metric weights and GCa scales are calibrated using metric or pound weights depending on the unit in use before calibration. See the Service parameters section for more information.
- The scale will display a value of the weight to be used for calibration, this value is the last weight used for calibration. You can enter a different value, if desired.
- For entering Calibration, see section 7.0 Parameters
- When "F1" "CAL" is displayed, press **[Tare]**.
- The display will then show "unLoAd" to request all weight be removed from the platform.
- Press the **[Tare]** key to set the zero point.
- The displays will then show the calibration weight suggested, the value is shown as an integer number, it is not possible to have fractions of a kilogram or pound. For example:

LoAd	00004
KiLoS	

- Place the calibration weight on the platform If the calibration weight is different from the value shown, Press **[CE]** to clear the current value then enter the correct value.
- Press **[Tare]** to calibrate.
- When calibration is done the display will show "SPAn" "PASS".
- Remove the weight. The scale will return to normal weighing.
- If an error message "SPAn" "FAIL" is displayed, then repeat the process.
- After calibration, the scale should be checked whether the calibration is correct. If necessary, repeat calibration.

**NOTE:** GCa scales will have the lb or kg indicator on, to show the unit of the weight requested. If the scale was in pounds before starting the calibration, the weights requested will be in pound values or if the scale was weighing in kilograms then metric weights will be requested.

## 9.0 RS-232 INTERFACE

The GC Series are supplied with a RS-232 bi-directional interface. The scale when connected to a printer or computer through the RS-232 interface, outputs the weight, unit weight and count.

### Specifications:

RS-232 output of weighing data

ASCII code

Adjustable Baud rate, 600, 1200, 2400, 4800, 9600 and 19200 baud

8 data bits

No Parity

### Connector:

9 pin D-subminiature socket

Pin 3 Output

Pin 2 Input

Pin 5 Signal Ground

The scale can be set to print text in English, French, German or Spanish. See the RS-232 parameters section for details.

All lines end with line feed <lf>, and carriage return <cr>characters.

### Data Format-Normal Output:

```
<lf><cr>
<lf><cr>
DATE          12/09/2006
TIME          14:56
<lf><cr>
GROSS Wt      1.234 Kg      Net Wt. if net weight is displayed
Unit Wt.      123 g        Kg or g for metric weights and lb for pounds.
Pcs           10 pcs
<lf><cr>
<lf><cr>
Includes 2 line feeds with carriage return
at beginning and end of the form
```

### Data Format- Memory Recall Print:

```
<lf><cr>
DATE          12/09/2006
TIME          14:56
<lf><cr>
-----
TOTAL
No.           5
Wt.           1.234 Kg
Pcs           10 pcs
<lf><cr>
-----
Includes 1 line feed
<lf><cr>
2 line feeds, carriage return
<lf><cr>
```



**Data Format- Continuous Print:**

ST,GS,	0.9080 kg	
U.W.	0.90798 g/pcs	
PCS	1000 pcs	
<lf><cr>		Includes 2 line feeds with carriage return between sets of data
<lf><cr>		

In other languages the format is the same but the text will be in the language selected. See Section 9.2

Description	ENGLISH	FRENCH	GERMAN	SPANISH
Print gross weight	Gross Wt	Pds Brut	Brut-Gew	Pso Brut
Net weight	Net Wt.	Pds Net	Net-Gew	Pso Net
Weight per unit counted	Unit Wt.	Pds unit	Gew/Einh	Pso/Unid
Number of items counted	Pcs	Pcs	Stck.	Piezas
Number of weighings added to subtotals	No.	Nb.	Anzhl	Num.
Total weight and count printed	Total	Total	Gesamt	Total
Print date	Date	Date	Datum	Fecha
Print time	Time	Heure	Zeit	Hora

## 9.1 INPUT COMMANDS FORMAT

The scale can be controlled with the following commands. The commands must be sent in upper case letters, i.e. "T" not "t". Press the Enter key of the PC after each command.

T<cr><lf>	Tares the scale to display the net weight. This is the same as pressing <b>[Tare]</b> key.
Z<cr><lf>	Sets the zero point for all subsequent weighing. The display shows zero. Same as pressing the <b>[Zero]</b> key.
P<cr><lf>	Prints the weight, unit weight and totals same as pressing the <b>[Print]</b> key.
R<cr><lf>	Recall and Print, Same as if first the <b>[MR]</b> key and then the <b>[Print]</b> key is pressed. Will display the current accumulated memory and print the total results.
C<cr><lf>	Same as pressing <b>[MR]</b> first and then the <b>[CE]</b> key to erase the current memory.

## 9.2 RS-232 SETUP

The RS-232 interface uses parameters set by the user for language, baud rate and date format.

Press and hold the **[Print]** key for 4 seconds to access the parameters.

Press **[U. Wt./Units]** to scroll through the options and **[Tare]** to confirm the change and then advance to the next parameter.

When a parameter is entered by pressing **[Tare]**, the displays will guide you through the parameter selected and the options available.

The parameters and their functions are:

Displays			Options	Functions
Weight	Unit Weight	Count		
Port	on		On oFF	Enable or disable the RS-232 interface.
9600	bPS		600 1200 2400 4800 9600 19200	Set baud rate.
Print	mAn		Cont to PC Print Auto Print mAn	Select printing options for continuous printing, print automatically or printing manually.
AC	mAn		AC Auto AC mAn AC oFF	Select the operation of accumulating automatically, manually or turned off.
LAnG		EnGLiS	EnGLiS FrEnCH GErMAn SPAniS	Select Language for printing.

The scale will perform the following functions depending on the Accumulation and Print settings:

	ACCUMULATION FUNCTIONS		
PRINT FUNCTIONS	AC Auto	AC mAn	AC oFF
Print Auto	Accumulate and print automatically	Print automatically ; Accumulate and print when <b>[M+]</b> is pressed	Print automatically, <b>[M+]</b> key has no function
Print mAn	Automatically Accumulate but not print, Print only when <b>[Print]</b> key pressed	Accumulate and print when <b>[M+]</b> or <b>[Print]</b> is pressed	Print when <b>[Print]</b> key is pressed, <b>[M+]</b> key has no function
Cont to PC	Print continuously and accumulate automatically when stable , <b>[Print]</b> key no function	Print continuously and accumulate when <b>[M+]</b> is pressed, <b>[Print]</b> key no function	Print continuously , <b>[M+]</b> and <b>[Print]</b> key have no function

### 9.3 REAL TIME CLOCK SETUP

The Real Time Clock (RTC) is used only for the RS-232 output. The Date and Time can be set as required. The scale will keep the clock running even when the power is off.

#### Setting up the clock

- Press and hold the **[CE]** key for 4 seconds, release when the date and time is displayed. The initial displays show the current date and time set.

"rtC" "11,14,06" "16,41,35"

- Press the **[CE]** key to change the date and time. The display will show the current time in the format, "H-m-S".

"timE" "H-m-S" "142929" or if no time has been set show "000000"

- Enter the time using the numeric keys using a 24 hour clock format, 3:41PM is "154100".

"timE" "H-m-S" "154100" new time overwrites the old

- Press the **[Tare]** key to accept the time. The display will show the current date format.

"dAtE" "y-m-d"

- Press the **[U.Wt./Unit]** key to change the date format. Available formats are:

"Y-m-d" year, month, day

"m-d-Y" month, day, year

"d-m-Y" day, month, year

- Press the **[Tare]** key to accept the chosen format and then enter the date in this format.

"dAtE" "m-d-y" "051209" note current date is in current format, will show 000000 if no date has been set.

- Press the **[Tare]** key to accept the date.

An error code will be shown if the time (Err 1) or the date (Err 2) is not the permissible values. For example, 34th day of a month is an invalid entry.

## **9.4 AUTO SLEEP FUNCTION**

This function may be enabled or disabled by the user. If enabled, when the scale is not used for some time (as pre-set by the user under this function) it automatically switches off. To set this parameter-

- Press and hold the **[Zero]** key for 4 seconds, release when the display shows "SLEEP nodE".
- Press **[U/Wt/Unit]** key to scroll through the auto sleep values.
  - "0" Auto sleep mode disabled
  - "1" Auto sleep after 1 minute
  - "5" Auto sleep after 5 minutes
  - "10" Auto sleep after 10 minutes
- Press **[Tare]** to set the value. The scale returns to zero.

## **10.0 BATTERY AND BACKLIGHT OPERATION**

### **10.1 BATTERY**

- The scales can be operated from the battery, if desired. The battery life is approximately 70 hours.
- When the battery needs charging the battery symbol will appear to be empty. The battery should be charged as possible. Once the "LO bAT" message is shown the scale will still operate for about 10 minutes after which it will automatically switch off to protect the battery.
- To charge the battery, simply apply power to the scale. The scale does not need to be turned on.
- The battery should be charged for at least 12 hours for full capacity.
- Just above the "**Unit Weight**" display is an LED to indicate the status of

battery charging. When the scale is plugged into the mains power, the internal battery will be charged. If the LED is green the battery is fully charged. If it is red, the battery is nearly discharged and yellow indicates the battery should be charged longer, preferably overnight.

- If the battery has not been used properly or it is used for a number of years it may eventually fail to hold a full charge. If the battery life becomes unacceptable then contact your supplier.

## 10.2 BACKLIGHT FOR LCD

- The backlight of the LCD can be set to be-  
"1": ON at all the time,  
"2": ON only when a weight is placed on the scale or  
"3": Turned off.
- To set the backlight press and hold **[Pst]** key for 4 seconds.
- The weight display will show "EL xx" where xx is the current setting for the backlight.

Press **[U. Wt./Units]** to scroll through the options.

"EL on"	Sets the backlight to be on at all times.
"EL Au"	Sets the backlight to operate automatically when a weight is placed on the scale or a key is pressed.
"EL OFF"	Sets the backlight to be off.

Press the **[Tare]** key to store the value or press the **[Zero]** key to escape from this setting and return to weighing.

## 11.0 ERROR CODES

During the initial power-on testing or during operation, the scale may show an error message. The meaning of the error messages is described below.

If an error message is shown, repeat the step that caused the message, turning the balance on, carry out the calibration or other functions. If the error message is still shown contact your dealer for further support.

ERROR CODE	DESCRIPTION	POSSIBLE CAUSES
Err 1	Time input error.	Tried to set an illegal time, i.e. 26hours
Err 2	Date input error	Tried to set an illegal date, i.e. 36th day
Err 4	Initial Zero is greater than allowed (typically 4% of the maximum capacity) when power is turned on or when the <b>[Zero]</b> key is pressed,	Weight is on the pan when turning the scale on. Excessive weight on the pan when zeroing the scale. Improper calibration of the scale. Damaged load cell. Damaged Electronics.
Err 6	A/D count is not correct when turning the scale on.	Platform is not installed. Damaged Load cell. Damaged Electronics.
diSPeR	Shows when a number is too large to fit the display	The accumulated totals for weight or count exceed 999999. The data on RS232 is still shown accurately



## 12.0 SERVICE PARAMETERS

### 12.1 USING "0000" TO ENTER THE CALIBRATION PARAMETER

- Press the **[Tare]** key during the display counting when turned on. The display will ask for a code number, "Pin " on the Weight Display.
- Enter the number **0000** when "Pin " is displayed and then press **[Tare]**. If another PIN number has been previously stored enter that number instead.
- The displays will show the first parameters, called "F1" "CAL".
- To select another parameter press the **[U.Wt./Units]** key to advance through the parameters.
- Press the **[Tare]** key to enter a parameter.
- To exit a parameter, press the **[Zero]** key.
- The Weight window will show the parameter number and the Unit Price and Count windows will show the word describing the function.
- When a parameter is entered by pressing the **[Tare]** key, the displays will guide you through the parameter selected and the options available.

The parameters available are:

"F1" "CAL"	To enter the Calibration
"F2" "Pin"	To set a new Pin number for access
"F3" "Unit"	Enable Weighing Units

### 12.1.1 F1 -CALIBRATION

To enter the calibration parameter, press the **[Tare]** key when "F1" "CAL" is displayed. The scale should be calibrated using a mass of approximately 2/3Maximum to Maximum. If the scale has been calibrated previously the value will be stored. Details of calibration are given in section 8.

### 12.1.2 F2 –PIN

- To enter this parameter, press the **[Tare]** key when "F2" "Pin" is shown.
- The **"Weight"** display will show "Pin 1"
- Enter the new password. The **"Unit Weight"** display will show dashes. Press **[Tare]**.
- The **"Weight"** display will change to "Pin 2 ", Enter the password again and press **[Tare]**.
- The display will show "donE" indicating the new password has been accepted and will return to the menu. "F3" "Unit" is shown.
- Record the new password in a secured place.
- Press **[Zero]** to return to weighing.

### 12.1.3 F3 –Unit

- To enter this parameter, press the **[Tare]** key when "F3" "unit" is shown.
- This parameter allows the user to enable or disable the weighing units available in his scales.
- The display will show the first available weighing unit and if it is On or Off.
- Press the **[U.Wt./Units]** key to change the value. Press **[Tare]** to accept the displayed setting and go to the next unit.
- Press the **[Zero]** key to return to the menus. Press the **[Zero]** key again to return to normal weighing.

## **12.2 USING "2006" TO ENTER THE SERVICE PARAMETERS**

Before setting the parameters for units, decimal point, capacity and increment the user should make sure they understand how the scale should be configured. The scale is limited to 30,000 scale divisions. To determine the number of scale divisions divide the capacity by the desired increment. For example a 500kg scale reading to 0.01kg would have 50,000 divisions, a value not allowed. However a 500kg scale with interval of 0.02kg is 25,000 divisions, an acceptable number.

The order of the settings will request the default weighing unit first. This is to assign a weighing unit to the first calibration, regardless of what the user may select later. If the indicator has been configured for use in the USA the choice can be grams, kilograms or pounds. For the rest of the world it is kilograms or grams only. This setting should match the type of masses you have for calibration, imperial or metric.

The next 2 parameters will set the decimal point position, capacity and increment. It will be necessary for the settings to be within allowable limits for a setting to be accepted. For example, it is only allowed that the grams can be set to 45,000 or less. If you try to set the capacity to 50,000 grams it is not allowed, use kilograms for the default unit and set the capacity to 50kg. When setting the interval the options shown will only be those that allow the number of divisions to be 30,000 or less. For example setting capacity to 5000g and the decimal point to 0.0, the increment of 1 (=0.1g) is not allowed. Only the increment of 2, 5, 10 or 20 is allowed.

### **PROCEDURE:**

- Press the [**Tare**] key during the display counting when turned on. The display will ask for a code number, "Pin " on the Weight Display.
- Enter the number **2006** when "Pin " is displayed and then press [**Tare**]. The displays will show the first parameters, called "F1" "CAL".
- To select another parameter press the [**U.Wt./Units**] key to advance through the parameters.
- Press the [**Tare**] key to enter a parameter. To exit a parameter, press the [**Zero**] key.
- The **Weight** window will show the parameter number and the **Unit Price** and **Count** windows will show the word describing the function.

- When a parameter is entered by pressing the **[Tare]** key, the displays will guide you through the parameter selected and the options available.

The parameters available are:

"F1"	"Unit"		Default Weighing Unit
"F2"	"dPP"		Decimal Point Position
"F3"	"CAP"		Select capacity and increment
"F4"	"CAL"		To enter the Calibration
"F5"	"init"	"ZEro"	Initial Zero Range
"F6"	"rE"	" Zero"	Re-Zero range
"F7"	"SCSivE"	" tArE"	Successive Tare Enable
"F8"	"Ad"	"CoUnt"	Display the A/D counts
"F9"	"Pin"		To set the password
"F10"	"Lvd"	"mode"	Low voltage detection
"F11"	"trACK"	"ZEro"	Zero track setting

### 12.2.1 F1 –DEFAULT WEIGHING UNIT

To set the weighing unit that will be used initially for calibration and setting the calibration. This weighing unit will always be available to the user.

- To enter this parameter, press the **[Tare]** key when "F1" is shown. The display will show the current setting.
- Press the **[U.Wt./Units]** key to change the value. Select from the units displayed, typically kilograms (kg), grams (g) or pounds (lb) for USA sales and kilogram or grams for the rest of the world.
- Press **[Tare]** to accept the displayed value.

### 12.2.2 F2 –DECIMAL POINT POSITION

- To set the value for the decimal point location. The options are 0, 0.0, 0.00, 0.000, 0.0000
- To enter this parameter, press the **[Tare]** key when “F2” is shown.
- The display will show the current setting.
- Press the **[U.Wt./Units]** key to change the value. Select from 0, 0.0, 0.00, 0.000, 0.0000
- Press **[Tare]** to accept the displayed value.

### 12.2.3 F3 – CAPACITY

- To enter this parameter, press the **[Tare]** key when “F3” is shown. The display will show the current capacity.
- Enter the numeric values using the keypad. The scale will check the number of divisions  $n = \text{maximum/increment}$  is less than 30,000 divisions.
- Press **[Tare]** to accept the displayed value.

**NOTE:** The scale use load cells suitable for the capacity selected.

- The display then will go to the increment setting.
- To set the value for the increment of the scale. For example 100kg x 0.01kg the increment is 10grams. but the last digit increments by 1.
- The display will show the current increment value.
- Press the **[U.Wt./Units]** key to change the value. The indicator will determine what the minimum and maximum increment is possible for the capacity and decimal point you have set.
- Press **[Tare]** to accept the displayed value.

### 12.2.4 F4 -CALIBRATION

- To enter the calibration parameter, press the **[Tare]** key when "F4" is displayed. The scale will be calibrated using 2 masses of approximately 1/3Maximum and Maximum. If the scale has been calibrated once the values will be stored. If this is the first time the scale is calibrated the user must enter the values for the calibration masses.
- The display will instruct you to remove any weight from the scale, "UnloAd". Press **[Tare]**.
- The display will tell you to add the first weight to the scale: "LoAd 1" "40" "kiloS"
- Add the weight shown, wait for stability then press the **[Tare]** key.
- The display will tell you to add the second weight to the scale: "LoAd 2" "100" "kiloS"
- Remove the weight.
- The display will show "SPAn" "PASS" if the calibration is OK. Or it will show "SPAn" "FAIL" if calibration could not be completed correctly. After calibration the scale will return to normal operation. If you wish to set any of the following parameters enter the Service menu again and skip the first settings by pressing the **[U.Wt./Unit]** key.

#### 12.2.5 F5 –INITIAL ZERO RANGE

- To enter this parameter, press the **[Tare]** key when "F5" is shown.
- The display will show the current initial zero range.
- Press the **[U.Wt./Units]** key to change the value and press **[Tare]** to accept the value.
- Press **[Zero]** to return to weighing.

#### 12.2.6 F6 -RE-ZERO RANGE

- To enter this parameter, press the **[Tare]** key when "F6" is shown.
- The display will show the current re-zero range.
- Press the **[U.Wt./Units]** key to change the value.

- Press [**Tare**] to accept the value.
- Press [**Zero**] to return to weighing.

#### 12.2.7 F7 -SUCCESSIVE TARE

- To enter this parameter, press the [**Tare**] key when "F7" is shown.
- The display will show if the successive tare is on or off.
- Press the [**U.Wt./Units**] key to change the value.
- Press [**Tare**] to accept the displayed value.
- Press [**Zero**] to return to weighing.

#### 12.2.8 F8 –ADC COUNTS

- To enter this parameter, press the [**Tare**] key when "F8" is shown.
- This parameter allows you to view the A/D counts from the internal A/D converter. This can be an aid to service.
- Press the [**Tare**] key to return to the PARAMETER menu.
- Press the [**Zero**] key to return to weighing.
- Typical value at zero is 30,000-90,000 (approx.) Typical value at full capacity is 500,000 (approx.)

#### 12.2.9 F9 –PIN

This parameter allows setting of password to enter the user parameters, see section 12.1. The default value is "0000".

- To enter this parameter, press the [**Tare**] key when "F9" "Pin" is shown.
- The "**Weight**" display will show "Pin 1"
- Enter the new password. The "**Unit Weight**" display will show dashes. Press [**Tare**].

- The “**Weight**” display will change to “Pin 2 “, Enter the password again and press [**Tare**].
- The display will show “donE” indicating the new password has been accepted and will return to the menu. “F9” “Pin” is shown. Record the new password in a secured place.
- Press [**Zero**] to return to weighing.

#### 12.2.10 F10 –LOW VOLTAGE DETECTION

- This parameter allows detection of low voltage when the battery wears down.
- To enter this parameter, press the [**Tare**] key when “F10” is shown.
- The display will show if the LVD Mode is set to “on” or “oFF”.
- Press the [**U.Wt./Units**] key to change the value.
- Press [**Tare**] to accept the displayed value.
- Press [**Zero**] to return to weighing.

#### 12.2.11 F11 –ZERO TRACK SETTING

- This parameter allows the amount of zero track correction. To enter this parameter, press the [**Tare**] key when “F11” is shown.
- The display will show the current setting, i.e. “ 0.5d “ resenting one-half a division. Other possible settings are 1d, 2d, 4d and Off.
- Press the [**U.Wt./Units**] key to change the value. Press [**Tare**] to accept the displayed value.
- Press [**Zero**] to return to weighing.



## **13.0 REPLACEMENT PARTS AND ACCESSORIES**

If you need to order any spare parts and accessories, contact your supplier or Adam Equipment. A partial list of such items is as follows-

- **Main Power cord**
- **Power supply (GC-a)**
- **Replacement Battery**
- **In use cover**
- **Printer**



## **14.0 SERVICE INFORMATION**

This manual covers the details of operation. If you have a problem with the scale that is not directly addressed by this manual then contact your supplier for assistance. In order to provide further assistance, the supplier will need the

following information which should be kept

**A. Details of your company**

- Name of your company:
- Contact person's name:
- Contact telephone, e-mail,  
fax or any other methods:

**B. Details of the unit purchased**

(This part of information should always be available for any future correspondence. We suggest you to fill in this form as soon as the unit is received and keep a print-out in your record for ready reference.)

Model name of the scale:	<b>GC</b> _____
Serial number of the unit:	
Software revision number (Displayed when power is first turned on):	
Date of Purchase:	
Name of the supplier and place:	

**C. Brief description of the problem**

Include any recent history of the unit. For example:

- Has it been working since it's delivered
- Has it been in contact with water
- Damaged from a fire
- Electrical Storms in the area
- Dropped on the floor, etc.

ready:



## 15.0 WARRANTY INFORMATION

Adam Equipment offers Limited Warranty (Parts and Labour) for any components that fail due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Adam Equipment Company. The company or its authorised Technician reserves the right to repair or replace the components at any of its workshops at no additional cost, depending on the severity of the problems. However, any freight involved in sending the faulty units or parts to the Service Centre should be borne by the purchaser.

The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Adam Equipment.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorised modifications or attempted repair, or failure to observe the requirements and recommendations as given in this User Manual.

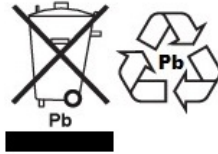
This product may include a rechargeable battery that is designed to be removed and replaced by the user. Adam Equipment warrants that it will provide a replacement battery if the battery manifests a defect in materials or workmanship during the initial period of use of the product in which the battery is installed.

As with all batteries, the maximum capacity of any battery included in the product will decrease with time or use, and battery cycle life will vary depending on product model, configuration, features, use, and power management settings. A decrease in maximum battery capacity or battery cycle life is not a defect in materials or workmanship, and is not covered by this Limited Warranty.

Repairs carried out under the warranty do not extend the warranty period. Components removed during warranty repairs become company property.

The statutory rights of the purchaser are not affected by this warranty. The terms of this warranty is governed by the UK law. For complete details on Warranty Information, see the terms and conditions of sale available on our web-site.

## WEEE 2012/19/EU



This device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements. Disposal of batteries (if fitted) must conform to local laws and restrictions.

Cet appareil ne peut être éliminé avec les déchets ménagers. L'élimination de la batterie doit être effectuée conformément aux lois et restrictions locales.

Dieses Gerät nicht mit dem Hausmüll entsorgt.

Dispositivo no puede ser desechado junto con los residuos domésticos

Dispositivo non può essere smaltito nei rifiuti domestici.

### FCC / IC CLASS A DIGITAL DEVICE EMC VERIFICATION STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules and Canadian ICES-003/NMB-003 regulation. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### CALIFORNIA PROPOSITION 65 - MANDATORY STATEMENT

WARNING: This product includes a sealed lead-acid battery which contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



Adam Equipment products have been tested with, and are always supplied with mains power adaptors which meet all legal requirements for the intended country or region of operation, including electrical safety, interference and energy efficiency. As we often update adaptor products to meet changing legislation it is not possible to refer to the exact model in this manual. Please contact us if you need specifications or safety information for your particular item. Do not attempt to connect or use an adaptor not supplied by us.

**ADAM EQUIPMENT** is an ISO 9001:2008 certified global company with more than 40 years' experience in the production and sale of electronic weighing equipment.

Adam products are predominantly designed for the Laboratory, Educational, Health and Fitness, Retail and Industrial Segments. The product range can be described as follows:

- Analytical and Precision Laboratory Balances
- Compact and Portable Balances
- High Capacity Balances
- Moisture analysers / balances
- Mechanical Scales
- Counting Scales
- Digital Weighing/Check-weighing Scales
- High performance Platform Scales
- Crane scales
- Mechanical and Digital Electronic Health and Fitness Scales
- Retail Scales for Price computing

For a complete listing of all Adam products visit our website at

[www.adamequipment.com](http://www.adamequipment.com)

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[www.adamequipment.com](http://www.adamequipment.com)