

Counting

Q1-C

Service Manual

Counting

Function Key:

OFF : Press and hold the **OFF** key and the weight window will display “oFF” for 2 seconds then the scale will turn off automatically

ON : Press the **ON** key to turn on the scale. The scale will start self-adjusting sequence then will stabilize in 0

0 ~ **9** :

Numeric keys from 0~9

. :

Piece weight works as point for cents

CE :

Clear Entry key: To clear value

UNITS :

UNITS: To select desired weighing unit

ZERO :

To reset the weight to 0, but the displayed weight value has to be less than $\pm 2\%$ of maximum capacity

TARE :

Tare : To subtract the container weight. Maximum tare = full capacity

Preset Tare : press the **【Tare】** key when do not place any object onto the pan , Use

0~ 9 number keys to key-in the desired Preset Tare weight value , press the **【Tare】** key to confirm

Clear Preset Tare : press the **【Tare】** key to clear the Preset Tare when do not place any object onto the pan

Sample :

Use 0 ~ 9 number keys to key in the desired Sample quantity when weight window

displays weight , then press the **【sample】** key , piece weight window displays pieces , total count window displays pieces.

- When the weight of the sample is less than 20 times the division, the ‘-S’ indication will shine.
- When the weight of the sample is less than 0.2 times the division, the ‘-W’ indication will shine.

Count :

Counting

piece weight setup: When place object onto the pan , use 0~9 number key and decimal

【.】 key , input piece weight , then press 【count】 key , weight window displays total weight , piece weight window display displays piece weight , total count window displays the

Count Alarm :

press the 【Count Alarm】 key When total count window displays pieces , when the number exceeds this value , piece weight window display displays **--qui--** , and the buzzer start to alarm ;

Clear count alarm : press and hold the 【Count Alarm】 key , clear 【Count Alarm】 when buzzer beeps twice. For example : weight window displays : 10.000Kg , piece weight displays : 100g , total count window displays : 100 , after press the 【Count Alarm】 key , weighing again ,if piece of the total count over 100,the buzzer will alarm. Set point will auto cancel when turn off the scale.

M+ :

total accumulated weight and total count , the max accumulation count can accumulated 99 times.

Accumulation condition can auto setup , See UF-5 function specification

MR :

press the MR key can display total accumulation count ,total accumulated weight and total count.

Clear accumulation : press and hold the【MR】key until buzzer beeps twice, then clear accumulation

Counting

Error Message

Weight window will show : Err n weight unstable

Weight window will show : hhhhh weight overload

Total count window will show : hhhhh pieces over display range

Functions Setup

Four functions setup sections:

Approval Calibrations and Functions Setup (Lock section) LF – 1,2,3,7

Standard Functions Setup UF – 1 ~ 8

Standard Calibrations ECF – 1 ~ 3

Weighing Units Selection (Not available for only kg unit and only lb unit countries)

Standard Calibration:

Press the **[Zero]** key and the **[M+]** key to start Standard Calibrations

ECF-1 Weight Calibration (Zero and Span)

ECF-2 Zero Calibration

ECF-3 SPAN Calibration

[M+] : Enter (Confirmation)

[0]~[9] : Numeric numbers

[ZERO] : Move to left

[CE] : Clear entry or exit

[TARE] : Move to right

Weight window

ECF-1

Press the **[M+]** key to start (Press the **[CE]** key to exit menu and back to weighing mode)



Counting

ECF-2

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)



ECF-3

P Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)

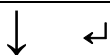
ECF-1 Weight Calibration:

Weight window

(Total Count window displays internal value)

ECF-1

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)



0.0 g

Press the **M+** key to calibrate the zero weight (Press the **CE** to terminate the calibration back to ECF-1)



6000.0 g

Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale (Press the **CE** key to terminate the calibration back to ECF-1)



6000.0 g

Press the **M+** key to calibrate the scale (Press the **CE** to terminate the calibration back to ECF-1)

Calibration procedure completed and the scale will return back to weighing mode automatically

ECF-2 Zero Calibration:

Weight window

(Total Count window displays internal value)

ECF-2

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)



0.0 g

Press the **M+** key to set the zero weight (Press the **UNITS**

Counting

[]

key to terminate the calibration back to ECF-2)

↓ ↵
0.0 g

Calibration procedure completed and the scale will return back to weighing mode automatically

ECF-3 SPAN Calibration:

Weight window

(Total Count window displays internal value)

ECF-3

Press the **[M+]** key to start (Press the **[CE]** key to exit menu and back to weighing mode)

↓ ↵
6000.0 g

Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale (Press the **[CE]** key to terminate the calibration back to ECF-3)

↓ ↵

Press the **[M+]** key to calibrate the scale (Press the **[CE]** to terminate the calibration back to ECF-3)

6000.0 g

Calibration procedure completed and the scale will return back to weighing mode automatically

Standard Functions Setup:

Press the **[TARE]** and the **[M+]** keys in weighing mode to start Standard Functions

Setup

- UF-1 Internal Value/Display Battery Voltage
- UF-2 Piece Weight Auto-average
- UF-3 Auto Power-off
- UF-4 Backlight
- UF-5 Accumulation
- UF-6 RS232 Output
- UF-7 ADC Update Rate
- UF-8 Display Condition at Zero

Key function:

[M+] : Enter (Confirmation)

[0]~[9] : Numeric numbers

[ZERO] : Move to left

[CE] : Clear entry or exit








[TARE] : Move to right

Weight window

UF-1

Press the **[M+]** key to start (Press the **[CE]** key to exit menu and

Counting

	back to weighing mode)
	
UF-2	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)
	
UF-3	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)
	
UF-4	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)
	
UF-5	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)
	
UF-6	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)
	
UF-7	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)
	
UF-8	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)

UF-1 Internal Value/Display Battery Voltage :

Weight window

UF-1	Press the M+ key to start (Press the CE key to exit menu and back to weighing mode)
------	---



Weight window

327686	Displays the internal value (SPAN)
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Piece Weight

window

bAt 6.2	Displays battery actual voltage
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Total Count

Counting

window

56632

Displays the internal value (Zero)



Press the **M+** key to return back to UF-1

UF-1

UF-2 Piece Weight Auto-average :

AAVG 0 : Disable

AAVG 1 : Enable

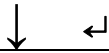
※ Factory default: AAVG 1 (Enable)

※ PWAA is a function specially designed for counting scale to reduce or minimize count error and resulting more accurate counts

Weight window

UF-2

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)



AAVG 1

Use 0 and 1 keys to enable or disable auto-average function.

Press the **M+** key to confirm



Press the **CE** key to return back to UF-2

UF-2

UF-3 Auto Power-off :

AoFF 00 Auto Power-off disable

AoFF 01 The scale turns off automatically in 1 minute when the scale is not in operation and weight at 0

AoFF 02 The scale turns off automatically in 2 minutes when the scale is not in operation and weight at 0



AoFF 99 The scale turns off automatically in 99 minutes when the scale is not in operation and weight at 0

※ Factory default: AoFF 00 (Auto Power-off disable)

Weight window

UF-3

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)



AoFF00

Use 0~9 keys to enter auto power-off time. Press the **M+** key

Counting

[]

to confirm



Press the **CE** key to return back to UF-3

UF-3

UF-4 Backlight :

Lit 2: Backlight off Lit 0: Auto light-up Lit 1: Backlight on

※ Factory default: Lit 0 (Auto light-up)

Weight window

UF-4

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)



Lit 0

Use 0~2 keys to select backlight mode. Press the **M+** key to confirm



Press the **CE** key to return back to UF-4

UF-4

UF-5 Accumulation :

ACCU 00

A B

A : 0 Stable required

1 Stable not required

B : 0 The weight has to return to zero to accept next accumulation

1 The weight does not have to return to zero to accept next

accumulation

2 No tare weight to accept next accumulation

※ Factory default: ACCU00 (Stable required and the weight has to return to zero)

Weight window

UF-5

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)



ACCU 00

Use 0~2 keys to select accumulation conditions. Press the

Counting

[M+] key to confirm



Press the [CE] key to return back to UF-5

UF-5

UF-6 RS232 Output :

232 0 0

AB

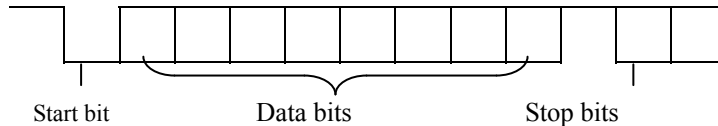
- A : 0 Baud rate 1200
 1 Baud rate 2400
 2 Baud rate 4800
 3 Baud rate 9600
 4 Baud rate 19200
- B: 0 RS232 output disable
 1 Manual output – Format 2
 2 Stable output – Format 1
 3 Stream output – Format 1

Communication Protocol

UART signal of EIA-RS232 C

Format :

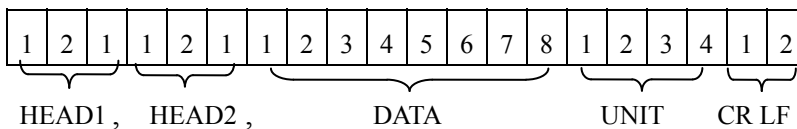
1. Serial output : 1200/2400 / 4800 / 9600/19200 BPS
2. Data bits : 8 BITS
3. Parity bits : None
4. Stop bits : 1 BIT



Format 1 : (232 X2 232 X3)

HEAD1 (2 BYTES)	HEAD2 (2 BYTES)
OL - Over Load	
ST - Stable	NT - Net Weight
US - Unstable	GS - Gross Weight

Fixed 20 BYTES ASCII



Output examples :

1. Example +0.876 kg stable net weight :

Counting

S	T	,	N	T	,	+	0	0	0	.	8	7	6			k	g	0D	0A
---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--	---	---	----	----

2. Example -1.568 lb unstable gross weight :

U	S	,	G	S	,	-	0	0	1	.	5	6	8	1	b	0D	0A
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----	----

Format 2 : (232 x1)

Press **[M+]** key to output

I	T	E									1								
G	W		+			1	1	0	0	.	0								g
T	W		+				1	0	0	.	0								g
P	T	W	+							0	.	0							g
	W		+			1	0	0	0	.	0								g
A	P	W			1	.	0	0	0	0	0								g
Q	T	Y						1	0	0	0						p	c	s

I	T	E									2								
G	W		+			1	1	0	0	.	0								g
T	W		+							0	.	0							g
P	T	W	+				1	0	0	.	0								g
N	W		+			1	0	0	0	.	0								g
A	P	W			1	.	0	0	0	0	0								g
Q	T	Y						1	0	0	0						p	c	s

Press **[MR]** for 3 seconds key to output

=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=
T	.	I									2								
T	.	W				2	0	0	0	.	0								g
T	.	Q						2	0	0	0						p	c	s

※ Factory default: 232 30 (RS232 output disable)

Weight window

UF-6

Press the **[M+]** key to start (Press the **[CE]** key to exit menu and back to weighing mode)

↓

232 30

Use 0~4 keys to enter RS232 output formats. Press the **[M+]** key to confirm

↓

UF-6

Press the **[CE]** key to return back to UF-6

Counting

UF-7 ADC Update Rate :

SPEED 0 Low speed 7.5 hz
SPEED 1 Standard speed 15 hz
SPEED 2 High speed 30 hz

※ Factory default: SPEED 0 (Low speed 7.5hz)

Weight window

UF-7

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)

SPEED 0

Use 0~2 keys to enter ADC speed. Press the **M+** key to confirm

UF-7

Press the **CE** key to return back to UF-7

UF-8 Display Condition at Zero :

ZP 0 Off
ZP 1 One division not to display at zero
ZP 2 Two division not to display at zero
ZP 3 Three division not to display at zero
ZP 4 Four division not to display at zero
ZP 5 Five division not to display at zero

※ Factory default: ZP 1 (One division not to display at zero)

Weight window

UF-8

Press the **M+** key to start (Press the **CE** key to exit menu and back to weighing mode)

ZP 1

Use 0~5 keys to enter condition at zero. Press the **M+** key to confirm

UF-8

Press the **CE** key to return back to UF-8

Approval Calibrations and Functions Setup (Lock section) :

Turn on the scale and press and hold **ZERO** key, release both keys after countdown sequence is completed

LF 1 Weight Calibration

Counting

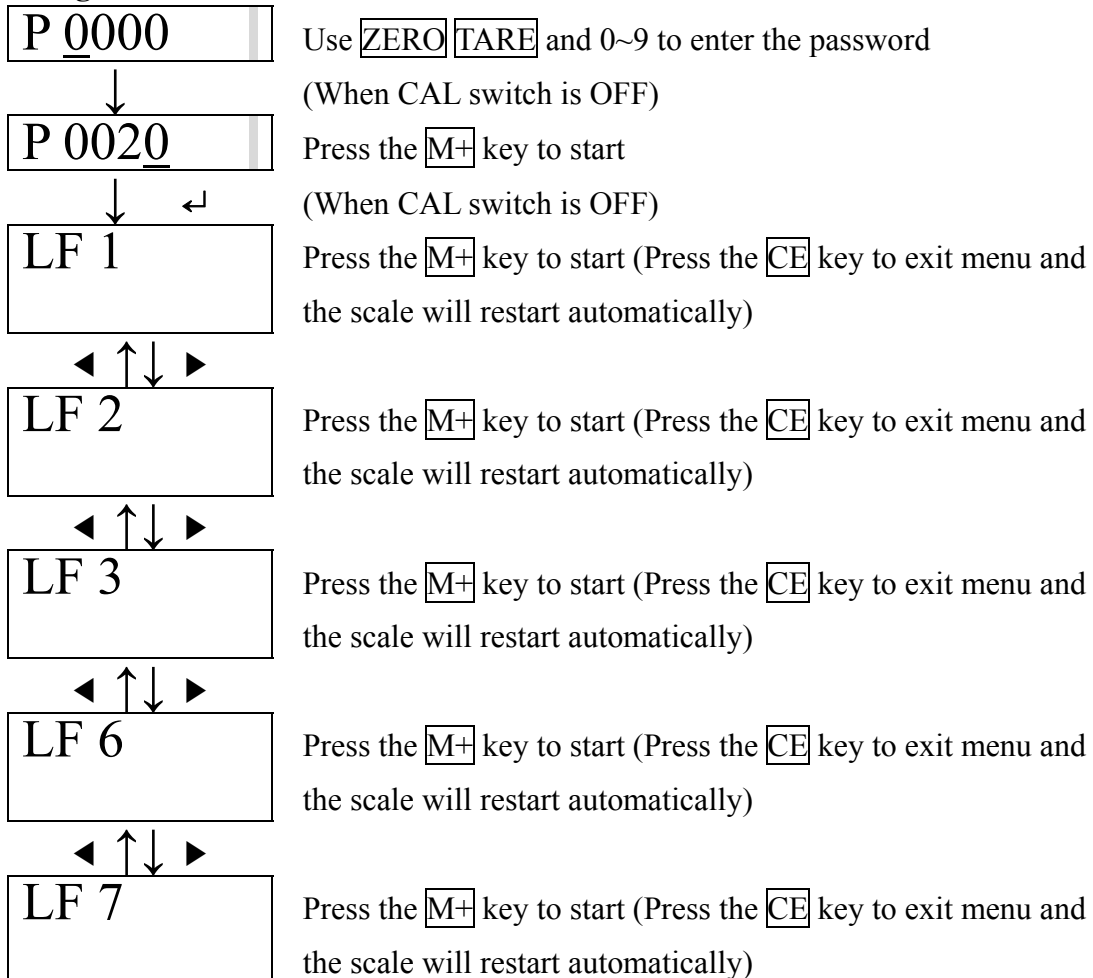
- LF 2 Spec Calibration
- LF 3 Reserve
- LF 6 Approval Conformity
- LF 7 G Value

- ※ CAL switch has to be ON
- ※ Password required when CAL switch is OFF

Key function:

<p>M+ : Enter (Confirmation)</p> <p>ZERO : Move to left</p> <p>TARE : Move to right</p>	<p>0~9 : Numeric numbers</p> <p>CE : Clear entry or exit</p> <p>UNITS : Change calibration weighing units</p>
--	--

Weight window



LF 1 Weight Calibration :

- ※ Calibration can be done with any weight, but the weight should not be less than 1/100 of the max. capacity and not to exceed the max. capacity

Counting

※ The scale will display the last saved setup. If LF 2 spec calibration has been reset, max. calibration capacity will be displayed

Weight window

LF 1

Press the **M+** key to start (Press the **CE** key to exit menu and the scale will restart automatically)

↓ ↵
0.0 g

Press the **M+** key to calibrate the zero weight (Press the **CE** to terminate the calibration back to LF 1)

↓ ↵
6000.0 g

Use 0~9 keys to enter the weight to be calibrated. Place the required weight mass onto the scale (Press the **CE** key to terminate the calibration back to LF 1)

↓ ↵
6000.0 g

Press the **M+** key to calibrate the scale (Press the **CE** to terminate the calibration back to LF 1)

Calibration procedure completed and the scale will return back to weighing mode automatically

LF 2 Spec Calibration :

Weight window

000000 kg

Enter the maximum capacity. Use the **UNITS** key to select calibration weighing unit. Available units are kg, g

Piece Weight

window

dp0 kg

Enter the position of the decimal point. Use the **UNITS** key to select calibration weighing unit as needed. The position of the decimal point can be from 0 to 4

Total Count

window

div0

Enter division 1,2 or 5

※ The **UNITS** key can be used to select calibration weighing unit when the cursor is at weight window

※ The **UNITS** key can be used to select calibration weighing unit when the cursor is at piece weight or total count windows

※ If Spec Calibration has been done previously, all previous input data will be

Counting

displayed

※ Proceed with Weight Calibration after LF 2 Spec Calibration

Weight window

LF 2

Press the **M+** key to start (Press the **CE** key to exit menu and the scale will restart automatically)



Weight window

060000 g

Use **ZERO** **TARE** and 0~9 keys to enter the maximum capacity of the scale

Piece Weight

window

dp 1

Use the **UNITS** key to select calibration weighing unit (Press the **CE** key to terminate the calibration back to LF 2)

Use 0~4 keys to enter the position of the decimal point

Total Count

window

div 2

Use the **UNITS** key to select calibration weighing unit (Press the **CE** key to terminate the calibration back to LF 2)

Use 1,2,5 keys to enter division 1,2 or 5



Press the **M+** key to confirm setup

Weight window

LF 2

Use **ZERO** **TARE** and **M+** keys to select other calibrations (Press the **CE** key to exit menu and the scale will restart automatically)

LF 6 Approval Conformity:

nonE Non-approval version; Single interval; Initial Zero not restricted, Standard calibration allowed

oiML EC approval; Dual-range; Initial Zero FULL SCALE $\pm 10\%$, Manual Zero FULL SCALE $\pm 2\%$, No standard calibration allowed

※ Factory default: nonE

LF 6

Press the **↵** key to start or press the ESC key to exit menu and the scale will restart automatically



nonE

Use **◀▶** and then **↵** key to select approval or non-approval

(Press the ESC key to exit the setup and back to menu LF 6)

Counting

↓ ↵
LF 6

Use ◀▶ and then ↵ key to continue with other setups or press the ESC key to exit menu and the scale will restart automatically

LF 7 G Value :

Sender G value: Set it before Weight Calibration

Recipient G value: Set it after Weight Calibration

The G value will be denied when the value is greater than 9.83217 (Polar G value) or less than 9.78031 (Equator G value)

※ Factory default: 9.79423

Weight window

LF 7

Press the **M+** key to start (Press the **CE** key to exit menu and the scale will restart automatically)

↓ ↵

Weight window

9.79423

Displays recipient's location G value

Piece Weight

window

9.79423

Displays sender's location G value

Weight window

9.79423

Use **ZERO** **TARE** and 0~9 keys to enter G value. Press the **M+** key to finish

↓ ↵

LF 7

(Press the **CE** to terminate the calibration back to LF 7)

Use **ZERO** **TARE** and **M+** keys to select other calibrations (Press the **CE** key to exit menu and the scale will restart automatically)