BATTERY WEIGHING SCALE
BW-SERIES
Service Manual

LAST Rev. NO :

LAST Rev. Date : 2009. 06. 18

Table of Contents

1. Proper Operation

1.1 Introduction

The service manual is the specification for the BW-SERIES. They have been designed with CAS reliability under rigid quality control and with outstanding performance.

This manual includes basic technical about composition of hardware and program function.

1.2 Model and Specification

Item \ Model		BW-1N				
		BW-6	BW-15	BW-30	BW-60	BW-150
Max Capacity		6kg	15kg	30kg	60kg	150kg
Interval		2g	5g	10g	20g	50g
Platter Size		280(W) x 280(D) x 80(H)			405(W) x 525(D) x 105(H)	
Product Size		280(W) x 350(D) x 530(H)			425(W) x 675(D) x 755(H)	
Product Weigh		About 6 kg			About 17 kg	
Charge Time		About 6 hr				
Discharge		About 30 hr (BL ON), About 60 hr (BL OFF).				
Function	General	ON/OFF, Zero, Net, Hold, PCS, RS232, HI, LO, Compare				
	Option	Backlight				
Operatint Temp		-10℃ ~ +40℃				
Tare		Max Capacity				
Display		6 Digit LCD(24mm Height) Stable( ), Zero ( ), Tare ( ), Net ( ), Hold ( ), Low battery ( ), Weight unit (kg), High, OK, Low ( ), Count( )				
Power (Option)		1. DC 7.2V(6EA SIZE " AA ") 2500mAh Rechargeable battery 2. DC 9V(6EA SIZE " C ") Dry Battery 3. DC 12V 1.25A AC Adaptor				
Power consumption		approx. 0.25W				

1.3 Environmental Conditions & Safety

- Do not press the key strongly
- Do not install in the place with sudden temperature change.
- Do not install in the place with excessive electrical noise and shaking.
- Do not use the inflammable at cleaning.
- Do not use in the place exposed directly to the sun and including much dust.
- Charge a battery in full to use after negligence for a long time.
- Install the platform on a flat place.
- Do not install in the place with voltage and terrible electrical noises.
- Never connect AC adaptor while using the dry battery.

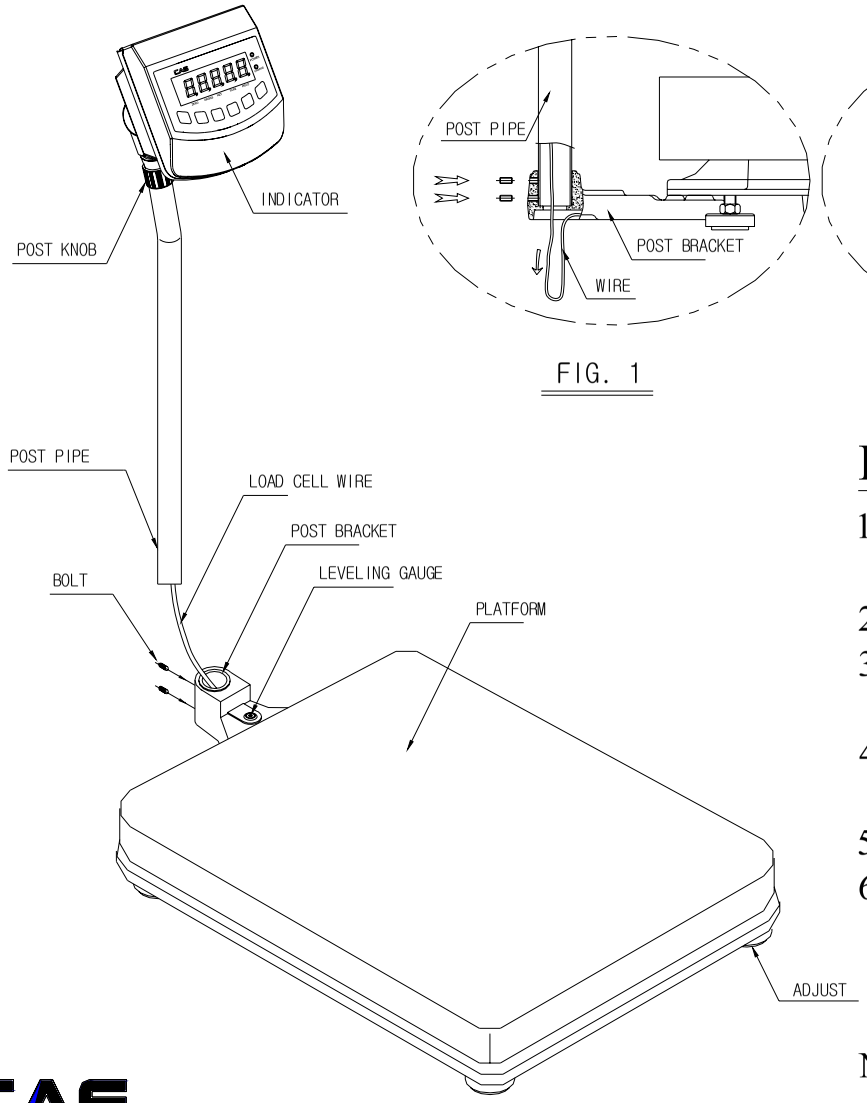


FIG. 1

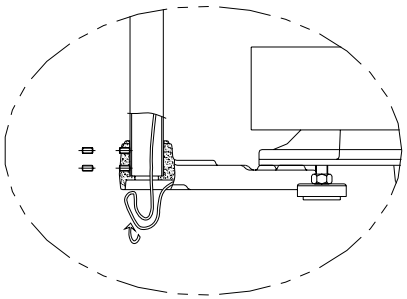


FIG. 2

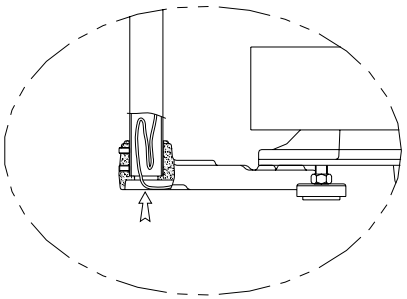


FIG. 3

How to install the BW-series

1. Open the box with care because indicator is connected to the scale with load cell wire.
2. Turn the post knob so as to fix indicator.
3. Pull down the wire out of post pipe and insert the post pipe to the post bracket. (Refer to fig. 1)
4. Fasten the post pipe with two bolts. (Refer to fig. 1) A long bolt should be connected to the upper side.
5. Insert the wire to the post pipe. (Refer to fig. 2.3)
6. If the scale is not properly level, please adjust 4 leg(adjusting bolt) at the bottom of the scale so as to center the bubble of the leveling gauge.

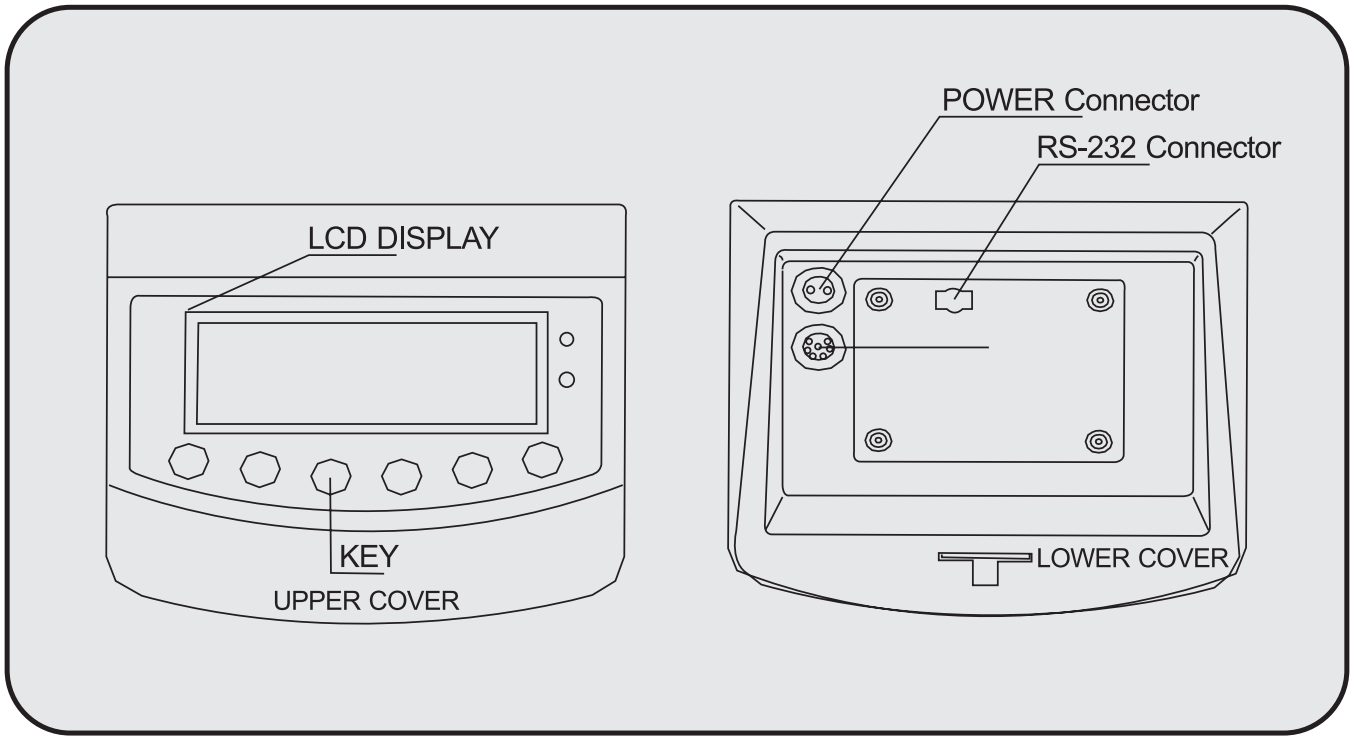
Note: Place the scale on a flat and stable surface. inside the indicated circle.

CAS

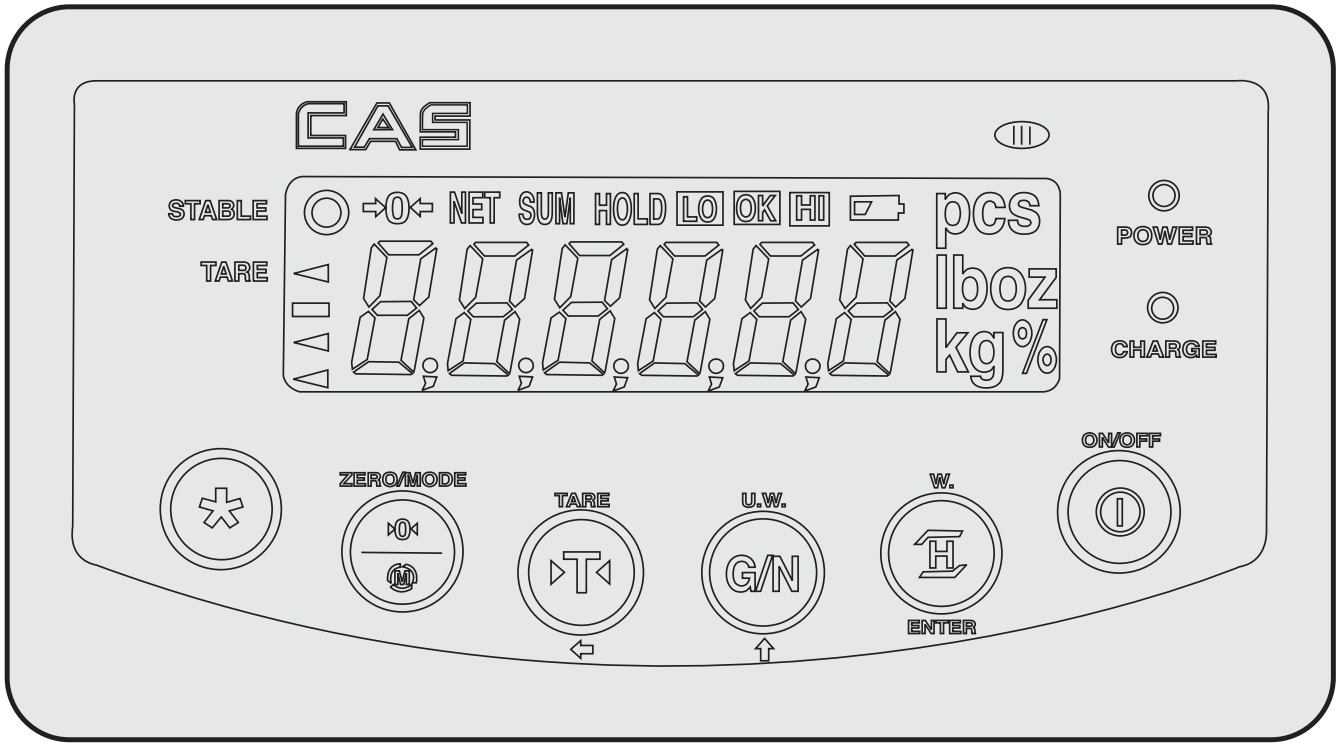
2. Classification

BW-6, BW-15, BW-30,BW-60, BW-150모델별 제품 사진 추가 필요

2.2 Part Name



2.2 Display



LAMP	SYMBOL	DESCRIPTION
STABLE	◎	ON when current weight is stable
ZERO	⇨0⇦	ON when current weight is 0
NET	NET	ON at displaying the pure weight
HOLD	HOLD	ON at weighing the moving object
TARE	◁	ON when tare is activated.
HI	HI	ON when current weight is more than high limit value.
OK	OK	ON when current weight is right weight band.
LOW	LO	ON when current weight is less than low limit value.
BAT	▭	Display the battery recharging time (rechargeable battery) Display the battery replacing time (dry battery) - about 6.9V remain
PCS	PCS	ON when current mode is count mode.
CHARGE	◯	When charging battery, charging lamp (RED) is ON. When it is completed, charging lamp (GREEN) is ON.
POWER	◯	ON at connecting the DC 12V adapter.
Minus		ON when weight is “-“
Kg		Weight unit

3. Getting Started

Moving method

Open the top cover of indicator and power on with pressing CAL switch in the left top. At that time, LCD screen shows “ZEro=tESt tArE=CAL” message and pressing ‘Zero’ key moves to Test 1.

Test menu (tESt 1 ~ tESt 4)

TEST 1: Liquid crystal display test

TEST 2: A/D conversion test

TEST 3: Key test

TEST 4: RS-232C communication test

TEST 1 (Enter 'TEST' mode to start TEST 1.)

FUNCTION : Liquid crystal display Test		
KEY	LC DISPLAY	DESCRIPTION
ENTER Key : Next menu	 	Display TEST 1 state.

TEST 2

FUNCTION : A/D conversion test		
KEY	LC DISPLAY	DESCRIPTION
ENTER Key : Next menu ZERO Key : Use to set the current value to "0"	 	Display TEST 2 state. Display the digital value corresponding to current weight.

▶ Note 1. Check whether the digital value is changing whenever you load or unload the weight on the platter. If the digital value is fixed or zero is displayed, please check the connection of loadcell.

TEST 3

FUNCTION : Key test		
KEY	LC DISPLAY	DESCRIPTION
ENTER key : Next menu Other key : Test execution	 	Display TEST 3 state. Press the key to be tested and the No. of key mode should be identifying with code of key as the follows.

<KEY CODE>

KEY	CODE	KEY	CODE
*	1	GROSS /NET	4
ZERO	2	HOLD or kg/lb	5
TARE	3		

TEST 4

FUNCTION : RS-232C communication test		
KEY	LC DISPLAY	DESCRIPTION
	tEStY	Display TEST 4 state.
	-----	Waiting for transmission and reception.
	----1	Received : None, Transmitted : 1
ENTER key :		Received : 2, Transmitted : 1
Move to weighing mode.		Press ENTER key.
Other key :	2---1	When this test is completed, it is automatically moved to NORMAL MODE.
Execute data transmission to a computer.	End	
	88888	

▶ Note 1. Connect the computer COM port with RS232C connector of indicator before running this test.

▶ Note 2. Send No. 2 in computer keyboard and check if indicator receives No.2 send No. 1 in indicator keyboard and check if computer receives No.1

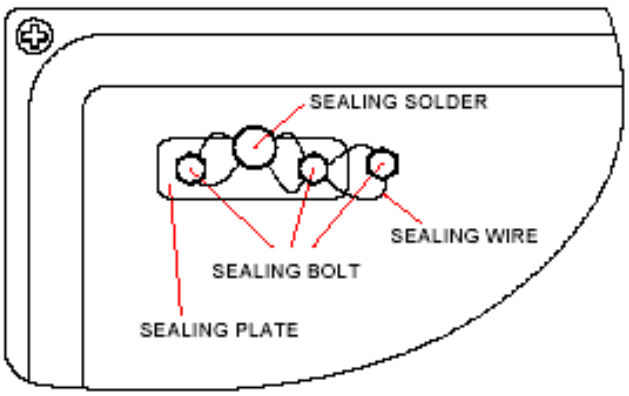
Sealing methode

Perform the sealing as shown in the below figure after the calibration is completed.

Open the top cover.

Cover CAL switch in the left top of cover with sealing plate and screw 2 sealing bolt.

Connect the sealing wire as follows and compress the sealing lead.



4. Calibration Mode

Moving method

Open the top cover of indicator and power on with pressing CAL switch in the left top. At that time, LCD screen shows “ZEro=tESt tArE=CAL” message and pressing ‘TARE’ key moves to CAL 1.

Calibration menu (CAL 1 ~ CAL 5)

CAL 1 : Maximum Capacity Set

CAL 2 : Minimum Division Set

CAL 3 : Setting Weight in Span Calibration

CAL 4 : Zero Calibration

CAL 5 : Span Calibration

Digit input method

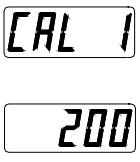
NET/GROSS Key : Increase the first place value by 1.

TARE Key : Move to the left by 1 place.

ZERO/MODE Key : Set the inputted value to “0”.

ENTER Key : Move to the next menu.

CAL 1

FUNCTION : Maximum Capacity Set (Range : 1 ~ 99,999)		
KEY	LC DISPLAY	DESCRIPTION
Input by digit input method. ENTER : save and go to next menu		CAL 1 condition 200 Kg

CAL 2

FUNCTION : Minimum Division Set (Range : 0.001 ~ 50)		
KEY	LC DISPLAY	DESCRIPTION
NET/GROSS key: Input the next division TARE key:		CAL 2 condition 0.5 Kg

Input the previous division ENTER key: Move to the next menu		

▶ Note 1. The minimum division means the value of one division.

▶ Note 2. External resolution is obtained by dividing the min. division by the maximum capacity. Set the resolution to be within 1/10,000.

▶ Note 3. The maximum capacity/minimum division is over 10,000, error message "CH 11" will occur.

CAL 3

FUNCTION : Setting Weight In Span Calibration		
KEY	LC DISPLAY	DESCRIPTION
Input by digit input method. ENTER : save and go to next menu		CAL 3 condition 200 Kg

▶ Note 1. The span weight shall be within 10-100% of maximum capacity. The initial span weight is 100% of max. capacity but if the current span weight is different from it, input the desired weight again.

▶ Note 2. The span weight shall be above 10% of maximum capacity. If not so, an error message "ERR22" is shown.

▶ Note 3. Never install the span weight higher than maximum capacity because an error message "ERR23" is shown.

CAL 4

FUNCTION : Zero Calibration		
KEY	LC DISPLAY	DESCRIPTION
ENTER key : Move to next menu after zero calibration		Empty the platform and when LCD screen shows "ULOAD", press 'ENTER' key. After completing zero calibration, it will be automatically moved to CAL 5.

▶ Note 1. Zero calibration is performed automatically by program. Loadcell output is automatically adjusted within 0.05mV and 5mV.

CAL 5

FUNCTION : Span Calibration		
KEY	LC DISPLAY	DESCRIPTION

ENTER key : Span calibration	CAL 5 LoAd End Err24	Put the weight set in CAL3 on platform and press 'ENTER' key. Span calibration is terminated. Error occurrence. Move into initial menu automatically.

▶ Note 1. Display "END" message and move into the NORMAL MODE at completion of span calibration

▶ Note 2. At occurrence of ERR24, reset by lowering the resolution.

5 Conversion Mode

1. ENTER method

If you press the * key for three seconds to normal operation state, after display "SET" Message for one second and then enter.

2. KEY using

← Move to the next menu.

↑ Increase the set point.

H Return to the normal operation at completion of setting :[ENTER] key.

3. CONVERSION menu (F01 - F06)

F - 1 : Auto power OFF setting.
F - 2 : RS-232C communication setting.
F - 3 : Select print format type.
F - 4 : Stable condition
F - 5 : Display Time Control
F - 6 : Hold Time Control

■ F – 1 : Auto power OFF setting

Auto power OFF function is used to spare the battery by means of power off when this scale is not used.

Set point	Meaning
F – 1 0	Auto power OFF is not used
F – 1 1~9	Automatically power off when the weight is not change or no key is used for 1 ~ 9 minutes

■ F – 2 : RS-232C communication setting

Set point	Meaning
F – 2 0	No transmit
F – 2 1	-
F – 2 2	Transmit at stable weight
F – 2 3	Transmit at data request. (Data request signal “D”)
F – 2 4	Use for print mode

■ F - 3 : Select print format type

Set point	Meaning
F – 2 0	Select print format 1
F – 2 1	Select print format 2
F – 2 2	Select print format 1 + Current Time
F – 2 3	Select print format 2 + Current Time

■ F - 4 : Stable Condition

Set point	Meaning
F – 4 1~9	Stable level 1~ 9

■ F - 5 : Display Time Control

Set point	Meaning
F – 5 1~9	Display Time Control (1 : Past, 9 : Slow)

■ F - 6 : Hold Time Control

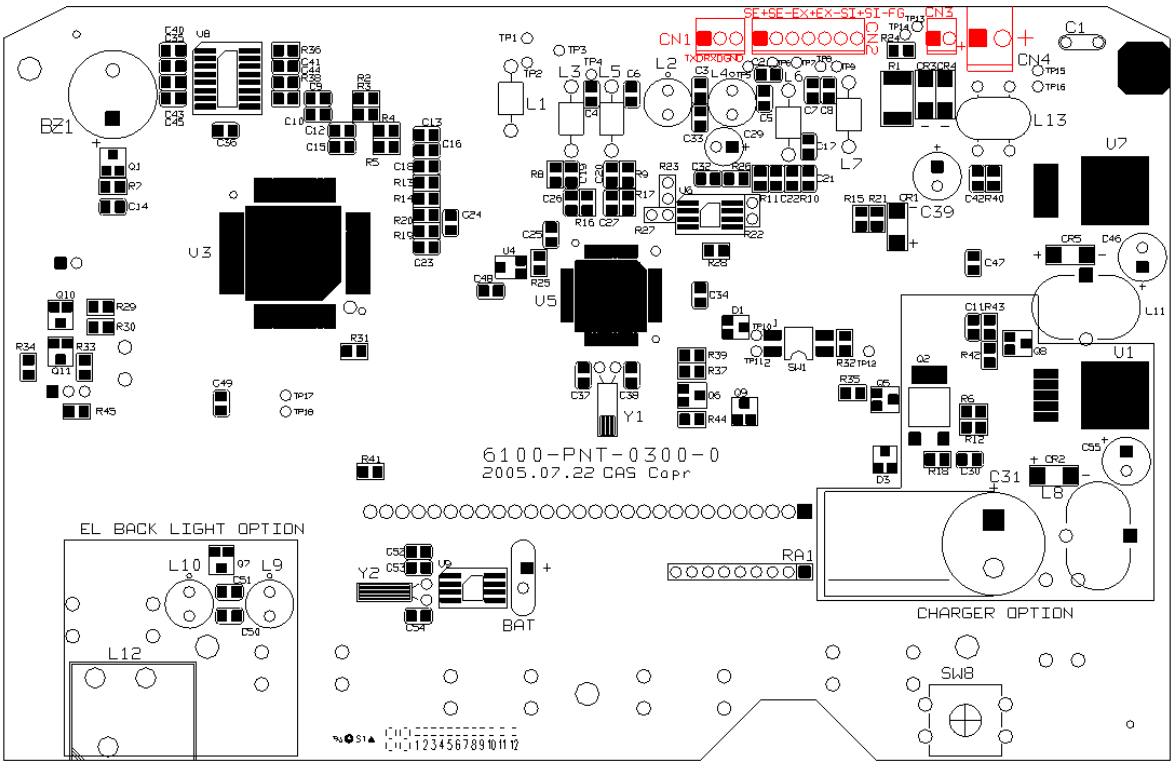
Set point	Meaning
F – 6 1~7	Hold Time Control (1 : Past, 7 : Slow)

5. Servicing & Parts Replacement

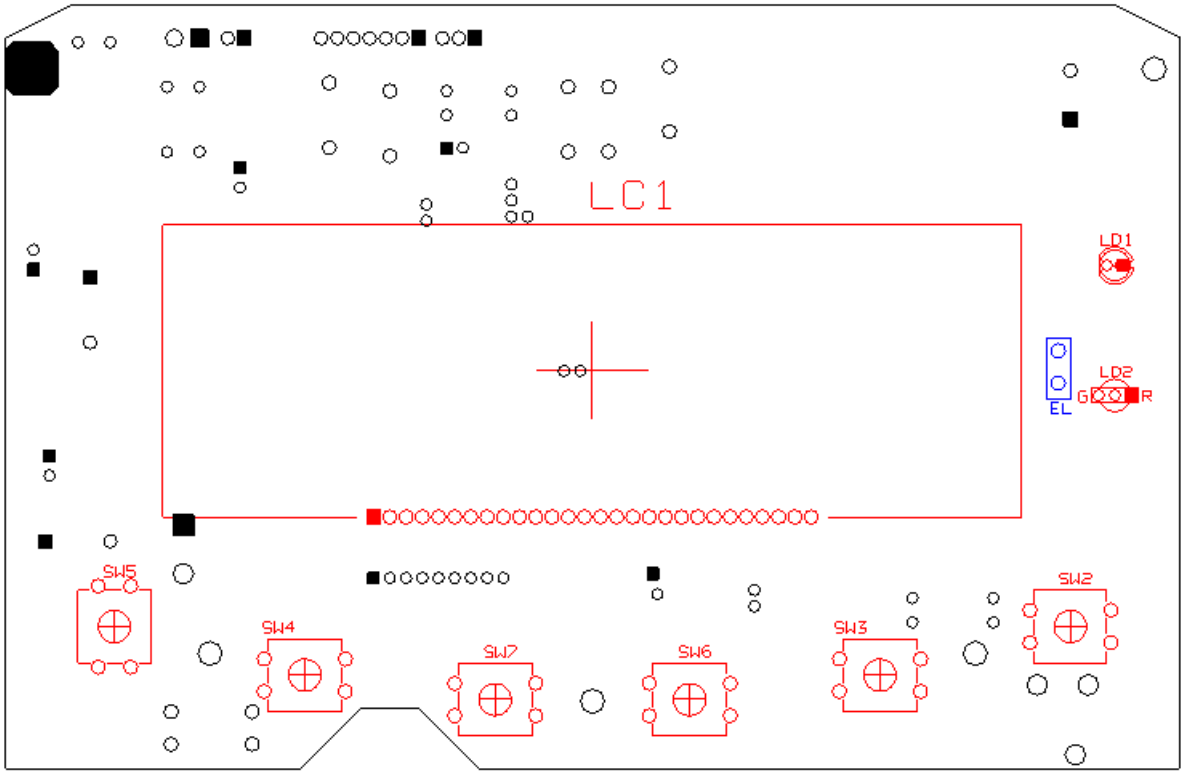
ERROR MESSAGE	REASON	SOLUTION
Err 01	The Indicator can't be initialized due to platform shaking.	Put the platform on a flat place without shaking and power on.
Err 02	The load cell is connected wrongly or A/D conversion part has a fault.	Check that the load cell is well connected with main unit.
Err 03	The calibration isn't executed or the data of internal memory is lost due to a electrical shock.	Perform the required specification again in setting mode.
Err 09 (Zero Key)	The specified TARE weight exceeds the maximum capacity.	Set the TARE weight lower than maximum capacity. Or set the maximum capacity higher than the desired TARE weight in calibration menu and perform the calibration again.
Err 13 (Zero Range with power on)	The initial zero range exceeds above 10% of maximum capacity.	Check the load cell state.
Over	Too heavy object is put on platform so that it may exceed the maximum capacity.	Never put the weight exceeding the maximum capacity. If the load cell is damaged, replace the load cell.
Err 61	The count unit weight and sample weight are set too high.	Set the count unit weight low or the count sample quantity high.
Err 62	The count unit weight and sample weight are set too low.	Set the count unit weight high or the count sample quantity low.

Parts Replacement

PCB TOP



PCB Bottom

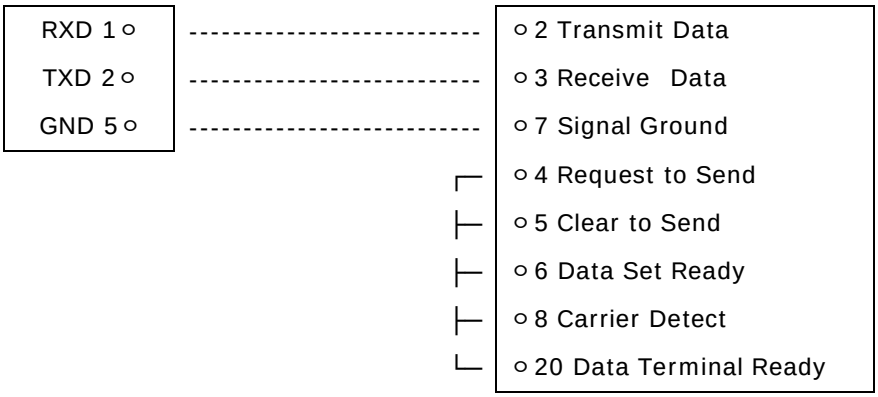


4. L/C 교체 방법 추가 요망

6. Options Installing

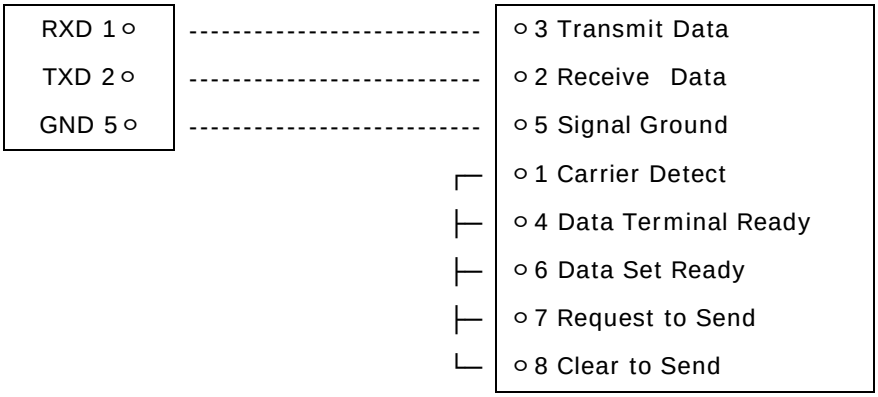
Serial Interface (RS-232C)

■ Connecting with PC



9 pin port (Male) 25 pin port of PC (Female)

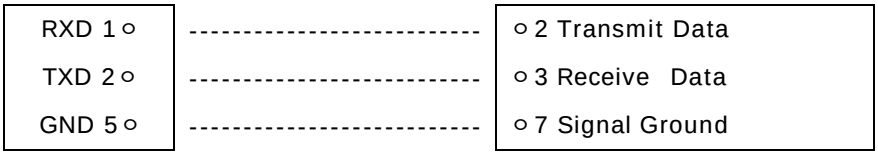
RS-232C port of BW-SERIES



9 pin port (Male) 25 pin port of PC (Female)

RS-232C port of BW-SERIES

■ Connecting with Sub-display (CD-SERIES)



9 pin port (Male)

RS-232C port of BW-SERIES

9 pin port of Sub-display (Male)

Print Format

Weight Mode -

< Format 1 >

No. 001 : 1.00 kg

< Format 2 >

001 : Net 1.00 kg
Tare 0.00 kg
Gross 1.00 kg

< Format 1 + Time >

2005 03. 17 11:23:46
No. 001 : 1.00 kg

※ Printed weight is net weight.

< Format 2 + Time >

2005 03. 17 11:23:46
001 : Net 1.00 kg
Tare 0.00 kg
Gross 1.00 kg

PCS Mode -

< Format 1 >

No. 001 : 1.00 pcs

< Format 2 >

001 : Net 1.00 pcs
Tare 0.00 pcs
Gross 1.00 pcs

< Format 1 + Time >

2005 03. 17 11:23:46.
No. 001 : 1.00 pcs

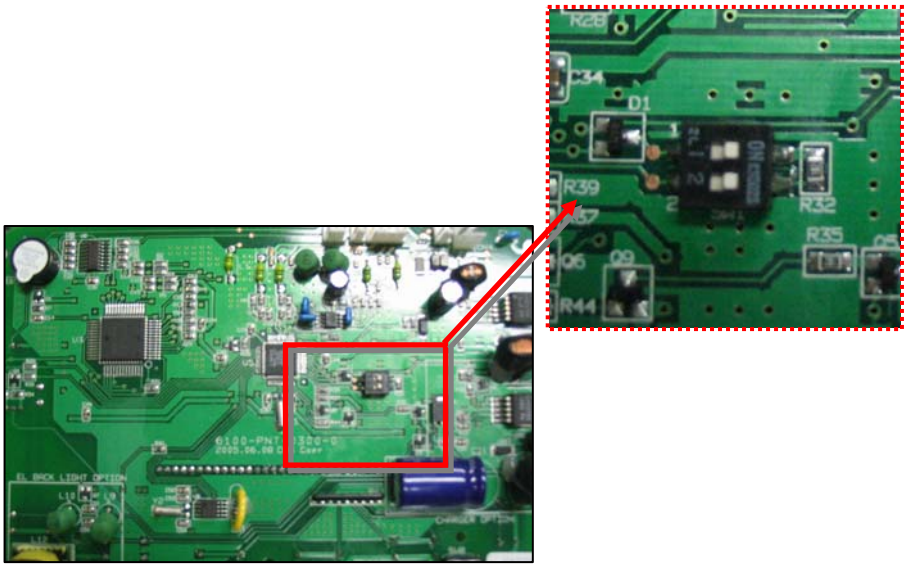
※ Printed count is net count.

< Format 2 + Time >

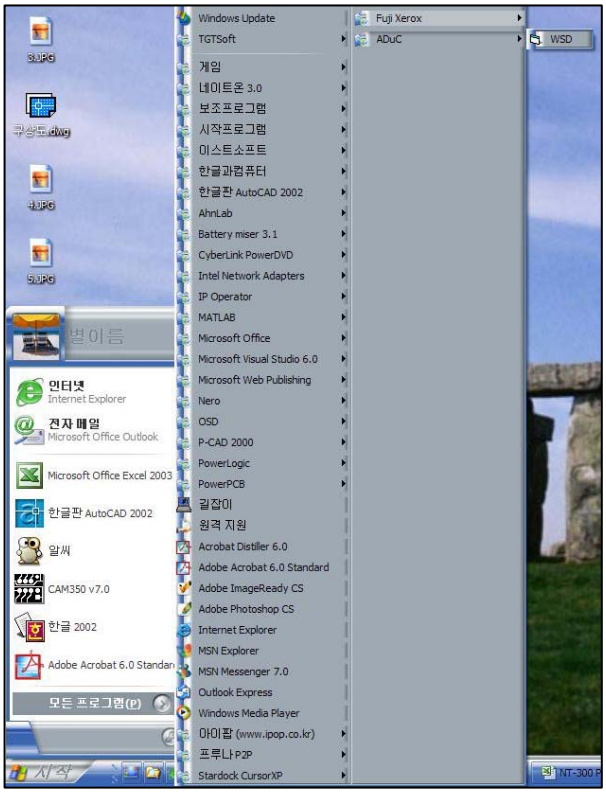
2005 03. 17 11:23:46
001 : Net 1.00 pcs
Tare 0.00 pcs
Gross 1.00 pcs

7. Update

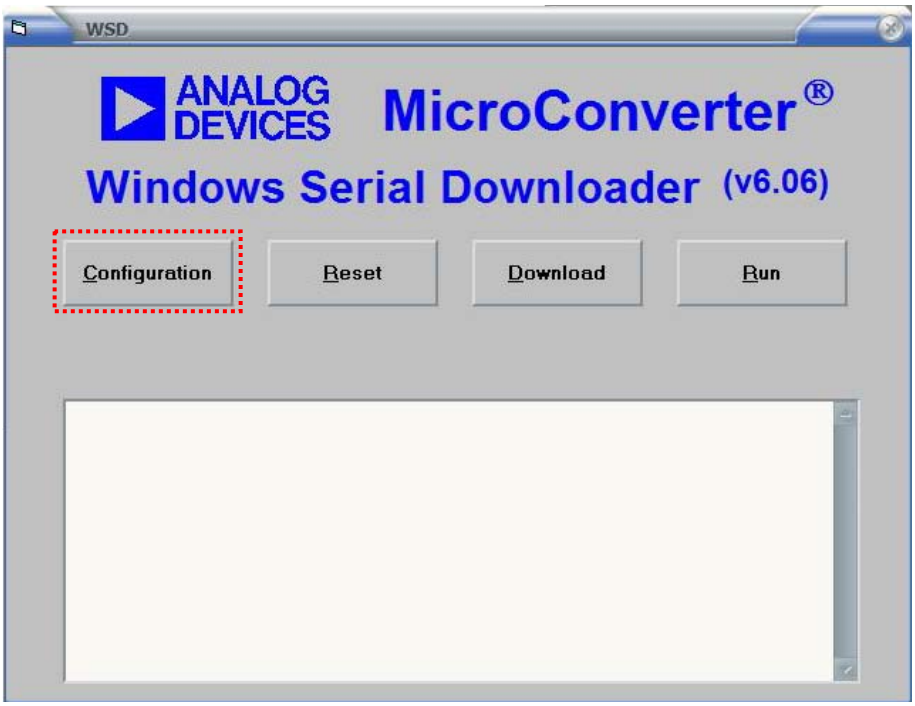
1)


R28
C34
D1
R39
R32
R35
Q6
Q9
R44

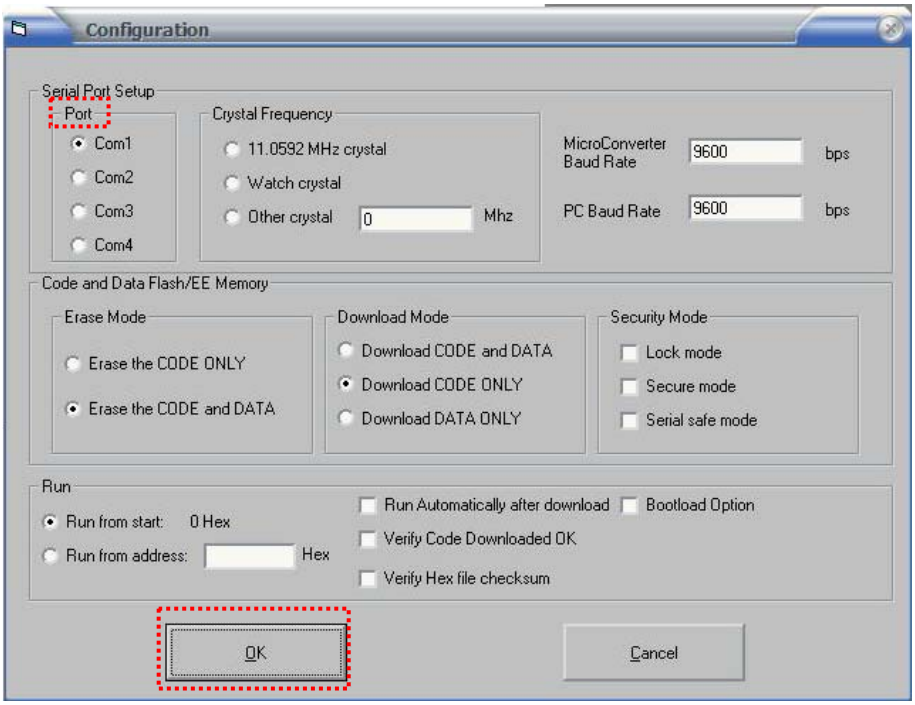
2)


Windows Update
TGTSoft
게임
네이트온 3.0
보조프로그램
시작프로그램
이스트소프트
한글과컴퓨터
한글판 AutoCAD 2002
AhnLab
Battery miser 3.1
CyberLink PowerDVD
Intel Network Adapters
IP Operator
MATLAB
Microsoft Office
Microsoft Visual Studio 6.0
Microsoft Web Publishing
Nero
OSD
P-CAD 2000
PowerLogic
PowerPCB
길잡이
원격 지원
Acrobat Distiller 6.0
Adobe Acrobat 6.0 Standard
Adobe ImageReady CS
Adobe Photoshop CS
Internet Explorer
MSN Explorer
MSN Messenger 7.0
Outlook Express
Windows Media Player
아이팝 (www.ipop.co.kr)
프루나 P2P
Stardock CursorXP
Fuji Xerox
ADuC
WSD
인터넷
Internet Explorer
전자 메일
Microsoft Office Outlook
Microsoft Office Excel 2003
한글판 AutoCAD 2002
알씨
CAM350 v7.0
한글 2002
Adobe Acrobat 6.0 Standard
모든 프로그램(P)
시작

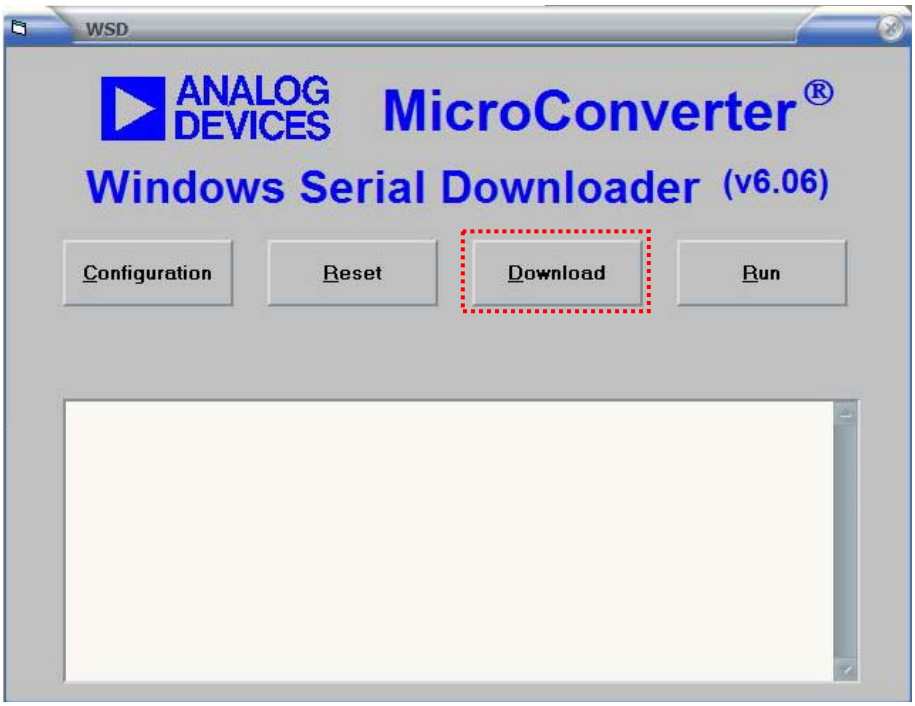
3)


WSD
ANALOG DEVICES
MicroConverter®
Windows Serial Downloader (v6.06)
Configuration
Reset
Download
Run

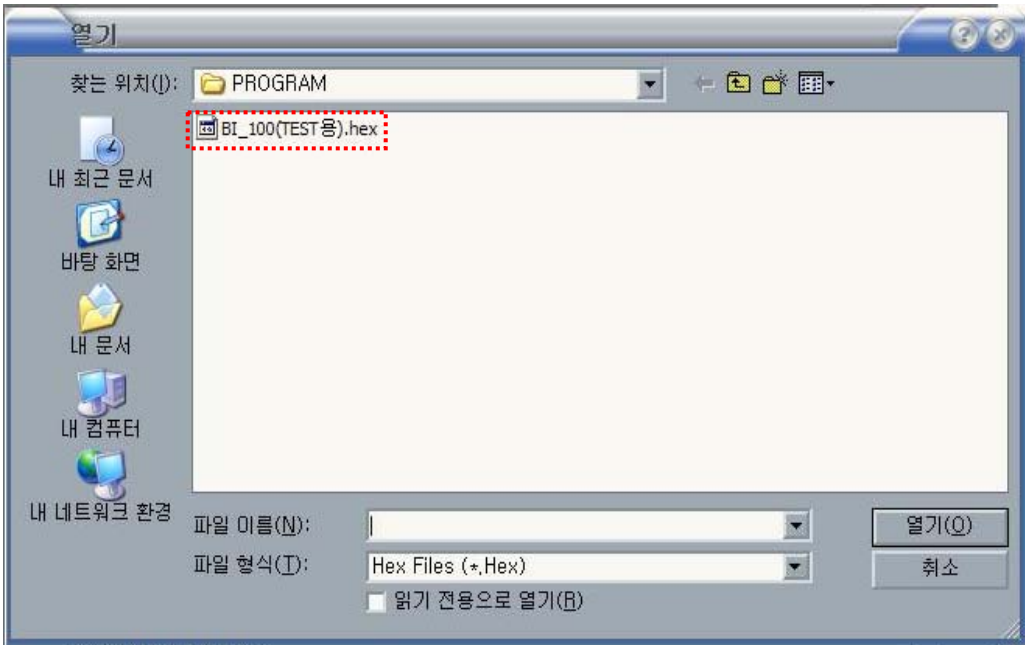
4)


Configuration
Serial Port Setup
Port
Com1
Com2
Com3
Com4
Crystal Frequency
11.0592 MHz crystal
Watch crystal
Other crystal
0
Mhz
MicroConverter Baud Rate
9600
bps
PC Baud Rate
9600
bps
Code and Data Flash/EE Memory
Erase Mode
Erase the CODE ONLY
Erase the CODE and DATA
Download Mode
Download CODE and DATA
Download CODE ONLY
Download DATA ONLY
Security Mode
Lock mode
Secure mode
Serial safe mode
Run
Run from start: 0 Hex
Run from address:
Hex
Run Automatically after download
Bootload Option
Verify Code Downloaded OK
Verify Hex file checksum
OK
Cancel

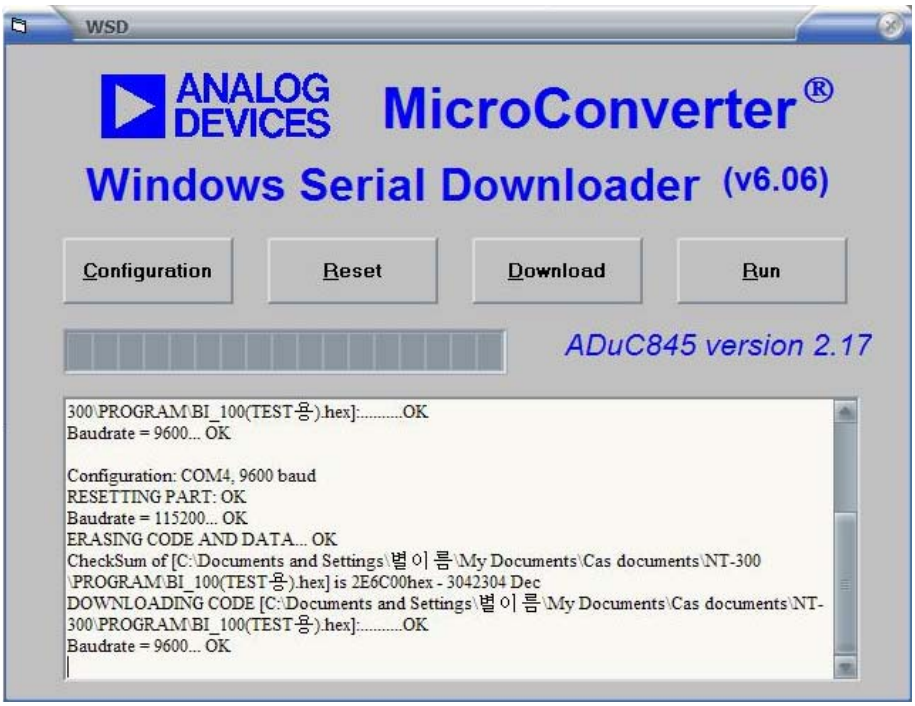
5)


WSD
ANALOG DEVICES
MicroConverter®
Windows Serial Downloader (v6.06)
Configuration
Reset
Download
Run

6)

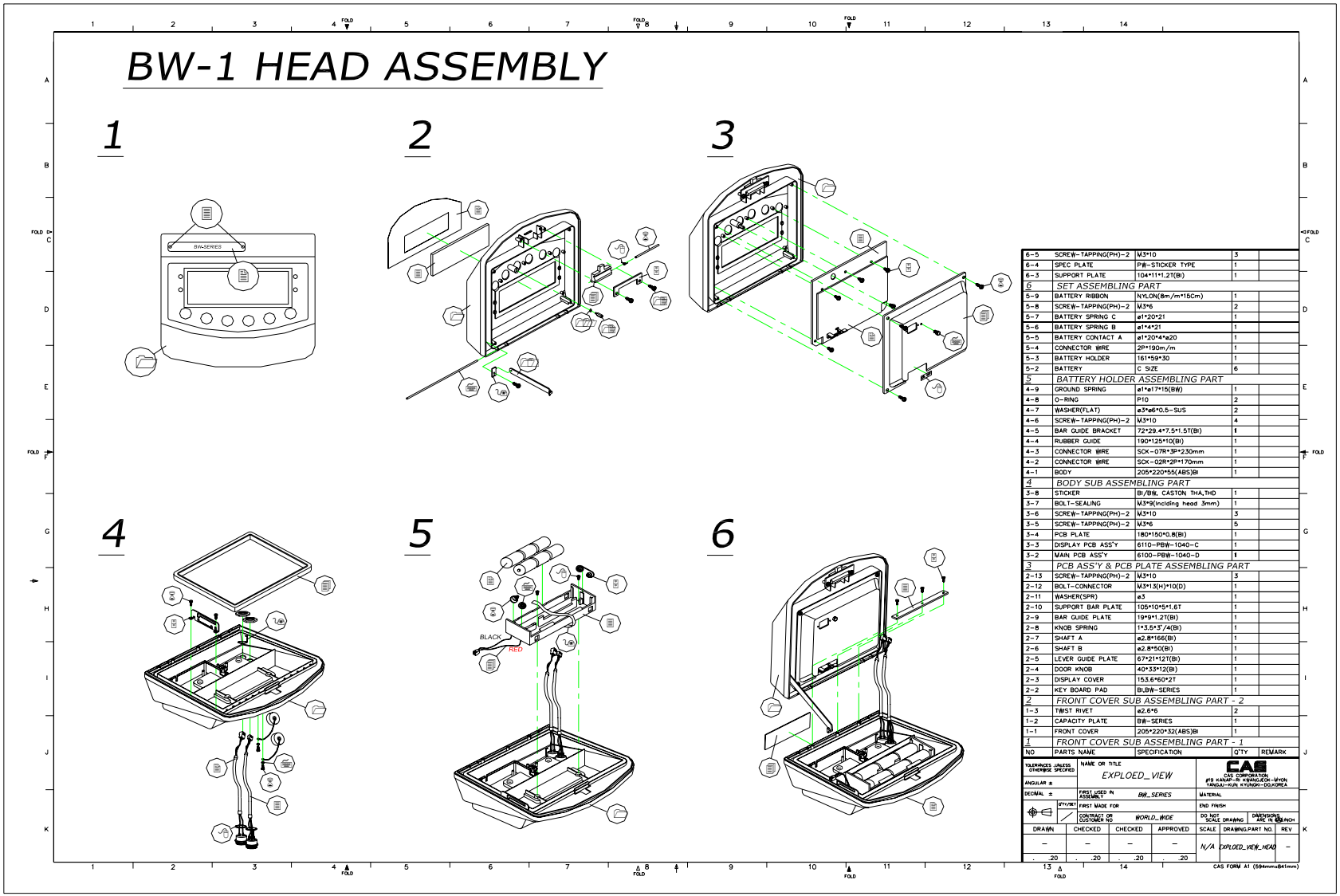

열기
찾는 위치(I):
PROGRAM
BI_100(TEST용).hex
내 최근 문서
바탕 화면
내 문서
내 컴퓨터
내 네트워크 환경
파일 이름(N):
파일 형식(T):
Hex Files (*.Hex)
읽기 전용으로 열기(R)
열기(O)
취소

7)


WSD
ANALOG DEVICES
MicroConverter®
Windows Serial Downloader (v6.06)
Configuration
Reset
Download
Run
ADuC845 version 2.17
300\PROGRAM\BI_100(TEST용).hex]:.....OK
Baudrate = 9600... OK
Configuration: COM4, 9600 baud
RESETTING PART: OK
Baudrate = 115200... OK
ERASING CODE AND DATA... OK
CheckSum of [C:\Documents and Settings\별이 름\My Documents\Cas documents\NT-300
\PROGRAM\BI_100(TEST용).hex] is 2E6C00hex - 3042304 Dec
DOWNLOADING CODE [C:\Documents and Settings\별이 름\My Documents\Cas documents\NT-
300\PROGRAM\BI_100(TEST용).hex]:.....OK
Baudrate = 9600... OK

8. Exploded Views & Parts List

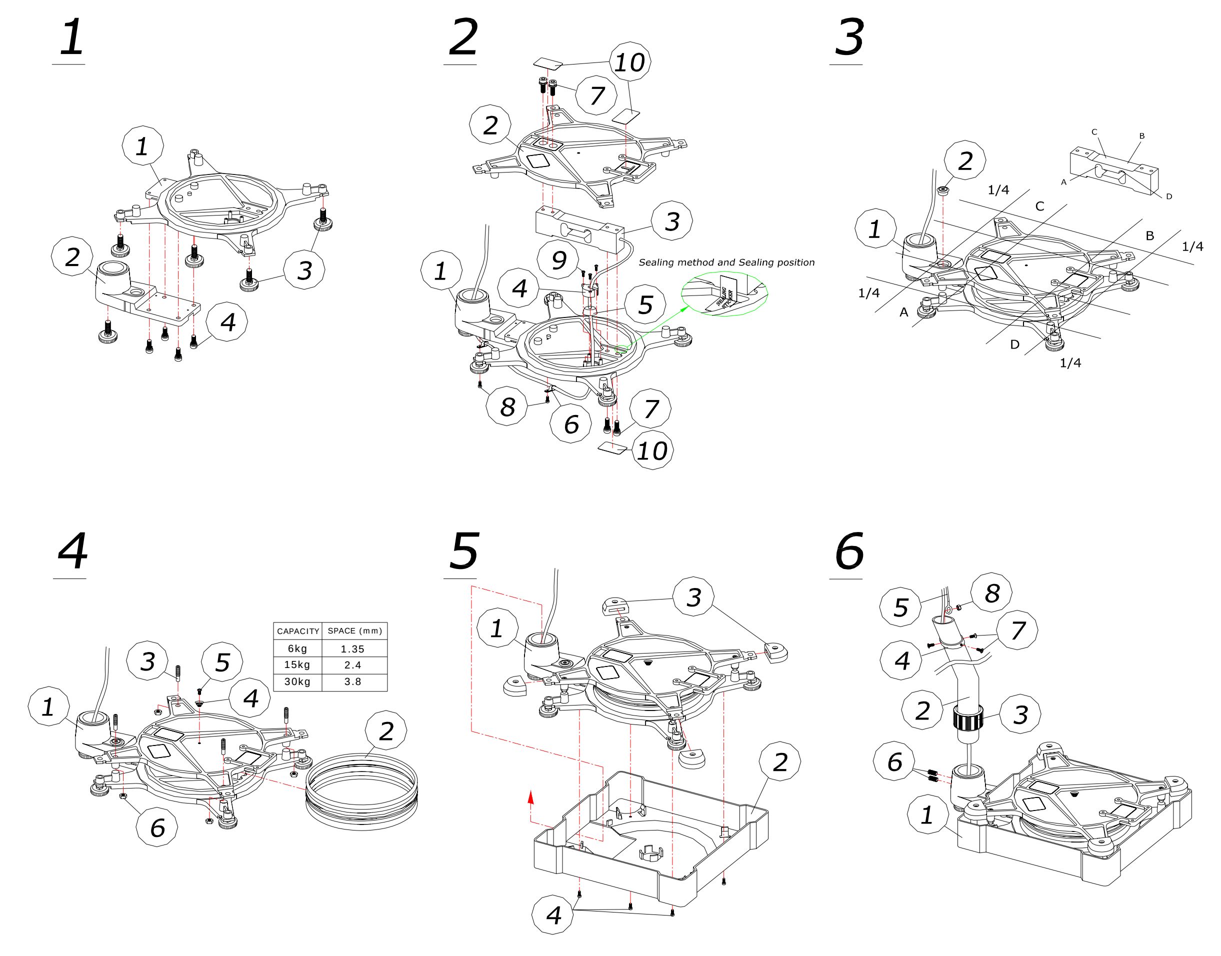
HEAD ASS'Y - COMMON



NO	PARTS NAME	SPECIFICATION	Q'TY	REMARK
6-5	SCREW-TAPPING(PH)-2	M3*10	3	
6-4	SPEC PLATE	PW-STICKER TYPE	1	
6-3	SUPPORT PLATE	104*11*1.2T(BI)	1	
6	SET ASSEMBLING PART			
5-9	BATTERY RIBBON	NYLON(8m/m*15Cm)	1	
5-8	SCREW-TAPPING(PH)-2	M3*6	2	
5-7	BATTERY SPRING C	ø1*20*21	1	
5-6	BATTERY SPRING B	ø1*4*21	1	
5-5	BATTERY CONTACT A	ø1*20*4*ø20	1	
5-4	CONNECTOR WIRE	2P*190m/m	1	
5-3	BATTERY HOLDER	161*59*30	1	
5-2	BATTERY	C SIZE	6	
5	BATTERY HOLDER ASSEMBLING PART			
4-9	GROUND SPRING	ø1*ø17*15(BW)	1	
4-8	O-RING	P10	2	
4-7	WASHER(FLAT)	ø3*ø6*0.5-SUS	2	
4-6	SCREW-TAPPING(PH)-2	M3*10	4	
4-5	BAR GUIDE BRACKET	72*29.4*7.5*1.5T(BI)	1	
4-4	RUBBER GUIDE	190*125*10(BI)	1	
4-3	CONNECTOR WIRE	SCK-07R*3P*230mm	1	
4-2	CONNECTOR WIRE	SCK-02R*2P*170mm	1	
4-1	BODY	205*220*55(ABS)BI	1	
4	BODY SUB ASSEMBLING PART			
3-8	STICKER	BI/BW, CASTON THA,THD	1	
3-7	BOLT-SEALING	M3*9(Incidling head 3mm)	1	
3-6	SCREW-TAPPING(PH)-2	M3*10	3	
3-5	SCREW-TAPPING(PH)-2	M3*6	5	
3-4	PCB PLATE	180*150*0.8(BI)	1	
3-3	DISPLAY PCB ASS'Y	6110-PBW-1040-C	1	
3-2	MAIN PCB ASS'Y	6100-PBW-1040-D	1	
3	PCB ASS'Y & PCB PLATE ASSEMBLING PART			
2-13	SCREW-TAPPING(PH)-2	M3*10	3	
2-12	BOLT-CONNECTOR	M3*13(H)*10(D)	1	
2-11	WASHER(SPR)	ø3	1	
2-10	SUPPORT BAR PLATE	105*10*5*1.6T	1	
2-9	BAR GUIDE PLATE	19*9*1.2T(BI)	1	
2-8	KNOB SPRING	1*3.5*3*/4(BI)	1	
2-7	SHAFT A	ø2.8*166(BI)	1	
2-6	SHAFT B	ø2.8*50(BI)	1	
2-5	LEVER GUIDE PLATE	67*21*1.2T(BI)	1	
2-4	DOOR KNOB	40*33*12(BI)	1	
2-3	DISPLAY COVER	153.6*60*2T	1	
2-2	KEY BOARD PAD	BI,BW-SERIES	1	
2	FRONT COVER SUB ASSEMBLING PART - 2			
1-3	TWIST RIVET	ø2.6*6	2	
1-2	CAPACITY PLATE	BW-SERIES	1	
1-1	FRONT COVER	205*220*32(ABS)BI	1	
1	FRONT COVER SUB ASSEMBLING PART - 1			

BODY ASS'Y – LOW CAPACITY

BW-1(LOW) BODY ASSEMBLY



CAPACITY	SPACE (mm)
6kg	1.35
15kg	2.4
30kg	3.8

6-8	NUT(HEX)	M4*0.7-SUS	1	
6-7	SCREW-MACHINE(FH)	M4*10-SUS	3	
6-6	BOLT-WRENCH(ST)	M6*12-SUS	2	
6-5	GROUND TERMINAL ASS'Y	510mm(BW)	1	
6-4	POST RING	ø34.4*ø40*12(BW)	1	
6-3	POST KNOB	ø49.4*37.5(BW)	1	
6-2	POST PIPE	ø34.2*350(BW-LOW)	1	
6	POST PIPE ASSEMBLING PART			
5-4	SCREW-MACHINE(PH)	M4*12-SUS	4	
5-3	PLATFORM RUBBER	BW-LOW(20*32*40)	4	
5-2	PLATFORM COVER	264*264*55(BW)	1	
5	PLATFORM COVER ASSEMBLING PART			
4-6	NUT(HEX)	M6*0.8(SUS)	4	
4-5	SCREW-MACHINE(PH)	M4*6-SUS	1	
4-4	GROUND SPRING	ø17*ø6*9	1	
4-3	BOLT-WRENCH(ST)	M6*30-SUS	4	
4-2	BELLOWS	180*50(BW-LOW)	1	
4	LIMIT ADJUST PART			
3-2	WATER LEVEL GAGE	ø18.9*22.8*12(BLACK)	1	
3	ECCENTRIC ADJUST PART		1	
2-10	CAPACITY STICKER	BW-LOW	3	
2-9	SCREW-MACHINE(PH)	M3*8-SUS	3	
2-8	SCREW-MACHINE(PH)	M4*6-SUS	2	
2-7	BOLT-WRENCH(WA)	M6*20-SUS	4	
2-6	CABLE CLAMP	DA-4N	2	
2-5	RUBBER STOPPER	21*4.5*10	1	
2-4	CORD STOPPER	22.5*13.5	1	
2-3	LOADCELL	BCS TYPE	1	
2-2	PLATFORM UPPER	BW-LOW	1	
2	LOADCELL ASSEMBLING PART			
1-4	BOLT-WRENCH(WA)	M6*15-SUS	4	
1-3	FOOT	SUS M8*25(BW-LOW)	4	
1-2	BRACKET-POST	BW-LOW	1	
1-1	PLATFORM LOWER	BW-LOW	1	
1	POST BRACKET ASSEMBLING PART			
NO	PARTS NAME	SPECIFICATION	Q'TY	REMARK

TOLERANCES .UNLESS OTHERWISE SPECIFIED
ANGULAR ±
DECIMAL ±
Q'TY/SET

NAME OR TITLE: EXPLOED_VIEW
FIRST USED IN ASSEMBLY: BW_SERIES
FIRST MADE FOR: LOW_CAPACITY
CONTRACT OR CUSTOMER NO: WORLD_WIDE

CAS
CAS CORPORATION
#19 KANAP-RI KWANGJEOK-MYON
YANGJU-KUN KYUNGKI-DO,KOREA

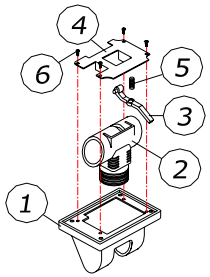
MATERIAL
END FINISH
DO NOT SCALE DRAWING
DIMENSIONS ARE IN MM.INCH

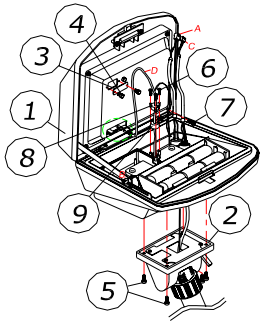
DRAWN	CHECKED	CHECKED	APPROVED	SCALE	DRAWING.PART NO.	REV
-	-	-	-	N/A	EXPLOED_VIEW_BODY	-
. .20	. .20	. .20	. .20			

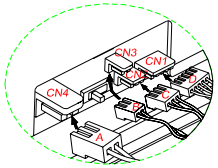
CAS FORM A1 (594mmx841mm)

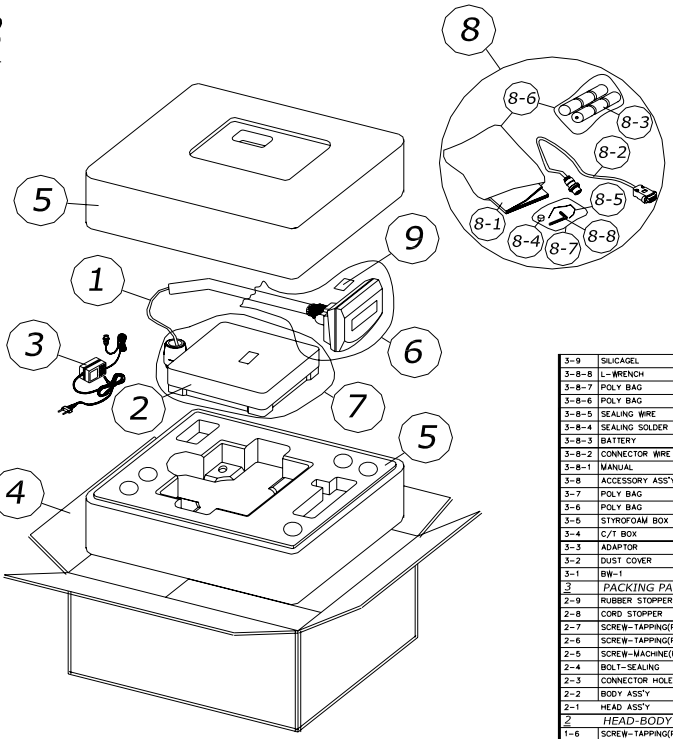
SET & C/T BOX ASS'Y – LOW CAPACITY

BW-1(LOW) SET & C/T BOX ASSEMBLY









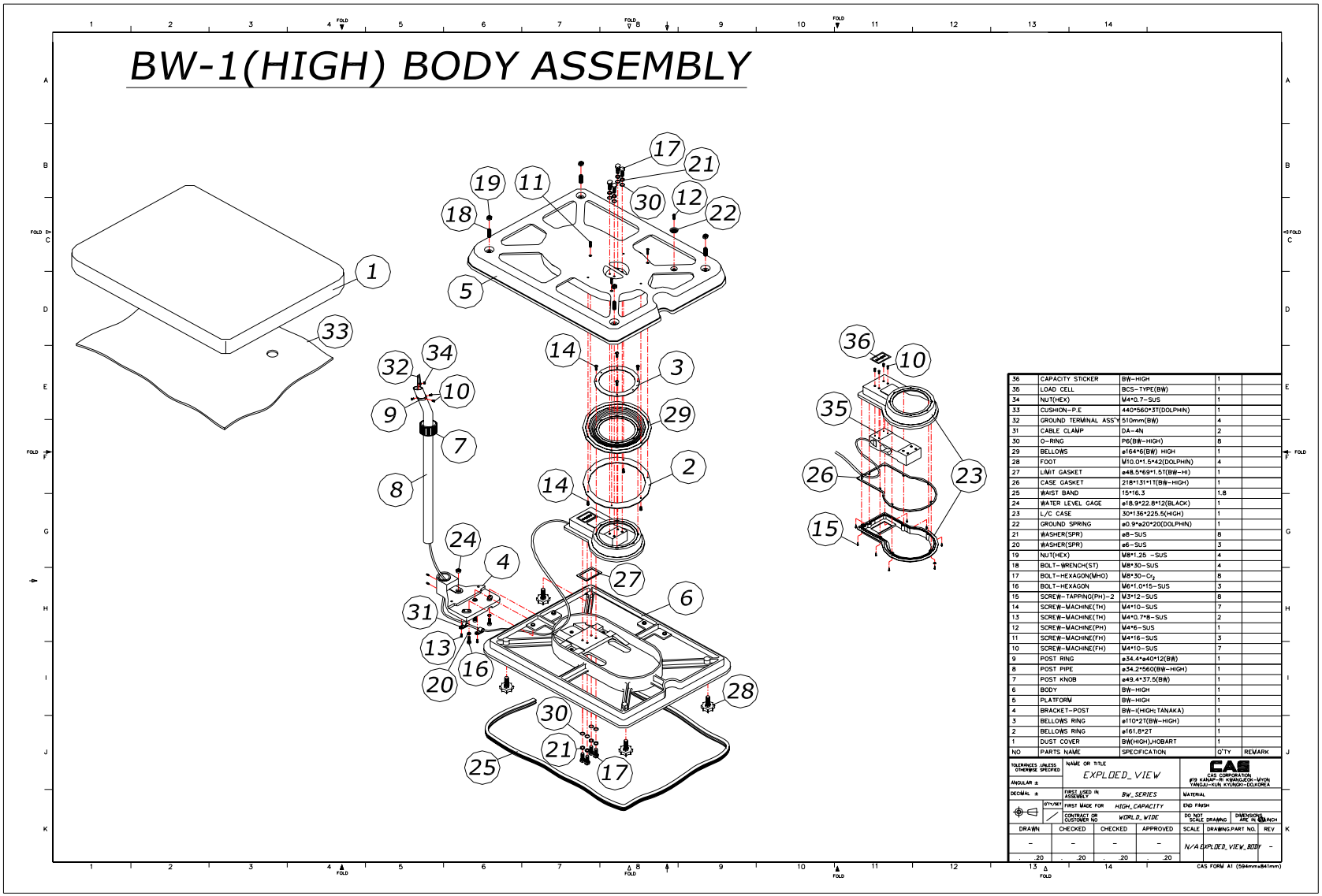
3-9	SILICAGEL	10g	4	
3-8-8	L-WRENCH	ø3	1	
3-8-7	POLY BAG	90*150*0.05T	2	
3-8-6	POLY BAG	170*250*0.05T(MANUAL)	4	
3-8-5	SEALING WIRE	300M/ROLL	1	
3-8-4	SEALING SOLDER	OVERSEA	1	
3-8-3	BATTERY	C SIZE	1	
3-8-2	CONNECTOR WIRE	SCK-07P*D9P*500(BW)	1	
3-8-1	MANUAL	BW-SERIES	1	
3-8	ACCESSORY ASS'Y	BW-SERIES	1	
3-7	POLY BAG	450*580*0.04T	1	
3-6	POLY BAG	350*450*0.05T	4	
3-5	STYROFOAM BOX	BW(LOW-TYPE)	5	
3-4	C/T BOX	646*440*330	1	
3-3	ADAPTOR	110/220V12V/850mA	1	
3-2	DUST COVER	280*280*35(BW-LOW)	1	
3-1	BW-1	LOW CAPACITY	3	
3	PACKING PART			
2-9	RUBBER STOPPER	21*4.5*10(BI)	1	
2-8	CORD STOPPER	22.5*13.5(BW)	1	
2-7	SCREW-TAPPING(PH)-2	M3*10	1	
2-6	SCREW-TAPPING(PH)-2	M3*12	3	
2-5	SCREW-MACHINE(PH)	M4*10-SUS	4	
2-4	BOLT-SEALING	M3*9(including head 3mm)	2	
2-3	CONNECTOR HOLE COVER	35*14*1.0T(BI,BW)	1	
2-2	BODY ASS'Y	BW-1(LOW)	1	
2-1	HEAD ASS'Y	BW-1(LOW)	1	
2	HEAD-BODY ASSEMBLING PART			
1-6	SCREW-TAPPING(PH)-2	M3*10	4	
1-5	LEVER SPRING	9.8*22(BW)	1	
1-4	HOUSING PLATE	95*70*23.5	1	
1-3	HOUSING LEVER	94*15*13.5(ABS)	1	
1-2	HOUSING POST	76*44*86(BW)	1	
1-1	HOUSING	115*90*75(BW)	1	
1	TILT BRACKET ASSEMBLING PART			
NO	PARTS NAME	SPECIFICATION	Q'TY	REMARK

TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGULAR ±
DECIMAL ±
NAME OR TITLE: EXPLODED_VIEW
FIRST USED IN ASSEMBLY: BW-SERIES
QTY/SET
FIRST MADE FOR: LOW_CAPACITY
CONTRACT OR CUSTOMER NO: WORLD_WIDE
CAS CORPORATION #10 KANAF-IN HWANGJEOK-MYON YANGJU-KUN KYUNGKI-DOKOREA
MATERIAL
END FINISH
DO NOT SCALE DRAWING
DIMENSIONS ARE IN MM/INCH

DRAWN	CHECKED	CHECKED	APPROVED	SCALE	DRAWING PART NO.	REV
–	–	–	–	N/A	EXPLODED_VIEW_SET	–
.20	.20	.20	.20			

CAS FORM A1 (594mm×841mm)

BODY ASS'Y – HIGH CAPACITY



NO	PARTS NAME	SPECIFICATION	Q'TY	REMARK
36	CAPACITY STICKER	BW-HIGH	1	
35	LOAD CELL	BCS-TYPE(BW)	1	
34	NUT(HEX)	M4*0.7-SUS	1	
33	CUSHION-P.E	440*560*3T(DOLPHIN)	1	
32	GROUND TERMINAL ASS'Y	510mm(BW)	4	
31	CABLE CLAMP	DA-4N	2	
30	O-RING	P6(BW-HIGH)	8	
29	BELLOWS	ø164*6(BW) HIGH	1	
28	FOOT	M10.0*1.5*42(DOLPHIN)	4	
27	LIMIT GASKET	ø48.5*69*1.5T(BW-HI)	1	
26	CASE GASKET	218*131*1T(BW-HIGH)	1	
25	WAIST BAND	15*16.3	1.8	
24	WATER LEVEL GAGE	ø18.9*22.8*12(BLACK)	1	
23	L/C CASE	30*136*225.5(HIGH)	1	
22	GROUND SPRING	ø0.9*ø20*20(DOLPHIN)	1	
21	WASHER(SPR)	ø8-SUS	8	
20	WASHER(SPR)	ø6-SUS	3	
19	NUT(HEX)	M8*1.25 -SUS	4	
18	BOLT-WRENCH(ST)	M8*30-SUS	4	
17	BOLT-HEXAGON(MHO)	M8*30-Cr_2	8	
16	BOLT-HEXAGON	M6*1.0*15-SUS	3	
15	SCREW-TAPPING(PH)-2	M3*12-SUS	8	
14	SCREW-MACHINE(TH)	M4*10-SUS	7	
13	SCREW-MACHINE(TH)	M4*0.7*8-SUS	2	
12	SCREW-MACHINE(PH)	M4*6-SUS	1	
11	SCREW-MACHINE(FH)	M4*16-SUS	3	
10	SCREW-MACHINE(FH)	M4*10-SUS	7	
9	POST RING	ø34.4*ø40*12(BW)	1	
8	POST PIPE	ø34.2*560(BW-HIGH)	1	
7	POST KNOB	ø49.4*37.5(BW)	1	
6	BODY	BW-HIGH	1	
5	PLATFORM	BW-HIGH	1	
4	BRACKET-POST	BW-I(HIGH;TANAKA)	1	
3	BELLOWS RING	ø110*2T(BW-HIGH)	1	
2	BELLOWS RING	ø161.8*2T	1	
1	DUST COVER	BW(HIGH),HOBART	1	

TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGULAR ±, DECIMAL ±
NAME OR TITLE: EXPLODED_VIEW
FIRST USED IN ASSEMBLY: BW_SERIES
FIRST MADE FOR: HIGH_CAPACITY
CONTRACT OR CUSTOMER NO: WORLD_WIDE
CAS CORPORATION #19 KANAP-RI KWANGJEOK-MYON YANGJU-KUN KYUNGKI-DOKOREA
MATERIAL
END FINISH
DO NOT SCALE DRAWING
DIMENSIONS ARE IN MILLIMETER
DRAWN – CHECKED – CHECKED – APPROVED –
SCALE N/A
DRAWING PART NO. EXPLODED_VIEW_BODY
REV –
CAS FORM A1 (594mm×841mm)

Part List(Electronics Part)

6100-PNT-0300-0	PCB		EA	1	30	
6200-IPU-0845-0	IC(CPU)	ADUC845	EA	1	30	U5
6210-ISO-1274-0	IC(RESET)	TC1274	EA	1	30	U4
6220-ISO-2575-0	IC(REGULATOR)	LM2575-5S(TO-263(S))	EA	1	30	U7
6220-ISO-2576-0	IC(REGULATOR)	LM2576-ADT(TO-263(S))	EA	1	30	U1
6224-IOO-7225-0	IC(DRIVER)	UPD7225GOO	EA	1	30	U3
6232-ISO-0232-C	IC(INTERFACE)	MAX232ECSE	EA	1	30	U8
6240-ISO-2277-0	IC(OP-AMP)	OPA2277PA-SOP	EA	1	30	U6
6241-ISO-1302-0	IC(CLOCK)	DS1302	EA	1	30	U9
6273-ISO-9020-0	FET	FR9020	EA	1	30	Q2
6280-ISO-0222-0	TRANSISTOR	2N2222(SOP)	EA	3	90	Q5,6,8
6281-IOO-1504-0	TRANSISTOR CHIP	KTA1504 SY	EA	5	150	Q1,3,4,7,9
6291-ISO-5819-0	DIODE-POWER	1N5819(SMD)	EA	5	150	CR1-5
6294-ICP-0184-0	DIODE-CHIP	KDS184	EA	2	60	D1,3
6523-MFO-0003-0	RESISTOR-CHIP 1W	(0.3Ω)	EA	1	30	R1
6527-IDO-0470-0	RESISTOR-CHIP 1/10W	RR1220P-470D(47Ω)	EA	2	60	R36,38
6527-IDO-1000-0	RESISTOR-CHIP 1/10W	RR1220P-101D(100Ω)	EA	2	60	R10,11
6527-IDO-4700-0	RESISTOR-CHIP 1/10W	RR1220P-471D(470Ω)	EA	2	60	R33,34
6527-ID3-0010-0	RESISTOR-CHIP 1/10W	RR1220P-102D(1㏀)	EA	12	360	R2-5,14,19,20,R29,30,32,35,44
6527-ID3-0047-0	RESISTOR-CHIP 1/10W	RR1220P-472D(4.7㏀)	EA	6	180	R7,24,37,39,41,43
6527-ID3-0100-0	RESISTOR-CHIP 1/10W	RR1220P-103D(10㏀)	EA	2	60	R18,42
6527-ID3-0200-0	RESISTOR-CHIP 1/10W	RR1220P-203D(20㏀)	EA	1	30	R40
6527-ID3-1000-0	RESISTOR-CHIP 1/10W	RR1220P-104D(100㏀)	EA	1	30	R25
6527-ID3-1800-0	RESISTOR-CHIP 1/10W	RR1220P-184D(180㏀)	EA	1	30	R31
6527-IF3-0010-0	RESISTOR-CHIP 1/10W	FTR 0805 JR(1㏀)	EA	1	30	R6
6527-IF3-0069-0	RESISTOR-CHIP 1/10W	FTR 0805 JR(6.98㏀)	EA	1	30	R12
6527-IF3-0100-0	RESISTOR-CHIP 1/10W	FTR 0805 JR(10㏀)	EA	4	120	R8,9,16,17
6527-IF3-0470-0	RESISTOR-CHIP 1/10W	FTR 0805 JR(47㏀)	EA	1	30	R15
6527-IF3-1000-0	RESISTOR-CHIP 1/10W	FTR 0805-470㏀	EA	1	30	R21
6527-IJO-0020-0	RESISTOR-CHIP 1/10W	FTR 0805 JR(2Ω)	EA	3	90	R13,26,28
6540-LA3-0010-0	RESISTOR-PRECISION	FLAY1KOOOB	EA	1	30	R27
6540-LA3-0280-0	RESISTOR-PRECISION	FLAY28KOOOB	EA	2	60	R22,23

6550-M09-0223-0	RESISTOR-NETWORK	M9-1-223J(BW)	EA	1	30	RA1
6670-T00-0220-0	INDUCTANCE	220UH	EA	2	60	L11,8
6670-T01-0010-0	INDUCTANCE	10uH(장구)	EA	2	60	L2,4
6670-T01-0010-0	INDUCTANCE	220UH(장구)	EA	2	60	L9,10
6670-T02-0047-0	INDUCTANCE	47uH	EA	5	150	L1,3,5~7
6704-C25-0100-0	CONDENSER-ELECTRIC	100UF/25V	EA	1	30	C29
6704-C25-0220-0	CONDENSER-ELECTRIC	220UF/25V	EA	3	90	C39,46,55
6704-C25-3300-0	CONDENSER-ELECTRIC	3300UF/25V	EA	1	30	C31
6710-CAP-P102-B	CONDENSER-CERAMIC	1000PF/1KV(102K)	EA	1	30	C1
6712-CHP-0102-0	CONDENSER-CHIP	CL21B 102KBNC(1000PF)	EA	15	450	C3-10,12,15,C17,21,22,41,44
6712-CHP-0103-0	CONDENSER-CHIP	CL21F 103KBNC(0.01UF)	EA	2	60	C14,16
6712-CHP-0104-0	CONDENSER-CHIP	CL21F 104KBNC(0.1UF)	EA	27	810	C2,11,13,C18-20,23-27,C30,32-36,40,42,43,45,47-52
6712-CHP-0200-0	CONDENSER-CHIP	CL21C 200JBNC(20PF)	EA	2	60	C53,54
6712-CHP-0300-0	CONDENSER-CHIP	CL21C 300JBNC(30PF)	EA	2	60	C37,38
6804-F00-1046-0	LINE FILTER	L/F1046	EA	1	30	L13
7002-Z00-0120-0	PIEZO BUZZER	14A4012P(EFM-250A)	EA	1	30	BZ1
7010-ZK0-3276-0	CRYSTAL	32.768KHZ	EA	1	30	Y1
7010-ZK0-3276-0	CRYSTAL	32.768KHZ	EA	1	30	Y2
7212-D00-2402-0	LCD	2402TF-P	EA	1	30	LC1
7222-D00-0020-A	E.L BACK LIGHT	DB-II LCD	EA	1	30	U2
7232-D00-0300-0	LED LAMP	CLL30231(BVL-300E5G)	EA	1	30	LD1
7232-DRG-0003-0	LED LAMP	3φ-(R,G)BL-BVT 201	EA	1	30	LD2
7244-D00-0005-A	E.L INVERTER	MTED-I-5C	EA	1	30	L12
7520-P00-0200-0	BATTERY-LIMN	CR1220-PIN TYPE	EA	1	30	
7600-STA-1104-A	TACT-S/W	KPT-1104B(DJTA-1112A)	EA	6	180	SW2-7
7600-STA-1212-0	TACT-S/W	12*12(SKHK)DJTA-1103	EA	1	30	SW8
7801-CLW-0002-0	CONNECTOR(WAFER)	LW0640-02 (LPH01-02)	EA	2	60	CN3
7801-CLW-0003-0	CONNECTOR(WAFER)	LW0640-03 (LPH01-03)	EA	1	30	CN1
7801-CLW-0005-A	CONNECTOR(WAFER)	LW0640-05(GOLD)	EA	1	30	CN2
7804-CCN-7302-0	CONNECTOR(WAFER)	5273-02 (LPH03-02)	EA	1	30	CN4
	DIP-S/W	EDG-2	EA	1	30	SW1
	CONNECTOR(WAFER)	LW0640-02 (GOLD)	EA	1	30	CN2

기구부 PL 추가필요

9.Revision

NO	변경 사유(CAUSE)	DATE	변경자 (APPROVAL)	