Fidelity Measurement

CS*a*

Advance Wireless Crane Scale

Operation Manual (Full Version)

PLEASE READ THIS MANUAL VERY CAREFULLY
BEFORE OPERATING THIS INSTRUMENT

Specifications subject to change without prior notice

V103 April 2020 Rev1

Content

1. Installation

Cautions

a. Dangerous! Do not perform overhead weighing / operation with this instrument. Always stand clear of this instrument and weighed subject during weighing operation.
b. Do not overload this instrument.
c. The instrument is not an explosion proof device.
d. The instrument is not a water proof device.
e. Do not open the instrument, no user serviceable parts inside. Always contact your dealer for service.
f. Do not place this instrument in where shock, excessive vibration or extremes of temperature (before or after installation) exist.

1.1 Metrological Legislation

Because of metrological legislation, some metrological parameter settings are limited to be done by authorized personnel only. Do not attempt to change any parameters under internal function number F60 ~ F99. Contact your dealer for installation and technical assistance.

1.2 Seal & Serial Number

This instrument is legal for trade only when it is sealed (and/or stamped) and bearing a serial number. Do not attempt to break the seal (or stamp) or serial number affixed to this instrument. No warranty service will be provided if the seal (or stamp) or data plate affixed to this instrument is damaged or removed. Always contact your dealer for after sales service.

1.3 Warm Up Time

Allow warm up period of not less than 60 seconds before calibration and usage. The higher the setup resolution of the scale, the longer the warm up period is required.

In most cases, 60 seconds is a safe warm up period for all applications. This warm up period is needed to energy all components to reach a stable status.

1.4 Unpacking

Unpack this instrument very carefully. Check and make sure that the following items are included: -

a. This operation manual x 1
b. Crane scale x 1
c. Battery Charger x 1
d. Infrared Remote Controller x 1

Contract your dealer if any items are missed.

1.5 Securing the Scale

a. This instrument must be hanged via a strong media, e.g. a wire rope or a metal hook, to a firm support that can withstand at least 5 times of the maximum capacity of this instrument.
b. Make sure that this instrument is hanged vertically.
c. Avoid using this instrument in any environment where excessive wind flow, vibration and extreme temperature change exist.

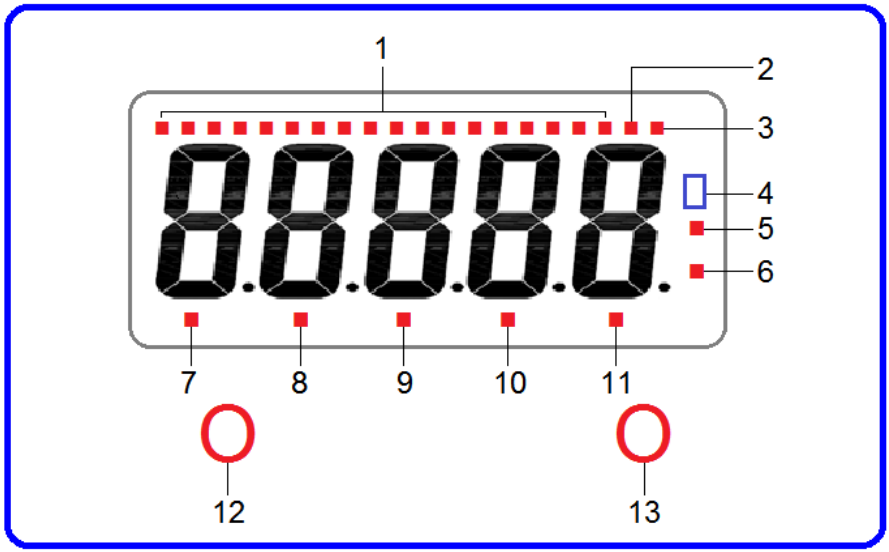
1.6 Support & Service

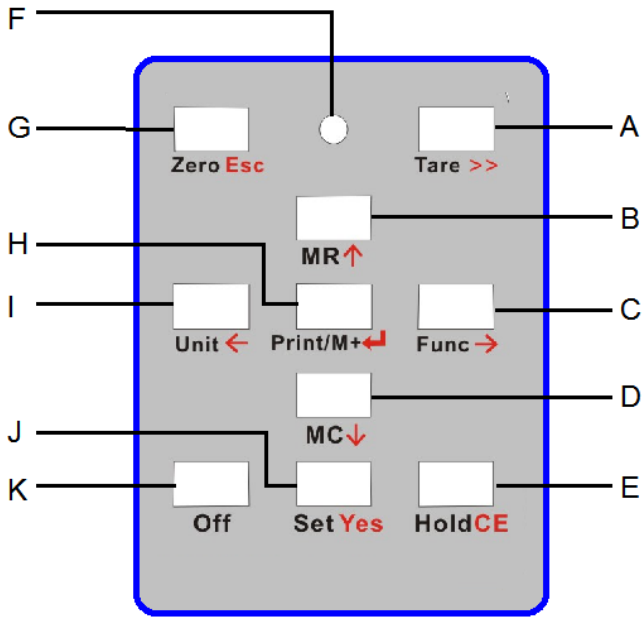
Always contact your dealer for product information, after sales service and questions when in doubt.

2. Specifications

Model	Capacity			Readability (Standard)			Readability (High)		
	kg	lb	Newton	kg	lb	Newton	kg	lb	Newton
CSa-1T	1000	2204	9806	0.5	1	5	0.2	0.5	2
CSa-2T	2000	4408	19612	1	2	10	0.5	1	5
CSa-3T	3000	6614	29420	1	2	10	0.5	1	5
CSa-5T	5000	11024	49030	2	5	20	1	2	10
CSa-10T	10,000	22046	98060	5	10	50	2	5	20
CSa-15T**	15,000	33070	147.10K	10	20	0.1K	5	10	0.05K
Weight Units	kg, g, Newton								
Display	• 5 x Super Bright 30mm LED Display • Capacity Tracking Bar • Memory Accumulation, IR, Bluetooth & WIFI Data Transmission Indicators • Zero, Net, kg, lb and Newton Indicators								
A/D Converter	24 bit Low-Noise Delta to Sigma (Δ-Σ)								
Power Source	• Built-in Rechargeable Battery = 6V, 4AH, • External Battery Charger = DC 6.9V, 1A								
Accessories	DC6V/1A Battery Charger, Second Rechargeable Battery and IR Remote Controller								
Tare Range	To Capacity by Subtraction								
Operation Environment	-10 ~ 40°C. Non-condensed. R.H.≦ 85%								
In the interest of improvement, specifications may change prior to notice									

3. Keys, Display & Connection Points





3.1 Keys & Display on Instrument

No.	Name	Description
1	**Capacity Bar**	To show applied and remaining capacity.
2	**M+ Indicator**	Visible when memory contains of accumulated data.
3	**IR Indicator**	Visible when receiving IR signal.
4	**IR Window**	Window for IR signal. Do not obstruct.
5	**Bluetooth Indicator**	Visible when Bluetooth is turned on.
6	**WIFI Indicator**	Visible when WIFI is turned on.
7	**Zero Indicator**	Visible when instrument is at zero status.
8	**Net Indicator**	Visible when net result is being displayed.
9	**kg / Stable Indicator**	Visible when weight unit is = kg. • Flashing = Weight unstable • Lit on = Weight stable
10	**Newton / Stable Indicator**	Visible when weight unit is = Newton. • Flashing = Weight unstable • Lit on = Weight stable
11	**lb / Stable Indicator**	Visible when weight unit is = lb. • Flashing = Weight unstable • Lit on = Weight stable
12	**Tare Key**	Press this key to tare off the weight of a container.
13	**Power/Zero Key**	• Press and hold for 1 second to power instrument Om/Off • Press and release to set weight displayed to zero when unloaded.

3.2 Keys & Display on Remote Controller

No.	Name	Description
A	**[Tare]**	Press this key to tare off the weight of a container.
B	**[MR]**	Press this key to recall total stored transactions.
C	**[Func]**	Press this key to shift between weighing, peak hold, animal weighing[1] and PCd mode.
D	**[MC]**	Press this key to erase total stored transactions.
E	**[Hold]**	Press this key to hold the current weight being display.
F	**IR Transmission indicator.** Visible when IR signal is being transmitted.	
G	**[Zero]**	Press this key to set weight displayed to zero when unloaded.
H	**[Print/ M+]**	Press this key to send print data out and/or accumulate current value to memory[2].
I	**[Unit]**	Press this key to shift among various weight units (if weight unit conversation is enable).
J	**[Set]**	When in operation mode: - • Press and release to introduce a preset tare value[3]. • When in weighing mode: - press and hold for 2 seconds to access internal function setting mode (F1~F38) or to prompt/introduce an operation parameter/value during piece count, auto tare accumulation and animal weighing mode. During power on countdown process: • - press and release to access internal function mode (F1~F99)[4].
K	**[Off]**	Press this key to turn instrument off.

1 Depends on F11 setting.

2 Refer to F16 and F17 settings for details.

[3] When F63 is set to On.

4 F60~F99 requests password or jumper to access.

4. Power & Battery Recharging

This instrument comes with a built-in rechargeable battery and external rechargeable battery.

4.1 Power Adaptor

Always use the power adaptor supplied together with this instrument to recharge the built-in and external rechargeable battery and to avoid un-recoverable damages to this instrument.

4.2 Built-In Rechargeable Battery

Before first time use, recharge the built-in batter for at least 8 hours to ensure the best battery performance.

5. Initial Setup

5.1 Internal Functions & Settings

Application parameters can be checked and set through internal function. Set all preferred operation parameters according to **5.4.**

5.2 How to Enter & Select Internal Function[5]

Follow the below procedures for internal function setup: -

a. In weighing function, press and hold **[Set]** for about 2 second.
b. Instrument displays F1.
c. Instrument is now in internal function mode.

5 Internal function mode can only be accessed when instrument is in weighing mode.

5.3 IR Remote Controller Key Function under Internal Function Mode

Key	Function in Setup & Calibration
[Zero]	Quit without saving.
[Tare]	• Set F1 value being shown to zero and to display the net span gain of additional load applied. • Fast forward during Customer / Product code data input.
[MR]	• Quick access to +10th internal function number • Increase value by 1. • Go to next Alphabet / Symbol during Customer / Product code data input process.
[Unit]	• Go to previous page / previous parameter. • Mover cursor to left.
[Print/M+]	Enter, save and return.
[Func]	• Go to next page / next parameter. • Mover cursor to right.
[MC]	• Quick access to -10th internal function number • Decrease value by 1. • Go to previous alphabet / Symbol during Customer / Product code data input process.
[Off]	Quit without saving and power off
[Set]	• Enter internal function. • Swift between upper and lower case. • Enter Confirmation when Sure? Appears.
[Hold]	Clear value entered.

5.4 Internal Function Table

Refer to the below tables for internal function number, parameter and setting notes.

Function No.	Description	Parameters / Note Default = **		
F1	Internal Analogue to Digital (ad) Value	Press **[Print/M+]** to set offset value to zero when unloaded. Then add load to observe the net span value of the load applied. • If span value is more than 99999, then the first or first 2-digit of the actual span will be displayed first and then followed by the rest of other digits. • Example A: - 1 followed by 88888 means that actual span value is = 188888. • Example B: - 12 followed by 45678 means that actual span value is = 1245678. • Press [Zero] to quit to F1.		
F2	All Segment Check	All display segments and LED indicators will be lit on. Check if any segments or indicators are missing.		
F3	Capacity, Division & Default Weight Unit	Display basic metrology characteristics (capacity, division and weight unit). Value displayed = Max + 1e		
F4	Date Format & Date	DD/M/YY	**** YY/M/DD**	M/DD/YY
	• M = 1~9 (January ~ September), o (October), n (November), d (December). • Press [Print/M+] to check current date value. • To change date value, enter date value and then press **[Print/M+]** to confirm.			
F5	Time	HH/MM		
	To change time, press **[Print/M+]**, then enter a new value and press **[Print/M+]** to confirm.			
F6	System Initialization (Set F7~F31 to Default)	**** No**	YES	

	If YES is selected, scale displays “SURE ?” for confirmation. At this point: - • Press **[Set]** to confirm, or • Press any other key to quit. Scale shows Done when initialization is completed.						
F7	Auto Power Off Time (Minute)	OFF	1	3	**** 5**	10	20
F8	Brightness	**1**	**2**	**3**	**** 4**	**5**	
	• 1 = dimmest; 4 = brightest • Press [Func] or [Unit] to change setting and then press **[Print/M+]** to save.						
F9	Weight Unit Enable / Disable	kg (**** On**/OFF)	lb (On/**** OFF**)	N(KN) (On/**** OFF**)			
F10	Filter Strength	Ft 1 (Strong)	**** Ft 2 (Normal)**	Ft 3 (Weak)			
F11	Auxiliary Function	• PEK (Peak): On / **** OFF** • Ani (Animal): On / **** OFF** • PCd (Quick Access to Product Code Setting): On / **** OFF**					
F12	Auto Tare Function	**** OFF**	On	Conti			
	Notes: - • OFF= Auto Tare Function disable • On = Only the first table weight applied will be tare off. Minimum tare load ≥ 2d • Conti = All stable weight applied will be tare off. Minimum tare load ≥ 10d						
F13	Repetitive Tare Function	OFF	**** On**				
	If F12 is set = Conti, Repetitive Tare setting “OFF” will be surpassed.						
F16	Set Comport 1 (for BT or TTL)	OFF / Auto1 / Auto2 / Auto3 / Manul / PC / **** CMD /** Scanr					
	Refer to F17 for details						
F17	Set Comport 2 (WIFI)	OFF / Auto1 / Auto2 / Auto3 / Manul / PC / **** CMD /** Scanr					

	• OFF = Comport disable. • Auto1 = auto print when weight is stable. • Auto2 = the highest stable weight value (of a weighing process) will be automatically printed when all loads are removed (and gross weight returns to zero or minus). • Auto3 = the last stable weight value (of a weighing process) will be automatically printed when all loads are removed (and gross weight returns to zero or minus). • Manul = Manual output to printer or computer. • PC = Continuous output. • CMD = Command / information request mode. • Scanr = Serial scanner. **Notes: -** • Refer to operation manual for detailed setup information. • Restart instrument (by power off then power on again) after F16 and/or F17 setting is changed under normal operation status.			
F18	Machine ID and Group Number	I (Machine ID)	Gp (Group Number)	
	• Press [Print/M+] to save a Machine ID number (0000~9999) entered, or press [Hold] clear machine ID. • Then press [Print/M+] to go to Group Number setting. • Press [Print/M+] to save a Group Number (00~99) entered, or press [Hold] clear machine ID.			
F19	Manual Customer & Product Code Setting	H Code	M Code	L Code
	• Product code accepts space, dash, numeric numbers, capital and small capital letters. Maximum length = 15 digits. • Enter Product code starting from H code, then M code and finally L code. Press [Print/M+] to confirm and end editing after last digit has been input. • Customer & Product code does not support print format 1 (Lab 1). • If a customer/product code has been entered, this code will be included in print format Lab 2 ~ Lab 5 automatically.			
F20	Keyboard Lock	** **OFF** (Disable)	On (Enable)	
	When keyboard lock is = **On**, only Zero, Tare, Set & Off key will be accessible			

	during operation status.		
F21	Lab 2 Weight Function Output Print Format	**** STD**	CUSTO
F24	Lab 2 Animal Functions Output Print Format	**** STD**	CUSTO
F28	Ask for Operator No. During Startup	**** No** (Disable)	YES (Enable)
F29	Read Calibration and Parameter set counts. • O (Parameter set count): - shows total times that the important parameters (F80~F87) has been altered. • C (Calibration count): - shows total times of calibration.		
F30	Allow Letters and Symbols for Customer & Product Code Manual Entry	**** OFF** (Disable)	On (Enable)
F31	Auto Power Saving	**** On**	OFF
	• OFF = Auto Power Saving disable. • On = Display brightness will switch to minimum when weight remains unchanged for 30 seconds. Note: - Auto Power Saving will be disabled when an energized power adaptor is plugged in.		
F33	Statistic Data Output	Sd. On	**** Sd. OFF**
F38	WIFI/BT on / off	Fi (WIFI) (On/**** OFF**)	BT (Bluetooth) (On/**** OFF**)
	Restart instrument (by power off then power on again) after F38 setting is changed under normal operation status.		

5.5 Weight Unit Conversion

This instrument supports weight unit conversion among kg, lb and Newton (Kilo Newton). To enable or disable a particular weight unit, go to F9 and: -

- To enable/disable weight unit kg: - Select On/Off when **kg/Stable Indicator** appears, then press **[Print/M+]** to confirm and go to next weight unit setting.
- To enable/disable weight unit lb: - Select On/Off when **lb/Stable**

Indicator appears, then press **[Print/M+]** to confirm and go to next weight unit setting.

- To enable/disable weight unit Newton (Kilo Newton):- Select On/Off when **Newton/Stable Indicator** appears, then press **[Print/M+]** to confirm.

5.6 Auxiliary Function Modes

This instrument supports below 3 auxiliary function modes: -

- Peak Hold Function (**Peak**).
- Animal Weighing (**Ani**).
- Quick access to Customer & Product Code Setting (**C.P.Cod**).

To enable or disable a particular auxiliary function modes weight unit, go to F11 and: -

- To enable Peak Hold mode, select **PEKon**; to disable select **PEKoF**. Then press **[Print/M+]** to confirm and go to next mode setting.
- To enable Animal Weighing mode, select **Anion**; to disable select **AnioF**. Then press **[Print/M+]** to confirm and go to next mode setting.
- To enable Quick access to Customer & Product Code Setting mode, select **PCdon**; to disable **select PCdoF**. Then press **[Print/M+]** to confirm.

5.7. Auto Power Off

This instrument is equipped with various auto power off parameters. Refer to internal function number F7 of **5.4** for detail and setting.

5.8 Display Brightness

This instrument is equipped with various auto display brightness parameters. Refer to internal function number F8 of **5.4** for detail and setting.

Display brightness will turn to minimum automatically when weight detected remains unchanged for about 30 seconds.

5.9 Keyboard Lock

When keyboard lock is enabled, only **[Off]**, **[Zero]**, **[Tare]** and **[Set]** key can function. Refer to internal function number F20 of **5.4** for detail and setting.

6. Basic Operations

6.1 Power On / Off Instrument

- To power on, press **[Power/Zero]** on instrument.
- To power off, press and hold **[Power/Zero]** on instrument for 1 second4, or press **[Off]** once on remote controller.

6.2 Power On Countdown Sequence & Inputting Operator Number

After powered on, instrument will display: -

a. Software number.
b. Software revision.
c. All display segments.
d. Calibration count value.
e. Parameter set count value.
f. Battery voltage.
g. Capacity & division set (in the format of Max plus 1 division).
h. At this point, depends on internal function number F28 setting, instrument may ask for operator number input. If this is the case: -
   - Input 4-digit operator number then press **[Print/M+]** to enter, or
   - Press **[Zero]** to skip operator number when oP appears.
i. At this point, instrument is in weighing mode and is ready for operation.

6.3 Set Weight to Zero when Unloaded

If zero result is not obtained when unloaded, press **[Zero]** to set weight displayed to zero.

6.4 Tare Modes

Tare function is used to cancel the weight of a container in order to get the net weight result. Various tare modes are available. Refer to below paragraphs for details.

6.4.1 Manual Tare

1. Remove all loads from instrument.
2. Make sure that the **Zero Indicator** is on. If not, press **[Zero]**.
3. Apply container to instrument.
4. Press **[Tare]**.

5. Weight displayed will become zero and **Net Indicator** appears to indicator tare is in effect and weight being displayed is net weight.
6. To cancel tare effect, remove all loads and press **[Tare]**.
7. **Net Indicator** disappears.

6.4.2 Auto & Continuous Tare (F12) [6]

3 parameters are available: - Off, Auto and Contin

- Off: - Auto tare disable.
- Auto: - instrument will assume the first stable weight applied is a container and will then tare off the weight of it automatically. When container is removed and gross weight result is zero, tare effect will be cancelled automatically.
- Contin (continuous auto tare): - all stable weight applied will be tare off automatically. When all loads are removed and gross weight result is zero, tare effect will be cancelled automatically.

6.4.3 Manual Repetitive Tare (F13)[7]

When F13 is set to OFF, this instrument does not permit multiple tare operation. Tare effect can only be cancelled when container is removed and gross weight is zero.

When F13 is set to ON, this instrument will permit multiple manual tare operation provided that gross weight does not below zero.

6.4.4 Preset Tare (F63)[8] [9]

Preset tare allows a pre-determined tare weight value can be entered.

To enter a preset tare value. press **[Set]** then enter the pre-determined tare weight value. Then press **[Print/M+]** to enter.

After the pre-determined tare value has been entered, **Net indicator** appears to

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6 Set F12 = ON to enable Auto Tare Function.

7 Set F13 = ON to enable Repeated Tare Function.

8 Set F63 = ON to enable Preset Tare Function. Some countries may not consider preset tare function as a legal for trade function. Contact your dealer for more information.

9 Set also F12 to Off.

indicate the value being displays is net weight.

To cancel preset tare effect, enter a zero preset tare value then press **[Print/M+].**

Note: - Manual tare is possible when Repetitive Tare (F13) is set to ON.

6.5 Select the Preferred Function Mode[10]

To utilize the preferred function mode, press **[Func]** until the abbreviation of the desired function mode appears then press **[Print/M+]** to enter.

- Weighing (**Weigh**).
- Peak Hold Function (**Peak**).
- Animal Weighing (**Ani**).
- Quick access to Customer & Product Code Setting (**C.P.Cod**).

The working mode employed before power off will be employed again automatically when re-powered on.

6.6 Weight Units[11]

To display result in preferred weight unit, press **[Unit]** until the preferred weight unit indicator appears.

The working mode employed before power off will be employed again automatically when re-powered on.

6.7 Memory Accumulation[12]

There are 2 types of memory accumulation: -

a. Automatic accumulation mode, and
b. Manual Accumulation mode.

Maximum accumulation limit is = 8 digits (e.g. 99999999) plus decimal (if any). **Err 28** appears when maximum accumulation limit is exceeded.

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[10] Depends on F11 setting. Refer to **5.6** for details.

11 Depends on F9 setting. Refer to **5.5** for details.

12 Memory accumulation does not support Peak Hold Mode.

6.7.1 Automatic Accumulation[13]

Automatically accumulation is activated when Auto Accumulation is set to **On** in Auto 1, Auto 2, Auto 3 or Manual mode is selected in F16 and/or F17.

Under the automatic accumulation mode, corresponding results will be accumulated automatically.

6.7.2 Manual Accumulation[14]

Manual Accumulation is activated when scanner, PC or CMD mode is selected for **both** F16 and/or F17.

Under the Manual Accumulation mode, press **[Print/M+]** to accumulate the current value to memory.

6.7.3 When data is accumulated to memory[15] [16] [17]

1. When a result is accumulated to memory, this instrument displays "**n____x**". **M+ Indicator** appears to indicate that memory contains stored data. "x" means the total number of transactions accumulated to memory.
2. This instrument returns to normal display status after 2 seconds.

6.7.4 Memory recall and clearance

Accumulation data will be stored in memory and will not be erased by normal power off (by pressing the **[Power/Zero]** key) process. But changing weight unit or to another working mode will automatically erase accumulation data stored.

Follow below procedures to recall and clear accumulation data.

1. Press **[MR]** to recall total accumulated weight.
2. Instrument flashes between "A____Y" (Y means the number of

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13 Refer to **6.7.1** for setting details.

14 Refer to **6.7.2** for setting details.

15 Memory Accumulation Function accumulated weight results only.

16 When F16 and F17 is set to mode Auto1~3, unstable result or result which is less than 20d (or $20d_1$ for dual weighing range/interval mode) will not be accumulated to memory.

17 All data stored will be erased when weight unit or working mode is changed.

transactions accumulated) and total accumulated result.

3. At this point: -
   - Press **[Zero]** to quit, or
   - Press **[MC]** to clear memory. After **[MC]** is pressed, instrument display Clear and M+ Indicator disappears to indicate all no data is stored in memory.

7. Weighing Mode

Always apply load to instrument gently. Excessive force / shock / load applied to instrument may cause danger / un-recoverable damage to the weight sensor inside instrument.

1. Refer to **5.5** on how to select the desired weight unit.
2. If zero weight cannot be obtained when unloaded, press **[Zero]**. After **[Zero]** is pressed, the **Zero Indicator** will appear[18].
3. If a container is used, apply it first to instrument and then press **[Tare]**. After **[Tare]** is pressed, the **Net Indicator** will appear[19].
4. The weight of the object is displayed automatically.

Notes: -

- To hold the current weight result, press **[Hold]**. Current result will be displayed in flashing.
- To refresh the weight result or unlock weight result being held, press **[Hold]** again.

5. It is a good practice to remove all loads from instrument after weighing. It will prolong the life of the weight sensor.

18 Maximum weight value can be zero depends on F65 setting. Contact your dealer for detail.

19 Maximum weight value can be zero depends on F65 setting. Contact your dealer for detail.

8. Peak Hold Mode[20]

Under this mode, the instrument will display and hold the highest load/force detected.

1. Refer to **5.5** on how to select the desired weight unit.
2. Refer to **5.6** on how to enter Peak Hold mode.
3. Complete all necessary test setup. If mounting/support accessories are used, apply all of them.
4. Press **[Tare]** to cancel the effect of any extra loads.
5. Start measuring process, the peak value detected will be held and flashing.
6. To refresh / display actual current value (e.g. after a tension force has been decreased), press **[Hold]** again.

9. Animal Weighing Mode[21]

9.1 Description of Animal Weighing Mode

Animal weighing mode is used to weigh live animals.

9.2 Basic Animal Weighing Settings

1. Refer to **5.5** on how to select the desired weight unit.
2. Enter Animal Weighing mode.
3. Press and hold **[Set]** for 2 second to enter weight release parameter setting.
4. Press **[Func] or [Unit]** key to select the preferred weight release variation value. 10 parameters are available from Off to 20): -
5. 10 parameters are available from Off to 20): -
   - rE oFF = auto release disabled.
   - rE 0.5 = auto release when weight varies ≥0.5% of rate.
   - rE 1 = auto release when weight varies ≥1% of rate.
   - …….

20 Peak hold mode does not support memory accumulation, weight unit conversation or weight check function.

21 Animal Weighing function will not operate when weight is less than 20d (or $20d_1$ for dual weighing range/interval).

- rE 20 = auto release when weight varies ≥20% of rate capacity.

6. Press **[Print/M+]** to save.
7. Instrument is now ready for animal weighing application.

9.3 Start using Animal Weighing

1. Lift animal.
2. This instrument will calculate the weight of an animal. The result obtained will be flashing.

Notes: -

- To refresh current weight result, press **[Hold]**.
- To refresh the weight result or unlock weight result being held, press **[Hold]** again.

3. In case more animals have to be weight in the same transaction, then lift other animals. An updated weight will be calculated and displayed as above step 2.
4. To update the weight reading manually, press **[Hold]**.

10. Wireless Communication

There are 2 built-in bi-directional communication ports on this instrument.

- Comport 1 can be used for Bluetooth or TTL communication. Contract your dealer in case TTL output is needed. Setting of comport 1 is done through internal function number F16.
- Comport 2 supports only WIFI communication. Setting of comport 2 is done through internal function number F17.

To enable / disable WIFI and Bluetooth communication, go to internal function number F38 and set: -

- WIFI On/ OFF to enable / disable WIFI communication.
- BT On/OFF to enable / disable Bluetooth communication.

10.1 Default Settings of Built-in Bluetooth

- Working mode = Salve. (For iOS Devices, select master mode; for PC and Android devices, select slave mode)
- Name = hc01
- Password = 1234

Contact your dealer for other details.

10.2 Default Settings of Built-in WIFI Module

- SSID = USR-WIFI232-T
- Protocol = TCP-Server
- Port ID = 8899

Contact your dealer for other details.

10.3 Comport Setting Procedures

Following the below procedures to setup comports.

a. Go to F16 or F17.
   - F16 is used to configure Comport 1.
   - F17 is used to configure Comport 2.

b. Press **[Func]** or **[Unit]** to shift among parameters Off, PC, Scanner, CMD, Auto1, Auto 2, Auto 3 and Manual. **Notes: -**
   - Off = Comport disable. Select this when a particular comport is not used.
   - Scanner, PC & CMD is data string related modes.
   - Auto 1, Auto 2, Auto 3 and Manual are print related modes.
   - All working modes (except Off, LP50 and TSC) accept scanner data input during operation.
   - All working modes (except Off, LP50 and TSC) accept and responses to System Parameter Inquiry and also System Parameter Setting commands during operation.
   - When both ports are set to data string related modes, **[Print/M+]** key is used as M+ (memory accumulation) and can only be activated when value is stable and ≥ 20d.
   - If both comports are set to print related mode, then maximum only one comport should be set with Auto Memory Accumulation = On.

c. Select the preferred output type parameters then press **[Print/M+]** to save.

d. At this point: -
   - If PC is selected, refer to **10.3.1** for setting details.
   - If CMD is selected, refer to **10.3.2** for setting details.
   - If Manual is selected, refer to **10.3.3** for setting details.
   - If Auto 1~3 is selected, refer to **10.3.4** for setting details.
   - If Scanner is selected, refer to **10.3.5** for setting details.

10.3.1 When comport is set as PC

1. Instrument displays baud rate. 9 parameters (1200~256000) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
2. Instrument displays Parity. 3 parameters (None, odd, even) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
3. Instrument displays Data length. 2 parameters (7, 8) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.

   Note: - baud rate, parity and data length settings will be bypassed when Bluetooth or WIFI is enabled in F38. If it is the case, baud rate 115200 will be employed by default.
4. Instrument displays output protocol type. 10 parameters (Prot 0~9) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
5. Instrument displays time interval (in second) between each output. 10 parameters (0, 0.5, 1, 1.5, 10, 30, 60, 90, 120, and 300) are available. 0 = continuous output. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
6. At this point, PC setup is completed.

10.3.2 When comport is set as CMD

1. Instrument displays baud rate. 9 parameters (1200~256000) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
2. Instrument displays Parity. 3 parameters (None, odd, even) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.

3. Instrument displays Data length. 2 parameters (7, 8) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.

   Note: - baud rate, parity and data length settings will be bypassed when Bluetooth or WIFI is enabled in F38. If it is the case, baud rate 115200 will be employed by default.

4. At this point, CMD setup is completed.

10.3.3 When comport is set as Manual

1. Instrument displays baud rate. 9 parameters (1200~256000) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
2. Instrument displays Parity. 3 parameters (None, odd, even) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
3. Instrument displays Data length. 2 parameters (7, 8) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.

   Note: - baud rate, parity and data length settings will be bypassed when Bluetooth or WIFI is enabled in F38. If it is the case, baud rate 115200 will be employed by default.

4. Instrument displays Auto Accumulation. 2 parameters (on, off) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
   - On = when pressing **[Print/M+]** during normal operation, the instrument does print and M+ at the same time,
   - Off = when pressing **[Print/M+]** during normal operation, the instrument does print only.
5. Instrument displays Stability control. 2 parameters (Yes, no) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
   - Yes = **[Print/M+]** (during normal operation) will only function when the weight is stable.
   - No = **[Print/M+]** (during normal operation) will always function disregarding the stable condition of the weight when **[Print/M+]** is pressed.

6. Instrument displays minimum output weight. 21 parameters (0d~20d) are available. Instrument will not generate any output if the actual weight is less than the minimum output weight selected here. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
7. Instrument displays print format. 7 parameters (Lab 1, Lab 2, Lab 3, Lab 4, Lab 5, LP-50 and TSC). Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
    - Lab 1 = Output in Landscape direction. If Lab 1 is selected, refer to **10.3.3.1** for other settings.
    - Lab 2 = Output in Portrait Direction. If Lab 2 is selected, refer to **10.3.3.2** for other settings.
    - Lab 3 = Database output mode.
    - Lab 4 = Journal output format with gross and net weight of each individual transaction. This format supports weighing, piece count and ATM mode only. Refer to **10.3.3.3** for other settings.
    - Lab 5 = Journal output format with time and net weight of each individual transaction. This format supports weighing, piece count and ATM mode only. Refer to **10.3.3.3** for other settings.
    - LP-50 = Output to LP-50 label printer. Refer to **10.3.3.4** for other settings.
    - TSC = Output to TSC label printer. Refer to **10.3.3.4** for other settings.

10.3.3.1 Other settings if Lab 1 is selected

1. Instrument displays Line number. Line number is the number of lines in between which the report heading is repeated. Line number should be from 00~99. 00 means no header output. Input the desired line number then press **[Print/M+]** to save.
2. At this point, Lab 1 setup is completed.

10.3.3.2 Other settings if Lab 2 is selected

1. Instrument displays number of copy to generate each time. 8 parameters (1~8) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+] t**o save.
2. At this point, Lab 2 setup is completed.

10.3.3.3 Other settings if Lab 4 / Lab 5 is selected

1. Instrument displays current statistic data output[22] (Sd) setting (On / Off). When Sd is set to On, the below statistical results will also be transmitted.
   - Max = Maximum Value
   - Min = Minimum Value
   - Diff = Differentiation (Max – Min)
   - X = Mean (Average)
   - Sd = Standard Deviation. Formula used: $S = \sqrt{\frac{\Sigma(X - \overline{X})^2}{N}}$
   - Srel = Relative Standard Deviation
2. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+] t**o save.
3. At this point, Lab 4 / Lab 5 setup is completed.

10.3.3.4 Other settings if LP-50 / TSC is selected

1. Instrument displays number of copy to generate each time. 8 parameters (1~8) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
2. Instrument displays label file number (FL1 01 ~ FL1 99) to print in label format group 1. Press **[Func]** or **[Unit]** until the preferred label file number appears then press **[Print/M+]** to save.
3. Instrument displays label file number (FL2 01 ~ FL2 99) to print in label format group 2. Press **[Func]** or **[Unit]** until the preferred label file number appears then press **[Print/M+]** to save.
4. At this point, LP-50 / TSC setup is completed.

10.3.4 When comport is set as Auto (Auto 1~3)

1. Instrument displays baud rate. 9 parameters (1200~256000) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
2. Instrument displays Parity. 3 parameters (None, odd, even) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
3. Instrument displays Data length. 2 parameters (7, 8) are available.

22 Statistic data output calculates weight data only extra statistic data will be output if Sd is set to On.

Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.

Note: - baud rate, parity and data length settings will be bypassed when Bluetooth or WIFI is enabled in F38. If it is the case, baud rate 115200 will be employed by default.

4. Instrument displays Auto Accumulation. 2 parameters (on, off) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
   - On = Auto memory accumulation enable. Instrument will accumulate the printed value to memory.
   - Off = Auto memory accumulation disable.
5. Instrument displays minimum output weight. 21 parameters (0d~20d) are available. ***By default, only stable value which is ≥20d under all auto print modes***. Press **[Print/M+]** to save.
6. Instrument displays print format. 7 parameters (Lab 1, Lab 2, Lab 3, Lab 4, Lab 5, LP-50 and TSC). Instrument will not generate any output if the actual weight is less than the parameter weight selected. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
   - Lab 1 = Output in Landscape direction. If Lab 1 is selected, refer to **10.3.3.1** for other settings.
   - Lab 2 = Output in Portrait Direction. If Lab 2 is selected, refer to **10.3.3.2** for other settings.
   - Lab 3 = Database output mode.
   - Lab 4 = Journal output format with gross and net weight of each individual transaction. This format supports weighing, piece count and ATM mode only.
   - Lab 5 = Journal output format with time and net weight of each individual transaction. This format supports weighing, piece count and ATM mode only.
   - LP-50/TSC = Output to LP-50 /TSC label printer. If LP-50/TSC is selected, refer to **10.3.3.4** for other settings.
7. At this point, Auto (Auto 1~3) setup is completed.

10.3.5 When Comport 1 is set as Scanner

1. Instrument displays baud rate. 9 parameters (1200~256000) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then **[Print/M+]** to save.
2. Instrument displays Parity. 3 parameters (None, odd, even) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.
3. Instrument displays Data length. 2 parameters (7, 8) are available. Press **[Func]** or **[Unit]** until the preferred parameter appears then press **[Print/M+]** to save.

   Note: - baud rate, parity and data length settings will be bypassed when Bluetooth or WIFI is enabled in F38. If it is the case, baud rate 115200 will be employed by default.
4. At this point, scanner setup is completed.

11. Customer & Product Code

This instrument supports product and customer code entry. Both Product and Customer code accept numeric numbers, letters and following symbols: -

- Space < >
- Dash –
- Slash /
- Underlined _

Maximum code length = 15 digits. When inputting lower case letters, the dot at right of the segment will appear.

Make use of **[MR]**, **[Func]**, **[MC]**, and **[Unit]** to enter. After a code has been entered, press **[Print/M+]** to save.

11.1 Enter a Customer & Product Code Manually[23]

1. Go to customer/product code setting manual by either one of the below method.
   - If Quick Manual Code Entry function (PCd) in F11 is set to on: -
     - Press **[Func]** until C.P. Cod appears then press **[Print/M+]**.
     - Press **[Func] or [Unit]** until the desired mode appears (select C Code to enter customer code or select P Code to enter product code), then press **[Print/M+]** to confirm.
   - If Quick Manual Code Entry function (PCd) in F11 is set to Off: -
     - Go to F19, then press **[Print/M+]**.
     - Press **[Func]** or **[Unit]** until the desired mode appears (C Code for customer code, P Code for product code), then press **[Print/M+]** to confirm.
2. Instrument displays H code followed by the 1st 5 digits. Enter the first 5 digits of the code here, then press **[Print/M+]** to confirm.
3. Instrument displays M code followed by the 2nd 5 digits. Enter the 7th ~ 12th digits of the code here, then press **[Print/M+]** to confirm.
4. Instrument displays L code followed by the 3rd 5 digits. Enter the

23 If a customer/product code is less than 15 digits, press **[Print/M+]** to skip all blank digits displayed until instrument return to F19.

last 5 digits of the code here, then press **[Print/M+]** to confirm.

5. After a code has been successfully save, instrument displays Done and return to the current setting mode.
6. At this point, press **[Zero]** to quit.

11.2 Enter a Customer & Product Code by Scanner[24]

Default scanner input target is product code. To change scanner input target, scan either one of the below barcodes, then scan a customer or product barcode.

11.3 Clear a Customer & Product Code Entered

To clear a customer/product code entered, press **[Hold]** for procedures **2** paragraph 11.**1**, the press **[Print/M+]**.

11.4 Print a Customer & Product Code Entered[25]

Once a customer/product code is entered, it will be printed automatically through the assigned comport. No other setting is required.

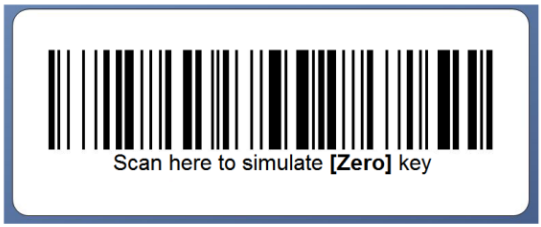
24 Maximum = 15 digits.

25 Print format LAB 1 does not support customer/product code.

12. Enter a Key Command by Scanner

Simply scan one of the below barcodes to simulate pressing the **[Zero]**, **[Tare]** and **[Print/M+]** on keyboard.

Simply scan one of the below barcodes to simulate pressing the **[Zero]**, **[Tare]** and **[Print/M+]** on keyboard.



13. Communication & Outputs[26]

13.1 PC Output & Protocol

If PC is selected in F16 and/or F17, then select also the preferred output protocol.

13.1.1 Predefined output protocols

10 predefined output protocols (Prot 0~9) are available. If PC is selected in F16 and/or F17, refer to **Appendix B1** for protocol details.

13.1.2 Custom output Protocol

Refer to **Appendix B2** for details about Custom output protocol format and setting procedures.

13.2 Sending Keyboard Commands from Computer

When Comport 2 is assigned as CMD, keyboard commands can be sent by an external device to this instrument. Refer to **Appendix A** for details.

13.3 Requesting Operation Results & System Parameters by Computer

To obtain operation results and system parameters by computer, set F17 to CMD.

- Refer to **Appendix C** for details to obtain operation results.
- Refer to **Appendix D** for details to obtain system parameters.

26 Instrument should be re-started (by power off then power on again) after F16 and/or F17 setting is changed under normal operation status.

14. Printing Formats

If Manual is selected in F16 and/or F17, refer to **10.3.3** for details.

If Auto 1~3 is selected in F16 and/or F17, refer to **10.3.4** for details.

14.1 Lab 1 Print Format[27]

When Lab 1 is selected, output in default format will be generated with printed data is sent. No header will be generated when line number is set = 00. See below table for print format and explanations.

Lab 1 Format for Weighing Function

A	B	C	D	E	F	G
Date	Time	Seq	Net	Tare	Gross	Total
2017/5/16	10:46:36	1W	1500kg	0kg	1500kg	1500kg
2017/5/16	10:47:18	2W	500kg	0kg	500kg	2000kg
2017/5/16	10:47:22	3W	500kg	0kg	500kg	2500kg
2017/5/16	10:47:26	4W	1000kg	0kg	1000kg	3500kg

Lab 1 Format for Animal Weighing Function

A	B	C	D	E	F	G
Date	Time	Seq	Net	Tare	Gross	Total
2017/5/16	10:49:03	1W	1000kg	0kg	1000kg	1000kg
2017/5/16	10:49:12	2W	1500kg	0kg	1500kg	2500kg
2017/5/16	10:49:17	3W	500kg	0kg	500kg	3000kg
2017/5/16	10:49:43	4W	2000kg	0kg	2000kg	5000kg

Notes: -

- A = Date of Printing
- B = Time of Printing
- C = No of transaction accumulated in memory. W = Weighing, C = Counting, P = Percentage.
- D = Net Result
- E = Tare Weight
- F = Gross Weight
- G = Total accumulated net weight in memory

27 Lab 1 format does not support Customer or Produce Code.

14.2 Standard Lab 2 Print Format[28]

Standard ticket/receipt printout of various function modes are described illustrated below. Refer to below diagram for printout content.

Lab 2 Weighing Mode Print Format

		Description
Time	10:57:56	*Date of printing*
Date	2017/5/16	*Time of printing*
Seq	3	*No of transaction accumulated in memory*
Name	Fidelity	*Customer Code (if entered)*
Pcode	12345678ABCDEFG	*Product Code (if entered)*
Net	1000kg	*Net weight*
Tare	500kg	*Tare weight*
Gross	1500kg	*Gross weight*
Total	2500kg	*Total accumulated net weight in memory*

Lab 2 Peak Hold Print Format

		Description
Time	11:02:18	*Date of printing*
Date	2017/5/16	*Time of printing*
Name	Fidelity	*Customer Code (if entered)*
Pcode	12345678ABCDEFG	*Product Code (if entered)*
Peak	1000kg	*Peak result*

Lab 2 Animal Weighing Print Format

		Description
Time	11:01:41	*Date of printing*
Date	2017/5/16	*Time of printing*
Seq	2	*No of transaction accumulated in memory*
Name	Fidelity	*Customer Code (if entered)*
Pcode	12345678ABCDEFG	*Product Code (if entered)*
Net	1000kg	*Net weight*
Tare	0kg	*Tare weight*
Gross	1000kg	*Gross weight*
Total	2000kg	*Total accumulated net weight in memory*

28 When Lab 2 is selected under in F16 and/or F17

14.3 Customizing Lab 2 Print Format[29]

Custom printout is available for the below modes: -

- Weighing.
- Animal weighing.

19 variants + 2 commands (**Cr LF and End**) are available for custom print output format. Refer to the below **Print output format variants table** for more detail.

14.3.1 Print output format variants table

Symbol	Description
End	Edit finished
Cr LF	Insert one blank row
dAtE	Date of printing
time	Time of print
nEt	Net weight
tArE	Tare weight
GroSS	Gross weight
trAnS	Transaction sequent number (if this transaction is accumulated to memory)
ACC	Total accumulated weight (when accumulation function is in effect)
SiGn	Signature
P.Code	Product code
Peak	Peak hold value
Id	Machine ID
GrouP	Machine group number
oPCod	Operator number
C.Code	Customer code

29 When Lab 2 is selected under in F16 and/or F17

14.3.2 To edit custom Lab 2 print output format

Follow the below steps to create custom printout.

a. Go to internal function and select the desired function number to edit,
b. Select **CUSTOM** and press **[Print/M+]**,
c. This instrument displays **Line 1** and the last variant or command (see **14.3.1** for details) stored,
d. Press **[Print/M+]** to confirm or select other variant or command by press **[Func]** or **[Unit]**. Then press **[Print/M+]** to confirm and save,
e. This instrument displays **Line 2** and the last variant or command stored,
f. Repeat steps **d** and **e** for other lines,
g. To finish editing, select command **End**, then press **[Print/M+]** to confirm.
h. This instrument returns to and displays the current internal function number,
i. If required, repeat steps **a** to **h** to create and edit custom printout format for other modes.

14.4 Lab 3 Data Base Output Format[30]

Current working mode and all related data are sent under this mode. Refer to below table for data output format.

Lab 3 Data Base Output Format

Function & Output	Weighing	Peak Hold	Animal
Data 1	Opr	Opr	Opr
Data 2	Seq	(Blank)	Seq
Data 3	0	3	4
Data 4	Mac	Mac	Mac
Data 5	MacGp	MacGp	MacGp
Data 6	Date	Date	Date
Data 7	Time	Time	Time
Data 8	Name	Name	Name
Data 9	Pcode	Pcode	Pcode
Data 10	Gross	Tare	Gross
Data 11	Tare	Peak	Tare
Data 12	Net	Unit	Net
Data 13	Total.W	CR LF	Total.W
Data 14	Unit		Unit
Data 15	CR LF		CR LF

Note: **-** Semi colon is inserted between data.

30 When Lab 3 is selected under in F16 and/or F17

14.5 Lab 4 Print Format[31]

Transaction data is sent in journal output format with gross and net weight of each individual transaction. Refer to below diagram for details.

Lab 4 Weighing Mode Print Format

	Description
Name Fidelity	*Customer Code (if entered)*
Pcode 12345678ABCDEFG	*Product Code (if entered)*
Opr 2346	*Operator No. (if entered)*
Mac 1000	*Machine No. (if entered)*
MacGp 10	*Machine Group No, (if entered)*
Date 2017-05-16	*Date of printing*
Time 11:42:03	*Time of printing*
Seq Gross Net	
001 500 500 kg	
002 1000 1000 kg	*Sequent No., Gross weight & Net weight*
003 1500 1500 kg	
004 2000 2000 kg	

	No of transaction accumulated in memory &
004 5000 kg	*Total Net Weight*
Max 2000 kg	*Maximun value*
Min 500 kg	*Minimum value*
Diff 1500 kg	*Differentiation (Max - Min)*
x 1250.0 kg	*Mean (Average) value*
Sd 645.5 kg	*Standard Deviation. Formula used:* $S = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N}}$
Srel 51.6400 %	*Relative Standard Deviation*

Lab 4 Animal Weighing Print Format

	Description
Name Fidelity	*Customer Code (if entered)*
Pcode 12345678ABCDEFG	*Product Code (if entered)*
Opr 2346	*Operator No. (if entered)*
Mac 1000	*Machine No. (if entered)*
MacGp 10	*Machine Group No, (if entered)*
Date 2017-05-16	*Date of printing*
Time 11:43:40	*Time of printing*
Seq Gross Net	
001 500 500 kg	
002 1000 1000 kg	*Sequent No., Gross weight & Net weight*
003 1500 1500 kg	
004 2000 2000 kg	

	No of transaction accumulated in memory &
004 5000 kg	*Total Net Weight*
Max 2000 kg	*Maximun value*
Min 500 kg	*Minimum value*
Diff 1500 kg	*Differentiation (Max - Min)*
x 1250.0 kg	*Mean (Average) value*
Sd 645.5 kg	*Standard Deviation. Formula used:* $S = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N}}$
Srel 51.6400 %	*Relative Standard Deviation*

31 When Lab 4 is selected under in F16 and/or F17

14.6 Lab 5 Print Format[32]

Transaction data is sent in journal output format with time and net weight of each individual transaction. Refer to below diagram for details.

Lab 5 Weighing Mode Print Format

	Description
Name Fidelity	*Customer Code (if entered)*
Pcode 12345678ABCDEFG	*Product Code (if entered)*
Opr 2346	*Operator No. (if entered)*
Mac 1000	*Machine No. (if entered)*
MacGp 10	*Machine Group No, (if entered)*
Date 2017-05-16	*Date of printing*
Seq Time Net	
001 11:51:16 500 kg	
002 11:51:20 1000 kg	*Sequent No., time of printing & Net weight*
003 11:51:23 1500 kg	
004 11:51:28 2000 kg	

	No of transaction accumulated in memory &
004 Total 5000 kg	*Total Net Weight*
Max 2000 kg	*Maximun value*
Min 500 kg	*Minimum value*
Diff 1500 kg	*Differentiation (Max - Min)*
x 1250.0 kg	*Mean (Average) value*
Sd 645.5 kg	*Standard Deviation. Formula used:* $S = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N}}$
Srel 51.6400 %	*Relative Standard Deviation*

Lab 5 Animal Weighing Print Format

	Description
Name Fidelity	*Customer Code (if entered)*
Pcode 12345678ABCDEFG	*Product Code (if entered)*
Opr 2346	*Operator No. (if entered)*
Mac 1000	*Machine No. (if entered)*
MacGp 10	*Machine Group No, (if entered)*
Date 2017-05-16	*Date of printing*
Seq Time Net	
001 11:52:03 500 kg	
002 11:52:17 1000 kg	*Sequent No., time of printing & Net weight*
003 11:52:25 1500 kg	
004 11:52:32 2000 kg	

	No of transaction accumulated in memory &
004 Total 5000 kg	*Total Net Weight*
Max 2000 kg	*Maximun value*
Min 500 kg	*Minimum value*
Diff 1500 kg	*Differentiation (Max - Min)*
x 1250.0 kg	*Mean (Average) value*
Sd 645.5 kg	*Standard Deviation. Formula used:* $S = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N}}$
Srel 51.6400 %	*Relative Standard Deviation*

32 When Lab 5 is selected under in F16 and/or F17

15. Label Printing

This instrument supports the below label printer models: -

- LP50 by Datecs (www.datecs.bg/en)
- TDP247, TDP345 by TSC (www.tscprinters.com)
- TTP247, TTP345 by TSC (www.tscprinters.com)

Notes: -

- Set all preferred operation parameters according to F16 and/or F17 listed on **5.4**.
- Refer to **Appendix E** for TSC printer installation and setup procedures.
- Refer to **Appendix F** for detail on how to create and upload label to TSC printer by Bartender Label software.

Cautions: -

1. Do not combine data of different working modes on the same label.
2. Do not print any labels of non-current working mode. This will retrieve wrong data of non-current working mode.
3. Print only label data when the same working mode is in operation.
4. Do not combine data of various working modes on same label. This will retrieve wrong data of non-current working mode.

15.1 Label Format Groups & Label File Names

2 label format groups are available, these are: -

- FL1 (label file group 1), and
- FL2 (label file group 2).

15.1.1 FL1 (Label Format Group 1)

FL1 (format group 1) is for current transaction data printing (during normal working status).

100 printout selections (00 ~ 99) are available in format group 1. In order to trigger the preferred label to be printed, label files stored in printer for this format group 1 must have a file name of AA01, AA02, AA03…. AA99.

- FL1 00: - Select this to disable current transaction label printing.

- FL1 01: - Select this to print label file AA01 stored in printer.
- FL1 02: - Select this to print label file AA02 stored in printer.
- ….
- FL1 98: - Select this to print label file AA98 stored in printer.
- FL1 99: - Select this to print label file AA99 stored in printer.

15.1.2 FL2 (Label Format Group 2)

FL2 (format group 2) is for totalized (MR) data printing (during normal working status).

100 printout selections (00 ~ 99) are available in format group 2. In order to trigger the preferred label to be printed, label files stored in printer for this format group 1 must have a file name of BB01, BB02, BB03…. BB99.

- FL2 00: - Select this to disable totalized (MR) data label printing
- FL2 01: - Select this to print label file BB01 stored in printer.
- FL2 02: - Select this to print label file BB02 stored in printer.
- ….
- FL2 98: - Select this to print label file BB98 stored in printer.
- FL2 99: - Select this to print label file BB99 stored in printer.

15.2 Label Programming

Prompt commands, information description, working mode and suggested length on label are listed on the below table**.**

Caution: - Do not combine information of different working mode on the same label.

15.2.1 Label programing information table

Prompt Command[33]	Description	Working Mode[34]	Suggested Length
a	Peak Value	Peak	9
b	Product Code	All	15
d	Machine ID	All	4
e	Machine Group Number	All	2
f	Operator Number	All	4
K	Date	All	10
L	Time	All	8
M	No. of accumulated transaction (8 digits with leading space)	All	8
m	No. of accumulated transaction (6 digits with leading zero)	All	6
N	Total accumulated weight	All	9
n	Total accumulated weight without unit or decimal	All	6
O	Net weight	All	10
o	Net weight without unit or decimal	All	6
P	Tare weight	All	10
p	Tare weight without unit or decimal	All	6
Q	Gross weight	All	10

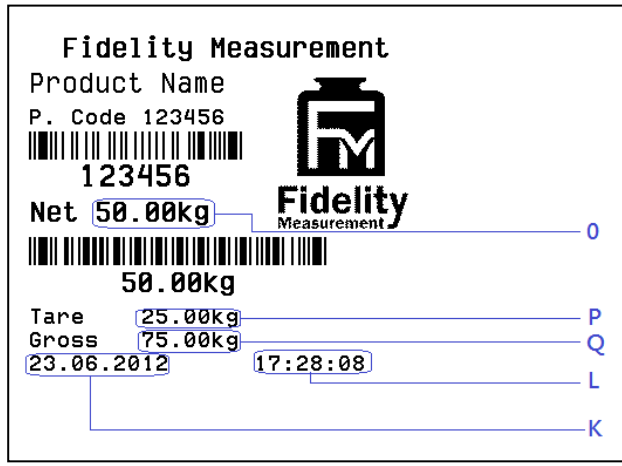
33 Prompt commands are case sensitive.

34 "All" means the information is good for all working modes.

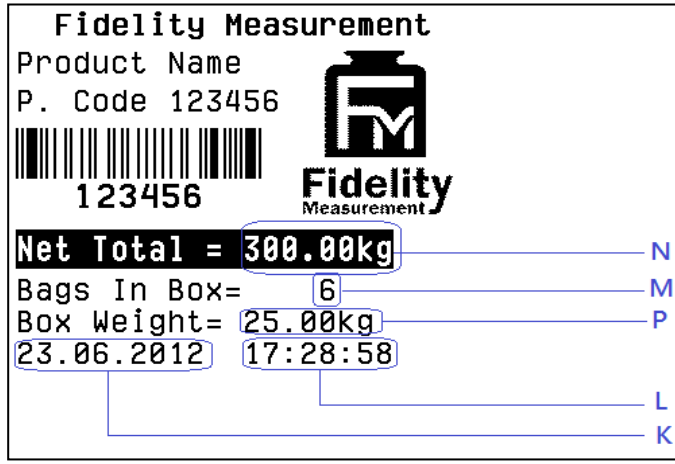
q	Gross weight without unit or decimal	All	6
Y	Weight hold	Animal Weighing	11
y	Weight hold without unit or decimal	Animal Weighing	6
Z	Customer Code	All	15

15.2.2 Label programming sample

15.2.2.1 Sample label of current transaction (FL1)



15.2.2.2 Sample label of totalized data (FL2)



16. Built-in Battery & Recharging

16.1 Battery Operation Time

Depends on the battery operation condition, a new and fully charged rechargeable battery can provide 40~60 operation hours depends of actual power consumption. The following settings help saving extra energy: -

- F8 Brightness: - the brighter the LED indicator, the shorter the battery service time.
- F16 and F17 Comport: turn off any comport which is not used.
- F31 Auto Power Saving: - always set this to On. This will help save power especially when the instrument is unattended.
- F38 WIFI and Bluetooth: - turn off any device which is not used.

16.2 Battery Low Signal

When battery level is low, bAt.Lo alter will appear. Apply the external charger or replace the battery with a fully charged one immediately.

To protect the built-in rechargeable battery, this instrument will be powered off automatically when battery is at extremely low level. If this is the case, do not attempt to power this instrument on. Fail to do so may cause unrecoverable damages to the built-in rechargeable battery.

16.3 Battery Charging Status

Battery charging status is shown on the dual color **Charge Status Indicator** on the external battery charger: -

- Red: - Recharging in process,
- Green: - Charging completed.

17. Error Codes

Error Code No.	Description
Err 1	Time value error
Err 2	Date value error
Err 3	Exceed manual zero
Err 4	Offset out of range / unstable during power on
Err 5	No load cell detected
Err 6	Tare operation error
Err 13	Exceed maximum power on
Err 22	Manual Zero and Tare stability error
Err 25	Span gain is too low
Err 26	Not able to obtain stable status for longer than 10 sec
Err 28	Maximum accumulation limit is exceeded.
Err 30	Working mode (Operation mode AP or STA or AP&STA)
Err 31	WAN Setting
Err 32	Network Protocol Setting
Err 33	LAN Setting
Err 34	Cannot access to command mode of WIFI module.
Err 35	STA SSID&KEY Setting
Err 36	AP SSID&KEY Setting
Err 38	Reload Setting
Err 39	Read MAC of Link
Err 42	Cannot communicate with Bluetooth module
Err 43	Cannot set Bluetooth module

--oL--	Overload (Gross weight is more than Max plus 9d)
bAt.Lo	Battery level low
HALT	Major system error detected. Power off instrument and remove power adaptor immediately. Then check load cell connection and system power status.
UndEr	Negative Weight values exceeds display range
Reboot	Important parameters have been changed. Power off and then power on instrument again to reboot.
------	Negative Tare value exceeds display range

18. Daily Care & Maintenance

a. Clean the instrument with a soft, damp cloth. If necessary, use a mild detergent in water.

b. Do not use any harsh, abrasive material, acetone, volatile solvent, thinner or alcohol for cleaning.

c. Verify the accuracy of this instrument periodically. Re-calibrate if necessary. In some countries, calibration requires authorized/qualified agent. Contact your dealer for more information.

d. Store this instrument in a dry and clean place,

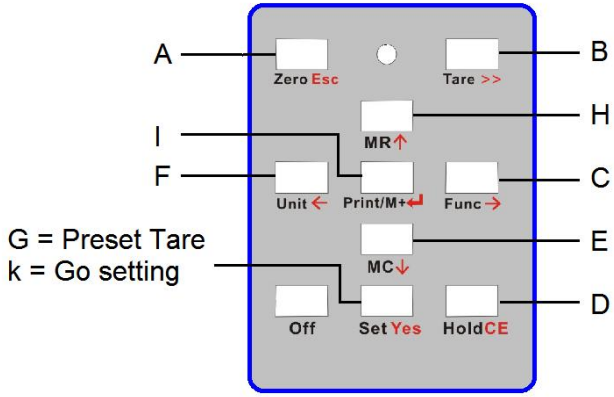
e. Recharge battery before and every 4 months during long time storage.

Appendix A: - Keyboard Commands[35]

Keyboard commands can be sent to this instrument from computer through any standard communication program to simulate keyboard entries.

To enable keyboard commands, connect the external peripheral which generates keyboard commands to Comport 2 and set Comport 2 to CMD. Keyboard Command format as below: -

a. Hex code 0D (CR), then
b. Hex code 0A (LF) then
c. Letter shown on below illustration diagram, then
d. Space (Hex code 20).



35 Keyboard commands are case sensitive.

Appendix B1: - Predefined PC Output Protocols

Data Code	Description
,	Comma
+,-	Polarity Sign Positive = space. Negative = minus (-)
P	Polarity Sign Positive = 0. Negative = minus (-)
C	Control command • ETX : End of Text • STX : Start of Text • CF : Carriage Return • LF : Line Feed • SOH : Start of Heading • = : ASCII equal sign (DEC 61, HEX 3D)
G/N	Gross/Net • NT = Net weight • GS = Gross weight
NET	Net Weight
S	Status Code • ST for Stable • US for unstable
R	Revered 7 digits weight value including location of decimal point. If there is no decimal point, then the last character = space.
SP	Space
SWA	Status Word A
SWB	Status Word B
U	Weight Unit • kg = kilogram • lb = pound • g(space) = gram
V	Numeric value
W	7 digits weight value including location of decimal point. If there is no decimal point, then the first character = space.

Protocol 0

ADC	1 +,-	2 V	3 V	4 V	5 V	6 V	7 V	8 V	9 c	10 c
1234567		1	2	3	4	5	6	7	CR	LF
-987654	-		9	8	7	6	5	4	CR	LF
-2006	-				2	0	0	6	CR	LF

Protocol 1

Weight	1 s	2 s	3 ,	4 G/N	5 G/N	6 +,-	7 w	8 w	9 w	10 w	11 w	12 w	13 w	14 ,	15 u	16 u	17 c	18 c
1.000kg	S	T	,	G	S				1	.	0	0	0	,	k	g	CR	LF
-0.012kg	S	T	,	G	S	-			0	.	0	1	2	,	k	g	CR	LF
220.450lb	S	T	,	G	S		2	2	0	.	4	5	0	,	l	b	CR	LF

Protocol 2

Weight	1 c	2 SWA	3 SWB	4 SP	5 Field 1 (Net Weight)	6 Field 1 (Net Weight)	7 Field 1 (Net Weight)	8 Field 1 (Net Weight)	9 Field 1 (Net Weight)	10 Field 1 (Net Weight)	11 Field 2 (Tare Weight)	12 Field 2 (Tare Weight)	13 Field 2 (Tare Weight)	14 Field 2 (Tare Weight)	15 Field 2 (Tare Weight)	16 Field 2 (Tare Weight)	17 CR	
Net	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Tare Value
-0.015kg	STX	5	7		0	0	0	0	1	5	0	0	2	0	0	0	CR	2.000kg
220.450lb	STX	5	!		2	2	0	4	5	0	1	0	0	0	0	0	CR	100.00 0lb

Protocol 3

Weight	1 c	2 c	3 SP	4 +,-	5 w	6 w	7 w	8 w	9 w	10 w	11 w	12 SP	13 u	14 u	15 SP	16 SP	17 SP	18 SP	19 c	20 c
1.000kg	SOH	STX					1	.	0	0	0		k	g					CR	LF
-0.015kg	SOH	STX		-			0	.	0	1	5		k	g					CR	LF
220.450lb	SOH	STX			2	2	0	.	4	5	0		l	b					CR	LF

Protocol 4

	1	2	3	4	5	6	7	8	9
Weight	c	r	r	r	r	r	r	r	p
1.000kg	=	0	0	0	.	1			0
-0.015kg	=	5	1	0	.	0			-
220.450lb	=	0	5	4	.	0	2	2	0

Protocol 5

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Weight	s	s	,	G/N		,	+,-	w	w	w	w	w	w	w	u	u	c	c
1.000kg	S	T	,	G	S	,				1	.	0	0	0	k	g	CR	LF
-0.015kg	S	T	,	G	S	,	-			0	.	0	1	5	k	g	CR	LF
220.450lb	S	T	,	G	S	,		2	2	0	.	4	5	0	l	b	CR	LF

Protocol 6

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Weight	NET			SP	+,-	w	w	w	w	w	w	w	u	u	c	c
1.000kg	N	E	T					1	.	0	0	0	k	g	CR	LF
-0.014kg	N	E	T		-			0	.	0	1	4	k	g	CR	LF
220.450lb	N	E	T			2	2	0	.	4	5	0	l	b	CR	LF

Protocol 7

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Weight	c	c	SP	+,-	w	w	w	w	w	w	w	SP	u	u	SP	SP	SP	c	c
1.000kg	SOH	STX					1	.	0	0	0		k	g				CR	LF
-0.015kg	SOH	STX		-			0	.	0	1	5		k	g				CR	LF
220.450lb	SOH	STX			2	2	0	.	4	5	0		l	b				CR	LF

Protocol 8

	1	2	3	4	5	6	7	8	9	10
Weight	c	+,-	w	w	w	w	w	w	w	c
1.000kg	STX				1	.	0	0	0	ETX
-0.015kg	STX	-			0	.	0	1	5	ETX
220.450lb	STX		2	2	0	.	4	5	0	ETX

Protocol 9

	1	2	3	4	5	6	7	8	9	10	11	12
Weight	c	+,-	SP		w	w	w	w	w	u	u	c
1.000kg	STX				1	.	0	0	0	k	g	ETX
-0.015kg	STX	-			0	.	0	1	5	k	g	ETX
220.450lb	STX		2	2	0	.	4	5	0	l	b	ETX

Appendix B2: - Custom PC Output Protocol

Under this mode: -

- 17 different transaction data,
- 7 control codes, and
- 2 data separation types.

are available from instrument. Setup procedures: -

1. Go to F16 or F17 depends on output comport number.
2. Select PC, then set baud rate, parity and data length.
3. Select Custom in Protocol page. Then press **[Print/M+]**.
4. Instrument displays Separa then followed by data separator selection page.

Notes: -

- Data separator is a symbol inserted between transaction data and is usually used by computer program to separate various data.
- No data separator is inserted between in front or after control commands.

5. Select preferred data separator CoMMA (comma) or SemiCo (semi colon) then press **[Print/M+]**.
6. Instruments displays Item number, then followed by the content page.

Note: - Item number means output sequence, e.g. Item 1 = the first content to output, item 3 = the third content to output.

7. Press **[Func]** and **[Unit]** until the preferred content appears. then press **[Print/M+]**. Refer to below **Custom PC Output Content Table** for details.
8. Repeat step **6** to include other transaction data or control.
9. To complete and save a Custom output, select **End** then press **[Print/M+]**.
10. Then select output time interval (refer to **5.5.1** for details).
11. Press **[Print/M+]** to save.

Custom PC Output Content Table

Symbol	Explanations	Nature	No. of Digit	Remarks
CoMMA	Comma	Data Separator	1	
SemiC	Semi Colon		1	
Cr LF	HEX Code 0D 0A	Control Code	2	
Cr	HEX code 0D		1	
LF	HEX code 0A		1	
SOH	HEX code 01		1	
STX	Hex code 02		1	
ETX	Hex code 03		1	
Statu	Weigh Status	Transaction Data	2	ST = Stable / US = Unstable / OL = Overload
nT-GS	Net/Gross Sign		2	NT = Net / GS = Gross
Date	Date of Output		10	
Time	Time of Output		8	
Net	Net Weight		8	
Tare	Tare Weight		8	
Gross	Gross Weight		8	
Unit	Weight Unit		2	kg = Kilogram / (space)g =g / lb = Pound
id	Machine ID		4	000 ~ 9999, ** = None
Group	Machine Group Number		2	00 ~ 99, ** = None

OpCod	Operator Number	Transaction Data	4	0000 ~ 9999, **** = None
P.Code	Product Code		1 ~ 15	Blank = not entered
C.Code	Customer Code		1~ 15	Blank = not entered
Trans	No. of accumulated transaction		8	Blank = none
ACC	Total Accumulated Weight		8	Blank = none
Ani	Weight hold (Animal Weighing)		8	Animal Weighing Mode Only
PEAk	Peak Value		8	Peak Hold Mode Only
End	End of Input		None	

Appendix C: - Operation Result Commands[36]

Operation Result commands are those commands which are used to request operation result and details from this instrument. These commands can be sent to this instrument from computer through any standard communication program. Command format as below: -

a. Hex code 0D (CR), then
b. Hex code 0A (LF) then
c. Command code listed on below command table, then
d. Space (Hex code 20).

Refer to below table for commands details.

Operation Result Commands Table

Prompt Command[37]	Description
a	Peak Value
b	Product Code
c	Total accumulated pieces
d	Machine ID
e	Machine Group Number
f	Operator Number
g	Customer Code
J	Current status, weight and tare weight values
K	Date
L	Time

36 Connect the external peripheral which generates operation result commands to Comport 2 and set Comport 2 to CMD.

37 Prompt commands are case sensitive.

M	No. of accumulated transaction
N	Total accumulated weight
n	Total accumulated weight without unit or decimal
O	Net weight
o	Net weight without unit or decimal
P	Tare weight
p	Tare weight without unit or decimal
Q	Gross weight
q	Gross weight without unit or decimal
R	HI limit
S	LO limit
T	Comparison Result
U	Number of piece
V	Average piece weight
Y	Weight hold
y	Weight hold without unit or decimal
Z	Read internal count (AD) value

Appendix D: - System Parameter Inquiry Commands[38]

System parameter inquiry commands are used to check system parameter settings. Command format as below: -

a. Hex code 0D (ASCII code $0D), then
b. Hex code 0A (LF) (ASCII code $0A), then
c. Command code listed on below table (all commands are case sensitive), then
d. Hex code 20 (ASCII code $20).

Command Code	**Description**	**Number & Description Responded Parameters** **Notes: -** a. If more than one parameter, semi colon separation is inserted between parameters. b. Response from instrument always end up with Hex code 0D 0A
Aa	Calibration weight unit and application	• **d1** = calibration weight unit: - 0 = kg; 1 = lb. • **d2** = application: - 0 = none; 1 = OIML; 2= NTEP
Ab	Decimal format, decimal point of kg, g and lb	• **d1** = decimal format: - 0 = dot (fixed) • **d2** = kg: - 0 = no decimal; 1 = 1 decimal place…… 4 = 4 decimal place • **d3** = g: - 0 = no decimal; 1 = 1 decimal place…… 4 = 4 decimal place; n = not applicable

38 Connect the external peripheral which generates system parameter inquiry commands to Comport 2 and set Comport 2 to CMD.

		• **d4** = lb: - 0 = no decimal; 1 = 1 decimal place…… 4 = 4 decimal place
Ac	Capacity1 of kg, g, lb	• **d1** = capacity in kg. Data length = 8 including decimal with leading space (Hex code 20) • **d2** = capacity = g. Data length = 8 including decimal with leading space (Hex code 20) • **d3** = capacity = lb. Data length = 8 including decimal with leading space (Hex code 20)
Ad	Capacity 2 of kg, g, lb	• **d1** = mode: - 0 = Off; 1 = dual weighing range; 2 = dual interval • **d2** = capacity in kg. Data length = 8 including decimal with leading space (Hex code 20) • **d3** = capacity = g. Data length = 8 including decimal with leading space (Hex code 20) • **d4** = capacity = lb. Data length = 8 including decimal with leading space (Hex code 20)
Ae	Division 1 of kg, g, lb	• **d1** = kg: - 0 = 1; 1 = 2; 2 = 5; 3 = 10; 4 = 20; 5 = 50 • **d2** = g: - 0 = 1; 1 = 2; 2 = 5; 3 = 10; 4 = 20; 5 = 50

		• **d3** = lb: - 0 = 1; 1 = 2; 2 = 5; 3 = 10; 4 = 20; 5 = 50
Af	Division 2 of kg, g, lb	• **d1** = kg: - 0 = 1; 1 = 2; 2 = 5; 3 = 10; 4 = 20; 5 = 50 • **d2** = g: - 0 = 1; 1 = 2; 2 = 5; 3 = 10; 4 = 20; 5 = 50 • **d3** = lb: - 0 = 1; 1 = 2; 2 = 5; 3 = 10; 4 = 20; 5 = 50
Ag	Gravity Factor of Calibration Place and Operation Place	• **d1** = gravity factor of calibration place. Data length = 8 including decimal with leading space (Hex code 20). • **d2** = gravity of location of operation place. Data length = 8 including decimal with leading space (Hex code 20).
Ah	Linearity Compensation Function	0 = Off; 1 = On
Ai	ad value of zero point (offset) value, weight value of LD1, ad value of LD1, weight value of LD2 and ad value of LD2	• **d1** = ad value of zero point. Data length = 8 including decimal with leading space (Hex code 20). • **d2** = weight value of LD1. Data length = 8 including decimal with leading space (Hex code 20). • **d3** = ad value of LD1. Data length = 8 (integers only) with leading space (Hex code 20).

		• **d4** = weight value of LD2. Data length = 8 including decimal with leading space (Hex code 20). • **d5** = ad value of LD2. Data length = 8 (integers only) with leading space (Hex code 20).
Aj	ad value of zero point (offset), span weight value, net span AD value	• **d1** = as value of zero point. Data length = 8 (integers only) with leading space (Hex code 20). • **d2** = span weight value. Data length =8 including decimal with leading space (Hex code 20). • **d3** = net span AD value. Data length = Data length = 8 (integers only) with leading space (Hex code 20)
Ak	Weight unit enable/disable for kg, g and lb	• **d1** = kg: - 0 = Off; 1 = On • **d2** = g: - 0 = Off; 1 = On • **d3** = lb: - 0 = Off; 1 = On
Al	Filter strength	0 = level 1; 1 = level 2; … ;7 = level 8; 8 = level 9
Am	Initial Zero range, manual zero range, auto zero tracking speed	• **d1** = initial zero range: - 0 = Off, 1 = 1%, 2 = 2%; … 5 = 5%; 6 = 10%; 7 = 20% • **d2** = manual zero range: - 0 = 1%; 1 = 2%; 2 = 3%; 3 = 4%; 4 = 5%; 5 = 10%; 6 = 20%; 7 = 50%; 8 = 75%; 9 = 100%

		• **d3** = auto zero tracking speed: - 00 = Off; 01 = 0.25e; 02 = 0.50e; 03 = 10e; 04 = 1.5e; 05 = 2.0e; 06 = 2.5e; 07 = 3.0e; ….; 09 = 5e; 10 = 7.5e; 11 = 10e
An	Auto tare, repetitive tare and preset tare	• **d1** = auto tare: - 0 = Off; 1 = On; 2= Continuous • **d2** = repetitive tare: - 0 = Off; 1 = On • **d3** = Preset tare: - 0 = Off; 1 = On
Ao	Stability control of manual zero and manual tare	• **d1** = manual zero stability control: - 0 = no (disable); 1 = Yes (enable) • **d2** = manual tare stability control: - 0 = no (disable); 1 = Yes (enable)
Ap	Auto power off time, backlight brightness, auto power saving, keypad buzzer and system buzzer	• **d1** = auto power off time: - 0 = Off; 1 = 1 minute; 2 = 3 minute; 3 = 5 minute; 4 = 10 minute; 5 = 20 minute • **d2** = backlight brightness (01 ~ 04). 01 = lowest, 04 = highest. • **d3** = auto power saving: - 00 = Off; 01 = On • **d4** = keypad buzzer: - 0 = Off; 1 = On • **d5** = system buzzer: - 0 = Off; 1 = On
Aq	Check result buzzer, near zero value, high limit for	• **d1** = check result buzzer: - 0 = Off; 1 = In; 2 = Out; 3 = hi, 4 = lo

	weighing, low limit for weighing, high limit for counting, low limit for counting	• **d2** = near zero value. Data length = 8 with leading space (Hex code 20) • **d3** = Hi Limit for weighing. Integer only. Data length = 8 including decimal with leading space (Hex code 20). • **d4** = Lo Limit for weighing. Integer only. Data length = 8 including decimal with leading space (Hex code 20). • **d5:** = Hi Limit for counting. Integer only. Data length = 8 (integers only) with leading space (Hex code 20). • **d6**: = Lo Limit for counting. Integer only. Data length = 8 (integers only) with leading space (Hex code 20).
Ar	Comport 1 working mode, baud rate, output protocol, print stability control, transmission interval, Auto Accumulation, number of copy, check result control, print format, label format group 1 file number, label format group 2 file number,	• **d1** = working mode: - 0 = Auto 1; 1 = Auto 2; 2 = Auto 3; 3 = Manual; 4 = PC; 5 = Scanner; 6 = Off • **d2** = baud rate: - 0 = 1200; 1 = 2400; 3 = 4800; 3 = 9600; 4 = 19200; 5 = 38400; 6 = 57600; 7 = 115200; 8 = 256000 • **d3** = protocol: - 0 = Protocol 1; 1 = Protocol 2; …; 8 = Protocol 9

	data length, parity, minimum output weight value	• **d4** = print stability control: - 0 = no (disable); 1 = Yes (enable) • **d5** = transmission interval: - 0 = int 0; 1 = int 0.5; 2 = int 1.0; 3 = int 1.5; ….; 9 = int 300. • **d6** = Auto Accumulation: - 0 = Off (disable); 1 = On (enable) • **d7** = number of copy: - 0 = 1 copy; … 7 = 8 Copy • **d8** = check result control: - 0 = no (disable); 1 = Yes (enable) • **d9** = print format: - 0 = Lab 1; 1 = Lab 2; 2 = Lab 3; 3= Lab 4; 4 = Lab 5; 5 = LP-50; 6 = TSC • **d10** =label format group 1 file number (00~99): - 00 = file AA00; 1 = file AA01; …98 = file AA98; 99 = file AA99 • **d11** = label format group 2 file number (00~99): - 00 = file BB00; 1 = file BB01; …98 = file BB98; 99 = file BB99 • **d12** = data length: - 0 = 7bit; 1 = 8bit • **d13** = parity: = 0 = none; 1 = 0dd; 2 = even • **d14** = minimum output weight value: - 0 = from 00d; 01 = from 01d; …; 20

		= from 20d. Data length = 2 with leading zero
As	Comport 2 working mode, baud rate, output protocol, print stability control, transmission interval, Auto Accumulation, number of copy, check result control, print format, label format group 1 file number, label format group 2 file number, data length, parity, minimum output weight value	• **d1** = working mode: - 0 = Auto 1; 1 = Auto 2; 2 = Auto 3; 3 = Manual; 4 = PC; 5 = CMD; 6 = Off • **d2** = baud rate: - 0 = 1200; 1 = 2400; 3 = 4800; 3 = 9600; 4 = 19200; 5 = 38400; 6 = 57600; 7 = 115200; 8 = 256000 • **d3** = protocol: - 0 = Protocol 1; 1 = Protocol 2; …; 8 = Protocol 9 • **d4** = print stability control: - 0 = no (disable); 1 = Yes (enable) • **d5** = transmission interval: - 0 = int 0; 1 = int 0.5; 2 = int 1.0; 3 = int 1.5; ….; 9 = int 300. • **d6** = Auto Accumulation: - 0 = Off (disable); 1 = On (enable) • **d7** = number of copy: - 0 = 1 copy; … 7 = 8 Copy • **d8** = check result control: - 0 = no (disable); 1 = Yes (enable) • **d9** = print format: - 0 = Lab 1; 1 = Lab 2; 2 = Lab 3; 3= Lab 4; 4 = Lab 5; 5 = LP-50; 6 = TSC • **d10** =label format group 1 file number (00~99): - 00 = file AA00; 1 = file

		AA01; …98 = file AA98; 99 = file AA99 • **d11** = label format group 2 file number (00~99): - 00 = file BB00; 1 = file BB01; …98 = file BB98; 99 = file BB99 • **d12** = data length: - 0 = 7bit; 1 = 8bit • **d13** = parity: = 0 = none; 1 = 0dd; 2 = even • **d14** = minimum output weight value: - 0 = from 00d; 01 = from 01d; …; 20 = from 20d. Data length = 2 with leading zero
At	Current weight unit and function mode	• **d1** = weight unit: - 0 = kg; 1 = g; 2 = lb • **d2** = function mode: - 0 = weighing; 1 = piece count; 2 = AT 1; 3 = peak hold; 4= animal weighing
Av	Auxiliary Function mode enable/disable status	• **d1** = Piece count: - 0 = Off; 1 = On • **d2** = ATM: - 0 = Off; 1 = On • **d3** = Peak Hold: - 0 = Off; 1 = On • **d4** = Animal Weighing: - 0 = Off; 1 = On
Aw	Machine ID & group number	• **d1** = 4-digit machine ID number. Nothing = no machine ID is set • **d2** = 2-digit machine group number. Nothing = no group number is set

Ax	Operator Number	4-digit operator number. **** = no operator number is set

Appendix E: - TSC Printer Installation & Setup Procedures

E.1 Before Installation

Get the below ready before printer installation.

1. An appropriate cable to connect printer and computer. This cable usually comes with the printer. If not, contact your printer supplier.
2. Printer installation driver. This driver usually comes with the printer. If not, contact your printer supplier.
3. Diagnostic tool for printer. This tool usually comes with the printer. If not, contact your printer supplier or download it at: - www.tscprinters.com/cms/plugin/download_en/print_desc.php?file_id=141&width=250&link=http://www.tscprinters.com/cms/upload/download_en/DiagTool_V163.zip
4. TCF file for printer. The suitable TCF file can be downloaded at: -
   - For TDP247 and TDP345: - www.fi-measurement.com/resource/driversnsoftwares/
   - For TTP247 and TTP345: - www.fi-measurement.com/resource/driversnsoftwares/

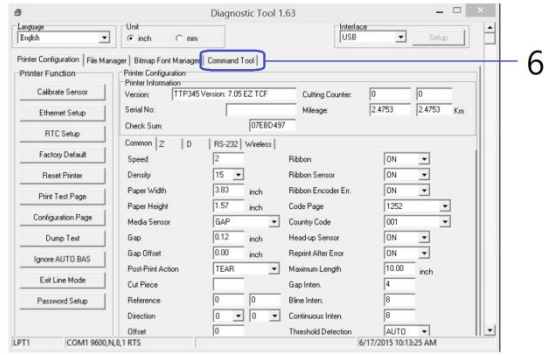
E.1.1 Printer Installation

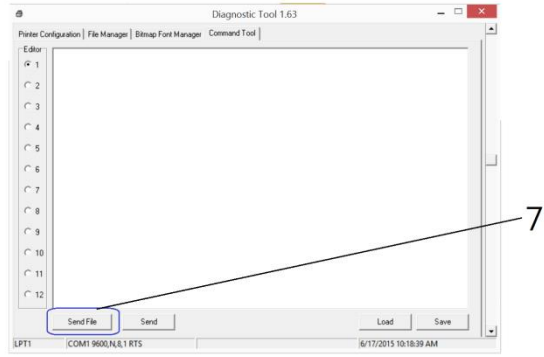
1. Turn off the printer, connect the appropriate cable, and then turn on the printer.
2. If the printer supports Plug-and-Play, and you have connected it using a USB or Parallel cable, then the Windows Add Hardware Wizard will automatically detect the printer and display a dialog that allows you to install a driver. Click Cancel and do not install the driver using this wizard.
3. Run the Driver Wizard utility from the Installation Directory where the driver files are located.
4. Select Install Printer Drivers and complete the wizard.
5. The driver should now be installed.

E.1.2 Uploading TCF File to Printer

In order to allow proper operation between this instrument and TSC label printer, a TCF file must be uploaded to printer.

1. Connect printer with computer.
2. Power on printer.
3. Download the correct TCF file point 4 of **E.1**.
4. Unzip the download file and save in to computer.
5. Run Diagnostic tool for printer.
6. Click on Command Tool.
7. Click on Send file.
8. Double click on the TCF file and it will be uploaded to printer automatically.





Appendix F: - Create & Upload Label to TSC Printer

F.1 Selecting the Correct Edition for Bartender Software

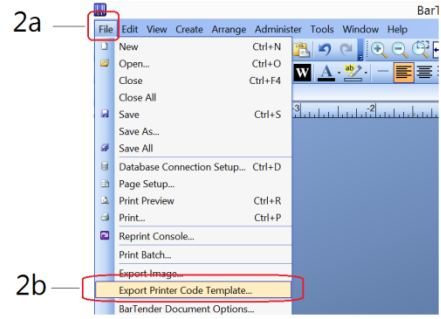
To enable label uploading from computer to TSC printer, it is necessary to run as Bartender as Automation or Enterprise Automation edition. Procedures as below: -

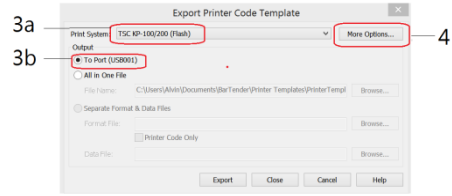
1. Install Bartender Software to computer. The Bartender software usually comes with the TSC printer. If not, please contact your printer supplier.
2. Run Bartender, then click on Help, then click on Edition Selection.
3. Select Enterprise Automation or Automation, then click OK.
4. At this point, correct Bartender edition is selected.

F.2 Adding Information from Instrument to Label & Uploading to a TSC Printer

The below procedures is based on Bartender Label Software. If a different label creating software is used, contact your label software for more details if in doubt.

1. Create the foundation of a label by Bartender. All information to be obtained from instrument should be added afterward.
2. Once the label foundation has been completed; (a) click on File and (b) select Export Printer Code Template.
3. On Print System; (a) select TSC KP-100/200 (Flash) and (b) select To Port.
4. Click More Option.
5. Then (a) click Print Dialog Data Sources, then (b) click on Format ID/Name.





6. On Template Field, select Template Field for Type.
7. Enter the correct label file name on Name/Value. Refer to **15.1** for correct file name format.
8. (a) click Copies, check KDU and (b) input asterisk (*) on Prompt box.
9. Below procedures explain how to edit information to be obtained from instrument.
10. Click Template Object Data Sources and Select the object which information from instrument (for example net, gross, tare weight and product code) to be sent to printer and printed on label.
11. Double click on the preferred data source to which variant(s) has/have to add.
    (a) check the box below External Keyboard, then
    (b) enter the appropriate command on the Prompt Box (refer to **15.2.1** for command detail).
12. Select Auto on the Source box under Template Field
13. Repeat point 11 to ~ 12 for all other data sources.
14. Click OK.
15. Click Export. In case of Verification Messages appear, select one of method on the dialogue box to fix and click Continue.