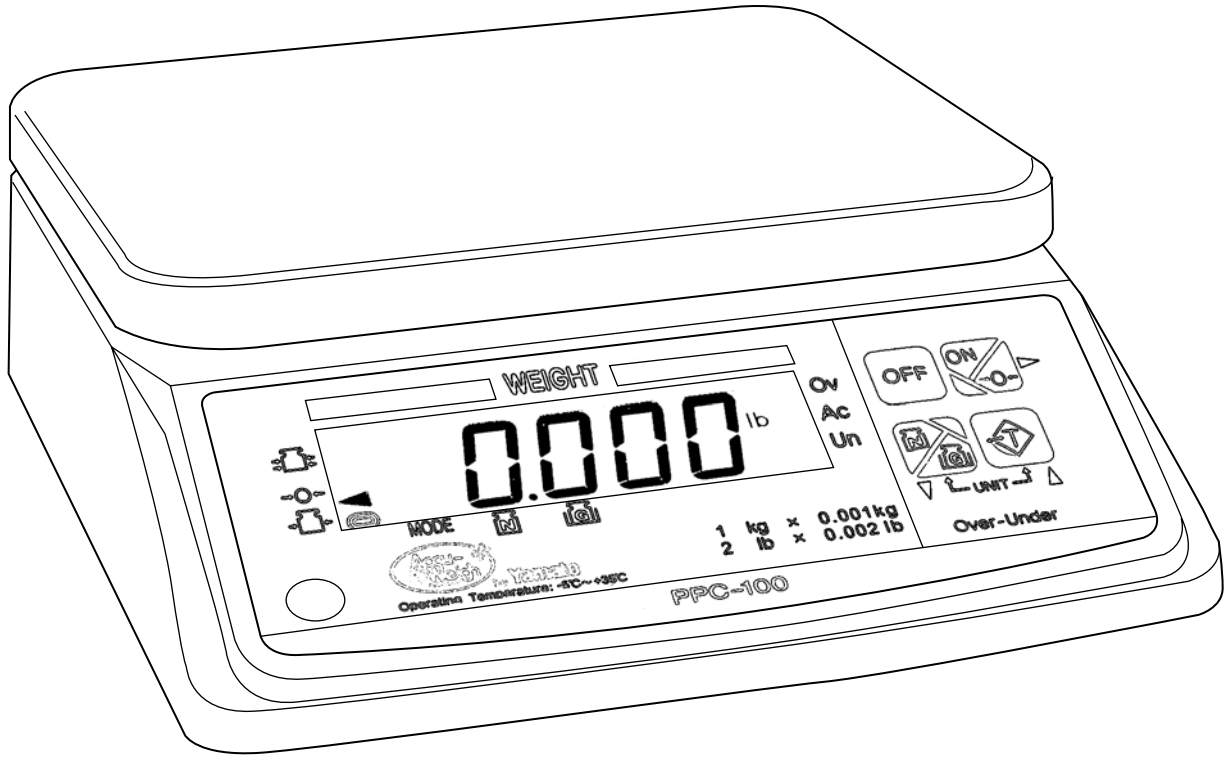
PPC-100 Technical Manual



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YCO-1040-12-99

PPC-100 Technical Manual

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SAFETY INSTRUCTIONS

Before using the scale, carefully read, understand and follow the “Safety Instructions” described in this manual. Observe the advice given in the “Operations” section to ensure proper operation. Keep this operation manual handy for reference.

1) This scale is **not** an explosion-proof model. Do not use the scale in an atmosphere containing flammable gases or explosive fumes. A fire or an explosion can result.
2) Do not operate the scale if there is smoke or a burned smell coming from the scale. Unplug the scale immediately. After making sure that there is no danger, consult your dealer. Never try to repair the scale by yourself.
3) Never step on or sit on the scale. Not only will the scale be damaged, but you may also be injured.
4) Place the item to be weighed in the center of the platform. Items placed on the edge of the platform may fall off and cause injury.
5) When weighing a heavy, large or unbalanced item, make sure the item is stable on the platform, otherwise, an accident may occur.
6) When carrying or moving the scale, be sure to hold it by the bottom of the base with both hands. If you hold it by the platform, the platform or the platform support may become detached causing the scale to fall. This will damage the scale. The platform is designed for easy removal and cleanup.
7) Do not insert your finger into the gaps or holes in the scale. You may be injured.

PPC-100 Technical Manual

I Introduction

The PPC-100 is available in three capacities. It displays units of either kilograms and one of the following three: continuous pounds, continuous ounces, or pounds and ounces. The specifications for each capacity are in the following table.

Capacity		Increment		Accuracy		Maximum Tare	
2 lb	1 kg	0.002 lb	0.001 kg	0.002 lb	0.001 kg	1.990 lb	0.995 kg
5 lb	2 kg	0.005 lb	0.002 kg	0.005 lb	0.002 kg	4.975 lb	1.990 kg
10 lb	5 kg	0.01 lb	0.005 kg	0.01 lb	0.005 kg	9.95 lb	4.975 kg

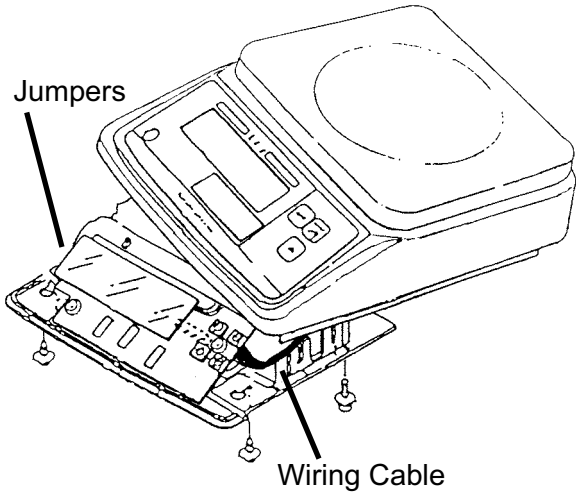
Additional specifications are provided in the operator's manual. It is important to note that various factory parameter settings depend upon the mode (continuous pound, continuous ounce, or pound and ounce) option selected when the scale was purchased. See section IV.D for the standard settings for each mode.

Remove the batteries when operating the scale with the AC adapter. Use only the AC adapter supplied or an adapter of the same output characteristics.

II Set-up Procedures

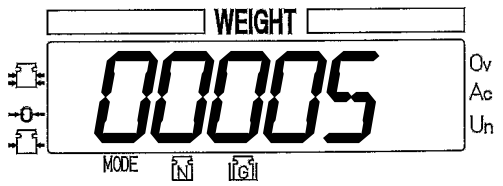
II.A Test Mode

1. Remove the three screws and one lead wire seal bolt from the undercarriage of the scale.
2. Gently lift the scale cover up and to the right. There is a wiring cable that is attached to the PCB and to the cover assembly.
3. With the scale on, short the two "TEST" jumpers on the left of the PCB under the LCD.
4. Lay the cover assembly back on the undercarriage.



5. Once the scale is in Test Mode, the display can be rotated through the following functions by pressing  :

   Internal Count
   Initial Count
   Direct Raw Count
   Average Raw Count
   Battery Check, A/D Conversion
   ROM Version
   Display Segment Check



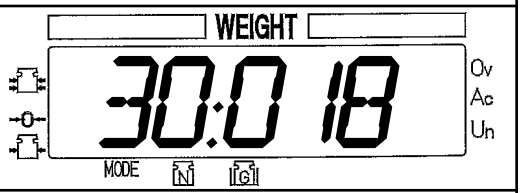
6. Exit Test Mode by pressing OFF.

II Set-up Procedures

II.B System Parameter Mode

1. Enter Test Mode (see section II.A for details.)

2. Press  and  to enter System Parameter Mode. The scale will indicate a keyword followed by it's value.



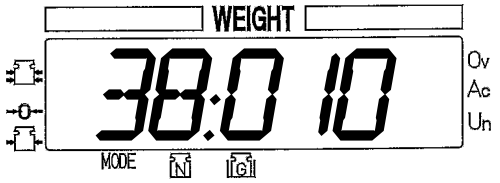
3. To select the desired keyword, use the keys as follows:

    - increase keyword by one

    +  - decrease keyword by one

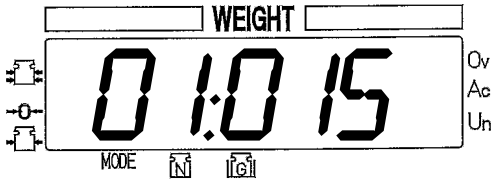
   Note: Use the System Parameter List in Section IV.B to locate the function to be changed and it's standard value.

   Example: To select zero tracking time press  eight times.



4. User parameters are also set in the System Parameter Mode. Press  to cycle through system keywords 30 through 40. After system keyword 40, user keyword 01 is displayed. Pressing  will continue to cycle through user keywords 01 through 09 and then return to system keyword 30.

   Note: Use the User Parameter List in Section IV.A to locate the function to be changed and it's standard value.



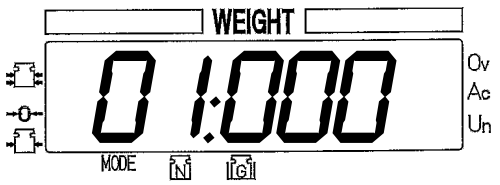
5. To change a parameter value, use the keys as follows:

    - increase value by one

    +  - increase value by ten

    - decrease value by one

    +  - decrease value by ten



II Set-up Procedures

II.B System Parameter Mode

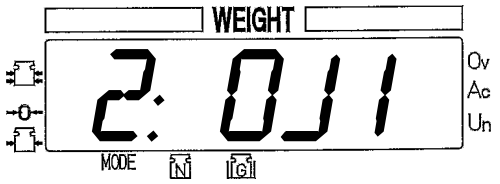
6. Press ON/-0- to save a change and to progess to the next keyword.

7. Press ON/-0- then → to return to test mode, or press OFF then ON/-0- to return to normal operating mode.

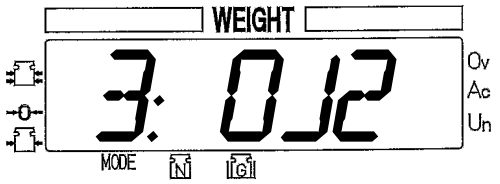
II.C Calibration Mode

1. Enter Test Mode (see section II.A for details.)

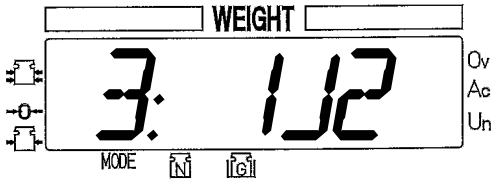
2. Press N/G and ON/-0- to enter Calibration Mode. The scale will indicate three-point or two-point span adjustment mode and the fraction (i.e. - 0/2, 1/2 or 2/2 for three-point) of full-scale, in kilograms, that should be placed on the platform.



3. If the scale is in two-point span adjustment mode, press N/G to enter three-point mode.



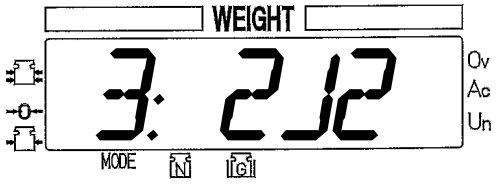
4. Clear the platform and press →.



5. Place one-half of the full scale weight (in kilograms) on the platform.

   Example: If the scale capacity is 5 kg/10 lb, place 2500 g on the platform.

6. Press →.



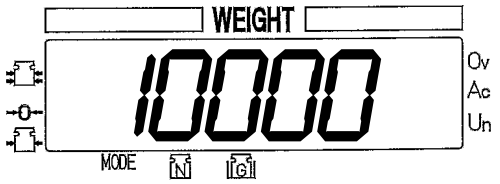
II Set-up Procedures

II.C Calibration Mode

7. Add sufficient weight to the platform to bring the total to the full-scale weight in kilograms.

   Example: If the scale capacity is 5 kg/10 lb, place another 2500 g on the platform for a total of 5 kg.

8. Press  to save the new calibration points and return to Test Mode.



9. Press  at any time in the span-adjustment to exit to Test Mode without saving any new calibration points.

10. Press  then  to return to normal operating mode.

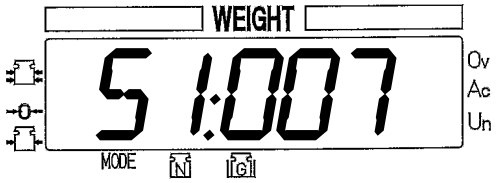
II.D Factory Parameter Mode

1. Enter Test Mode (see section II.A for details.)

2. Enter Calibration Mode (see section II.C for details.)

3. Press  and  to enter Factory Parameter Mode. The steps are the same as in System Parameter Mode (see Section II.B) with the exception that the keywords progress from 51 through 99.

   Note: Use the Factory Parameter List in Section IV.C to locate the function to be changed. Use the Standard Factory Parameter Settings List in Section IV.D to determine the appropriate parameter value to enter.



III Troubleshooting

Problem	Possible Cause	Solution
The scale will not power on.	Batteries dead or incorrectly installed. AC adapter loose or malfunctioning. CPU board malfunction.	Test batteries. Reinstall if needed. Reseat adapter. Replace if needed. Replace CPU board.
The display continues to flash all 8s after the scale is turned on.	Vibration or an unstable position or platform.	Remove source of vibration or place scale on stable platform.
"-----H" appears upon power up.	Platform weight too high.	Clear platform and restart.
"-----L" appears upon power up.	Platform weight too low.	Remove platform, clear away any debris and reinstall platform.
The displayed weight fluctuates excessively.	Material between the platform and the scale body. Weighing assembly in contact with wires or case. Load cell connector loose or damaged. Power board malfunction. CPU board malfunction.	Remove material. Reposition wires, case or platform. Reconnect or replace the load cell connector. Replace power board. Replace CPU board.

IV Parameter Lists

IV.A User Parameters

Key Word	Std Value	Function	Description
01	015	Auto-off timer	000 Disables auto-off. 001~240 Number of minutes unused to activate auto-off.
02	000	Display hold timer	000 No display hold for changes less than four divisions. 001~030 Display hold duration, in seconds, for changes less than four divisions.
03	001	Communication	000 No serial interface. 001 Specified commands acceptable. 002 Sends zero detection. 003 Sends motion detection. 004 Sends continuously.
04	000	Communication data	000 Net weight (1 batch) 001 Net weight, tare weight, gross weight (1 batch) 002 Net weight, tare weight, gross weight (3 batches) 003 Display content (1 batch) 004 Serial printer format (1 batch)
05	000	Communication speed	000 9600 bps 001 600 bps 002 1200 bps 003 2400 bps 004 4800 bps 005 9600 bps 006 19200 bps 007 38400 bps
06	000	Character length	000 8 bits 001 7 bits
07	002	Parity	000 Non 001 Odd 002 Even
08	001	Stop bit length	000 1 bit 001 2 bits
09	001	Default mode	000 kg 001 lb/oz

IV Parameter Lists

IV.B System Parameters

Key Word	Std Value	Function	Description
30	018	System ID	018 Do not change.
31	010	Gravity compensation	000 No compensation. 001~016 Compensation for a specified area (Japan only.) 017~150 Acceleration due to gravity formula, (mm/s2)-9700.
32	000	Linearity compensation	000 No compensation. 001~127 Positive compensation. 128~255 Negative compensation.
33	004	Steady-state sampling count	000~255
34	012	Steady-state count	000~255
35	008	Polarity steady-state count	000~255
36	020	Steady-state collapse count	000~255
37	004	Steady-state average count	000~255
38	010	Zero tracking timing	000 Disable zero tracking 001~255 Zero tracking at specified counts
39	001	Neglectable change count	000~010 Number of counts
40	000	Simple test mode	000 User parameter valid 001 User parameter invalid 002 User parameter and simple test mode valid

IV.C Factory Parameters

Key Word	Function	Description
51	Scale mode	000 Fixed single increment. 001 Multi-increments. 002 Do not use. 003 Do not use. 004 Change-over / gram mode - decimal pound mode. 005 Change-over / gram mode - lb/oz mode. 006 lb/oz mode.
52	Multi-increments, complex increment mode	000 Fixed single increment. 001 Fixed accuracy, 3 increments. 002 Fixed accuracy, 2 increments. 003 Increment change at 50% full scale, 2 increments. 004 Increment change at 80% full scale, 2 increments. 005 Increment change at 64% full scale, 2 increments. 006 Increment change at 40% full scale, 2 increments.
53	Weighing capacity base value	000~099
54	Weighing capacity index value	001~004
55	Increment for lighter range	000 1 001 2 002 5 003 10 004 20 005 50 006 100 007 200

IV Parameter Lists

IV.C Factory Parameters

Key Word	Function	Description
56	Location of decimal point	000 0 (No decimal point.) 001 0.0 002 0.00 003 0.000 004 0.000
57	Type of decimal point	000 Period (.) 001 Comma (,)
58	Weighing unit	000 No unit. 001 g 002 kg 003 lb. 004 oz.
59	Weighing unit display	000 No display. 001 Specified unit displayed.
60	Weighing capacity base value (pound mode)	000 Not used in pound mode. 001~099
61	Weighing capacity index value (pound mode)	000~004
62	Location of decimal point (lb or lb/oz mode)	<Decimal pound mode> 000 0 (No decimal point) 001 0.0 002 0.00 003 0.000 004 0.0000 <Pound/ounce mode> 000 0 : 0.00 001 0 : 0.0 002 0 : 0 003~004 Not used.
63	Pound increment	000~008
64	Pound conversion coefficient	000 Conversion coefficient = 1.00000 001 Conversion coefficient = 0.705479 002 Conversion coefficient = 0.881849 003 Conversion coefficient = 1.10231
65	Zero point range	000~100
66	Zero point range on plus side	000~100
67	Over scale	000~010
68	Display hold function	000 No hold 001 Hold for weight more than net + 10 divisions. 002 Hold for weight more than net + 10 divisions, hold key invalid. 003 Hold for weight more than net + 20 divisions. 004 Hold for weight more than net + 20 divisions, #10 invalid. 005 Hold for weight more than net + 20 divisions, hold key invalid, #10 invalid.
69	Hold release against increased weight	000 Hold against any increased weight. 001~005 Hold release against a specified increase.
70	Stable mark	000 Display the stable mark. 001 Stable mark not displayed.

IV Parameter Lists

IV.C Factory Parameters

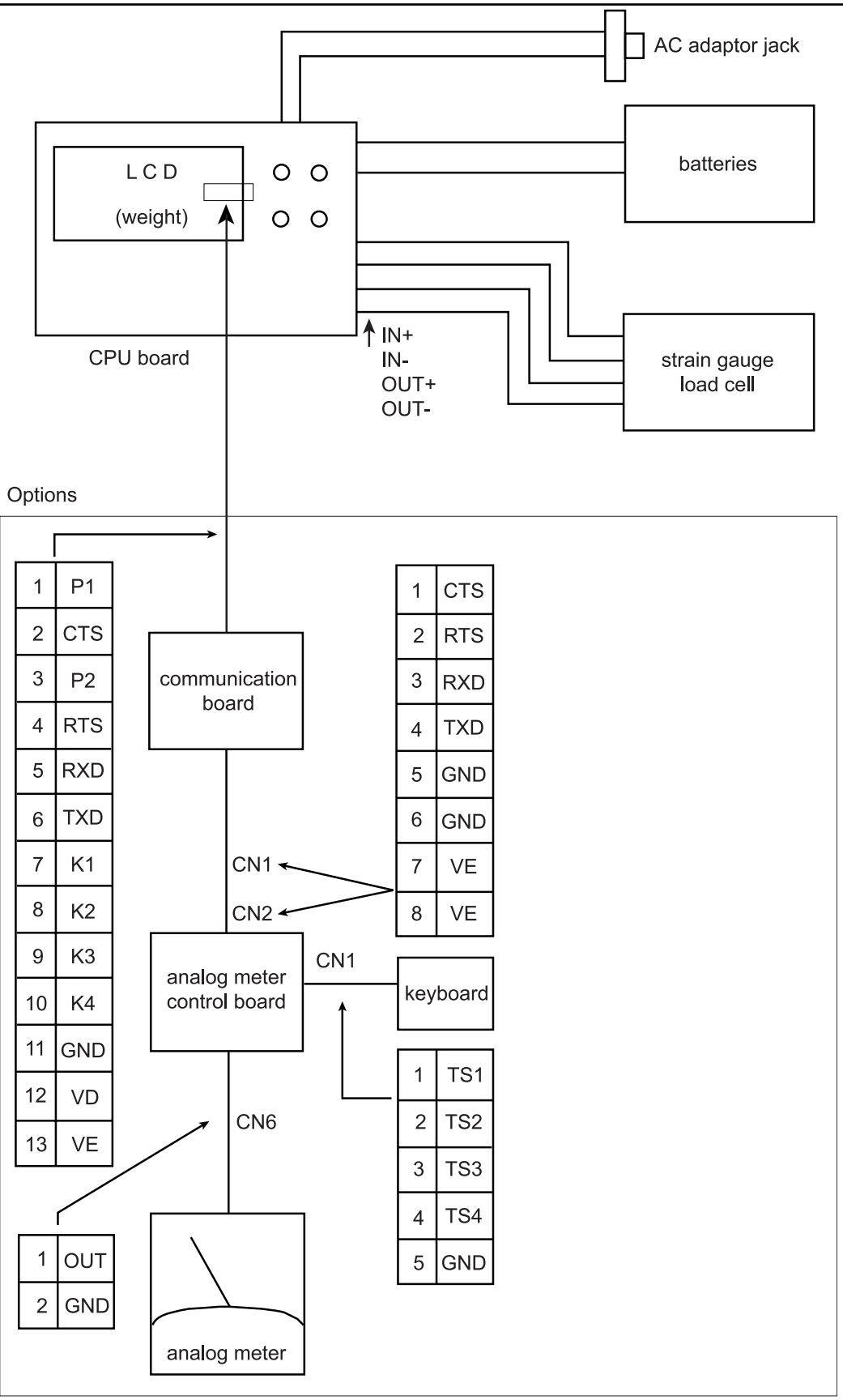
Key Word	Function	Description
71	Tare function	000 No tare function. 001 One-time tare. 002 Consecutive tare.
72	Zero reset under tare operation	000 Zero reset enabled. 001 Zero reset disabled.
73	Power off with ON key	000 ON key disabled for power off. 001 Power off after pressing ON key for two seconds.
74	Special function for stability	000 No function. 001 Enforcement. 002 EU mode.
75	Over - under feature	000 Disabled. 001 Enabled.
80	Internal resolution	000 Do not use. 001~255
81	1 timer (ms)	000 Do not use. 001~255
82	3 timer (ms)	000 Do not use. 001~255
91	Mechanical zero 1	000~255 Automatically set at span adjustment.
92	Mechanical zero 2	000~255 Automatically set at span adjustment.
93	Span coefficient 1 (small)	000~255 Automatically set at span adjustment.
94	Span coefficient 2 (small)	000~255 Automatically set at span adjustment.
95	Span coefficient 1 (large)	000~255 Automatically set at span adjustment.
96	Span Coefficient 2 (large)	000~255 Automatically set at span adjustment.
97	Regional number and gravity for span adjustment	000~155 Automatically set at span adjustment.
99	Factory setting	000 Always displayed. * Do Not Change *

IV Parameter Lists

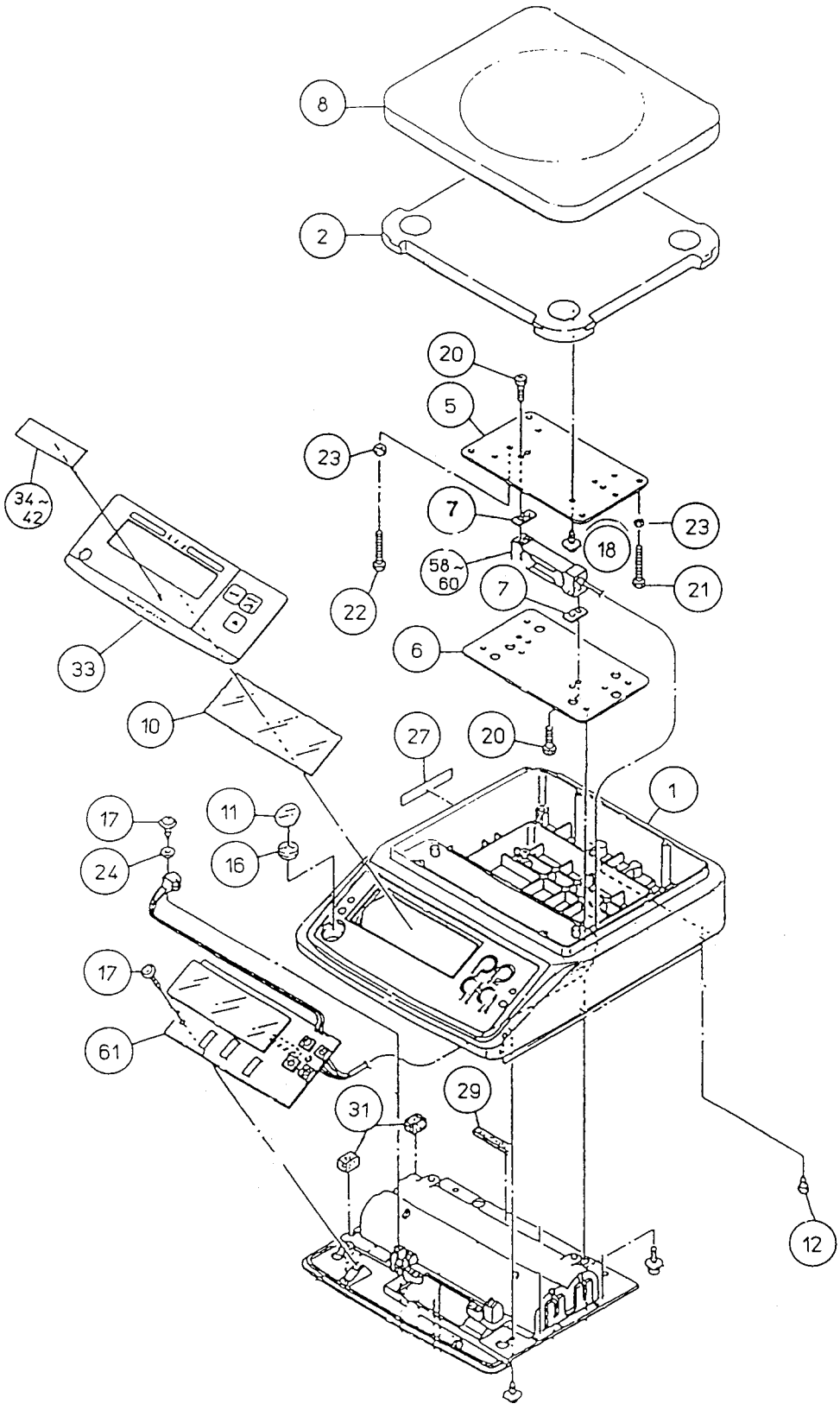
IV.D Standard Factory Parameter Settings

Key Word	Factory Parameter	Decimal Pound			Decimal Ounce			Pound and Ounce		
		1 kg	2 kg	5 kg	1 kg	2 kg	5 kg	1 kg	2 kg	5 kg
51	Scale Mode	004	004	004	007	007	007	005	005	005
52	Multi-increments	000	000	000	000	000	000	000	000	000
53	Weighing capacity base value	001	002	005	001	002	005	001	002	005
54	Weighing capacity index value	003	003	003	003	003	003	003	003	003
55	Increment for lighter range	000	001	002	000	001	002	000	001	002
56	Location of decimal point	003	003	003	003	003	003	003	003	003
57	Type of decimal point	000	000	000	000	000	000	000	000	000
58	Weighing unit	002	002	002	002	002	002	002	002	002
59	Display of weighing unit	001	001	001	001	001	001	001	001	001
60	Weighing capacity base value (lb)	002	005	001	025	005	010	025	005	010
61	Weighing capacity index value (lb)	003	003	003	000	000	000	000	000	000
62	Location of decimal point	003	003	002	002	001	001	000	001	001
63	Pound increment	002	005	001	005	001	002	005	001	002
64	Pound conversion coefficient	003	002	003	001	001	002	001	001	002
65	Zero point range	019	019	019	019	019	019	019	019	019
66	Zero point range on plus side	012	012	012	012	012	012	012	012	012
67	Over scale	003	003	003	003	003	003	003	003	003
68	Display hold function	000	000	000	000	000	000	000	000	000
69	Hold release against increased wght.	000	000	000	000	000	000	000	000	000
70	Stable mark	000	000	000	000	000	000	000	000	000
71	Tare function	002	002	002	002	002	002	002	002	002
72	Zero reset under tare operation	001	001	001	001	001	001	001	001	001
73	Power off with ON key	000	000	000	000	000	000	000	000	000
74	Special function for stability	000	000	000	000	000	000	000	000	000
75	Over - under function	001	001	001	001	001	001	001	001	001
80	Internal resolution	010	010	010	010	010	010	010	010	010
81	1 timer (ms)	045	045	045	045	045	045	045	045	045
82	3 timer (ms)	045	045	045	045	045	045	045	045	045
91	Mechanical zero 1	auto	auto	auto	auto	auto	auto	auto	auto	auto
92	Mechanical zero 2	auto	auto	auto	auto	auto	auto	auto	auto	auto
93	Span coefficient 1 (small)	auto	auto	auto	auto	auto	auto	auto	auto	auto
94	Span coefficient 2 (small)	auto	auto	auto	auto	auto	auto	auto	auto	auto
95	Span coefficient 1 (large)	auto	auto	auto	auto	auto	auto	auto	auto	auto
96	Span coefficient 2 (large)	auto	auto	auto	auto	auto	auto	auto	auto	auto
97	Regional # and gravity for span adj.	auto	auto	auto	auto	auto	auto	auto	auto	auto
99	Factory setting - Do not change	000	000	000	000	000	000	000	000	000

V Wiring Diagram



VI Parts List



VI Parts List

ITEM	PART NUMBER	DESCRIPTION	QTY
1	YAM-1245-000001	Housing	1
2	YAM-1245-000002	Pan Support	1
3	YAM-1245-000003	Battery Box	1
4	YAM-1245-000004	Lid/Battery Box	1
5	YAM-1245-000005	Load Cell Mounting Plate A	1
6	YAM-1245-000006	Load Cell Mounting Plate B	1
7	YAM-1245-000007	Spacer	2
8	YAM-1245-000008	Pan, Stainless Steel	1
9		N/A	
10	YAM-1245-000010	Front Glass	1
11	YAM-1245-000011	Glass, Leveling Indicator	1
12	YAM-1245-000012	Rubber Leg	4
13	YAM-1245-000013	Spring A, Battery Box	1
14	YAM-1245-000014	Spring B, Battery Box	1
15	YAM-1245-000015	Spring C, Battery Box	1
16	YAM-1245-000016	Level Indicator	1
17	YAM-1245-000017	Tapping Screw, M3x8	3
18	YAM-1245-000018	Tapping Screw, M4x10	4
19	YAM-1245-000019	Cross Recessed Pan Head Screw, M4x15	4
20	YAM-1245-000020	Hex Socket Head Screw, M3x12	4
21	YAM-1245-000021	Hex Bolt, M4x30	4
22	YAM-1245-000022	Hex Socket Head Screw, M4x35	1
23	YAM-1245-000023	Hex Nut, M4	5
24	YAM-1245-000024	Washer, M4	1
25		N/A	
26		N/A	
27	YAM-1245-000027	PL Sticker (optional)	1
28	YAM-1245-000028	Sticker B	1
29	YAM-1245-000029	Packing A	1
30	YAM-1245-000030	Packing B	1
31	YAM-1245-000031	Packing C	3
32	YAM-1245-000032	Packing D	1
33	YAM-1245-000033	Front Film	1
34	YAM-1245-000034	Capacity Sticker 1 kg / 2 lb x 0.002 lb	(1)
35	YAM-1245-000035	Capacity Sticker 2 kg / 5 lb x 0.005 lb	(1)
36	YAM-1245-000036	Capacity Sticker 5 kg / 10 lb x 0.01 lb	(1)
37	YAM-1245-000037	Capacity Sticker 1 kg / 2 lb 8 oz	(1)
38	YAM-1245-000038	Capacity Sticker 2 kg / 5 lb	(1)
39	YAM-1245-000039	Capacity Sticker 5 kg / 10 lb	(1)
40	YAM-1245-000040	Capacity Sticker 1 kg / 40 oz	(1)
41	YAM-1245-000041	Capacity Sticker 2 kg / 80 oz	(1)
42	YAM-1245-000042	Capacity Sticker 5 kg / 160 oz	(1)
43 - 57		N/A	
58	YAM-1245-000058	Load Cell Assembly 2 kg (for 1 kg)	(1)
59	YAM-1245-000059	Load Cell Assembly 3 kg (for 2 kg)	(1)
60	YAM-1245-000060	Load Cell Assembly 7 kg (for 5 kg)	(1)
61	YAM-1245-000061	CPU Board Assembly	1
62 - 67		N/A	
68	YAM-1245-000067	AC Adaptor (optional)	1