10i & 10s

Multi-Function Weighing Indicator

Operation Manual (Full Version)

PLEASE READ THIS MANUAL VERY CAREFULLY BEFORE OPERATING THIS INSTRUMENT

Specifications subject to change without prior notice

V116 Rev 2 April 2025

Contents

1. Reminders

1.1 Metrological Legislation

Local metrological legislation may limit access to some settings of this instrument. 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 sealed and bearing a serial number. Do not attempt to break the seal or serial number affixed to this instrument. Warranty service voided if the seal or data plate of this instrument is damaged or removed. Always contact your dealer for after-sales service.

1.3 Warm-Up Time

a. Allow a warm-up period of not less than 60 seconds before calibration and usage. The higher the resolution of the setting, the longer the warm-up period is required.
b. In most cases, 120 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.
c. The internal count value is stable when the internal AD count varies by less than 3 counts within 2 seconds.
d. To read the internal AD count value, enter internal function F1. The internal AD count value may go up continuously when instrument is not yet fully warmed up.

1.4 Placing this instrument

Always place this instrument on a solid and level surface. Avoid using this instrument in any environment where excessive wind flow, vibration, and extreme temperature changes exist. Contact your dealer if in doubt.

1.5 Cautions

a. This instrument is not an explosion-proof device.
b. This instrument is not a waterproof device.
c. Do not open this instrument, no user-serviceable parts inside. Always contact your dealer for service.
d. Do not place this instrument in where shock, excessive vibration, or extremes of temperature (before or after installation) exist.

1.6 Support & Service

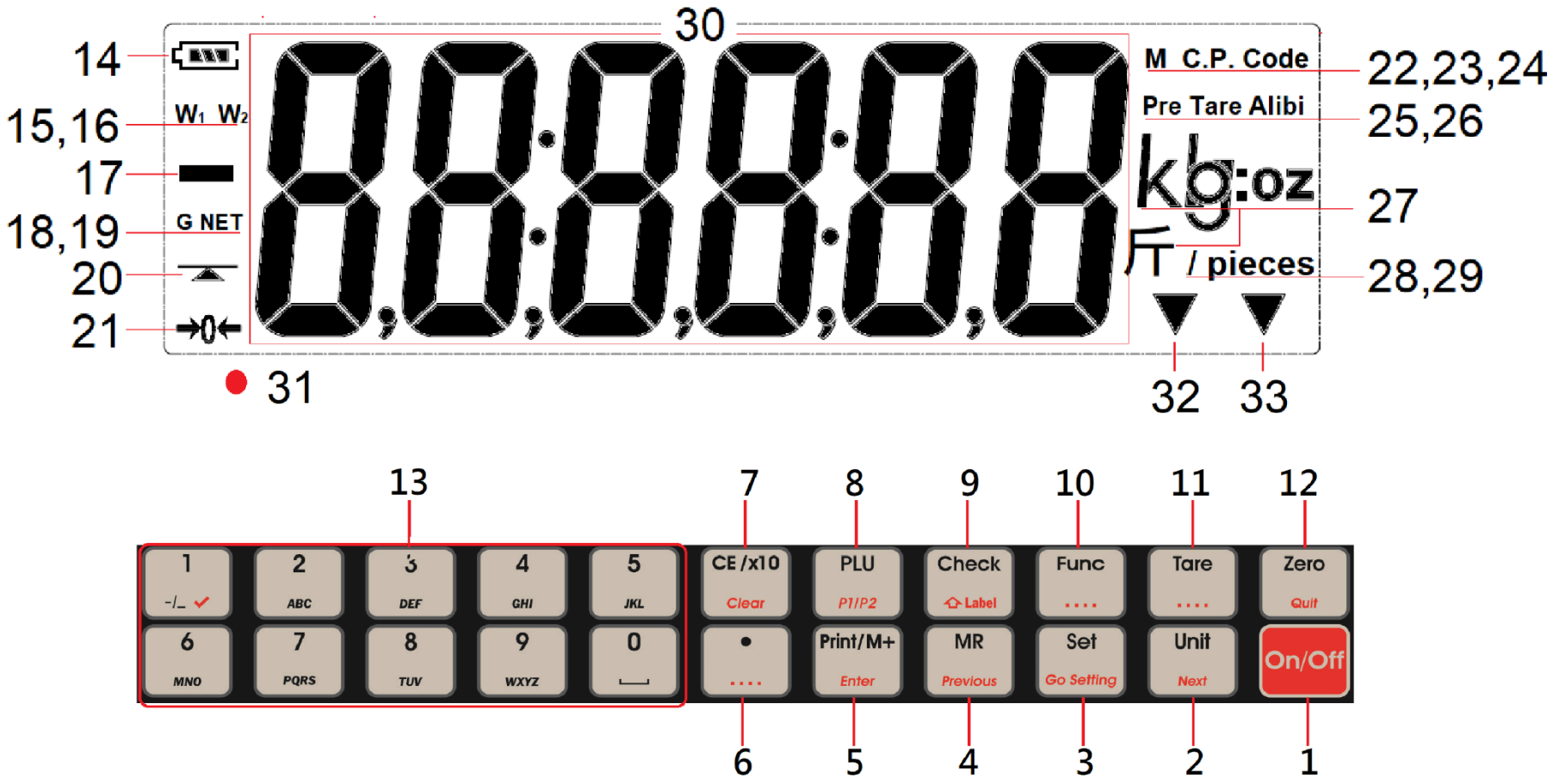
Always contact your dealer for product information, after-sales service, and questions when in doubt.

2. Specifications

OIML Approved Class / Accuracy	**Class III, 10,000e**
Approved Minimum Input & Dead Load	• **5% of Emax ≤ Dead Load = 0.5μV/e** • **0% ≤ Dead Load < 5% of Emax = 1.5μV/e**
Capacity and Readability	**Free Setting**
Weighing Range	**Single Range, Dual Range, Dual Interval**
Weight Units	**kg, g, lb**
Digits & Indications	• **6 x 37.5mm HTN Bold Type Wide Angle LCD Numeric Digits** • **Gross, Net, Stable, Zero, Weight Unit, Weighing Range, Battery Level, M+, Product & Customer Code, Pre-Tare, Alibi, Lower Case, Customized Setting Indicator, No. of Pieces Indicator**
Load Cell Connection	• **Excitation Voltage = 5V DC** • **Support both 4-wire & 6-wire Load Cells** • **Maximum Load Cell Connection = 12 x 350Ω Load Cells or 24 x 700Ω Load Cells**
Micro Processor	**32-bit High Speed & High EMC Immunity**
A/D Converter & & Internal Resolution	• **24 bit Low-Noise Delta to Sigma (Δ-Σ)** • **4.0 million Counts at 20mV** • **Minimum input per d = 0.05μV**
AD Conversion Speed	**15, 30, 60, 120 times/second Selectable**
Max. Tare Range	**-Max or -Max_1 (Subtractive Tare)**
Calibration Methods	• **2 Span Points Calibration (Linearity Calibration), or** • **1 Span Point Calibration, or** • **Numeric Calibration Through Keyboard**
Power Source	• **Built-in Rechargeable Battery = 6V, 4AH** • **External Power Adaptor = DC 12V, 1A**
Accessories	• **Dust Cover** • **Pillar Mount Holder (ψ35~38mm)** • **Built-in Rechargeable Battery** • **Universal Power Adaptor**
Packing	**Individually Packed** • **Dimensions = 36 x 33 x 16cm. Net/Gross = 2.50/2.90kg** **4 Units in Shipping Carton** • **Dimensions = 68 x 38 x 36cm. Net/Gross = 10.00/13.50kg**
Operation Environment	**-10 ~ 40°C. Non-condensed. R.H.≦ 85%**

In the interest of improvement, specifications may change prior to notice

3. Panel & Keys


30
14
15,16
17
18,19
20
21
31
W1 W2
G NET
M C.P. Code
Pre Tare Alibi
kg:oz
/ pieces
22,23,24
25,26
27
28,29
32
33
13
7
8
9
10
11
12
1 -/_
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
0
CE /x10 Clear
PLU P1/P2
Check Label
Func
Tare
Zero Quit
Print/M+ Enter
MR Previous
Set Go Setting
Unit Next
On/Off
6
5
4
3
2
1

3.1 Key Board Description

No.	Description	Function Description	
		Normal Operation	**Internal Function Setting**
1	**[On/Off]**	Power this instrument on or off.	Quit without saving and power off.
2	**[Unit][1]**	To shift among various weight units (if weight unit conversation is enabled).	Go to the next parameter or internal function number.
3	**[Set]**	• When in Weighing mode: - to access internal function setting mode (F1~F37) or to prompt/introduce an operation parameter/value during piece count, auto tare accumulation, and Animal Weighing mode. • During power-on countdown process: - to access internal function mode (F1~F99)[2].	Enter internal function during power on countdown process.
4	**[MR]**	Recall total accumulated results.	Go to the previous parameter or internal function number.
5	**[Print/M+]**	Send print data out and/or accumulate current values to memory.	Enter, save and return.
6	**[.]**	Decimal.	Decimal.
7	**[CE/x10]**	• Clear value inputted during the setting process, or • Trigger the extended display mode.	Clear.
8	**[PLU]**	• Save current operation parameters to Production Settings PLU. • Recall operation parameter from Production Settings PLU.	Nil.
9	**[Check]**	• Short press = Starting inputting Lo and Hi limit under current checking condition (in terms of weight or quantity). • Long press = To recall Lo and Hi limit from quick PLU.	Quick access to label settings.

1 Refer to F9 on how to enable/disable weight units.

2 Some internal function requests password or jumper to access

10	**[Func]**	To shift between weighing, piece count, auto tare accumulation, and animal weighing mode[3].	Nil.
11	**[Tare]**	To tare off the weight of a container.	Nil.
12	**[Zero]**	Set weight displayed to zero when unloaded.	Quit.
13	**[0] ~ [9]**	Numeric keys.	• Numeric, letters and symbol keys. • Press **[0]** to go to F1. • Press **[1]** to go to F10. • …… Press **[9]** to go to F90.

3.2 Display Panel Description

No.	Name	Description
14	**Battery Level Indicator**	Visible to show remaining battery of the built-in rechargeable battery.
15	**Max_1 Indicator**[4]	(When under dual weighing range/interval mode) Visible when instrument is operating at the first weighing range (W_1).
16	**Max_2 Indicator**[5]	(When under dual weighing range/interval mode) Visible when instrument is operating in the second weighing range (W_2).
17	**Minus Indicator**	Visible when a negative value is being displayed.
18	**Net Indicator**	Visible when the net result is being displayed.
19	**Net Indicator**	Visible when the net result is being displayed.

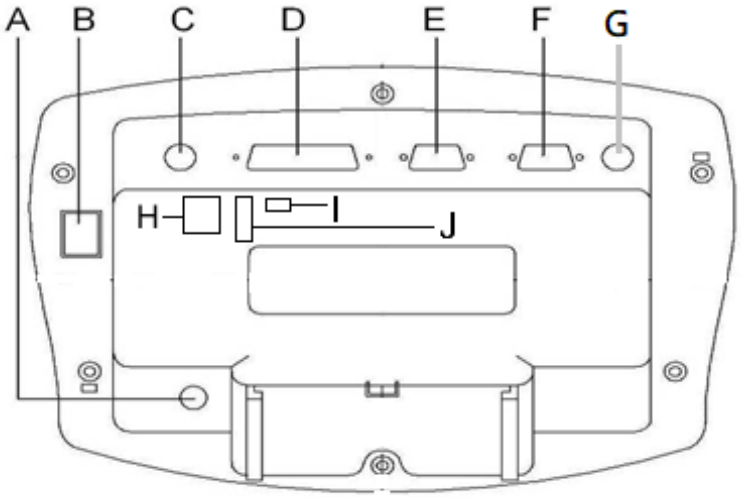
3 Depends on F11 setting.

4 (When in Dual Range/Interval Mode) Visible when weighing range is = W1.

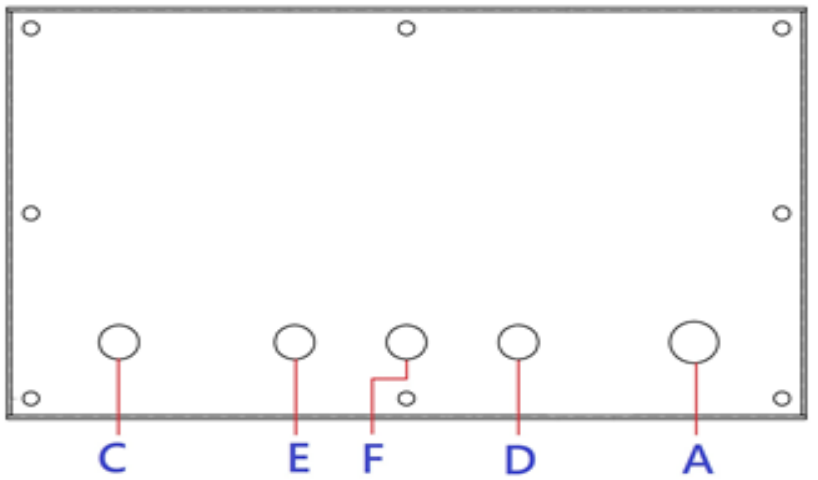
5 (When in Dual Range/Interval Mode) Visible when weighing range is = W2.

20	**Stable Indicator**	Visible when weight detected is stable.
21	**Zero Indicator**	Visible when instrument is at zero weight status.
22	**M+ Indicator**	Visible when memory contains accumulated data.
23	**Customer Code Indicator**	Visible when customer code is in effect.
24	**Product Code Indicator**	Visible when a product code is in effect.
25	**Pre-Tare Indicator**	Visible when a preset-tare value is in effect.
26	**Alibi Indicator**	Flash when transaction record is sent to Alibi memory (Alibi memory).
27	**Weight Unit Indicator**	• kg = kilogram; g = gram lb = pound.
28	**Average Piece Weight Indicator**	Visible when average piece weight is displayed.
29	**Quantity Indicator**	Visible when quantity value (number of pieces) is displayed.
30	**Numeric & Alphabetical Info Panel**	Numeric value and alphabetical Info is displayed here.
31	**Charge Status Indicator**	• Red/Yellow: Recharging in process. • Green: Charging completed.
32	**Production Settings Indicator**	Visible when Production Settings PLU is in effect.
33	**Lower Case Indicator**	Visible when lower case letter entry is in effect.

4. Connection Points



10i Indicator



10s Indicator

4.1 Connection Pins & Plugs

No.	10i	10s	Description
A	Power Adaptor Input		Power adaptor (DC12V, 1A center positive) is plugged here. Do not plug in any other power adaptor than the one which comes with this instrument.
B	Reserved	NIL	
C	Load Cell Connector	Thread though signal cable from load cell (or junction box) here	Refer to **4.5** for pin assignment.
D	Control Output Port	Thread through optional control and external input cable here	Refer to **4.4** for pin assignment.
E	Comport 1 (UART 1 RS232)	Thread through cable of Comport 1 here	Refer to **4.3** for pin assignment.
F	Comport 0 (UART 0 RS232)	Thread through cable of Comport 0 here	
G	External Input Connector	NIL	Refer to **4.2** for pin assignment.
H	LAN Port	NIL	LAN cable is plugged in here.
I	Mini USB Port	NIL	Mini USB cable is plugged in here.
J	USB A Port	NIL	USB Keyboard / USB memory disk is plugged in here.

4.2 External Input Connector Pin Assignment Table

Pin #	Pin Assignment
1	External Input #1
2	External Input #2
3	External Input #3
4	External Input GND (Do not mix/share this ground with others)

4.3 RS232 Comports Pin Assignment for Comport 0 & Comport 1

Comport 0 (Male)	Comport 1 (Female)
2 = RXD	2 = TXD
3 = TXD	3 = RXD
5 = GND	5 = GND
9 = DC 5V Output	Nil

4.4 Relay Pin Assignment and Connection Table

Pin# on DB 25 Control Output Port	Relay Pin#	Remarks
1	Relay 4, Normal Open	Synchronized with HI Output
2	Relay 4, Common	
3	Relay 4, Normal Close	
4	Relay 3, Normal Open	Synchronized with OK Output
5	Relay 3, Common	
6	Relay 3, Normal Close	
8	Relay 2, Normal Open	Synchronized with LO Output
9	Relay 2, Common	
10	Relay 2, Normal Close	
11	Relay 1, Normal Open	Synchronized with Buzzar Output
12	Relay 1, Common	
13	Relay 1, Normal Close	

4.5 P1 Load Cell Connector Pin Assignment Table

Pin #	Pin Assignment	Notes
1	Excitation +ve	• Apply both the 4/6 wire load cell jumpers on mainboard when 4-wire load cell is used. • Remove both the 4/6 wire load cell jumpers from mainboard when 6-wire load cell is used.
2	Remote Sense +ve	
3	Excitation -ve	
4	Remote Sense -ve	
5	Signal +ve	
6	Signal -ve	
7	Ground	

4.6 USB A Port[6]

This USB A port supports hot plugging. When an external keyboard or memory disk is detected, instrument displays **USB-in** on screen. Detection process may take up to 10 seconds. If hot plugging detection fails, restart instrument.

Notes:-

a. Acceptable keyboard = Microsoft wired 600 or compatible keyboard.
b. USB memory stick system = FAT32; Maximum disk size = 32G.

4.7 Using an External Keyboard

4.7.1 Using external keyboard to simulate a key on instrument

Refer to the table below for the equivalent key.

Key on Instrument	Key on External Keyboard
CE	C
Check	K
Func	F
MR	M
PLU	P
Print	Enter
Set	S
Tare	T
Unit	U
Zero	Z
Quit	Esc
CE / x10	Delete
0 ~ 9 and Decimal	0 ~ 9 and Decimal

6 USB A port on instrument does not support USB hub.

4.7.2 External keyboard shortcuts and cursor/value control

External Keyboard	Operation Entries
Ctrl+C	To trigger customer code and description entry
Ctrl+P	To trigger product code and description entry
Ctrl+A	Output all Alibi Record
Ctrl+D	Output Alibi Record of Today
Ctrl+M	Output Alibi Record of Current Month
Left Arrow	Move cursor to left
Right Arrow	Move cursor to right
Up Arrow	Increase value by 1
Down Arrow	Decrease value by 1

5. Power Adaptor, Built-In Batteries & Recharging

5.1 Power Adaptor

Always use the power adaptor supplied with this instrument to avoid unrecoverable damages.

5.2 Before Plugging in Power Adaptor to Electricity Grid

Check if the input voltage marked on the power adaptor matches with the local electricity grid. If not, do not plug in and contact your dealer immediately.

5.3 Before First Time Use

To ensure the best battery performance, recharge the built-in battery for at least 8 hours before first-time use.

5.4 CR1220 Real-Time Clock Backup Battery

A CR1220 battery is installed to back up the system real-time clock and other application parameters. Replace this battery with a new one every 12 months for best performance. Contact your dealer for more information and supports.

5.5 Battery Voltage & Battery-Operation Application

Battery voltage is displayed by Battery Level Indicator and by internal function F2.

When the battery voltage level drops below 6.0, battery-operated time may less than 60 minutes (depends on actual system configuration).

5.6 Battery Lo

When **Lo. Bat message** appears; it means battery level is at extremely low level. Recharge battery immediately.

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

5.7 Battery Charging Status

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

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

6. Internal Function Settings

6.1 About Internal Function Table

To enable this instrument to give the best performance under various application requirements and demands, a set of internal functions is built-in.

These internal functions are divided into 2 categories: -

- User accessible functions (F1 ~ F37 of below table) do not request any password to access.
- Other internal functions are not for access to end-users and may need a password to access. Do not attempt to access or alter any parameters without authorization to avoid system malfunction.

6.2 How to Enter & Select Internal Function[7]

1. In weighing mode, press **[Set]**.
2. Instrument displays F1 and is now in internal function mode.
3. Press **[Unit] or [MR]** to select the preferred internal function number and press **[Print/M+]** to enter.
4. Quick access to a function number: -
   a. Press **[0]** to go to F1.
   b. Press **[1]** to go to F10.
   c. Press **[2]** to go to F20.
   d. Press **[3]** to go to F30.

6.3 Key Function during Internal Function Setting & Operation Mode

Refer to paragraph **3.1** for more information.

7 To fulfil the metrology law of certain countries, accessing to internal function by [Set] may be disabled. Contact your dealer for more information.

6.4 Internal Function Table

No.	Description	Parameters/Note Default = **		
F1	Analogue to Digital (AD) Value	Press **[Print/M+]** or **[Tare]** to set the offset value to zero when unloaded. Then add load to observe the span value of load applied. • When ADC is more than 1 million. W1 sign appears. Actual ADC is = 1 million + the ADC value being displayed. • When ADC is more than 2 million. W2 sign appears. Actual ADC is = 2 million + the ADC value being displayed. • When ADC is more than 3 million. Both W1 & W2 sign appear. Actual ADC is = 3 million + the ADC value being displayed. Press **[Zero]** to quit to F1.		
F2	All Segment Check	Lit up all display segments, indication, and backlight colors. Check for missing segments and backlight brightness & color ratio. Press **[Zero]** to quit to F2 or **[Check]** to show current battery voltage.		
F3	Capacity, Division & Default Weight Unit	Display basic metrology characteristics (capacity, division, and weight unit). The value displayed in the format of: - • Max + 1e for single interval mode. • Max_1 + e_1 and Max_2 + e_2 for dual weighing range/interval mode. Press **[Zero]** to quit to F3.		
F4	Date Format & Value	DD/MM/YY	**** YY/MM/DD**	MM/DD/YY
	• Press **[Unit]** or **[MR]** to change date format and press **[Print/M+]** to confirm. • Press **[Print/M+]** to check the current date value. • To adjust date value, input date value and press **[Print/M+]** to confirm. • Instrument will then display the date value inputted into week and day number (0 ~ 6 for Sunday ~ Saturday) of the year value inputted. • Select Date Output Type: - 2 parameters are available: - ➢ Date = Normal date format as per input above. ➢ Week = WWYYDD format. WW = week number; YY = year value; DD = weekday (Monday = 01… Sunday = 07).			
F5	Time	HH:MM:SS in 24-hour format		
	To adjust time, press **[Print/M+]**, then input a new value and press **[Print/M+]** to save.			
F6	System (F7~F36) Initialization	**** No**	YES	
	• Press **[Unit]** to shift between NO and YES and press **[Print/M+]** to confirm. • If **YES** is selected, instrument displays "**SURE?**". At this point: - a. Press **[1]** to confirm and instrument displays **Done** when initialization is completed, or			

	b. Press any key to quit.							
F7	Auto Power Off	OFF	1	3	**** 5**	10	20	Other
	Notes: - • Off = Auto power off disabled. • 1 ~ 20 = Auto power off after this idle time (minute). • Other = Set specific auto power off time. • All auto power off settings, except **Other**, will be disabled when a power adaptor is plugged in. To input a specific auto power-off time: - 1. select **Other** and press **[Print/M+]**, 2. Input the specific power-off time in the format of HH:MM:SS and press **[Print/M+]** to save.							
F8	Brightness	Brightness (01 ~ 99) **** Default = 60**				Color Ratio (01 ~ 99) **** Default = 50**		
	• To change setting, input value and press **[Print/M+]**. • Set brightness (bt) first, then set color ratio (Col). The color ratio is used to generate the preferred yellow color. • When this instrument is powered by the built-in rechargeable battery, backlight turns to minimum when the battery is low or when weight value remains unchanged for 5 seconds.							
F9	Weight Unit Enable/Disable	kg (**** On**/Off)		g (On/**** Off**)		lb (On/**** Off**)		
	To enable/disable a specific weight: - 1. Set first weight unit kg. Then repeat the below procedures for g and then lb until instrument returns to F9. 2. Press **[Unit]** or **[MR]** until the preferred parameter for the weight unit is displayed. 3. Press **[Print/M+]** to save and go to the next weight unit. **Note**: - Weight unit **g** cannot be displayed during normal operation if the number of decimal places (F81) of kg or lb is less than 3.							
F10	Filter Strength and AD Conversion Speed	1	2	3	4	**** 5**	6	7	8	9

	Notes: -
	• Set Filter Strength first, then followed by Anti-Vibration Level, and then AD Conversion Speed.
	• 9 filter strength parameters (1 ~ 9) are available: -
	  ○ 1 (strongest filter) for bad working environment where vibration, wind flow etc. affect stable reading,
	  ○ 5 for normal environment,							

<table>
<tr><td></td><td colspan="7">

9 (least filter) for good working environment where wind and vibration do not affect the stable reading.

• 5 Anti-vibration levels (1 ~ 5) are available. The higher the Anti-Vibration level set, the longer the time needed before a stable result is obtained.

1 (least) for good working environment where vibration does not exist.
5 (strongest) for bad working environment where serious vibration exists and stable readings are not easy to obtain.

• 4 AD conversion speed parameters (15 ~ 120 time per second) are available: -

15 times per second (slow speed). Good for high-resolution applications.
30 times per second (medium speed). Recommended maximum resolution = 15,000 division
60 times per second (high speed). Recommended maximum resolution = 7,500 division
120 times per second (ultra-high speed). Recommended maximum resolution = 3,000 division

To set filter strength and AD conversion speed: -
1. Press [Unit] or [MR] to select filter strength. At this point: -
a. Press [Unit] or [MR] to select the preferred filter strength, then [Print/M+] to confirm, or
b. Press [Zero] to quit
2. Instrument displays the AD conversion speed setting page. At this point: -
a. Press [Unit] or [MR] to select the preferred AD conversion speed, then [Print/M+] to confirm, or
b. Press [Zero] to quit. If AD conversion speed is changed, instrument will restart automatically.
</td></tr>
<tr><td>F11</td><td>Auxiliary Working Mode</td><td>Cnt (Piece Count)
On/** Off</td><td>AtM (Action Tare Memory)
On/** Off</td><td>Ani (Animal)
On/** Off</td><td>PCd (Quick Access to Customer and Product Code & Description)
On/** Off</td><td>oP (Operator No)
On/** Off</td><td>Note (Transaction Note to Alibi Memory)
On/** Off</td></tr>
<tr><td></td><td colspan="7">
To enable and disable a specific Auxiliary Function: -
1. Press [Unit] or [MR] until the preferred parameter is displayed.
2. Press [Print/M+] to save and go to the next Auxiliary working mode.

If Piece Count working mode is set to On, set also the automatic piece weight enhancement function (APWE) parameter (** On /Off).
Refer to the operation manual for more information about automatic piece weight enhancement function.

3. Repeat the above procedures until instrument returns to F11.
Note: - If Note is set to On, F28 will be forced to Yes automatically.
</td></tr>
<tr><td>F12</td><td>Auto Tare Function</td><td colspan="2">** Off</td><td colspan="2">On</td><td colspan="2">Contin</td></tr>
<tr><td></td><td colspan="7">
Notes: -

Off = Auto Tare Function disable.
On = Only the first table weight applied will be tared off. Minimum tare load ≥ 2d.
Contin = All stable weight applied will be tared off after the selected delay time. Minimum tare load ≥ 10d.

</td></tr>
</table>

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<tr><td></td><td colspan="6">

If Contin is set, select also delay time (0.0 ~ 9.9 second). Delay time is the duration from a stable weight is detected until it is automatically tare off.
Delay time is displayed. Input the preferred delay time and press [Print/M+] to save.

</td></tr>
<tr><td>F13</td><td>Repetitive Tare Function</td><td colspan="2">Off</td><td colspan="3">** On</td></tr>
<tr><td></td><td colspan="6">If F12 is set = Contin, Repetitive Tare setting “Off” will be surpassed.</td></tr>
<tr><td>F14</td><td>Function Buzzer</td><td colspan="2">Kb (keypad buzzer)
(**On/Off)</td><td colspan="2">St (System buzzer)
(**On/Off)</td><td>Alibi Memory
(**On/Off)</td></tr>
<tr><td></td><td colspan="6">To enable and disable a specific function buzzer: -
1. Press [Unit] or [MR] until the preferred parameter is displayed.
2. Press [Print/M+] to save and go to the next function buzzer.
3. Repeat the above procedures until instrument returns to F14.</td></tr>
<tr><td>F15</td><td>Check Result Buzzer/Action on Negative Value</td><td>Off</td><td>** in</td><td>out</td><td>Hi</td><td>Lo</td></tr>
<tr><td></td><td colspan="6">
• Off = Check Buzzer disabled.
• IN = Check Buzzer activates when reading is within range.
• ouT = Check Buzzer activates when reading is out of range.
• Hi = Check Buzzer activates when reading more than Hi limit.
• Lo = Check Buzzer activates when reading lower than Lo limit.
Setting procedures: -
1. Press [Unit] or [MR] to select the preferred parameter.
2. Then [Print/M+] to save and continue with Action on Negative Value setting. 2 parameters are available: -
• On = Check function applies also to negative results.
• Off = Check function does not apply to negative results.
3. Then [Print/M+] to save and return to F15.
</td></tr>
<tr><td>F16</td><td>Communication Ports Setting</td><td colspan="5">5 UARTs (UART 0 ~ 4) and 1 Lan port are available. Refer to the operation manual for more setting details.</td></tr>
<tr><td>F18</td><td>Machine ID and Group Number</td><td colspan="2">Machine ID
(00~98)</td><td colspan="3">Group Number
(00~99)</td></tr>
<tr><td></td><td colspan="6">Notes: -
• Machine ID number is also used as the address number of this instrument for RS485 communication.</td></tr>
</table>

	• When machine ID is = blank, this instrument does not have any address number in the RS485 network. • Each machine should have a unique machine ID number in a multi-instrument application with the same RS485 network. • Group number can be used as production line number in a multi-instrument application. • The machine ID and group number inputted will be carried out on printout formats Lab 3 ~ Lab 5. **Setting procedures: -** 1. Go to F18 and press **[Print/M+]**. 2. Input Machine ID number (00 ~ 98) and press **[Print/M+]**. To clear machine ID number, press **[CE/x10]** and press **[Print/M+]** to save. 3. Input group number (00 ~ 99) and press **[Print/M+]**. To clear the group number, press **[CE/x10]** and press **[Print/M+]** to save and return to F18.		
F19	Manual Entry for Customer/Product Code & Description	**P Code** (Product Code & Description)	**C Code** (Customer Code & Description)
	• Customer & Product code accept both numeric numbers and alphabets. Maximum length = 18 digits (; * # not accepted). • Customer & Product Description accept both numeric numbers and alphabets. Maximum length = 30 digits (; * # not accepted). • To allow letters and symbols entry via keyboard, set F30 to Yes. **Notes: -** a. If a Product/Customer Code is = blank, Product/Customer Description will be ignored. b. Customer and Product code does not support print format 1 (Lab 1). c. Customer and product code inputted will be sent to output formats Lab 2 ~ Lab 5.		
F20	Keyboard Lock	**** Off** (Disable)	On (Enable)
	When keyboard lock is = **On**, only **[Zero]**, **[Tare]**, **[Set]** & **[On/Off]** keys are accessible during operation status.		
F21	Weigh & ATM Mode Lab 2 Output Print Format	**** STD**	CUSTOM
F22	Piece Count Mode Lab 2 Output Print Format	**** STD**	CUSTOM
F24	Animal Weighing Mode Lab 2 Output Print Format	**** STD**	CUSTOM
F25	Check Mode	Mode 0	**** Mode 1**

	• Mode 0 = Static Check Mode (only stable weight results are checked). If selected, input also the delay time interval. • Delay time interval is the time value (in second) from when a stable result is detected, and before the corresponding check result signal/output is triggered. • Mode 1 = Standard/Dynamic Check Mode (real-time check result is given disregarding weight results are stable or not). If Mode 1 is used for dynamic application, set also F26.			
F26	Near Zero Value	**** 000000**		
	Near Zero value is used for dynamic weight check applications to bypass unnecessary Lo signals during uploading and unloading process. **Notes**: - • Value inputted valid only when Check function is activated. • No check results will be given to weight results which is less than the near zero value. • Near zero weight value can be any value between 20d and Lo limit. • Any near zero value which less than 20d will be ignored. Instrument deems 20d as minimum near zero weight value.			
F28	Ask for Operator Number when Power On	Yes	**** No**	
	• Yes: - Instrument will ask for operator number input when power on. Input a 4-digit operator number or press **[CE/x10]** to skip the operator number when being asked. If a different operator number is inputted, all accumulated memory will be erased. • No: - Instrument will not ask for operation number when instrument power on. • The operator number inputted will be outputted to printout formats Lab 3 ~ Lab 5. **Note**: - If F11 **Note** is set to On, F28 will be forced to Yes automatically.			
F29	Read Calibration & Parameter Counts and Pointer Value • C (Calibration count): - displays total times of calibration. • O (Parameter set count): - displays total times that the essential parameters (F80~F88) have been altered. Press **[Zero]** to quit to F29 or **[Check]** to display the current pointer value. Refer to the operation manual for more details about Pointer Value.			
F30	Letters and Symbols for Customer & Product Code Manual Entry via Keyboard on Instrument	**** On**	Off	
	Note: - When a USB external keyboard is plugged in, setting will be forced to On when powered on.			
F32	External Input	in1	in2	in3

	Assignment	(Input 1)	(Input 2)	(Input 3)
	1 of the below 9 key function can be assigned to each individual external input. 1. ZEro = **[Zero]** 2. tAre = **[Tare]** 3. Print = **[Print/M+]** 4. ACC-Mr = **[MR]** 5. CLEAr = **[CE/x10]** 6. unit = **[Unit]** 7. Set = **[Set]** 8. Check = **[Check]** 9. FunC = **[Func]** To assign a specific key function to external inputs: - 1. Press **[Print/M+]**. 2. Number of the external input is displayed. 3. Press **[Unit]** or **[MR]** until the preferred key function appears. 4. Press **[Print/M+]** to save and go to the next external input number. 5. Repeat the above step 2 ~ 4 until instrument returns to F32.			
F33	Report Output Comport & Report Detail	Set report output UART No. (UART0 ~ 4, Lan and Disk) then report content detail parameters.		
	Setting procedures: - 1. Press **[Print/M+]**. 2. Name of the report output port is displayed. **Note**: - avoid assigning RS485 for report output purpose unless Machine ID (set in F18) is = blank. 3. Press **[Unit]** or **[MR]** until the preferred report output UART number appears and press **[Print/M+]**. 4. Instrument displays report detail setting. 3 parameters are available: - a. Off = None of the 12 below-mentioned report detail will be outputted. If Off is selected, instrument returns to F33. In this case, output report contains only the following data: - • Alibi Record Number (ABNR), • Date of the individual transaction, • Net Weight of the individual transaction, • Tare weight of individual transaction, • Gross weight of individual transaction. b. All = All the 12 below-mentioned report detail will also be outputted. If All is selected, instrument returns to F33.			

<table>
<tr><td></td><td colspan="3">c. Custom = To customize which of the 17 below-mentioned report detail will be outputted.

Report detail & Parameters: -
• oP. Code = Operator No.
• oP. Mode = Operation Mode No.
• id = Machine ID.
• Group = Machine Group No.
• Time = Time of the individual transaction
• C Code = Customer Code.
• C_dESC = Customer Description.
• P Code = Product Code.
• P_dESC = Product Description.
• qty = No. of pieces.
• Ref = Lo and Hi limit value of the individual transaction.
• Result = Check result of the individual.
• Note = Note
• Title = Report Title
• Header = Report Header
• Footer = Report Footer
• CHKS = Checksum

5. If Custom is selected, follow the below procedures for report detail settings.
a. Instrument displays the report detail and parameter.
b. Press [Unit] or [MR] until the preferred parameter (On = enabled; Off – Disabled) and press [Print/M+] to save and go to the next report detail and parameter
c. Repeat the above steps a and b to set all other report detail until instrument returns to F33.
d. At this point, the report detail setting is completed.</td></tr>
<tr><td>F34</td><td>Report Output Criteria & Date Range</td><td>** ALL
(Output all transactions of the specified date range)</td><td>And
(Only transactions fulfill the selected criteria(s) of the specified date range will be outputted)</td></tr>
<tr><td></td><td colspan="3">2 report output criteria are available: -
• All = All data of the selected date duration will be outputted.
• And = Only data meets with the criteria(s) selected and inputted will be outputted.
Setting procedures: -
1. Press [Unit] or [MR] until the preferred output criteria appears and press [Print/M+].
• If All is selected, instrument goes to step 2 below.</td></tr>
</table>

<table>
<tr><td></td><td colspan="3">
• If And is selected, name of output criteria and its current setting are displayed.
a. Press [Unit] or [MR] until the preferred parameter appears, Notes: -
• Select On to enable that output criterion and then enter/select the criteria value.
• Select Off to disable that output criterion.
b. Press [Print/M+] to confirm.
c. Name of the next output criteria is displayed. Repeat the above steps a and b for all other output criteria until instrument displays Report.
Note: - If more than one criteria are selected, only date meets will all selected criteria will be outputted.
2. Instrument is now in report output date duration setting status. 4 output date duration parameters are available: -
• Day = All transaction of a specified date
• Month = All transaction records of a specified month
• Period = All transaction records within the specified period
• All = All transaction records in Alibi Memory.
3. Press [Unit] or [MR] until the preferred output date duration parameter appears and press [Print/M+].
• If Day is selected, input the requested date value and press [Print/M+] to output.
• If Month is selected, input the first date of the requested month value (e.g., 19.12.01 for the month of December 2019) and press [Print/M+] to output.
• If Period is selected, input the requested starting date value and press [Print/M+] and then input the requested ending date value and press [Print/M+] to output.
• If All is selected, press [Print/M+] to output.
</td></tr>
<tr><td>F36</td><td>Expiry Duration</td><td colspan="2">
Expiry duration = **0 ~ 9999

Notes: -
• Expiry duration 0 =Today
• Expiry duration 1 = Tomorrow (today +1)
• Expiry duration 14 = 2 week (today + 14 day)
Setting procedures: -
1. Input expiry duration and press [Print/M+] to confirm and save.
To clear an expiry duration, press [CE/x10] and press [Print/M+].
</td></tr>
<tr><td>F37</td><td>PLU Auto Search via Barcode Scanner Input</td><td>C Code (Auto Search by Customer Code)
**Off (Disable)/On (Enable)</td><td>P Code (Auto Search by Product Code)
**Off (Disable)/On (Enable)</td></tr>
<tr><td></td><td colspan="3">Refer to paragraph 20 for more information</td></tr>
</table>

7. Recommended Setting Procedures for User

1. Power off this instrument and remove the power adaptor.
2. Complete connection with load receiving platform(s).
3. Complete all hardware connections with peripherals.
4. Apply power adaptor and power on instrument.
5. Go to F1 and check internal count value. Verify connection with weighing platform is correctly done, by applying and removing loads from weighing platform. Internal count value increases when extra loads are applied to weighing platform. Likewise, internal count value decreases when loads are removed from weighing platform.
6. Go to F2 and check and make sure no display segments or indicators are missing.
7. Go to F3 and make sure that capacity x division is correctly set.
8. Go to F4 to check and set date format and value.
9. Go to F5 to check and set the time value.
10. Go to F6 to do system initialization.
11. Check and set all other operation parameters from F7, F8, F9…. F37 according to the numeric sequence of the internal function number.
12. Conduct test runs to determine if the above settings are the best suit the application requirements. If not, set the corresponding parameters again.
13. If Alibi memory will be used, contact your dealer for support.

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

8. UART & Comport Settings

This instrument is with 5 built-in UARTs (UART 0 ~ 4 and LAN). Refer to the below table for transmission type and assigned comport number.

8.1 UART Transmission Type & Assigned Comport No. Table

UART #	Transmission Type	Connected to	Remark
UART 0	RS232	Comport 0	Standard Accessory
UART 1	RS232	Comport 1	
UART 2	Bluetooth	N.A.	Optional Accessory
UART 3	Mini USB	Mini USB Port	
	TTL	Multi-Function Comport	
UART 4	WIFI	N.A.	
	RS485	Multi-Function Comport	
LAN	LAN	LAN Port	

Note: - only one transmission type can be selected per each of UART 0 ~ 4 and LAN.

Setting procedures: -

1. Go to F16 and press **[Print/M+]**.
2. Name of the current UART # appears.
3. Press **[Unit]** until the preferred UART # (UART 0 ~ 4 or LAN) appears and press **[Print/M+]**.
4. Press **[Unit]** or **[MR]** until the preferred transmission type appears and press **[Print/M+]** to set data communication types. Depends on transmission type, maximum 8 parameters are available: -
   - Off = Disabled.
   - Auto 1 = Auto print when weight is stable.
   - Auto 2 = The highest stable weight value (of a weighing process) will be printed when all loads are removed (and the gross weight returns to zero or minus).

- Auto 3 = The last stable weight value (of a weighing process) will be printed when all loads are removed (and the gross weight returns to zero or minus).
- Manual = Manual output by pressing **[Print/M+]**.
- PC = Continuous or selected periodic output of real-time result according to the predefined format.
- CMD = Command communication with computer and APP mode.
- Scaner = Barcode Scanner.

Notes: -

- If PC/CMD/Scaner is set, refer to paragraph **8.2** for the rest of the setting.
- If Auto 1 ~ 3 or Manual is set, refer to paragraph **8.3** for the rest setting.

5. Repeat the above steps 1 ~ 4 for all other UARTs.

8.2 Parameters Table for PC/Command/serial Scanner

Step No.	Set Item	Parameters	PC	CMD	Scanner
1	Baud Rate	1200 ~ 921600 in 12 steps Default = 115200	■	■	■
2	Parity	None/Odd/Even Default = None	■	■	■
3	Data Length	7/8 Default = 8	■	■	■
4	Protocol Type **(Note G)**	Protocol 0 ~ 9 & Custom Default = Protocol 1	■	Completed	Completed
5	Transmission Interval **(Note A)**	0 ~ 300 (second) in 10 steps Default = 0	Completed		

8.3 Parameters Table for Auto 1 ~ 3 & Manual

Step No.	Set Item	Parameters	Auto 1	Auto 2	Auto 3	Manual
1	Baud Rate	1200 ~ 921600 in 12 steps Default = 115200	■	■	■	■
2	Parity	None/Odd/Even Default = None	■	■	■	■
3	Data Length	7/8 Default = 8	■	■	■	■
4	Auto Accumulation **(Note B)**	Off/On Default = On	■	■	■	■
5	Check Control **(Note C)**	Off/On Default = Off	■	■	■	■
6	Stability Control **(Note D)**	Yes/No Default = Yes	■	■	■	■
7	Minimum Output Weight **(Note E)**	10 ~ 20d in 11 steps Default = 20d	■	■	■	■
8	Output Format **(Note F)**	Lab 1 ~ Lab 5, LP 50, TSC and Sbarco Default = Lab 2	■	■	■	■
9	Other Procedures		**(Note H ~ K)**			

Note A: - Transmission interval is the time interval (in second) between each output. 0 = continuous output.
Note B: - On = Auto Memory accumulation enabled.
Off = Auto Memory accumulation disabled.
Note C: - On = (When check function is in effect) Only OK value (value which is within Lo and Hi Limits) will

be processed.
Off = (When check function is in effect) Check control is disabled.

Note D: - Yes = Only stable weight will be processed.
No = Transmission is activated when **[Print/M+]** is pressed disregarding the weight stable status.

Note E: - Minimum weight value to be transmitted. No data will be processed if the weight detected is less than the minimum output weight selected here.

Note F: - Output format description: -

- Lab 1 = Output in landscape direction. Refer to **Appendix C** for more information.
- Lab 2 = Output in portrait direction. Refer to **Appendix D & E** for more information.
- Lab 3 = Database output mode. Refer to **Appendix F** for more information.
- Lab 4 = Journal output format with the gross and net weight of each transaction. Refer to **Appendix G** for more information.
- Lab 5 = Journal output format with time and net weight of each transaction. Refer to **Appendix H** for more information.
- LP-50/TSC/Sbarco = Output to LP-50/TSC/Sbarco label printer. Refer to **Appendix I ~ K** for more information.

Note G: -

- Refer to **Appendix A** for Predefined PC Output Prot 0 ~ Prot 9.
- Refer to **Appendix B** for Customized PC Output Protocol.

Note H: - If Lab 1 is set in Print format, select print format: -

a. STD for predefined output format and press **[Print/M+]** to save, or
b. Custom for customized output format and press **[Print/M+]** to save.

Hints: -

- If STD is set, then select line number and press [Print/M+] to save. Setup is then completed. Line number is the number of transactions sent after which the header will be repeated.
- If CUSTOM is sed, refer to **C.3** for other detailed settings.

Note I: - If Lab 2 is set in Print format, select also the number of copies and press **[Print/M+]** to save. Setup is then completed.

Note J: - If Lab 3, 4 or 5 is set in Print format, press **[Print/M+]** to save. Setup is then completed.

Note K: - If LP50/TSC/Sbarco is selected: -

a. Select number of copy (1 ~ 8) and press **[Print/M+]** to continue the below setting,
b. Select label file number (FL1 00 ~ FL1 99) to print in label format group 1 and press **[Print/M+]** to continue the below setting. FL1 00 = current transaction label printing output disabled.
c. Select label file number (FL2 00 ~ FL2 99) to print in label format group 2 and press **[Print/M+]** to continue the below setting. FL2 00 = totalized (MR) data label printing output disabled.

8.4 Heartbeat Connection Check Function for WIFI & LAN

In additional to the setting procedures listed on paragraph **8.2** and **8.3**, if WIFI or Lan is selected, set also the heartbeat connection check (ConChk) parameter. 5 time interval parameters are available: -

- Off (heartbeat connection check function disabled)
- 60 (second)
- 120 (second)
- 240 (second)
- 300(second)

Heartbeat connection check function is used verify the connection with via WIFI and Lan is connected or not.

When this function is enabled, the peripheral connected should send text string *STCCHK# to this instrument within the time interval set.

If the above the text string is not received within the time interval set, instrument will display: -

- L=Out to indicate Lan connection with peripheral is interrupted.
- Fi=Out to indicate WIFI connection with peripheral is interrupted.

8.5 When Bluetooth, WIFI & LAN is selected

Some other settings are required. Contact your dealer for setting information and assistance.

9. Basic Operation

9.1 Power Instrument On & Off

- To power on: - press **[On/Off]** and then release.
- To power off: - press **[On/Off]** and then release.

9.2 Power on Countdown Process

After powered on, instrument goes through the power on countdown process and displays the below information.

1. Software number.
2. Software version number in the format of U XXX.
3. Display all numeric segments and indications.
4. Calibration count value.
5. Parameter set count value.
6. Capacity & division in the format of Max plus 1 division.
7. Depending on the internal function number F28 setting, instrument may ask for operator number input. If this is the case: -
   - Input 4-digit operator number, or
   - Press **[CE/x10]** to skip operator number
8. Press **[Print/M+]** to enter,
9. At this point, instrument is in Weighing mode and is ready for operation.

9.3 Operator Number

If F28 is set to Yes, instrument will ask for operator number input during the power on countdown process.

- Input operator number: - when prompted, input a 4-digit operator number and press **[Print/M+]**.
- To clear operator number: - when prompted, press **[CE/x10]** and press **[Print/M+]**.

Once an operator number is inputted, instrument will transmit the number inputted in Lab 1, Lab 3, Lab 4 and Lab 5 output format.

9.4 Warm-Up Time

Allow a warm-up period of not less than 60 seconds after power-on before using.

9.5 Keyboard Lock

When keyboard lock is enabled in F20, only **[On/Off]**, **[Zero]**, **[Tare]** and **[On/Off]** keys can function during normal operation.

9.6 Loading & Weighing

- Always place an object gently. Excessive force/shock applied may cause unrecoverable damage to the weight sensor.
- It is a good practice to remove all loads after weighing. It will prolong the life of the weight sensor.

9.7 Manual Zero

If zero weight cannot be obtained when unloaded, press **[Zero]**. **Zero Indicator** lights up when instrument is at zero status.

9.8 Tare Functions

9.8.1 Manual & automatic tare

This instrument is equipped with the below various tare functions. These functions can be selected in F12.

a. Off: - Manual Tare
b. Auto: - Instrument assumes the first stable weight (≥ 20d or $20d_1$) applied is a container and tare off its weight. When the container is removed and the gross weight is zero, tare effect will be cancelled.
c. Contin (continuous auto tare): - All stable weight (≥ 20d or $20d_1$) applied will be tared off. When all loads are removed and the gross weight is returned to zero, the tare effect will be cancelled.

Notes: -

- If Contin is selected, instrument will prompt for delay time (0.0 ~ 9.9 second. Default = 1.5 second).
- Delay time is the time duration from when a stable weight is detected until it is tared off.
- Input the preferred delay time and press **[Print/M+]** to save.

9.8.2 Repetitive/multiple tare

This instrument is equipped with multiple tare operation capability. Settings: -

- Set F13 = On to allow multiple tare operation. If it is the case, instrument will permit multiple tare operation, and tare effect can only be cancelled when there is no load .
- Set F13 = Off to disable multiple tare operation. If this is the case, the tare effect can only be canceled when the container is removed, and the gross weight is zero.

9.8.3 Preset tare

Preset tare allows a pre-determined tare weight value can be inputted via numeric keys.

9.8.3.1 Introduce a preset tare value

Input the pre-determined tare weight value and press **[Print/M+]** to enter. After the pre-determined tare value has been inputted: -

- Instrument displays the preset tare value inputted.
- **Net indicator** appears to indicate the value being displayed is net weight.

9.8.3.2 Cancel a preset tare value

A preset tare value can be canceled by either one of the below methods: -

- Remove all loads and press **[Tare]**.
- Input a zero preset tare value and press **[Print/M+]**.

9.9 Select the Preferred Weight Unit[8]

This instrument supports kg, g, and lb. The desired weight units should be enabled in F9 before use. Contact your dealer if in doubt.

Disregarding the setting of **F9**, weight unit gram (g) is available only when 3 or 4 decimal places (0.000 or 0.0000) is selected in F81. Contact your dealer for more details.

To select the preferred weight unit, press **[Unit]** until the preferred weight unit appears.

The weight unit employed before powering off will be employed again when powered on again.

8 Changing weight unit during operation will clear all accumulate weight data from memory.

9.10 Select the Preferred Function Mode[9]

This instrument supports the below-working modes. The abbreviation of each working mode is bracketed.

- Weighing (Weigh).
- Piece Count (Count).
- Action-Tare-Memory (AtM).
- Animal Weighing (Ani).
- Quick access to Customer & Product Code Setting (PCd).

Press **[Func]** to enter function selection mode and press **[Unit]** until the abbreviation of the desired working mode appears and press **[Print/M+]** to enter.

The working mode employed before powering off will be employed again when powered on.

9.11 Check Functions[10] [11] [12] [13]

This instrument is equipped with Lo/Hi check function. Check targets of various working modes are: -

- Weighing mode = weight value.
- Piece Count mode = piece value.
- Auto Tare Accumulation mode = weight value.

9.11.1 Input check limits manually

1. Select preferred weight unit and working mode.
2. Press **[Check]**, then input the Lo limit value.
3. Press **[Print/M+]**, then input the Hi limit value.
4. Press **[Print/M+]**. The Lo and Hi limits are now in effect.

9.11.2 Cancel check limits inputted

Refer to paragraph **9.11.1** and press **[CE/x10]** when prompted for value in step 2 and 3.

9.11.3 Hints for entering Lo & Hi Limits

1. For typical comparison, set both Lo and Hi limits.
2. To check if the result is lower than or equal to Lo (result ≤ LO), set Hi limit = 0.
3. To check if the result is higher than or equal to Hi (result ≥ HI), set Lo limit = 0.
4. To check if the result is equal to a specified value, set both Hi limit and Lo limit = the specified value.

9.12 Tri-color Backlight

This instrument is equipped with a tri-color backlight. The 3 colors are yellow, green and red.

- In typical operation, green is used for display illumination.
- When check function is activated: - yellow = Lo; green = OK; red = Hi.

When instrument is powered by built-in rechargeable battery: - Backlight will turn to minimum when weight remains stable/unchanged for 5 seconds. Stable for backlight means ±5 division variation within one second. When this instrument is powered by adaptor: - Backlight will remain on.

9.13 Auto Power Saving & Auto Power-off Time

This instrument is equipped with auto power saving and auto power-off time functions. Refer to **F7** in paragraph **6.4** for more information.

---

9 Depends on F11 setting. Weighing mode cannot be disabled.

10 Check function does not support Animal Weighing mode.

11 Check mode will not operate when weight is less than 20d (or 20d1 for dual weighing range/interval mode).

12 Set also F15 for desired Check buzzer output.

13 Refer to F25 of paragraph 6.4 for static, standard and dynamic check mode settings.

9.14 Extended Display Mode[14]

When F68 is set to OIML or NTEP, press **[CE/x10]** to temporarily (5 seconds) increase the weighing resolution to 10 times finer. The display keeps flashing when instrument is displaying the extended results.

10. Memory & Data Related Operation

10.1 Memory Accumulation[15]

There are 2 types of Memory Accumulation: -

1. Automatic Accumulation mode, and
2. Manual Accumulation mode.

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

10.1.1 Automatic accumulation[16]

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.

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

10.1.2 Manual accumulation[17]

Manual Accumulation is activated when none of the UART 0 ~ 4 or LAN port is assigned with Auto Accumulation = On.

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

10.1.3 When data is accumulated to memory[18] [19]

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 1 second.

14 When F68 = OIML or NTEP.

15 Only weight result will be accumulated.

16 Refer to paragraph 8.3 for setting details.

17 Refer to paragraph 8.3 for setting details.

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

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

10.1.4 Memory recall & clearance

Accumulation data will be stored in memory and will not be erased by the normal power-off process (by pressing the **[On/Off]** key).

Instrument will erase all accumulated data when: -

a. Weight unit is changed, or
b. Working mode is changed, or
c. A different operator number is inputted during power-on process.

Follow the below procedures to recall and clear accumulation data manually.

1. Press **[MR/Unit]** to recall total accumulated weight**.**
2. Instrument flashes between "**A____Y"** (**Y** means number of transactions accumulated) and total accumulated result.
3. At this point: -
   a. Press **[Zero]** to quit, or
   b. Press [CE/x10] to clear memory. After [CE/x10] is pressed, instrument display Clear, and M+ Indicator disappears to indicate no data is stored in memory.

10.2 Expiry Date

This instrument supports expiry date output. Once expiry duration (in term of day) is inputted in the internal function F36, instrument will the convert the duration into expiry date. Expiry date can be recalled for other purposes. The expiry date will also be added to an individual transaction when saving to Alibi memory.

10.3 Machine ID, Group & Operator Numbers

This instrument supports machine ID, group, and operator numbers. Refer to F18 and F28 of paragraph **6.4** for more information. These numbers will also be added to an individual transaction when saving to Alibi memory.

Once these numbers are inputted, they will be outputted through the assigned comport. These numbers will also be added to an individual transaction when saving to Alibi memory.

10.4 Inputting Numbers, Letters, Symbols via Keyboard

This instruction supports numbers, letters, and some select symbols entries. To enable this, set **F30** to **Yes**.

Refer to markings on the numeric keys of instrument keyboard for numbers, letters, and symbols assigned to each key.

The default setting for letter entry is upper case; to change to lower case letter, press **[Check]**. Lower case indicator appears to denote lower case letter entry is in effect.

The cursor location of the current entry is indicated by flashing decimal sign and **Customized Setting Indicator** (for the right most digit) at its right side.

10.5 Customer/Product Code & Description

This instrument supports customer/product code & description. Once inputted, these will be printed through the assigned comport. Customer/product code inputted will also be added to an individual transaction when saving to Alibi memory.

Maximum data Length as below: -

- Customer Code = 18 digit.
- Customer Description = 30 digit.
- Product Code = 18 digit.
- Product Description = 30 digit.

Refer to paragraph **11.4** for creating, recall and clear a customer/product code & description.

11. Quick Access PLU (Quick PLU)

Quick PLUs are available for the below: -

- 10 Weight check limits for each of the weight units (g, kg, and lb).
- 10 Quantity check limit for Piece Count Mode for each of the weight units (g, kg, and lb).
- 10 Preset Tare value for each of the weight units (g, kg, and lb).
- 10 Average Piece Weight for each of the weight units (g, kg, and lb).
- 1000 Customer Code & Description.
- 1000 Product Code & Description.

Notes: -

a. Below paragraphs describe Quick PLU operation through instrument keyboard.
b. Quick PLUs can be created, saved, recalled and cleared by means of computer commands. Refer to **Appendix R** and **Appendix S** for more information.

11.1 Weight Check Limits Quick PLUs

11.1.1 Create & save weight check limits to quick PLU[20]

Follow the below steps to save Lo and Hi weight limits to PLU.

1. Select desired weight unit.
2. Go to Weighing mode and press **[Check]**.
3. Instrument displays Low followed by a 6-digital value. Input the Lo weight limit and press **[Print/M+]**.
4. Instrument displays High followed by a 6-digital value. Input the Hi weight limit. Then press and hold **[Check]** for 2 seconds.
5. Instrument displays **Save =?**. At this point: -
   a. Press the preferred PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to save and utilize these weight check limits immediately, or
   b. Press **[Print/M+]** to utilize these weight check limits immediately but without saving to PLU, or
   c. Press **[Zero]** to quit.

11.1.2 Recall weight check limits from quick PLU

Follow the below steps to recall weight check limits from quick PLU.

1. Select desired weight unit.
2. Go to Weighing mode. Then press and hold **[Check]** for 2 seconds.
3. Instrument displays **CHK =?**. Press PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to recall the weight check limits stored in that position.
4. Instrument displays the Lo and Hi weight check limits, and these values are now effective.

11.1.3 Clear weight check limits from quick PLU

Refer to paragraph **11.1.1**. Input zero value for both Lo and Hi weight check limits in steps number 3 and 4.

20 10 quick PLUs are available for each weight unit kg, g, and lb.

11.2 Quantity Check Limits Quick PLUs

11.2.1 Create & save quantity check limits to quick PLU[21]

Follow the below steps to save Lo and Hi weight limits to PLU.

1. Select desired weight unit.
2. Go to Piece Count mode and press **[Check]**.
3. Instrument displays Low followed by a 6-digital value. Input the Lo quantity limit and press **[Print/M+]**.
4. Instrument displays High followed by a 6-digital value. Input the Hi quantity limit. Then press and hold **[Check]** for 2 seconds.
5. Instrument displays **Save =?**. At this point: -
   a. Press the preferred PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to save and utilize these quantity check limits immediately, or
   b. Press **[Print/M+]** to utilize these quantity check limits immediately but without saving to PLU, or
   c. Press **[Zero]** to quit.

11.2.2 Recall quantity check limits from quick PLU

Follow the below steps to recall weight check limits from quick PLU.

1. Select desired weight unit.
2. Go to Piece Count mode. Then press and hold **[Check]** for 2 seconds.
3. Instrument displays **CHK =?**. Press PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to recall the quantity check limits stored in that position.
4. Instrument displays the Lo and Hi quantity check limits, and these values are now effective.

11.2.3 Clear quantity check limits from quick PLU

Refer to paragraph **11.2.1**. Input zero value for both Lo and Hi quantity check limits in step 3 and 4.

11.3 Preset Tare Value Quick PLUs[22]

11.3.1 Create & save preset tare value to quick PLU[23]

Follow the below steps to save Lo and Hi weight limits to PLU.

1. Select desired weight unit.
2. Go to the desired operation mode. Input preset tare value, then press and hold **[Tare]** for 2 seconds.
3. Instrument displays **Save =?**. At this point: -
   a. Press the preferred PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to save to that PLU position, or
   b. Press **[Print/M+]** to utilize this preset tare value immediately but without saving to PLU, or
   c. Press **[Zero]** to quit.

11.3.2 Recall preset tare from quick PLU

Follow the below steps to recall preset tare value from quick PLU.

1. Select desired weight unit.
2. Go to desired operation mode. Then press and hold **[Tare]** for 2 seconds.
3. Instrument displays **PT =?**. Press PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to recall the preset tare value stored in that position.
4. Instrument displays the Lo and Hi weight check limits and these values are now effective.

11.3.3 Clear preset tare from quick PLU

Refer to paragraph **11.3.1**. Input zero value in step 2.

---

21 10 quick PLUs are available for each weight unit kg, g, and lb.

22 Preset tare value PLU does not support ATM mode.

23 10 quick PLUs are available for each weight unit kg, g, and lb.

11.4 Customer/Product Code & Description Quick PLUs

11.4.1 Create & save customer/product code & description to quick PLU

1. Go to Customer/Product code setting manual by either one of the below methods.
   a. If Quick Manual Code Setting function (CPd) in F11 is set to on: -
      - Press **[Func]** then **[Unit]** until C.P. Code appears and press **[Print/M+]**.
      - Press **[Unit]** until the desired mode appears (select C Code for customer code & description or P Code for product code & description) and press **[Print/M+]** to confirm.
   b. If Quick Manual Code Setting function (PCd) in F11 is set to Off: -
      - Go to F19 and press **[Print/M+]**.
      - Press **[Unit]** until the desired mode appears (select C Code for customer code & description or select P Code for product code & description) and press **[Print/M+]** to confirm.
2. Instrument displays previous code inputted (if any).
3. To move cursor to one place left/right, press **[Unit]**/**[MR]**.
4. Input the preferred code (maximum 18 digits) and press **[Print/M+]** to confirm.
5. Instrument prompt for description.
6. Input the preferred description (maximum 30 digits) and press **[Print/M+]** to confirm.
7. Instrument displays **Save=?**. At this point: -
   a. Press the preferred PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to save to that PLU position, or
   b. Press **[Print/M+]** to utilize the code immediately but without saving to PLU.
8. To go to other internal functions, press **[Unit]** or **[MR]**, or press **[Zero]** to quite to operation status.

11.4.2 Recall customer/product code & description from quick PLU

Follow the below steps to recall Customer/Product Code & Description from quick PLU.

1. Select desired weight unit.
2. Go to desired operation mode. Then press and hold **[0]** for 2 seconds.
3. Instrument displays **P Code.** At this point: -
   a. To recall product code & description, simply press the PLU position (numeric key 0 ~ 9) and press [Print/M+] to recall.
   b. To recall customer code & description, press [Unit] to change to display to C code and press [Print/M+] to recall.
   c. To quit, press [Zero].

11.4.3 Clear customer/product code & description from quick PLU

Refer to paragraph **11.4.1**, press **[Clear/x10]** until all data is cleared, and press **[Print/M+]** in step 4.

11.5 Average Piece Weight Quick PLU

11.5.1 Create & save average piece weight to quick PLU

Follow the below steps to average piece weight to PLU.

1. Select desired weight unit.
2. Go to Piece Count mode.
3. Press **[Unit]** twice to go to average piece weight entry page.
4. Input the average piece weight. Then press and hold **[Set]** for 2 seconds.
5. Instrument displays **Save =?**. At this point: -
   a. Press the preferred PLU position (numeric key 0 ~ 9) and press [Print/M+] to save to that PLU position, or
   b. Press [Print/M+] to utilize this preset tare value immediately but without saving to PLU, or
   c. Press [Zero] to quit.

11.5.2 Recall average piece weight from quick PLU

Follow the below steps to recall the average piece weight from quick PLU.

1. Select desired weight unit.
2. Go to Piece Count mode.
3. Press **[Unit]** twice to go to average piece weight entry page.
4. Short press **[Set]**.
5. Instrument displays **PT =?**. Press PLU position (numeric key 0 ~ 9) and press **[Print/M+]** to recall the average piece weight stored in that position.
6. Instrument displays the average piece weight values, and it is now effective.

11.5.3 Clear average piece weight from quick PLU

Refer to paragraph **11.5.1**. Input zero value in step 4.

12. Piece Count Mode

1. At Weighing mode, select the desired weight unit.
2. Go to Piece Count mode.
3. Refer to paragraph **10** and **11** if data related functions are needed.
4. If zero weight cannot be obtained when unloaded, press **[Zero]**. **Zero Indicator** lights up when instrument is at zero status.
5. If a container is used, place it and press **[Tare]**.
6. At this point: -
    a. To recall the last average piece weight used before powered off, press [MR].
    b. To recall average piece weight from quick PLU, refer to paragraph 11.5.2.
    c. If average piece weight value is known, then go to paragraph 12.1.
    d. If average piece weight value is not known, then go to paragraph 12.2.

12.1 Obtaining Average piece weight

12.1.1 By manual entry method

1. Press **[Unit]** twice to go to average piece weight entry page.
2. Input the average piece weight and press **[Print/M+]**.
3. Average piece weight is now in effect.

12.2 By Sampling Method

1. Apply samples with known quantity (sample quantity).
2. Press **[Set],** then input the sample quantity and press **[Print/M+]**.
3. This instrument will calculate, store the average piece weight and confirm with 2 beeps. The quantity is then displayed.
4. Add to or remove, the corresponding quantity will be updated.
5. To count different articles, repeat the above steps.

12.3 Auto Average piece weight Enhancement Function

To obtain the best piece count result and minimize sampling error, this instrument is equipped with Auto Average piece weight Enhancement Function.

Refer to F11 of paragraph **6.4** on how to enable/disable this function.

This function starts when all of the below conditions are met: -

1. It is set to On in F11.
2. Average piece weight is determined by the actual sampling method as listed on **12.2**.
3. The quantity **added** is more than 5 pieces but less than the current quantity.
4. The total quantity is less than 10,000 pieces.

When all the above requirements are met, a new average piece weight will be calculated and stored in memory and confirmed by a "beep" sound.

12.4 Shift among Quantity, Average piece weight & Weight Info

Press **[Unit]** to shift among quantity, average piece weight, and weight info.

- Quantity display format = numeric numbers & pieces (e.g1000 pieces).
- Average piece weight display format = numeric numbers & weight unit &/piece (e.g. 499.960g/piece).
- Weight display format (when Piece Count Function is in effect) = numeric numbers & weight unit & piece (e.g. 500g piece).

12.5 Recall the Average piece weight before Powered Off

1. Press **[Unit]** until instrument displays quantity screen.
2. Press **[Set]** then **[MR]** to recall the average piece weight before power off.

13. Action-Tare-Memory (ATM)

13.1 Description of ATM Mode

ATM means action, then tare, then memory: -

a. Action = add or remove weight.
b. Tare = the above weight added on or removed will be tare off.
c. Memory = the above weight will be added to or deducted (in case of removal) from accumulated memory.

13.2 ATM Mode Settings

1. At Weighing mode, select the desired weight unit.
2. Go to ATM mode.
3. Refer to paragraph **10** and **11** if data related functions are needed.
4. Press **[Set]** then **[Unit]** to select Auto Accumulation target,
   - Gross = Gross weight will be accumulated.
   - Net = Net weight will be accumulated.
5. Press **[Print/M+]**.
6. Instrument prompts for delay time (second). Delay time is the time interval (00 ~ 99 seconds): -
   - Between a valid stable weight result is obtained and before it is tare off and accumulated to memory.
   - Display time of total accumulated weight result (after all loadings are removed) and before it is clear from print out memory.
7. Input delay time and press **[Print/M+]** to enter.
8. At this point, ATM mode is ready for use.

13.3 Start Using ATM[24]

1. If zero weight cannot be obtained when unloaded, press **[Zero]**. **Zero Indicator** lights up when instrument is at zero status.
2. Apply container. Instrument tares off the weight of the container.
3. Add or remove load. The weight result is displayed for the time interval set forth on step 6 of **13.2**. Then instrument will accumulate the weight result in memory then clear it from the display. **Notes: -**
   - Positive weight will be added to the accumulated memory.
   - Negative weight will be deducted from the accumulated memory.
4. Repeat step 3 until all weighing sequence is completed.
5. To recall the current total accumulated weight at any time, press **[MR]**.
6. At this point: -
   a. Press **[Zero]** to quit, or
   b. Press **[Print/M+]** to print the current accumulated weight.
7. When all loads are removed, the total accumulated weight value will then be erased.

14. Animal Weighing Mode[25] [26]

14.1 Description of Animal Weighing Mode

Animal Weighing mode is used to weigh live animals.

14.2 Animal Weighing Mode Settings

1. At Weighing mode, select the desired weight unit.
2. Go to Animal Weighing mode.
3. Refer to paragraph **10** and **11** if data related functions are needed.
4. Press **[Set]** then **[Unit]** to select filter speed. 5 parameters (FLT 1 ~ 5) are available: -
   - FLt 1 = Fastest speed with the lowest accuracy.
   - FLt 3 = Normal speed. Recommended setting for most animal weighing applications.
   - FLt 5 = Slowest speed with the highest accuracy.
5. Press **[Print/M+]** to save and to select weight release variation percentage. 10 parameters are available (Off ~ 20%).
   - rE oFF = auto-release disabled except all loads are removed.
   - rE 2 = auto-release when weight varies ≥2% of rate capacity (or W1 for dual weighing range/interval mode) or when all loads are removed.
   - rE 20 = auto-release when weight varies ≥20% of rate capacity (or W1 for dual weighing range/interval mode) or when all loads are removed.
6. Press **[Unit]** key to select the preferred weight release variation and press **[Print/M+]** to save.
7. Instrument is now ready for animal weighing application.

14.3 Start Using Animal Weighing

1. Get an animal on.
2. Instrument will calculate and hold the weight of an animal. The result being held flashes.
3. In case more animals have to be weighed in the same transaction, get other animals on. An updated weight will be calculated, held and displayed[27] as above step **2**.
4. To refresh the weight reading manually, press **[CE/x10]**.

---

24 Weight changed less than 10d will not be processed.

25 Animal Weighing mode will not operate when weight is less than 20d (or 20d1 for dual weighing range/interval).

26 Check Function does not support Animal Weighing mode.

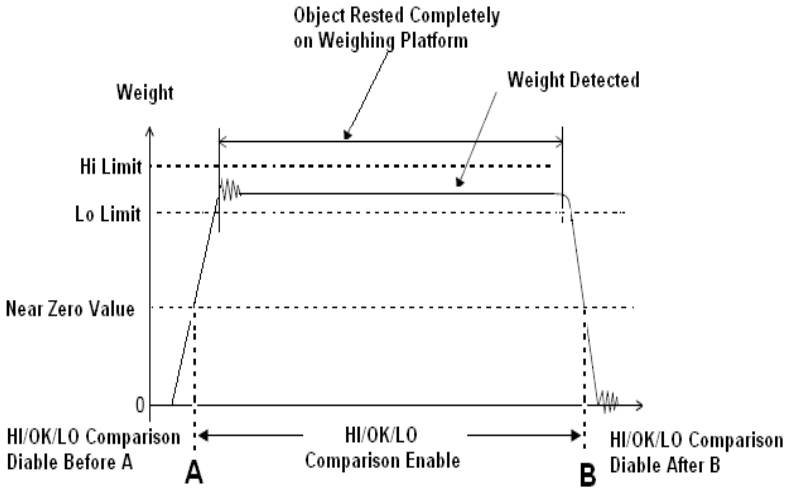
27 Provide that extra weight added/removed fulfills the weight release variation value listed on step 5 of 14.2.

15. Near Zero Function Description

Near zero value is a useful function for checking. It is used to avoid unnecessary/false Lo signal output during loading and unloading.

Hi/OK/Lo comparison will only start when weight reading exceeds the preset near zero value. Refer to the below diagram for more illustration.

Near Zero Value Illustration Diagram



16. Data Output Protocols & Formats

This instrument supports various PC data output protocols and output formats. Refer to the below paragraphs and **paragraph 8** for more information and setting procedures.

16.1 PC Output Protocols

- 10 predefined PC Output Protocols. Refer to **Appendix A** for more information.
- 1 customized Output Format. Refer to **Appendix B** for more information.

Note: - RS485 is not a suitable transmission mode for PC output protocol unless machine ID is set = blank in internal function F18.

16.2 Data & Print Formats

16.2.1 Predefined output formats

5 predefined output formats (Lab1 ~ Lab 5). Refer to the below Appendixes for more information.

- Lab 1 Output Format. Refer to **Appendix C** for more information.
- Lab 2 Standard Output Format. Refer to **Appendix D** for more information.
- Lab 3 Output Format. Refer to **Appendix F** for more information.
- Lab 4 Output Format. Refer to **Appendix G** for more information.
- Lab 5 Output Format. Refer to **Appendix H** for more information.

16.2.2 Lab 2 customized output format

This instrument supports customized Lab 2 output format. Refer to **Appendix E** for more information.

17. Barcode Scanner

This instrument supports both serial barcode scanner and CT10 Bluetooth barcode scanner.

17.1 Barcode Scanner Setup

17.1.1 Serial barcode scanner setup

1. Serial barcode scanner should be connected to comport 0.
2. Refer to paragraph **8.2** for scanner settings.

17.1.2 CT10 serial barcode scanner setup

1. To use this instrument with a CT10 Bluetooth scanner, the optional BT2.0 module must be equipped. Contact your dealer for assistance.
2. To enable CT10 communication, refer to the setting procedures in paragraph **8.1** and: -
   a. Select UART 2 at step **3**.
   b. Select Scaner at step **4**.
3. Pairing this instrument with CT10
   a. Restart this instrument and CT10.
   b. Scan the Enter Setup barcode on the left.
   c. Scan the Enable SPP barcode on the left.
   d. Scan the Password 10010 barcode on the left.
   e. Scan the Exit with Save barcode on the left.

Notes: -

- After the above is done, paring will be completed (and confirm with a short high tone from CT10) within 10 seconds depends on connection status. To ensure pairing is successful, scan the Zero key barcode in paragraph **17.2** when instrument is unloaded. Instrument should response with a beep once the Zero key barcode is scanned.
- In case of mis-operation, scan the Exit without Save barcode, then repeat step **a** ~ **e** above.
- For other CT10 settings, refer to the user guide which comes with the CT10.

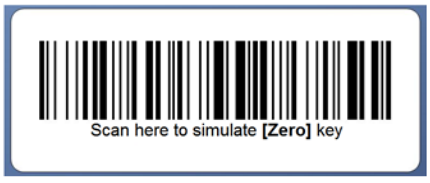
The barcode scanner is used to: -

a. introduce an operation key,
b. input an operator number,
c. input a customer/product code. The code scanned will also trigger the PLU auto search function. Refer to paragraph **20** for more information.

17.2 Barcode Scanner Functions

17.2.1 Simulating operation key

To simulate **[Zero]**, **[Tare],** and **[Print/M+]** key inputs, simply scan the corresponding barcodes below.



17.2. 2 Entering Customer/Product Code & Operator Number

Customer/product and operator number can be inputted through barcode scanner. Procedures: -

1. Define first data nature (customer/product code or operator number) of data by scanning first one of the below 3 input targets.
2. Once an input target is scanned, all following scanner data inputs will be considered as the same data nature.
3. To change the scanner input target, scan the desired input target barcode, followed by the customer, product, or operator number barcode.

Input Target Barcodes

17.3 Embedding Input Target Information into a Barcode/RFID Tag

Procedure of scanning the input target mentioned on paragraph on **17.2.2** can be skipped by adding the below prefix to a barcode.

In case RFID tags are used, include the following prefixes to the RFID tag content to bypass the input target scan:

- %PC% for product code. For example, %PC%412985 for product code 412985.
- %CC% for customer code. For example, %CC%Fidelity for customer code Fidelity.
- %OP% for operator code. For example, %OP%1234 for operator number 1234.

17.4 Advanced Applications about Customer & Product Code Scanning

Advanced features to increasing working efficiency are available to customer and product code input via barcode scanner. Refer to paragraph **20** for more details.

18. Label Printing[28]

This instrument supports the below label printer models: -

- LP50 by Datecs (www.datecs.bg/en)
- TDP247, TDP345, TTP247, TTP345 by TSC (www.tscprinters.com)
- All models with serial communication by Sbarco (http://www.Sbarcotech.com)

Notes: -

- Set all preferred operation parameters and label printer model according to paragraph 8.
- Refer to **Appendix I** for TSC printer installation, setup procedures, and detail on creating and uploading labels to the TSC printer by Bartender Label software.
- Refer to **Appendix J** for Sbarco Printer Installation, setup procedures, and detail on creating and uploading label to Sbarco printer by BarDrawer software.
- Refer to **Appendix K** for detail on label programming and illustration samples.

18.1 Label Format Groups & Label File Names

2 label format groups are available: - -

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

28 LAN, WIFI, Mini USB do not support label printing.

18.1.1 FL1 (Label Format Group 1)

FL1 (format group 1) is used to print the data of the current and individual transactions. 100 printout selections (00 ~ 99) are available in format group 1.

To trigger the preferred label to be printed, label files stored in the 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 the printer.
- FL1 02: - Select this to print label file AA02 stored in the printer.
- ….
- FL1 98: - Select this to print label file AA98 stored in the printer.
- FL1 99: - Select this to print label file AA99 stored in the printer.

18.1.2 FL2 (Label Format Group 2)

FL2 (format group 2) is used to print the totalized (MR) data.

100 printout selections (00 ~ 99) are available in format group 2. To trigger the preferred label to be printed, label files stored in the 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 the printer.
- FL2 02: - Select this to print label file BB02 stored in the printer.
- ….
- FL2 98: - Select this to print label file BB98 stored in the printer.
- FL2 99: - Select this to print label file BB99 stored in the printer.

18.2 Quick Access to Label Settings

If a label printer is selected, follow the below procedures to access quick label settings during operation.

1. At Weighing Mode, press **[Set]**.
2. Instrument displays F1. Press **[Check]**,
3. Instrument displays the number of copies (1 ~ 8) to generate each time. Press **[Unit]** or **[MR]** until the preferred parameter appears and press **[Print/M+]** to save.
4. Instrument displays label file number (FL1 00 ~ FL1 99) to print in label format group 1. Input the preferred file number through numeric and press **[Print/M+]** to confirm.
5. Instrument displays label file number (FL2 00 ~ FL2 99) to print in label format group 2. Input the preferred file number through numeric and press **[Print/M+]** to confirm.
6. At this point, label settings are completed.

18.3 Repetitive Printout

This instrument supports repetitive printouts under Manual print mode. Press **[Print/M+]** for additional printout copies.

Conditions and criteria as below: -

a. When Auto Accumulation is set to On: Repetitive print is only possible when the actual weight being displayed is equal to the weight value of the 1st printout.
b. When Auto Accumulation is set to Off: Repetitive print is possible if minimum output weight set is matched and when **[Print/M+]** is pressed.
c. The weight value of repetitive printout will not change the total accumulation result. Only the weight value of the 1st printout will be accumulated to memory.

19. Alibi Transaction Memory & Management Report

19.1 Alibi Memory Description

This instrument is equipped with Alibi memory to record all individual transaction records. Management reports can be generated based on data saved in transaction memory, and: -

- The criteria set in F71 (supervisor password is needed to access this internal function), and
- The format set in F33, and
- The search criteria and time duration set in F34.

Notes: -

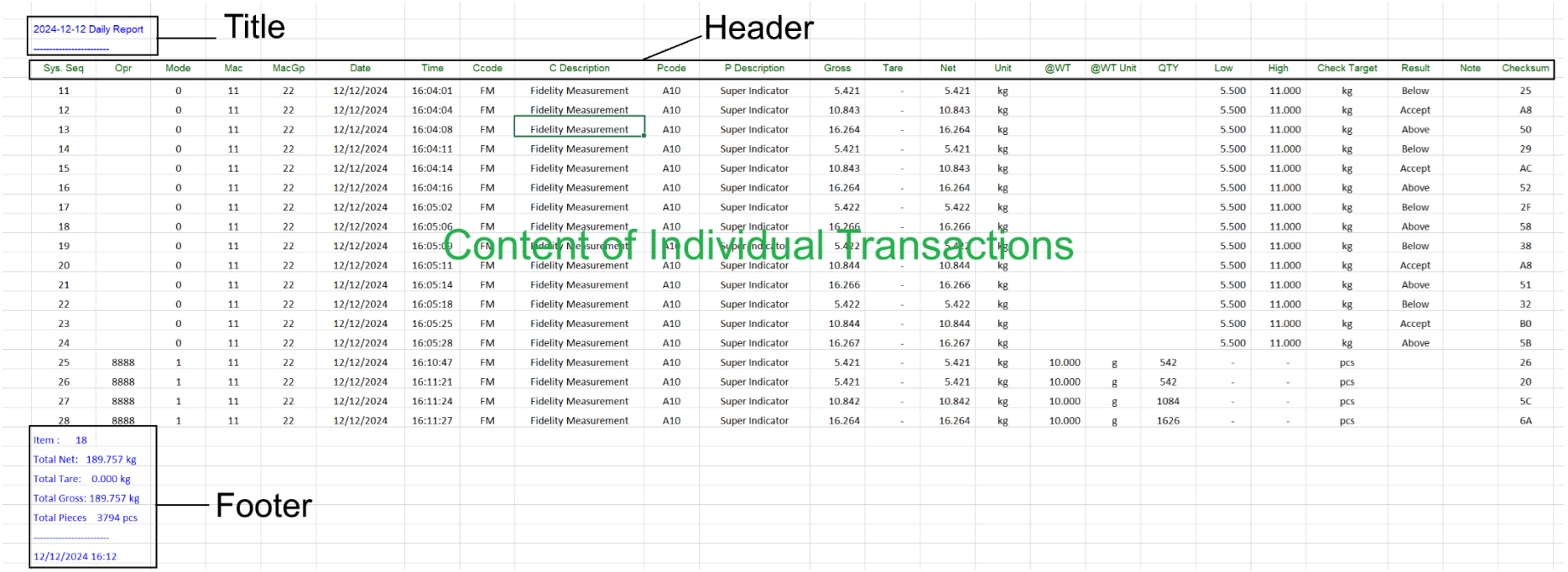
- The Alibi memory is independent to those data obtained through memory accumulation (e.g., manual memory accumulation by pressing **[Print/M+]** key and auto accumulation result by ACC = On in transmission type Manual and Auto 1 ~ Auto 3) during an operation.
- Maximum records can be saved = 131,072 transactions.
- When remaining memory is low: - Instrument displays Li xxx in power on countdown process. xxx is the number of memory remains before instrument starts overwriting historical records.
- When memory is full: - Instrument overwrites old records with new records based on first in first out principle.

An Alibi Management report is constructed of the followings: -

a. Report Title, which shows the report output data range and search criteria.
b. Report Header explains the nature of an output column.
c. Content of Individual transactions.
d. Footer, which shows 4 different kinds of totalized results. Refer to paragraph **19.6** for more information.

To enable/disable Title, Header, and Footer output, simply select **On** or **Off** when asked. Refer to step 6 of F33 in paragraph **6.4** for settings.

Alibi Management Report Construction Illustration



Sys. Seq	Opr	Mode	Mac	MacGp	Date	Time	Ccode	C Description	Pcode	P Description	Gross	Tare	Net	Unit	@WT	@WT Unit	QTY	Low	High	Check Target	Result	Note	Checksum
11		0	11	22	12/12/2024	16:04:01	FM	Fidelity Measurement	A10	Super Indicator	5.421	-	5.421	kg				5.500	11.000	kg	Below		25
12		0	11	22	12/12/2024	16:04:04	FM	Fidelity Measurement	A10	Super Indicator	10.843	-	10.843	kg				5.500	11.000	kg	Accept		A8
13		0	11	22	12/12/2024	16:04:08	FM	Fidelity Measurement	A10	Super Indicator	16.264	-	16.264	kg				5.500	11.000	kg	Above		50
14		0	11	22	12/12/2024	16:04:11	FM	Fidelity Measurement	A10	Super Indicator	5.421	-	5.421	kg				5.500	11.000	kg	Below		29
15		0	11	22	12/12/2024	16:04:14	FM	Fidelity Measurement	A10	Super Indicator	10.843	-	10.843	kg				5.500	11.000	kg	Accept		AC
16		0	11	22	12/12/2024	16:04:16	FM	Fidelity Measurement	A10	Super Indicator	16.264	-	16.264	kg				5.500	11.000	kg	Above		52
17		0	11	22	12/12/2024	16:05:02	FM	Fidelity Measurement	A10	Super Indicator	5.422	-	5.422	kg				5.500	11.000	kg	Below		2F
18		0	11	22	12/12/2024	16:05:06	FM	Fidelity Measurement	A10	Super Indicator	16.266	-	16.266	kg				5.500	11.000	kg	Above		58
19		0	11	22	12/12/2024	16:05:09	FM	Fidelity Measurement	A10	Super Indicator	5.422	-	5.422	kg				5.500	11.000	kg	Below		38
20		0	11	22	12/12/2024	16:05:11	FM	Fidelity Measurement	A10	Super Indicator	10.844	-	10.844	kg				5.500	11.000	kg	Accept		A8
21		0	11	22	12/12/2024	16:05:14	FM	Fidelity Measurement	A10	Super Indicator	16.266	-	16.266	kg				5.500	11.000	kg	Above		51
22		0	11	22	12/12/2024	16:05:18	FM	Fidelity Measurement	A10	Super Indicator	5.422	-	5.422	kg				5.500	11.000	kg	Below		32
23		0	11	22	12/12/2024	16:05:25	FM	Fidelity Measurement	A10	Super Indicator	10.844	-	10.844	kg				5.500	11.000	kg	Accept		B0
24		0	11	22	12/12/2024	16:05:28	FM	Fidelity Measurement	A10	Super Indicator	16.267	-	16.267	kg				5.500	11.000	kg	Above		5B
25	8888	1	11	22	12/12/2024	16:10:47	FM	Fidelity Measurement	A10	Super Indicator	5.421	-	5.421	kg	10.000	g	542	-	-	pcs			26
26	8888	1	11	22	12/12/2024	16:11:21	FM	Fidelity Measurement	A10	Super Indicator	5.421	-	5.421	kg	10.000	g	542	-	-	pcs			20
27	8888	1	11	22	12/12/2024	16:11:24	FM	Fidelity Measurement	A10	Super Indicator	10.842	-	10.842	kg	10.000	g	1084	-	-	pcs			5C
28	8888	1	11	22	12/12/2024	16:11:27	FM	Fidelity Measurement	A10	Super Indicator	16.264	-	16.264	kg	10.000	g	1626	-	-	pcs			6A

19.2 Define when a Transaction Data is saved to Alibi memory

It is important to first define when transaction data should be saved to Alibi memory during system setup. To do so, go to F71 (distributor password is needed) and select the preferred parameter. 6 parameters are available.

a. Off = No transaction will be recorded.
b. Auto 1 = All stable weight (starts from gross zero or minus) is recorded by the system.
c. Auto 2 = The highest stable weight value of a weighing process is recorded by the system (when all loads are removed and the gross weight returns to zero or minus).
d. Auto 3 = The last stable weight value of a weighing process is recorded by the system (when all loads are removed and the gross weight returns to zero or minus).
e. Manual = Transaction is recorded by the system when **[Print/M+]** is pressed.
f. ACC = Transaction is recorded by the system when a new accumulated data is created or manually.

19.3 Adding Short Noted to Alibi Management Report

A 4-digit numeric short note can be added to an individual transaction when saving to Alibi memory. Follow the below procedures to create such note: -

1. Make sure that Note is set to On in F11.
2. During operation status, press **[Func]**.
3. Pressing **[Unit]** until Note appears.
4. Press **[Print/M+]**.
5. Instrument displays **nt.xxxx**. xxxx is the current short in effect.
6. To change, input a new 4-digit value, then press **[Print/M+]** to save and return to normal operation.

Notes: -

a. the short note inputted will remain valid until changed or canceled.
b. To clear short Note information, press **[CE]** in step **6** above.

19.4 Checksum

To ensure the content of each individual record outputted and received are identical, a 2-digit checksum can be included at the end of each individual record when outputting. Checksum method used is = Simple sum method & mask 0xFF.

To enable checksum output: -

1. In F33, select All to enable all content output, including checksum, in detail setting, or
2. In F33, select On when CHKS (checksum) appears during Custom output setting.

To disable checksum output
To disable the checksum output, Select Off when CHKS (checksum) appears during Custom output setting.

19.5 Output & Settings for Alibi Memory & Management Report

Complete both 2 procedures below to output the management report.

1. Define the report output UART number and report content in F33. Refer to **F33** of **Internal Function Table** in **paragraph 6** for more information. Avoid assigning RS485 for report output unless Machine ID (set in F18) is = blank.
2. Define search criteria and date range in F34. Refer to **F34** of **Internal Function Table** in paragraph **6** for more information. Multiple search criteria are acceptable based on condition “AND”. For example, Operator Code number XXXX and Produce Code YYYY. All transactions which fulfill **both** these 2 criteria will be outputted.

19.6 Totalization

Except date range “All” is selected in F34, instrument will output the totalized data of the below result at the end of the output.

- Total number of transactions of the date range
- Total Net Weight
- Total Gross Weight
- Total Piece Count

19.7 Export to USB Memory Disk

To export management report to USB memory stick, select export target DISK in F33. All report sent to USB memory stick will be saved under the folder named **F10_Report**. This folder will be created automatically if it does not exist when report is outputted.

19.7.1 File name structure

Every report outputted is assigned with a unique file name. File name structure as below: -

- All report = AllReport plus 14 numeric digits.
- Daily report = DayReport plus 14 numeric digits.
- Monthly report = MonthReport plus 14 numeric digits.
- Periodical report = PeriodReport plus 14 numeric digits.

The 14 numeric digits represents the date and time of report output.

- First 8 digit = Year (4 digit), Month (2 digit), Day (2 digit) in the format as set forth in F4.
- Last 6 digit = HH:MM:SS in 24 hour format.

19.7.2 Maximum number of file under the folder

Maximum number of files allowed under the file folder **F10_Report** is 20. When this number is exceeded, instrument displays **Err 64**. If it is the case, delete 1 or more files from the folder or use another USB memory stick to continue.

20. Barcode Scanner & Auto Database Search

When a customer or product code is scanned, the instrument automatically searches the appropriate PLU database based on the F37 setting.

- F37 = ON: The instrument searches within the Production Settings PLU database.
- F37 = OFF: The instrument searches within the Customer/Product Code & Description Quick Access PLU database.

Search Sequence & Actions

Once a customer or product code is scanned: -

a. (If F37 is set to **On**), instrument searches the code scanned in the Production Settings PLU database.
   - If the scanned code exists, the corresponding settings are immediately applied.
   - If the code does not exist, then instrument will employ code scanned.

b. (If F37 is set to **Off**), Instrument searches the Customer/Product Code & Description Quick Access PLU database.
   - If the scanned code exists, then the description of the code scanned will be applied immediately.
   - If the code does not exist in this database, then instrument will employ code scanned.

Notes: -

a. Each database assumes all customer and product codes are unique.
b. If duplicate codes exist, the instrument applies the first matching record found.
c. Auto Database Search only applies to codes scanned via a barcode scanner. Manually entered codes (via the instrument or an external keyboard) do not trigger auto search.
d. Production Settings PLU operation resets upon instrument restart.

21. Production Settings PLU

This instrument support 1000 Production Settings PLU for each of the below weight units: -

- kilogram (kg)
- gram (g)
- pound (lb)

Each Production Settings PLU contains 15 operation parameters. Refer to **Appendix T.2** for detailed information about these operation parameters.

21.1 Create & Save Production Settings PLU

Production Settings PLU can be only created and saved to instrument by computer commands and by either of the below methods: -

a. Individual PLU creation and saving: - by computer command. Refer to **Appendix T** for more information.
b. Bulk creation and saving: - by computer using the Production Settings PLU generator file. This generator file and the user guide are available for download at https://www.fi-measurement.com/resource/driversnsoftwares.

21.2 Recall a Production Settings PLU[29]

Use either one of the below methods to recall a Production Settings PLU. The Production Settings PLU employed before powering off will be employed again when powered on.

21.2.1 Keyboard method

1. At Weighing mode, select the desired weight unit.
2. Press and hold **[PLU]**.
3. Instrument displays Recall, then the PLU entry page.
4. Input the preferred Production Settings PLU number, then press **[Print/M+]**.
5. The selected Production Settings PLU is now recalled, and the **Production Settings PLU Indicator** appears.
6. To shift to another Production Settings PLU, repeat above steps 1 ~ 4.

Note: When a blank Production Settings PLU is recalled, Err 46 appears.

21.2.2 Barcode scanner method

1. In F37, make sure that the proper code is set to On. i.e.,: -
   - If a Production Settings PLU is recalled by customer code, then C Code in F37 should be set to On.
   - If a Production Settings PLU is recalled by product code, then P Code in F37 should be set to On.
2. At Weighing mode, select the desired weight unit.
3. Scan the barcode, which contains the desired customer or product code.
4. The Production Settings PLU of the code scanned is now recalled, and the **Production Settings PLU Indicator** appears.
5. To shift to another Production Settings PLU, repeat above steps 1 ~ 3.

Note: When the customer/product code scanned does not exist in any Production Settings PLUs, **Production Settings PLU Indicator** will not appear.

21.2.3 Computer command method

Refer to **Appendix V** for more information.

21.3 New Code Scanned/Inputted when a Production Settings PLU is Running

21.3.1 In case new customer/product code is by barcode scanner

Refer to paragraph **20** in case a new code is scanned when a Production Settings PLU is running.

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29 Changing weight unit or working mode will cancel the current Production Settings PLU in use.

21.3.2 In case new code/description is inputted by keyboard

1. **Production Settings Indicator** disappears.
2. All settings of the last Production Settings PLU used remain valid except for the new code/description inputted.

21.4 To quit from the Current Production Settings PLU.

21.4.1 Keyboard Method

1. Input **000** for PLU number at step 4 of paragraph **21.2.1**.
2. Production Settings PLU Indicator disappears, and all operation settings become default ones.

21.4.2 Scanner method

Scanner method does not quit completely the current production PLU setting

To quit completely the current production PLU settings, use the keyboard method as per paragraph **21.4.1**.

22. Commands

The following types of command are available: -

a. Keyboard commands are used to simulate key entries on keyboard.
b. Execution commands are used to execute an action.
c. System parameter & operation entry setting commands are used to send system parameters and operation entries to this instrument.
d. System parameter reading commands are used to read system parameters.
e. Operation entry reading commands are used to read those operation information inputted (e.g., date, time, product, and customer codes), current and accumulated operation results.
f. Operation result reading commands are used to read current and accumulated operation results.
g. Production Settings PLU saving commands are used to create and save customized operation settings to PLU.
h. Production Settings PLU reading commands are used to read customized operation settings saved in PLU and in effect.
i. Production Settings PLU execution commands are used to recall a Production Settings PLU number and bring it to immediate effect.
j. Quick PLU saving Commands are used to create and save operation settings to quick PLU.
k. Quick PLU reading Commands are used to read operation settings saved in PLU.

Commands can be sent to this instrument from a computer through any standard communication program. Refer to **Appendix L** to **V** for more information on the above command types.

The UART port assigned for command communication should be set to CMD in F16. Refer to paragraph **8** for setting details and procedures.

23. Built-in Battery & Recharging

23.1 Battery Operation Time

The Battery Power/Level Indicator displays the remaining battery power of the built-in rechargeable battery.

23.2 Symbols & Remaining Power

 Full Battery: ≥ 6.3V.
 2 Blocks: ≥6.0V (Battery level~75%).
 1 Block: ≥5.7V (Battery level~20%).
 Frame only: ＜5.7V (Battery level is less than 15%).

23.3 Battery Recharge

When  appears, it means that the built-in rechargeable battery is at low voltage status. It is recommended to recharge as soon as possible.

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

Battery charging status is shown by the Battery Power/Level Indicator: -

- Progressing: - Recharging in process.
- Flashing  : - Recharge completed.

Battery recharge is possible during operating. Overcharge protection circuit is inside to prevent battery damages from overcharge.

24. System & Error Codes

Code	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 (5 minutes for OIML and NTEP mode)
Err 5	Load cell not detected
Err 6	Tare operation error
Err 7	Logic error. Hi limit is lower than Lo limit (and Hi is not = 0)
Err 8	Logic error. Lo limit is higher than Hi limit (and Hi is not = 0)
Err 13	Exceed maximum power on zero
Err 19	Capacity or division setting error (Division set is higher than 10000d)
Err 22	Manual Zero and Tare stability error
Err 23	Capacity setting error, Capacity 1 > Capacity 2
Err 24	Division setting error, e1 > e2
Err 25	Span gain is too low
Err 26	Not able to obtain stable status for longer than 10 sec
Err 27	• The calculated value per e of Cal 2 varies more than 1% as of Cal 1. Properly a load cell problem. • The mass value of Cal 2 is less than 150% of Cal 1
Err 28	The maximum accumulation limit is exceeded
Err 29	Standard deviation data exceed memory size (300 transactions).
Err 30 ~ 33	WIFI command execution error
Err 34	Cannot communicate with WIFI module
Err 35, 36	WIFI command execution error
Err 38, 39	WIFI command execution error
Err 42	Cannot communicate Bluetooth module
Err 43	Bluetooth module execution command error
Err 44	RS485 Alibi report output setting error
Err 46	Customized Operation PLU number does not exist
Err 60	USB Disk error or not exist
Err 61	USB Disk cannot find or create a file
Err 62	USB Disk cannot find or create folder path
Err 63	USB Disk write or read error

Err 64	The number of files in the folder path exceeds 20
Err 98	Alibi memory error
Err 99	Parameter flash error
--oL--	Overload (Gross weight is more than Max plus 9d)
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 value 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
L = Out	No heartbeat signal is received via Lan within the time interval set.
Fi = Out	No heartbeat signal is received via WIFI within the time interval set.

25. Daily Care & Maintenance

1. Clean this instrument with a soft, damp cloth. If necessary, use a mild detergent in water.
2. Do not use any harsh, abrasive material, acetone, volatile solvent, thinner, or alcohol for cleaning.
3. Verify the accuracy of this instrument periodically. Re-calibrate if necessary. In some countries, calibration requires an authorized/qualified agent. Contact your dealer for more information.
4. Store this instrument in a dry and clean place.
5. Recharge battery before and every 4 months during long time storage.

Appendix A: - PC Output Protocols

A.1 Data Abbreviation Table

Data Code	Description
,	Comma
+,-	• Polarity Sign • Positive = space. Negative = minus (-)
P	• Polarity Sign • Positive = 0. Negative = minus (-)
A	7 digits ADC value with leading space
G/N	Gross/Net • NT = Net weight • GS = Gross weight
NET	Net Weight
S	Status Code • ST for Stable • US for unstable
R	Reversed 7-digits weight value, including the location of the 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
W	7 digits weight value including location of decimal point. If there is no decimal point, then the first character = space.

A.2 Standard Output Formats Tables

Protocol 0 Output Format

Position	1	2	3	4	5	6	7	8	9	10
Data	+,-	A	A	A	A	A	A	A	CR	LF

Protocol 1 Output Format

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Data	S	S	,	G/N		+,-	W	W	W	W	W	W	W	,	U	U	CR	LF

Protocol 2 Output Format

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Data	STX	SWA	SWB	SP	Field 1 (Net Weight)						Field 2 (Tare Weight)						CR

Protocol 3 Output Format

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Data	SOH	STX	SP	+,-	W	W	W	W	W	W	W	SP	U	U	SP	SP	SP	SP	CR	LF

Protocol 4 Output Format

Position	1	2	3	4	5	6	7	8	9
Data	=	R	R	R	R	R	R	R	P

Protocol 5 Output Format

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Data	S	S	,	G/N		,	+,-	W	W	W	W	W	W	W	U	U	CR	LF

Protocol 6 Output Format

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Data	N	E	T	SP	+,-	W	W	W	W	W	W	W	U	U	CR	LF

Protocol 7 Output Format

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Data	SOH	STX	SP	+,-	W	W	W	W	W	W	W	SP	U	U	SP	SP	SP	CR	LF

Protocol 8 Output Format

Position	1	2	3	4	5	6	7	8	9	10
Data	STX	+,-	W	W	W	W	W	W	W	ETX

Protocol 9 Output Format

Position	1	2	3	4	5	6	7	8	9	10	11	12
Data	STX	+,-	SP		W	W	W	W	W	U	U	ETX

Appendix B: - Customized PC Output Protocol

This instrument supports customized PC output protocol. Under this mode: -

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

are available from instrument.

B.1 Customized PC Output Protocol Setting Procedures

1. At Weighing mode, go to F16 and select the preferred UART number depends on the output comport number.
2. Select the preferred transmission type.
3. Select PC, then set baud rate, parity, and data length.
4. Select Custom in Protocol page. Press **[Print/M+]**.
5. Instrument displays one of the data separators.
6. Press **[Unit]** to shift between data separator Comma (comma) and SemiCo (semicolon) and press **[Print/M+]**.

   Notes: -
   - Data separator is a symbol inserted between transaction data and used by a computer program to separate various data.
   - No data separator is inserted between in front or after control commands.
   - Separator in front and after a control code will not be surpassed. For example: -
     STXdata**,**data**,**dataETX
   - Exception of above is when control codes are in between 2 data. For example: -
     data**,**CR LF data
7. Instrument displays item number, then followed by the content page.

   Note: - Item number means the output sequence, e.g., Item 1 = the first content to output, Item 3 = the third content to output.
8. Press **[Unit]** or **[MR]** until the preferred content appears and press **[Print/M+]**. Refer to **Customized PC Output Content Table** for more information.
9. Repeat steps **7** and **8** to include other transaction data or control.
10. To complete and save a customized output, select **End** and press **[Print/M+]**.
11. Then select the output time interval. Refer to paragraphs **8.2** for more information.
12. Press **[Print/M+]** to save.

B.2 Customized PC Output Content Table

Symbol	Explanations	Nature	No. of Digit	Remarks
CoMMA	Comma	Data Separator	1	Select either one
SemiCo	Semicolon		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	
Status	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	Numeric value only, without weight unit
Tare	Tare Weight		8	
Gross	Gross Weight		8	
Unit	Weight Unit		2	• kg = Kilogram • (space)g =gram
H ref	Hi Limit		8	8-digital including decimal (if any)
L ref	Lo Limit		8	8-digital including decimal (if any)
Ck res	Comparison Result		2	Lo/Ok/Hi/Grade Result for grading
id	Machine ID		2	00 ~ 98, Blank = None
Group	Machine Group Number		2	00 ~ 99, Blank = None
Op Code	Operator Number		4	0000 ~ 9999, Blank = None

P Code	Product Code		1 ~ 18	Blank = not inputted
P_Desc	Product Description		1 ~ 30	Blank = not inputted
C Code	Customer Code		1~ 18	Blank = not inputted
C_Desc	Product Description		1 ~ 30	Blank = not inputted
Trans	No. of accumulated transaction		8	Blank = none
ACC	Total Accumulated Weight		8	Blank = none
unit.Wt	Average piece weight		8	8-digital including decimal (if any) in terms of gram
Qty	Number of pieces		8	8-digital
t._.Qty	Total Accumulated Pieces		8	8-digital
Animal	Weight Hold (Animal Weighing)		8	8-digital including decimal
t._GS	Accumulated Gross Weight		8	8-digital including decimal
t._Tare	Accumulated Tare Weight		8	
Expiry	Expiry Duration		8	
Abnr	Last Alibi Record Number Saved. *Do not use this parameter if Alibi memory function is not activated.*		8	
CHKS	Check Sum of all content at the left side		2	
End	End of Input	Control Code	None	

Appendix C: - Lab 1 Output Formats

No header generated when line number is set = 00. See below tables for print format illustrations and explanations.

C.1 Weighing, ATM & Animal Mode Predefined Output Format Illustration

Date	Time	Seq	Mode		Net	Tare	Gross	Total	Result
2021-03-28	20:36:28	1	W		1.500kg	0.000kg	1.500kg	1.500kg	Accept
2021-03-28	20:36:30	2	W		1.500kg	0.000kg	1.500kg	3.000kg	Accept
2021-03-28	20:36:31	3	W		1.500kg	0.000kg	1.500kg	4.500kg	Accept
2021-03-28	20:36:33	4	W		3.000kg	0.000kg	3.000kg	7.500kg	Above

C.2 Piece Count Mode Predefined Output Format Illustration

Date	Time	Seq	Mode	Net	Tare	Gross	Total_WT	QTY	@WT	Total_QTY	Result
2021-03-28	11:43:00	1	C	5.000kg	0.000kg	5.000kg	5.000kg	10	499.968 g	10pcs	Below
2021-03-28	11:43:02	2	C	10.000kg	0.000kg	10.000kg	15.000kg	20	499.968 g	30pcs	Below
2021-03-28	11:43:05	3	C	15.000kg	0.000kg	15.000kg	30.000kg	30	499.968 g	60pcs	Accept
2021-03-28	11:43:08	4	C	19.996kg	0.000kg	19.996kg	49.996kg	40	499.968 g	100pcs	Accept

Explanations: -

- Date = Date of Output
- Time = Time of Output
- Seq = Accumulate Sequence No
- M = Working Mode
  - W = Weighing, C = Piece count, P = Percentage
- Net = Net Weight
- Tare = Tare Weight
- Gross = Gross Weight
- Total_WT = Total Accumulated Weight
- @WT = Average piece weight
- Total_QTY = Total Accumulated Quantity
- Result = Check Result: -
  - Accept = Within Lo & Hi limit
  - Below = Lower than Lo limit
  - Above = Higher than Hi Limit

C.3 Customized Lab 1 Output

This instrument supports customized Lab 1 output format. Under this output: -

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

are available from instrument.

Customized Lab 1 Output Setting Procedures

1. Select Custom in output format page. Press **[Print/M+]**.
2. Instrument displays one of the data separators.
3. Press **[Unit]** to shift between data separator Comma (comma) and SemiCo (semicolon) and press **[Print/M+]**.

   Notes: -
   - Data separator is a symbol inserted between transaction data and used by a computer program to separate various data.
   - No data separator is inserted between in front or after control commands.
   - Separator in front and after a control code (C1 ~ C6) will not be surpassed. For example: -
     STXdata**,**data**,**dataETX
   - Exception of above is when control codes are in between 2 data. For example: -
     data**,**CR LF data
4. Instrument displays item number, then followed by the content page.
   Note: - Item number means the output sequence, e.g., Item 1 = the first content to output, Item 3 = the third content to output.
5. Press **[Unit]** or **[MR]** until the preferred content appears and press **[Print/M+]**. Refer to table **B.2** for detailed selectable output content information.
6. Repeat steps **5** and 6 to include other content to output
7. To complete and save a customized output, select **End** and press **[Print/M+]**.
8. Then select line number and press [Print/M+] to save. Line number is the number of transactions sent after which the header will be repeated.
9. Setup is then completed.

Appendix D: - Lab 2 Standard Output Format

See below tables for print format illustrations and explanations.

D.1. Weighing & ATM Mode Illustration

Time	21:39:17	*Time of Output*
Date	2021-03-28	*Date of Output*
Seq	1	*Accumulate Sequence No.*
Name	Customer Code	*Customer Code (if inputted)*
Customer Description		*Customer Description (if inputted)*
Code	Product Code	*Product Code (if inputted)*
Product Description		*Product Description (if inputted)*
Net	3.006kg	*Net Weight*
Tare	0.000kg	*Tare Weight*
Gross	3.006kg	*Gross Weight*
Total	3.006kg	*Total Accumulated Net Weight*
High	3.500kg	*Hi Limit (if inputted)*
Low	2.500kg	*Lo Limit (If inputted)*
Accept		*Check Result*

D.2 Piece Count Mode Illustration

Time	21:40:48	*Time of Output*
Date	2021-03-28	*Date of Output*
Seq	1	*Accumulate Sequence No.*
Name	Customer Code	*Customer Code (if inputted)*
Customer Description		*Customer Description (if inputted)*
Code	Product Code	*Product Code (if inputted)*
Product Description		*Product Description (if inputted)*
Net	3.004kg	*Net Weight*
Total_WT	1.50004g	*Tare Weight*
QTY	2003pcs	*Count Value*
@WT	3.004kg	*Total Accumulated Net Weight*
Total_QTY	2003pcs	*Total Accumulated Count Value*
High	2500pcs	*Hi Limit (if inputted)*
Low	1500pcs	*Lo Limit (If inputted)*
Accept		*Check Result*

D.3 Animal Weighing Mode Illustration

Time	21:43:12	*Time of Output*
Date	2021-03-28	*Date of Output*
Seq	1	*Accumulate Sequence No.*
Name	Customer Code	*Customer Code (if inputted)*
Customer Description		*Customer Description (if inputted)*
Code	Product Code	*Product Code (if inputted)*
Product Description		*Product Description (if inputted)*
Hold.W	2.998kg	*Weight Held*
Total	2.998kg	*Total Accumulated Weight*

Appendix E: - Customizing Lab 2 Print Format

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

E.1 Print Output Format Variants Table

Variant	Description	Output Sample
End	End of Input	Not Visible
Cr LF	Hex Code 0D 0A	Not Visible
dAtE	Date of Output	Date 2021-03-25
tiME	Time of Output	Time 17:24:04
nEt	Net Weight	Net 15.000kg
tArE	Tare Weight	Tare 0.000kg
GroSS	Gross Weight	Gross 15.000kg
Unit	Average piece weight	@WT 49.9997g
Count	Number of piece	QTY 400pcs
H rEF	Hi Limit	High 6.000kg
L rEF	Lo Limit	Low 2.000kg
Ani	Weight Hold (Animal Weighing)	Hold.W 0.000kg
Ch rES	Comparison Result	Result Above
trAnS	No. of accumulated transaction	Seq 2
ACC	Total Accumulated Weight	Total_WT 20.000kg
	Total Accumulated Count (**Note A**)	Total_QTY 2000pcs
SiGn	Signature Line	_____
P Code	Product Code	Pcode 10i
P discs	Product Description	Super Indicator
Id	Machine ID	Mac 11
GrouP	Machine Group Number	MacGp 22
oPCodE	Operator Number	Opr 8888
C CodE	Customer Code	Name FM
C dESC	Product Description	Fidelity Measurement
Week	Week value and Year	Weeks 1320
t_GS	Accumulated Gross Weight	Total_GS 20.000kg
t_ tArE	Accumulated Tare Weight	Total_TA 0.000kg
Expiry	Expiry Duration	Expiry 2021-03-25
Abnr	Last Alibi Record Number Saved. *Do not use this parameter if Alibi memory function is not activated.*	12567

Note A: This line is generated when all the below conditions are met: -

a. Instrument is in Piece Count Mode, and
b. ACC is selected.

E.2 To Edit Custom Lab 2 Print Output Format

Follow the below steps to create a customized printout.

1. Depends on the working modes: -
   - Go to F22 to edit custom output for Weighing and ATM mode. Maximum 30 variants can be inputted.
   - Go to F23 to edit custom output for Piece Count mode. Maximum 30 variants can be inputted.
   - Go to F24 to edit custom output for Animal Weighing mode. Maximum 12 variants can be inputted.
2. Press **[Print/M+]**, then **[Unit]** until **Custom** appears.
3. Press **[Print/M+]**,
4. This instrument displays **Line 1** and the last variant or command (refer to **Appendix E.2** for more information) stored,
5. Press **[Print/M+]** to confirm or select other variant or command by pressing **[Unit]** or **[MR]**. Press **[Print/M+]** to confirm and save,
6. This instrument displays **Line 2** and the last variant or command stored,
7. Repeat steps **4** and **5** for other lines,
8. To finish editing, select **End** and press **[Print/M+]** to confirm,
9. This instrument returns to and displays the current internal function number.

At this point, customized Lab2 output format editing is completed.

Appendix F: - Lab 3 Output Format

See below tables for print format illustrations and explanations.

Function & Output	Weighing	Count	ATM Mode	Animal
Data 1	Operator Number			
Data 2	Accumulate Sequence No			
Data 3	0	1	2	4
Data 4	Machine ID			
Data 5	Machine Group			
Data 6	Date of Output			
Data 7	Time of Output			
Data 8	Customer Code			
Data 9	Product Code			
Data 10	Gross Weight			
Data 11	Tare Weight			
Data 12	Net Weight			
Data 13	Lo Limit (if inputted)	Total Accumulated Net Weight	Lo Limit (if inputted)	Total Accumulated Net Weight
Data 14	Hi Limit (if inputted)	Weight Unit	Hi Limit (if inputted)	Weight Unit
Data 15	Check Result	No. of Pieces	Check Result	CR (Hex code 0D)
Data 16	Total Accumulated Net Weight	Average piece weight	Total Accumulated Net Weight	LF (Hex Code 0A)
Data 17	Weight Unit	Weight Unit of average piece weight	Weight Unit	
Data 18	CR (Hex code 0D)	Lo Limit (if inputted)	CR (Hex code 0D)	
Data 19	LF (Hex Code 0A)	Hi Limit (if inputted)	LF (Hex Code 0A)	
Data 20		Check Result		
Data 21		Total Accumulated No. of Pieces		
Data 22		CR (Hex code 0D)		
Data 23		LF (Hex Code 0A)		

Note: - Semicolon is inserted between data.

Appendix G: - Lab 4 Output Format

See below tables for print format illustrations and explanations.

Weighing Mode	Piece Count Mode	ATM Mode	Animal Weighing Mode	***Explanation***
Name FM	Name FM	Name FM	Name FM	*Customer Code (if inputted)*
Pcode 10I	Pcode 10I	Pcode 10I	Pcode 10I	*Product Code (if inputted)*
Opr 8888	Opr 8888	Opr 8888	Opr 8888	*Operator No (if inputted)*
Mac 11	Mac 11	Mac 11	Mac 11	*Machine ID (if inputted)*
MacGp 22	MacGp 22	MacGp 22	MacGp 22	*Machine Group No. (if inputted)*
Date 2021-03-25	Date 2021-03-25	Date 2021-03-25	Date 2021-03-25	*Date of Output*
Time 16:13:40	Time 15:48:47	Time 16:11:22	Time 15:55:27	*Time of Output*
Seq Gross Net	Seq QTY Net	Seq Gross Net	Seq Gross Net	
001 5.000 5.000 kg	001 100 5.000 kg	001 4.999 4.999 kg	001 5.000 5.000 kg	*Accumulation No., Gross or No. of pieces & Net Weight*
002 10.000 10.000 kg	002 200 10.000 kg	002 10.000 5.000 kg	002 10.000 10.000 kg	
003 15.000 15.000 kg	003 300 15.000 kg	003 15.000 5.000 kg	003 15.000 15.000 kg	
004 20.000 20.000 kg	004 400 19.998 kg	004 0.000 -15.000 kg	004 19.998 19.998 kg	
----------	----------	----------	----------	
				Total Accumulation No., No. of pieces and net weight
004 50.000 kg	004 1000 49.998 kg	004 -0.001 kg	004 49.998 kg	
Max 20.000 kg	Max 19.998 kg	Max 19.998 kg	Max 19.998 kg	*Maximum Value*
Min 5.000 kg	Min 5.000 kg	Min 5.000 kg	Min 5.000 kg	*Minimum Value*
Diff 15.000 kg	Diff 14.998 kg	Diff 14.998 kg	Diff 14.998 kg	*Differentiation (Max-Min)*
x 12.5000 kg	x 12.4995 kg	x -0.0003 kg	x 12.4995 kg	*Mean (Average) Value*
Sd 6.4550 kg	Sd 6.4542 kg	Sd 15.8109 kg	Sd 6.4542 kg	*Standard Deviation*
Srel 51.6400 %	Srel 51.6357 %	Srel -5270300 %	Srel 51.6357 %	*Relative Standard Deviation*
----------	----------	----------	----------	

Appendix H: - Lab 5 Output Format

See below tables for print format illustrations and explanations.

Weighing	Piece Count	ATM	Animal Weighing	***Explanation***
Name FM	Name FM	Name FM	Name FM	*Customer Code (if inputted)*
Pcode 10I	Pcode 10I	Pcode 10I	Pcode 10I	*Product Code (if inputted)*
Opr 8888	Opr 8888	Opr 8888	Opr 8888	*Operator No (if inputted)*
Mac 11	Mac 11	Mac 11	Mac 11	*Machine ID (if inputted)*
MacGp 22	MacGp 22	MacGp 22	MacGp 22	*Machine Group No. (if inputted)*
Date 2021-03-25	Date 2021-03-25	Date 2021-03-25	Date 2021-03-25	*Date of Output*
Seq Time Net	Seq Time QTY	Seq Time Net	Seq Time Net	
001 16:48:24 5.000 kg	001 16:49:12 100	001 16:50:15 5.000 kg	001 16:50:54 5.000 kg	
002 16:48:28 10.000 kg	002 16:49:15 200	002 16:50:18 5.000 kg	002 16:51:03 10.000 kg	
003 16:48:31 15.000 kg	003 16:49:19 300	003 16:50:20 5.000 kg	003 16:51:12 15.000 kg	*Accumulation No., Time of Output, Gross or No. of pieces & Net Weight*
004 16:48:36 19.990 kg	004 16:49:25 400	004 16:50:21 -15.000 kg	004 16:51:22 20.000 kg	
----------	----------	----------	----------	
004 Total: 49.990 kg	004 Total: 1000	004 Total: 0.000 kg	004 Total: 50.000 kg	*Total Accumulation No., No. of pieces and net weight*
Max 19.990 kg	Max 20.000 kg	Max 20.000 kg	Max 20.000 kg	*Maximum Value*
Min 5.000 kg	Min 5.000 kg	Min 5.000 kg	Min 5.000 kg	*Minimum Value*
Diff 14.990 kg	Diff 15.000 kg	Diff 15.000 kg	Diff 15.000 kg	*Differentiation (Max-Min)*
x 12.4975 kg	x 12.4998 kg	x 0.0000 kg	x 12.5000 kg	*Mean (Average) Value*
Sd 6.4511 kg	Sd 6.4551 kg	Sd 15.8112 kg	Sd 6.4550 kg	*Standard Deviation*
Srel 51.6191 %	Srel 51.6416 %	Srel 99483647 %	Srel 51.6400 %	*Relative Standard Deviation*
----------	----------	----------	----------	

Appendix I: - TSC Printer Installation, Setup & Label Upload Procedures

I.1 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 the printer. This tool usually comes with the printer. If not, contact your printer supplier or download it at – https://www.fi-measurement.com/files/1/Drivers%20&%20Softwares/DiagTool_V163.zip
4. TCF file for the label printer. The suitable TCF file can be downloaded at: - www.fi-measurement.com/resource/driversnsoftwares

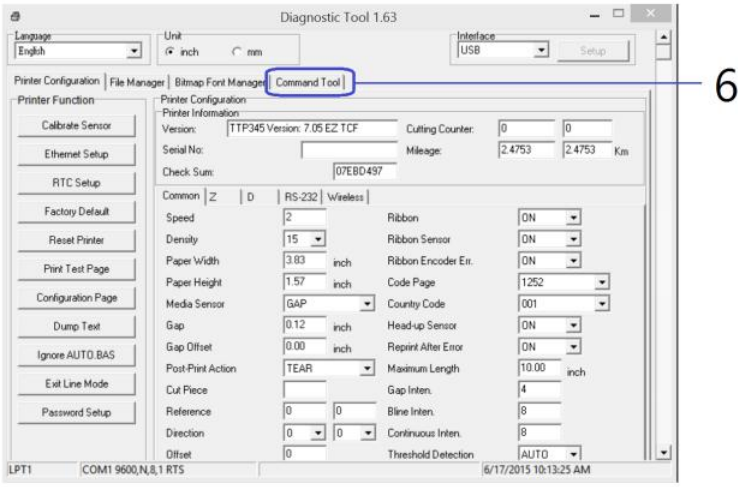
I.2 Printer Installation

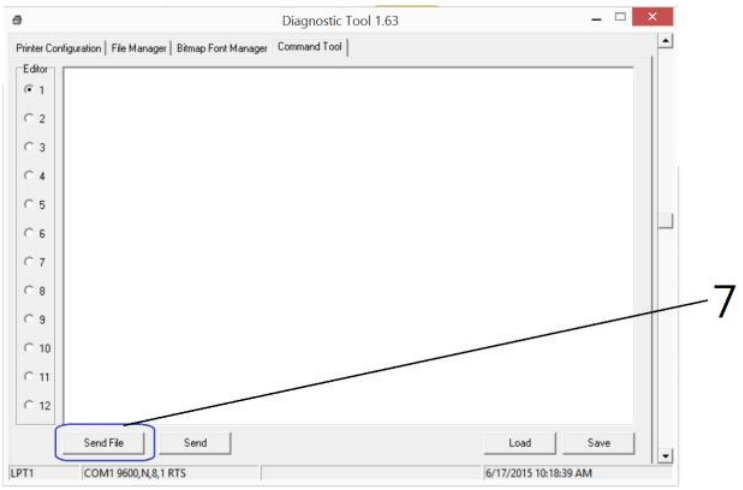
1. Turn off the printer, connect the appropriate cable, and then turn on the printer.
2. If the printer supports Plug-and-Play and is connected, the Windows Add Hardware Wizard will detect the printer and display a dialog for driver installation. Click Cancel and do not install the driver using this 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 is now installed.

I.3 Uploading TCF File to Printer

To allow proper operation between instrument and the TSC label printer, a TCF file must be uploaded to the printer.

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





I.4 Create & Upload Label to TSC Printer

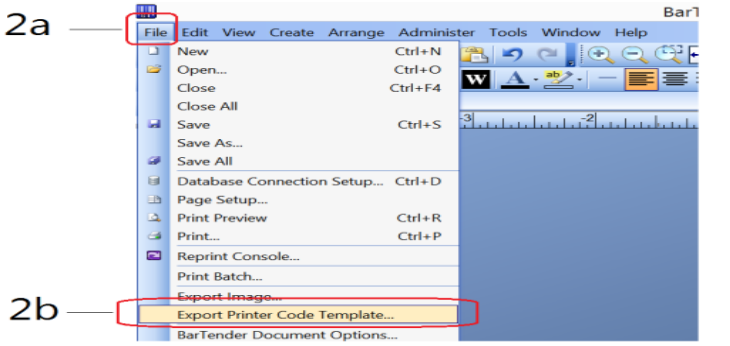
I.4.1 Selecting the Correct Edition for Bartender Software

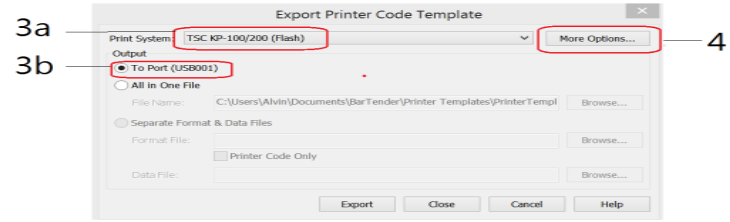
1. To enable label uploading from computer to TSC printer, it is necessary to run Bartender as Automation or Enterprise Automation edition. Procedures as below: -
2. Install Bartender Software to the computer. The Bartender software usually comes with the TSC printer. If not, please contact your printer supplier.
3. Run Bartender, then click on Help, then click on Edition Selection.
4. Select Enterprise Automation or Automation, then click OK.
5. At this point, the correct Bartender edition is selected.

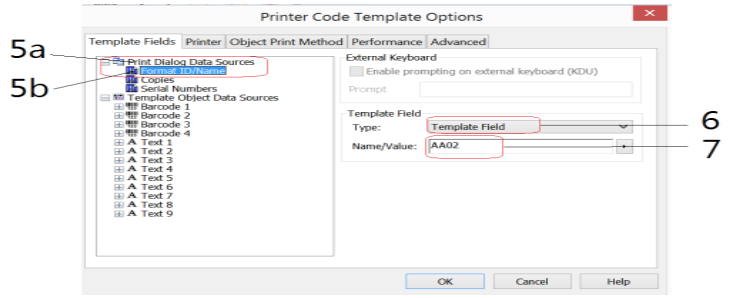
I.4.2 Adding Information from Instrument to Label & Uploading to a TSC Printer

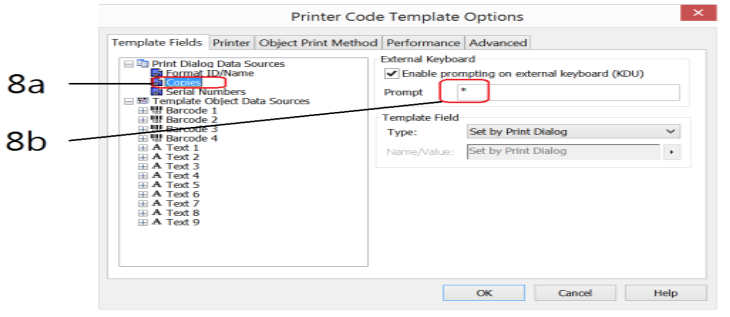
The below procedures are based on Bartender Label Software. If a different label creating software is used, contact your label software dealer for more details if in doubt.

1. Set the label printer as the default printer of your computer.
2. Create the foundation of a label by Bartender. All information to be obtained from instrument should be added afterward.
3. Once the label foundation has been completed, (a) click on File and (b) select Export Printer Code Template.
4. On Print System, (a) select TSC KP-100/200 (Flash) and (b) select to Port.
5. Click More Option.
6. Then (a) click Print Dialog Data Sources, then (b) click on Format ID/Name.
7. On Template Field, select Template Field for Type.
8. Input the correct label file name on Name/Value. Refer to paragraph **18.1** for the valid file name format. (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 (net, gross, tare weight, and product code) to be sent and printed on the label.

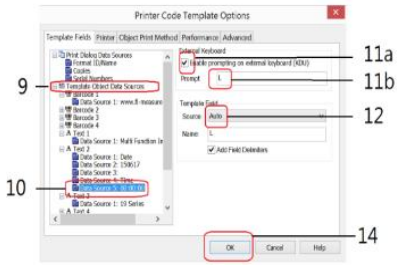


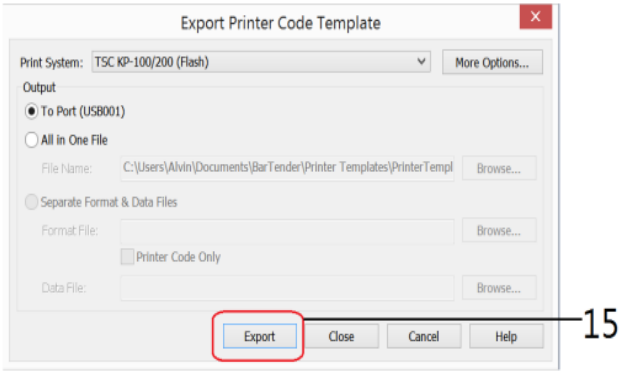






11. Double click on the preferred data source to which variant(s) has/have to add.
12. Check the box below External Keyboard, then
13. input the appropriate command on the Prompt Box (refer to Appendix **K.1** for command detail).
14. Select Auto on the Source box under Template Field.
15. Repeat steps 11 to 12 for all other data sources.
16. Click OK.
17. Click Export. Verification Messages appear. Select one of the methods on the dialogue box to fix and click Continue.





Appendix J: - Sbarco Printer Installation, Setup & Label Upload Procedures

J.1 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. A serial cable to connect printer and this instrument. Pin #9 of this cable must be without any connection.
3. Download BarDrawer software at http://www.sbarcotech.com/cht/download.php?gid=1

J.2 BarDrawer Software & Printer Driver Installation

1. Turn off the printer, connect the computer and printer by cable, and turn on the printer.
2. Install BarDrawer software according to the wizard. After that, BarDrawer software is installation is done.
3. Run BarDrawer software.
4. Click Install Driver under Tools (figure 1 below). Then install printer driver according to the wizard.
5. After printer driver installation, click Printer Utility under Tools (figure 2 below).
6. Click Load from Printer (figure 3 below).
7. Check FW version: -
8. If FW version = 3.0.05 (date = 2020/12/18) or newer, printer installation is done.
9. If FW version is lower than 3.0.05 (date = 2020/12/18), then FW update is necessary. Continue with the below step for FW update.
10. Download the latest Sbarco Printer FW at https://www.fi-measurement.com/resource/driversnsoftwares
11. Open file located of the Sbarco printer FW downloaded.
12. Double click on the FW file name to start Firmware Tool.
13. Click Program (figure 4 below) to start FW update.
14. Click OK after FW update is completed.

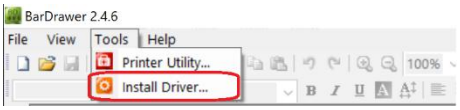


Figure 1

Figure 2

Figure 3

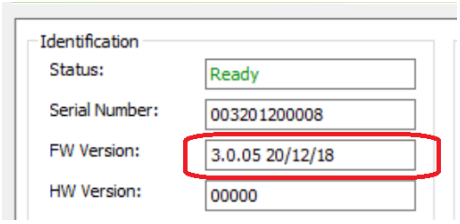


Figure 4

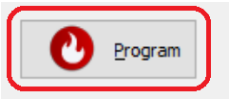


Figure 5

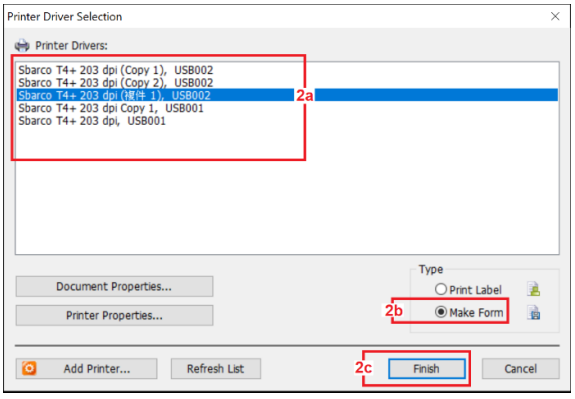
J.3 Create & Upload Label to Sbarco Printer

1. Run BarDrawer. Click File and then New.

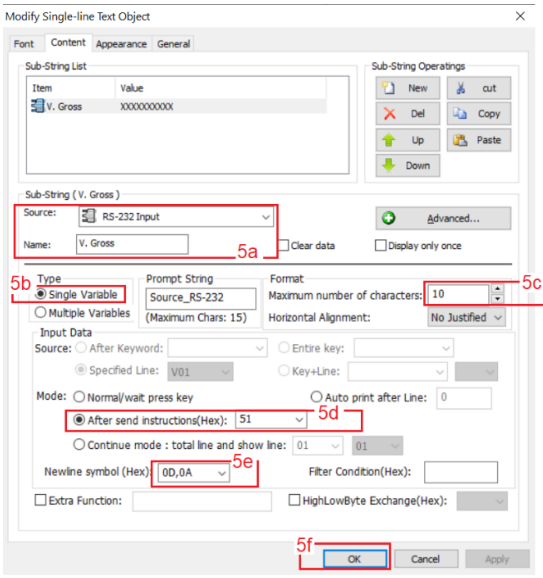
2. On Printer Driver Selection page: -
   a. click on the preferred printer driver, then
   b. select Make Form under Type, then
   c. click Finished.

3. Double click in the blank label area, then complete all settings on Page, Label Layout, Measurements, and Orientation. Then click OK

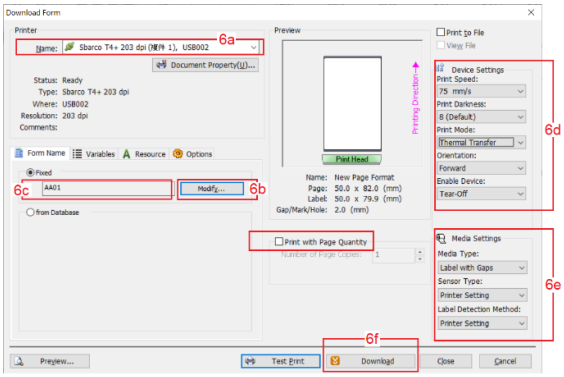
4. Create all fixed content and variables on the label.



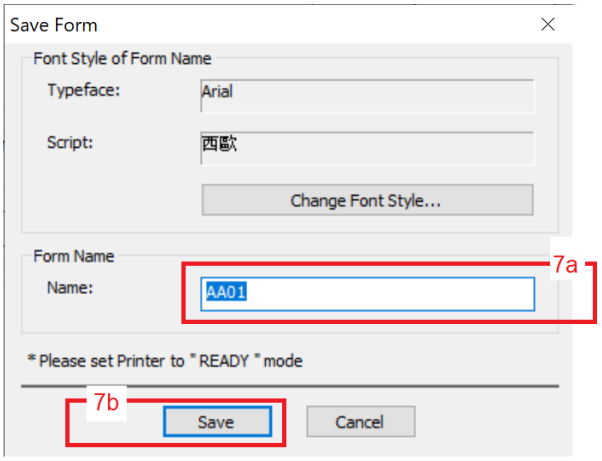
5. To program variables, double click on the variable to program. On Content page: -
   a. on Sub-String section, select RS-232 Input for Source and give a proper name to the select variable (optional)
   b. on Type section, select Single Variable,
   c. on Format section, input value of Maximum number of characters. Refer to Appendix **K.1** Suggested Length column for suggested value.
   d. on Input Data section, select After send instructions (Hex). Then input the Prompt Command listed on **K.1**.
   e. Always select 0D,0A for Newline symbol (Hex) box.
   f. Click OK to save the above settings for this variable.
   g. Repeat above a ~ f for all other variables.



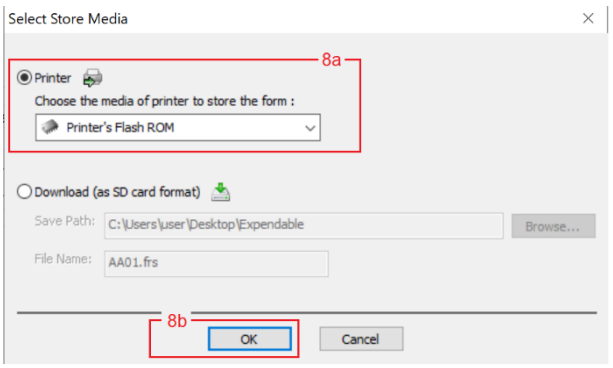
6. Once the label foundation has been completed, then click on File, then click on Print. On Download Form page: -
   a. select name of Print to output,
   b. click Modify and then give a proper name to the file (e.g., AA01… AA99 for an individual transaction label and BB01…BB99 for a totalized label).
   c. always leave Print with Page Quantity box unchecked.
   d. set all boxes under Device Settings,
   e. set of boxes under Media Settings
   f. Click Download.



7. On Save Form page: -
   a. make sure that the Form name is correct, then
   b. Click Save



8. On Select Store Media page: -
   a. select Printer, then
   b. select Printer's Flash ROM, then
   c. click OK



Appendix K: - Label Programming, Illustration & Samples

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

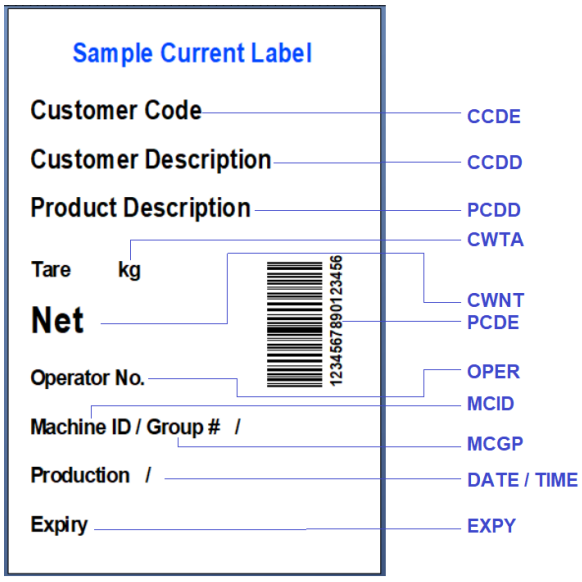
K.1 Label Prompt Command Table

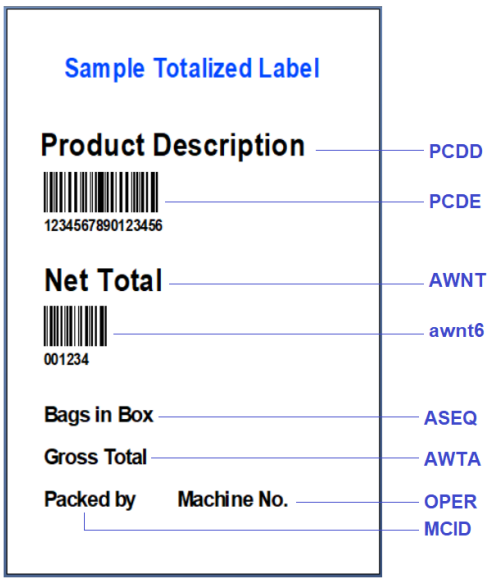
Prompt Command		Description	Suggested Length
Sbarco	**LP50 & TSC**		
4B	DATE	Date	10
4C	TIME	Time	8
45	EXPY	Expiry Date	10
46	WEEK	Week	6
66	OPER	Operator No.	4
64	MCID	Machine ID	4
65	MCGP	Machine Group	2
5A	CCDE	Customer Code	18
43	CCDD	Customer Code Description	30
62	PCDE	Product Code	18
44	PCDD	Product Code Description	30
53	CHKL	Low Limit	11
73	chkl	Low Limit in 6-digit integer	6
52	CHKH	High Limit	11
72	chkh	High Limit in 6-digit integer	6
54	CHKR	Check Result	11
51	CWGS	Current Gross Weight	10
71	cwgs	Current Gross Weight in 6-digit integer	6
50	CWTA	Current Tare Weight	10
70	cwta	Current Tare Weight in 6-digit integer	6
4F	CWNT	Current Net Weight	10
6F	cwnt	Current Net Weight in 6-digit integer	6

55	CQTY	Quantity	11
75	cqty	Quantity in 6-digit integer	6
56	AVGW	Average piece weight	10
76	avgw	Average piece weight in 6-digit integer	6
59	CWNT	Current Animal Weight	11
79	cwnt	Current Animal Weight in 6-digit integer	6
4D	ASEQ	Accumulation Sequence No.	8
6D	aseq	Accumulation Sequence No. in 6-digit integer	6
47	AWGS	Accumulated Gross Weight	11
67	awgs	Accumulated Gross Weight in 6-digit integer	6
4A	AWTA	Accumulated Tare Weight	11
6A	awta	Accumulated Tare Weight in 6-digit integer	6
4E	AWNT	Accumulated Net Weight	11
6E	awnt	Accumulated Net Weight in 6-digit integer	6
63	AQTY	Accumulated Quantity	11
69	aqty	Accumulated Quantity in 6-digit integer	6
4E	AWNT	Accumulated Animal Weight	11
6E	awnt	Accumulated Animal Weight in 6-digit integer	6
68	ABNR	Last Alibi Record Number Saved *Do not use this parameter if Alibi memory function is not activated.*	8

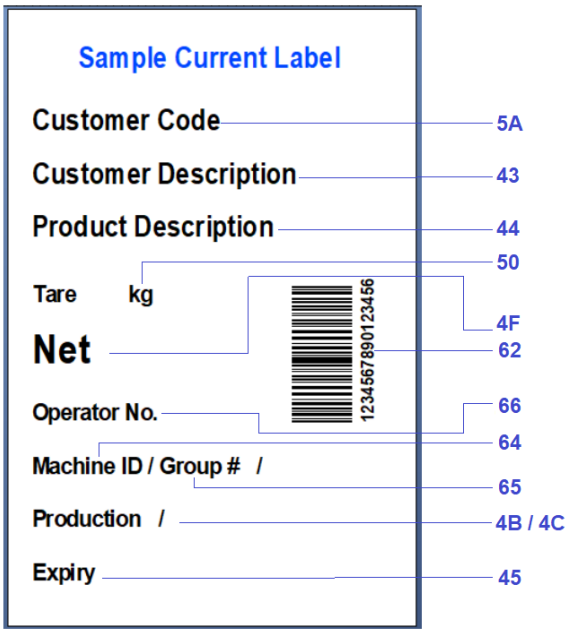
K2. Label programming Illustration

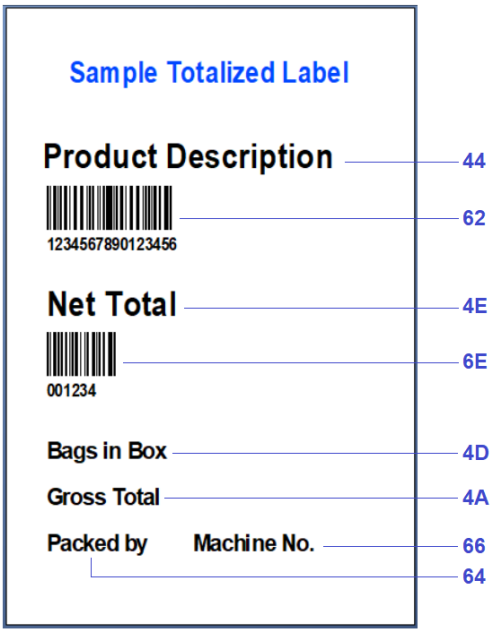
K.2.1 Label Illustration for LP50 & TSC





K.2.2 Label Illustration for Sbarco





K.3 Sample Labels

Label files of the above samples (size = 50 x 80mm) with prompt commands are available for download at: - https://www.fi-measurement.com/resource/driversnsoftwares

Appendix L: - Keyboard Commands[30]

Keyboard commands can be sent to this instrument from a computer through any standard communication program to simulate keyboard entries. Keyboard command format as below: -

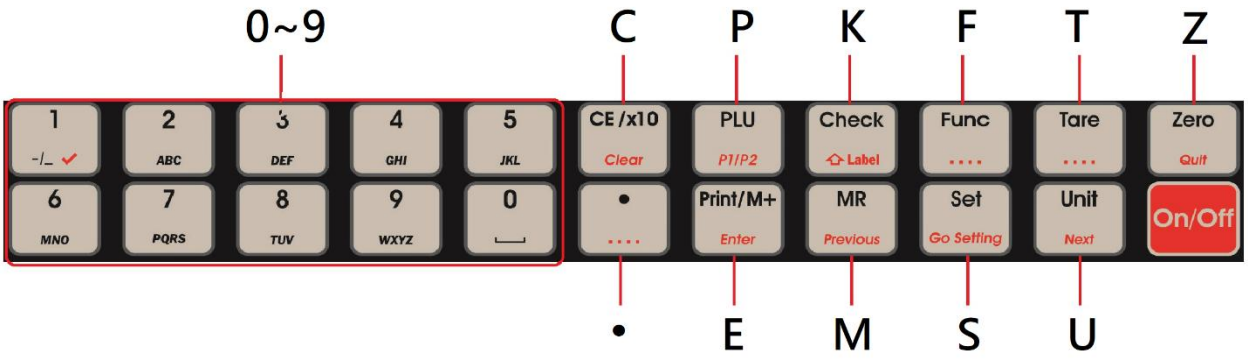
a. Start String ***** "asterisk" (Hex code 02A), followed by
b. Letters KB, followed by
c. The letter shown on the below illustration diagram (keyboard commands are case sensitive), followed by
d. End String **#** "number sign" (Hex code 23).

Example to send manual Zero key command to instrument, input *KBA#

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Keyboard Command Illustration Diagram



30 Keyboard commands are case sensitive.

Appendix M: - System Execution Commands

System execution command format as below: -

a. Start String ***** “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Definition	Command Format			
	Start String	Command Code		End String
System Reboot	*	EX	F000	#
All Segment Check	*	EX	F002	#
System (F7~F34) Initialization	*	EX	F006	#
Reset WIFI Module to Default Setting	*	EX	F048	#
Reset Bluetooth Module (BT 2.0 only)	*	EX	F053	#
Reload Factory Settings to BT Module (BT 2.0 only)	*	EX	F054	#
Save changes and restart	*	EX	F999	#

Appendix N1: - Management Report Execution Commands

Management report execution command format as below: -

a. Start String ***** “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Definition	Command Format				Parameter Description
	Start String	Command Code		Parameter & End String	
Output all data in Alibi memory.	*	EX	RPTA	;d1;d2;d3;d4 #	Search Criteria • d1 = Operator number 0000~9999. Blank = all. • d2 = C Code. 1~18 digit Customer Code. Blank = all. • d3 = P Code. 1~18 digit Product Code. Blank = all. • d4 = Check Result. Lo = Below; OK = Accept; Hi = Above; NG = Lo or HI. Blank = all.
Output data of today in Alibi memory.	*	EX	RPTD	;d1;d2;d3;d4 #	
Output data of current month in Alibi memory.	*	EX	RPTM	;d1;d2;d3;d4 #	
Output data for a specific period in Alibi memory.	*	EX	RPTP	;d1;d2;d3;d4 ;d5;d6#	Search Criteria • d1 = Data starting date. 6 digit according F4 setting. • d2 = Data ending date. 6 digit according F4 setting • d3 = Operator number 0000~9999. Blank = all. • d4 = C Code. 1~18 digit Customer Code. Blank = all. • d5 = P Code. 1~18 digit Product Code. Blank = all. • d6 = Check Result. Lo = Below; OK = Accept; Hi = Above; NG = Lo or HI. Blank = all.
Output data for a specific system sequence range in Alibi memory. (**See Appendix N2**)	*	EX	RPTR	;d1;d2#	• d1 = Starting number of the system sequence (range: 0 to 131071). • d2 = Ending number of the system sequence (range: 0 to 131071).

					Note: The search criteria function is disabled under this command. All content within the data range will be outputted.
Output the last data in Alibi memory. (**See Appendix N2**)	*	EX	RPTL	#	**Note:** The search criteria function is disabled under this command. All content within the data range will be outputted.

Appendix N2: - Relationship between ABSN (Alibi Memory Address Number) and ABNR (Alibi Record Number)

N2.1 About Alibi Memory Address Number (ABSN)

- ABSN is the actual physical address of a transaction record in the Alibi memory.
- The ABSN ranges from 0 to 131,071. After reaching 131,071, it resets to 0 and starts counting again.

N2.2 About Alibi Record Number (ABNR)

- ABNR is a unique number assigned to a transaction record.
- The ABNR ranges from 0 to 99,999,999. After reaching 99,999,999, it resets to 0 and begins counting again.

N2.3 Cycle Relationship:

Assuming both the ABSN and ABNR start at 0, when the ABNR surpasses 131,071, it indicates that the Alibi Memory Address Number (ABSN) has completed one full cycle. Each additional cycle of the ABSN is represented by a corresponding increase in the ABNR value beyond 131,071.

N2.4 Example Scenario

Assuming both the ABSN and ABNR start at 0:

- From 0 to 131,071, the values of ABSN and ABNR are identical.
- After 131,071, the ABSN resets to 0, but the ABNR continues to increase. This means that from this point forward, the ABNR will always be higher than the ABSN.

Detailed Example

- Assume both the ABSN and ABNR start from 0.
- When ABNR is 800,000:
  1. Each complete cycle of ABSN is 131,072 (0 to 131,071).
  2. Determine how many full cycles have been completed:
     - Divide ABNR by the cycle length of ABSN: 800,000/131,072 = 6 full cycles, with a remainder.
  3. Calculate the remainder to find the current ABSN value:
     - $800{,}000-(6\times131{,}072) = 800{,}000-786{,}432=13{,}568$.

Result:

- When ABNR = 800,000, the corresponding ABSN = 13,568.
- This indicates that the ABSN has completed 6 full cycles and is currently at 13,568 in the 7th cycle.

Appendix O: - System Parameter & Operation Entry Setting Commands

System parameter & operation entry setting command format as below: -

a. Start String ***** "asterisk" (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. Parameter(s) listed on the below table. Always insert semicolon (;) in front of each parameter, followed by
d. End String **#** "number sign" (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Description Table

Command Definition	Command Format				Parameter Description
	Start String	Command Code		Parameter & End String	
Set Date Format, Value and Output	*	ST	F004	;d1;d2;d3#	• d1 = Date Format (0 = DD-MM-YY, 1 = YY-MM-DD, 2 = MM-DD-YY) • d2 = 8-digit date value as per above setting (AA-BB-CC) • d3 = Date Output Format (0 = Normal Format, 1 = Week Format)
Set Time	*	ST	F005	;d1#	8-digit time value (HH:MM:SS)
Set Auto Power Off	*	ST	F007	;d1#	0 = Off, 1 = 1 minute, 2 = 3 minute, 3 = 5 minute 4 = 10 minute, 5 = 20 minute, HH:MM:SS = exact power off time
Set Brightness and Color Ratio	*	ST	F008	;d1;d2#	• d1 = Brightness (01~99) • d2 =Color Ratio (01~99)
Set Filter Strength & AD Conversion Speed	*	ST	F010	;d1;d2#	• d1= Filter (1~9 for Filter 1~9) • d2 = AD Conversion Speed (015/030/060/120)
Set Auto Tare Function	*	ST	F012	;d1#	M = Off, A = Auto, 00 ~ 99 = Continuous tare (in term of 1/10 second)
Set Repetitive Tare Function	*	ST	F013	;d1#	0 = Off, 1 = On

Set Buzzer	*	ST	F014	;d1;d2;d3#	• d1 = Keyboard Buzzer (0 = Off, 1 = On) • d2 = System Buzzer (0 = Off, 1 = On) • d3 = Non-Resettable Memory Buzzer (0 = Off, 1 = On)
Set Result Buzzer & Action on Negative Value	*	ST	F015	;d1;d2#	• d1 = Check Buzzer (0 = Off, 1 = IN, 2 = Out, 3 = Hi, 4 = Lo) • d2 = Action on Negative Value (0 = Off, 1 = On)
Set Keyboard Lock	*	ST	F020	;d1#	0 = Off, 1 = On
Set Near Zero Value	*	ST	F026	;d1#	Maximum 8 digits including decimal (if any)
Set Ask for Operator Number when Power On	*	ST	F028	;d1#	0 = No, 1 = Yes
Set Allow Letters and Symbols for Customer & Product Code Manual Entry	*	ST	F030	;d1#	0 = No, 1 = Yes
Set External Input Assignment	*	ST	F032	;d1;d2;d3#	• d1= Int 1 (0~5) • d2 = Int 2 (0~5) • d3 = Int 3 (0~5) 0 = Zero, 1 = Tare, 2 = Print/M+, 3 = MR, 4 = Clear, 5 = Unit, 6 = Set, 7 = Check, 8 = Func
Set Report Output Comport	*	ST	F033	;d1#	0 = UART 0; 1 = UART 1; 2 = UART 2; 3 = UART 3; 4 = UART 4; 5 = LAN; 6 = Disk
Set Customer Code and Description	*	ST	CCDE	;d1;d2#	d1 =1~18-digit Customer Code. Blank = nothing d2 = 1~30 Customer Code Description. Blank = nothing
Set Product Code and Description	*	ST	PCDE	;d1;d2#	• d1 =1~18-digit Product Code. Blank = nothing • d2 = 1~30 Product Code Description. Blank = nothing
Set Weight Check Limits	*	ST	CHKW	;d1;d2#	• d1= Lo limit (Maximum 8 digit including decimal, if any). Blank = nothing • d2 = Hi limit (Maximum 8 digit including decimal, if any). Bank = nothing
Set Quantity Check Limits	*	ST	CHKQ	;d1;d2#	• d1= Lo limit. No decimal will be accepted. Blank = nothing • d2 = Hi limit. No decimal will be accepted. Blank = nothing
Set Pre-set Tare Value **(Note O1)**	*	ST	PSTA	;d1#	Maximum 8 digit including decimal

Set @WT	*	ST	AVGW	;d1#	Maximum 8 digit including decimal
Set Expiry Duration	*	ST	EXPY	;d1#	4 digits. 0000 = today, 9999 = 9999 days plus today

Note O1: - If old preset tare value already exists in memory, 2 command strings are necessary: -

a. 1st command string to clear this old preset tare value first.
b. 2nd command string to set new preset tare value.

Appendix P1: - System Parameter & Operation Entry Reading Commands

Operation entry reading command format as below: -

a. Start String ***** “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Description Table

Command Definition	Command Format				Parameter Output	Parameter Description
	Start String	Command Code		End String		
Read Internal AD value	*	RD	F001	#	d1	8 digit AD value
Read Capacity, Division & Default Weight Unit	*	RD	F003	#	d1;d2	d1 = Capacity x Division of W1 d2 = Capacity x Division of W2 (if set)
Read Date Format, Value and Output Settings	*	RD	F004	#	d1:d2;d3	d1 = Date Format (0 = DD-MM-YY, 1 = YY-MM-DD, 3 = MM-DD-YY) d2 = 8-digit date value as per above setting (AA-BB-CC) d3 = Date Output Format (0 = Normal Format, 1 = Week Format)
Read Time	*	RD	F005	#	d1	8-digit time value (HH:MM:SS)
Read Auto Power Off	*	RD	F007	#	d1	0 = Off 1 = 1 minute 2 = 3 minute 3 = 5 minute 4 = 10 minute 5 = 20 minute HH:MM:SS = exact power off time
Read Brightness and Color	*	RD	F008	#	d1;d2	d1 = Brightness (01~99)

Ratio						d2 =Color Ratio (01~99)
Weight Unit Employed	*	RD	F009	#	d1;d2;d3	d1 = kg: - 0 = Off; 1 = On d2 = g: - 0 = Off; 1 = On d3 = lb: - 0 = Off; 1 = On
Read Filter Strength & AD Conversion Speed	*	RD	F010	#	d1;d2	d1= Filter (1~9 for Filter 1~9) d2 = AD Conversion Speed (015/030/060/120)
Read Auto Tare Function	*	RD	F012	#	d1	M = Off, A = Auto, 00 ~ 99 = Continuous tare (in term of 1/10 second)
Read Repetitive Tare Function	*	RD	F013	#	d1	0 = Off, 1 = On
Read Buzzer	*	RD	F014	#	d1;d2;d3	d1 = Keyboard Buzzer (0 = Off, 1 = On) d2 = System Buzzer (0 = Off, 1 = On) d3 = Non Resettable Memory Buzzer (0 = Off, 1 = On)
Read Result Buzzer & Action on Negative Value	*	RD	F015	#	d1;d2	d1 = Check Buzzer (0 = Off, 1 = IN, 2 = Out, 3 = Hi, 4 = Lo) d2 = System Buzzer (0 = Off, 1 = On)
Read Keyboard Lock	*	RD	F020	#	d1	0 = Off, 1 = On
Set Near Zero Value	*	RD	F026	#	d1	Maximum 8 digits including decimal (if any)
Read Ask for Operator Number when Power On	*	RD	F028	#	d1	0 = No, 1 = Yes
Read Calibration & Parameter Counts and Pointer Value	*	RD	F029	#	d1;d2;d3	d1= Calibration Count d2 = Parameter Set Count d3 = Pointer Value
Read Allow Letters and Symbols for Customer & Product Code Manual Entry	*	RD	F030	#	d1	0 = No, 1 = Yes
Read External Input Assignment	*	RD	F032	#	d1;d2;d3	d1= Int 1 (0~5) d2 = Int 2 (0~5) d3 = Int 3 (0~5) 0 = Zero, 1 = Tare, 2 = Print/M+, 3 = MR, 4 = Clear, 5 = Unit, 6 = Set, 7 = Check, 8 = Func

Read Report Output Comport	*	RD	F033	#	d1	0 = UART 0; 1 = UART 1; 2 = UART 2; 3 = UART 3; 4 = UART 4; 5 = LAN; 6 = Disk
Read Customer Code	*	RD	CCDE	#	d1	Maximum 18 digits
Read Customer Code Description	*	RD	CCDD	#	d1	Maximum 30 digits
Read Product Code	*	RD	PCDE	#	d1	Maximum 18 digits
Read Product Code Description	*	RD	PCDD	#	d1	Maximum 30 digits
Read Machine ID	*	RD	MCID	#	d1	Maximum 2 digits
Read Machine Group	*	RD	MCGP	#	d1	Maximum 4 digits
Read Operator No.	*	RD	OPER	#	d1	Maximum 4 digits
Read Date	*	RD	DATE	#	d1	Maximum 8 digits
Read Expiry Date	*	RD	EXPY	#	d1	Maximum 8 digits
Read Time	*	RD	TIME	#	d1	Maximum 8 digits
Read Week	*	RD	WEEK	#	d1	Maximum 6 digits
Read Last Alibi Record Number (ABNR) Saved *Do not use this parameter if Alibi memory function is not activated.*		RD	ABNR	#	d1	Maximum 8 digits

Appendix P2: - Parameter Reading Commands of Production Settings PLU in effect

Operation entry reading command format as below: -

a. Start String ***** “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Description Table

Command Definition		Command Format				Parameter Output	Parameter Description
		Start String	Command Code		End String		
Read Date Output Format		*	RDA	004	#	d1	Date Output Format (0 = Normal Format; 1 = Week Format)
Read Auto Tare Function		*	RDA	012	#	d1	M = Off; A = Auto; 00 ~ 99 = Continuous tare (in term of 1/10 second)
Read Expiry Duration		*	RDA	036	#	d1	4 digits (0 ~ 9999) in terms of day

Appendix Q: - Operation Result Reading Commands

Operation result reading command format as below: -

a. Start String ***** “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Description Table

Command Definition	Command Format			Parameter Output	Parameter Description
	Start String	Command Code	End String		
Read Average piece weight	*	RD AVGW	#	d1	8 digits including decimal (if any)
Read Current Tare Weight	*	RD CWTA	#	d1	8 digits including decimal
Read Current Gross Weight	*	RD CWGS	#	d1	8 digits including decimal (if any)
Read Current Net Weight	*	RD CWNT	#	d1	8 digits including decimal (if any)
Read Weight Unit of Current Net, Tare and Gross Weight	*	RD CWUN	#	d1	8 digits including decimal (if any)
Read Qty Value	*	RD CQTY	#	d1	8 digits
Read Low Limit	*	RD CHKL	#	d1	8 digits including decimal (if any)
Read High Limit	*	RD CHKH	#	d1	8 digits including decimal (if any)
Read Check Target	*	RD CHKT	#	d1	kg = kilogram, (space)g = gram, pcs = quantity
Read Check Result	*	RD CHKR	#	d1	Below/Accept/Above
Read Accumulated Gross Weight	*	RD AWGS	#	d1	8 digits including decimal (if any)

Read Accumulated Tare Weight	*	RD	AWTA	#	d1	8 digits including decimal (if any)
Read Accumulated Net Weight	*	RD	AWNT	#	d1	8 digits including decimal (if any)
Read Weight Unit of Accumulated Net, Tare and Gross Weight	*	RD	AWUN	#	d1	8 digits including decimal (if any)
Read Accumulated Qty Value	*	RD	AQTY	#	d1	8 digits
Read Accumulation sequence No.	*	RD	ASEQ	#	d1	6 digits
Read Average piece weight in 6-digit format and without decimal	*	RD	avgw6	#	d1	6 digits
Read Current Tare Weight in 6-digit format and without decimal	*	RD	cwta6	#	d1	6 digits
Read Current Gross Weight in 6-digit format and without decimal	*	RD	cwgs6	#	d1	6 digits
Read Current Net Weight in 6-digit format and without decimal	*	RD	cwnt6	#	d1	6 digits
Read Qty Value in 6-digit format and without decimal	*	RD	cqty6	#	d1	6 digits
Read Low Limit in 6-digit format and without decimal	*	RD	chkl6	#	d1	6 digits
Read High Limit in 6-digit format and without decimal	*	RD	chkh6	#	d1	6 digits
Read Accumulated Gross Weight in 6-digit format and without decimal	*	RD	awgs6	#	d1	6 digits
Read Accumulated Tare Weight in 6-digit format and without decimal	*	RD	awta6	#	d1	6 digits
Read Accumulated Net Weight in 6-digit format and without decimal	*	RD	awnt6	#	d1	6 digits
Read Accumulated Qty Value in 6-digit format and without decimal	*	RD	aqty6	#	d1	6 digits
Read Accumulation sequence No	*	RD	aseq6	#	d1	6 digits

Appendix R: - Quick PLU Saving Commands

Quick PLU saving command format as below: -

a. Start String ***** “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. Parameters listed on the below table. Always insert semicolon (;) in front of each parameter, followed by
d. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Description Table

Command Definition	Command Format					Parameter Description
	Start String	Command Code (Note R1)			Parameter & End String	
Save Preset Tare to Quick PLU	*	S1/S2/S3	QP	PSTA	;d1;d2#	• d1 = Quick PLU number 0~9. • d2 = Preset Tare value. Maximum 8 digits plus decimal.
Save Average piece weight to Quick PLU	*	S1/S2/S3 (Note R2)	QP	AVGW	;d1;d2#	• d1 = Quick PLU number 0~9 • d2 = Average piece weight value. Maximum 8 digits plus decimal
Save Check WT Limits to Quick PLU	*	S1/S2/S3	QP	CHKW	;d1;d2;d3#	• d1 = Quick PLU number 0~9. • d2 = Low check limit. Maximum 8 digits plus decimal. • d3 = Hi check limit. Maximum 8 digits plus decimal.
Save Check QTY Limits to Quick PLU	*	ST	QP	CHKQ	;d1;d2;d3#	• d1 = Quick PLU number 0~9. • d2 = Low check limit. Maximum 8 digits. • d3 = Hi check limit. Maximum 8 digits.
Save Customer Code and Description to Quick PLU	*	ST	QP	CCDE	;d1;d2;d3#	• d1 = Quick PLU number 000~999 • d2 = Customer Code. 1~18-digit (* or and # will not be accepted). Blank = Nothing. • d3 = Customer Description. Maximum 30 characteristics (; * # not accepted). Blank = Nothing.

Save Product Code and Description to Quick PLU	*	ST	QP	PCDE	;d1;d2;d3#	• d1 = Quick PLU number 000~999 • d2 =Product Code. 1~18-digit (* or and # will not be accepted). Blank = Nothing. • d3 = Product Description. Maximum 30 characteristics (; * # not accepted). Blank = Nothing.

Note R1: -

- S1 = command for operation with weight unit = kg.
- S2 = command for operation with weight unit = g.
- S3 = command for operation with weight unit = lb.
- ST = command for operation disregards weight unit.

Note R2: -

- S1 & S2 = value to be inputted in terms of g.
- S3 = command for operation during weight unit lb.

Appendix S - Quick PLU Reading Commands

Quick PLU reading command format as below: -

a. Start String * “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Description Table

Command Definition	Command Format					Parameter Output	Parameter Description
	Start String	Command Code (Note Q1)			Parameter & End String		
Read Preset Tare from Quick PLU	*	R1/R2/R3	QP	PSTA	;0~;9 or ;A (0~9 = PLU number. A = all)	d1	Preset Tare value. Maximum 8 digits plus decimal.
Read Average piece weight from Quick PLU	*	R1/R2/R3 (Note Q2)	QP	AVGW		d1	Preset Tare value. Maximum 8 digits plus decimal
Read Check WT Limits from Quick PLU	*	R1/R2/R3	QP	CHKW		d1;d2	• d1 = Low check limit. • d2 = Hi check limit.
Read Check QTY Limits from Quick PLU	*	R1/R2/R3	QP	CHKQ		d1;d2	• d1 = Low check limit. • d2 = Hi check limit.
Read Customer Code and Description from Quick PLU	*	RD	QP	CCDE	;001~;0009 or ;A (001~999 = PLU number. A = all)	d1;d2	• d1 =CD • d2 = 3-digit PLU No. • d4 =Customer Code. Blank = Nothing d1 =Product Code. Blank = Nothing. • d5 = Customer Description. Blank = Nothing.
Read Product Code and Description from Quick PLU	*	RD	QP	PCDE		d1;d2	• d1 =PD • d2 = 3-digit PLU No.

							• d4 =Product Code. Blank = Nothing d1 =Product Code. Blank = Nothing. • d5 = Product Description. Blank = Nothing.

Remark: If parameter A is inputted, instrument sends content from first to last PLU No. in numeric sequent.

Note Q1: -

- R1 = command to read content from Quick PLU of weight unit kg.
- R2 = command to read content from Quick PLU of weight unit g.
- R3 = command to read content from Quick PLU of weight unit lb.
- RD = command to read content from Quick PLU, which is common for all weight units.

Note Q2: -

- R1 & R2 = value responded is in term of g.
- R3 = command for operation during weight unit lb.

Appendix T: - Production Settings PLU Saving Commands

Production Settings PLU saving commands format as below: -

a. Start String ***** “asterisk” (Hex code 02A), followed by
b. Command code as shown on below table (all commands are case sensitive), followed by
c. Parameters listed on the below table. Always insert semicolon (;) in front of each parameter, followed by
d. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

T.1 Command Description Table

Start String	Command Code (Note T1)		Parameter	End String
*	S1 or S2 or S3	LP	;d1;d2;d3;d4;d5;d6;d7;d8;d9;d10;d11;d12;d13;d14;d15	#

Note T1: -

- S1 = command for operation with weight unit = kg.
- S2 = command for operation with weight unit = g.
- S3 = command for operation with weight unit = lb.

T.2 Parameter Description Table

Parameter #	Description	Parameter
d1	PLU #	01 ~ 999
d2	Customer Code	1~18-digit (; * # not accepted). Blank = Nothing
d3	Customer Description	Maximum 30 characteristics (; * # not accepted). Blank = Nothing
d4	Product Code	1~18-digit (; * # not accepted). Blank = Nothing

Parameter #	Description	Parameter
d5	Product Description	Maximum 30 characteristics (; * # not accepted). Blank = Nothing
d6	Average piece weight **(Note T2)**	Maximum 8 digits, including decimal. Blank = Nothing
d7	Low Check limit	Maximum 8 digits, including decimal. Blank = Nothing
d8	Hi Check limit	Maximum 8 digits, including decimal. Blank = Nothing
d9	Check Target **(Note T3)**	W = Weight Q = PCS Blank = Weight
d10	Auto Tare Type	M = Manual tare A = auto tare 00 ~ 99 = Continuous tare in term of 1/10 second Blank = current instrument setting.
d11	Preset Tare Value	Maximum 8 digits, including decimal. Blank = Nothing
d12	Date Format	0 = Normal 1 = Week
d13	Expiry Duration	Maximum 4 digits (0 ~ 9999) 0 or blank = F4 value 1 ~ 9999 = No. of day plus F4 value
d14	Individual Label File Number to Print FL1 (Label Format Group 1)	00 ~ 99 00 = No label file output
d15	Totalized Label File Number to Print FL2 (Label Format Group 2)	00 ~ 99 00 = No label file output

Note T2: -

- S1 & S2 = value to be inputted in term of g. S3 = value to be inputted in term of 1/1000lb
- When average piece weight is not = zero or blank, instrument will switch to Piece Count Mode automatically (disregarding F11 settings) when such a Production Settings PLU is recalled by scanner.

Note T3: - When average piece weight is not = zero or blank, instrument will switch to quantity check mode automatically.

Appendix U: Production Settings PLU Reading Commands

Production Settings PLU reading commands format as below: -

a. Start String ***** "asterisk" (Hex code 02A), then followed by
b. Command string listed on below table, then followed by
c. Parameters listed on the below table. Always insert semicolon (;) in front of each parameter, followed by
d. End String **#** "number sign" (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

U.1 Command Description Table

Start String	Command Code (Note U1)		Parameter & End String	Parameter Output
*	R1 or R2 or R3	LP	;1~999 or ;A (1~999 = No. of the PLU number. A = all)	d1;d2;d3… ;d14

Remark: If parameter A is inputted, instrument sends content of quick from PLU 01 to PLU 999 in numeric sequent.

Note U1: -

- R1 = command to read content from Production Settings PLU of weight unit kg.
- R2 = command to read content from Production Settings PLU of weight unit g.
- R3 = command to read content from Production Settings PLU of weight unit lb.

Refer to below table for content of output. A semicolon is inserted between parameters.

U.2 Parameter Output Description Table

Parameter #	Parameter Output	Parameter Description
d1	Weight Unit Code	U1 = kg U2 = g U3 = lb
d2	PLU #	01 ~ 999

d3	Customer Code	1~18-digit (* and # not accepted) Blank = Nothing

d4	Customer Description	Maximum 30 characteristics (; * # not accepted).
		Blank = Nothing

d5	Product Code	1~18-digit (* and # not accepted) Blank = Nothing

d6	Product Description	Maximum 30 characteristics (; * # not accepted).
		Blank = Nothing

d7	Average piece weight (**Note U2**)	Maximum 8 digits, including decimal. Blank = Nothing
d8	Low Check limit	Maximum 8 digits, including decimal. Blank = Nothing
d9	Hi Check limit	Maximum 8 digits, including decimal. Blank = Nothing
d10	Check Target	W = Weight Q = PCS
d11	Auto Tare Type	0 = Manual; 1 = Auto Tare; 2 = Continuous Tare
d12	Preset Tare Value	Maximum 8 digits, including decimal. Blank = Nothing
d13	Date Format	0 = Normal; 1 = Week
d14	Expiry Duration	Maximum 4 digits (0 ~ 9999) 0 = F4 value; 1 ~ 9999 = No. of day plus F4 value
d14	Individual Label File Number to Print FL1 (Label Format Group 1)	00 ~ 99 00 = No label file output
d15	Totalized Label File Number to Print FL2 (Label Format Group 2)	00 ~ 99 00 = No label file output

Note U2: -

- R1 & R2 = value inputted in term of g.
- R3 = command for operation during weight unit lb.

Appendix V: Production Settings PLU Execution Commands

Production Settings PLU reading commands format as below: -

a. Start String ***** “asterisk” (Hex code 02A), then followed by
b. Command string listed on below table, then followed by
c. Parameters listed on the below table. Always insert semicolon (;) in front of each parameter, followed by
d. End String **#** “number sign” (Hex code 23).

Notes: -

- For RS485 communication, add @xx before start string.
- xx = machine ID number set in F18.

Command Description Table

Start String	Command Code (Note V1)		Parameter	End String
*	E1 or E2 or E3	LP	;0~999 (0~999 = No. of the Production Settings PLU number)	#

Note V1: -

- E1 = command to execute Production Settings PLU of weight unit kg.
- E2 = command to execute Production Settings PLU of weight unit g.
- E3 = command to execute Production Settings PLU of weight unit lb.