WS 10
Weighing indicator

USER MANUAL

Edition:10052001A

 Safety Instruction

For safety operation follow the safety instructions.

WARNING
Setting, Calibration Inspection and Maintain of the indicator is prohibited by Non-professional staff.

WARNING
Please make sure the weighing display have good ground in using

ATTENTION	**WARNING**
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES	The indicator is the static and sensitive equipment, cut off the power during electrical connections, internal components touched by hand is prohibited, and please take the measure of anti-static.

1. Technical Parameters

This weighing indicator is designed for bench scale. Floor scale, the basic weighing function include: Hold. Print kg/lb conversion . optional: I/O , 4-20mA output.

1.1 Main function

Weighing function:
Zero, tare, G.W, N.W, accumulation. printing, animal -weighing. kg/lb convert. Overload remind.
Print format: S.N. G.W N.W Tare. Date, Time

Options:
Pinter
RS232/RS485 serial interface or second display
I/O
4-20mA

1.2 Technical parameter

Accuracy class	6000 e
Resolution	display: 30, 000 ADC: 2,000,000
Zero stability error	TK0 < 0.1μV//K
Span stability error	TKspn < ± 6 ppm//K
Sensitivity (internal)	0. 3 μV /d
Input voltage	-30~30mV DC
Excitation circuit	5 VDC, 4 wire connection, Maximum connect 6 load cell of 350Ω
AC power	AC100~250V
Operation temperatur	- 10 ℃ ~ + 40 ℃
Operation humidity	≤90%RH
Storage temperature	- 40 ℃ ~ + 70 ℃

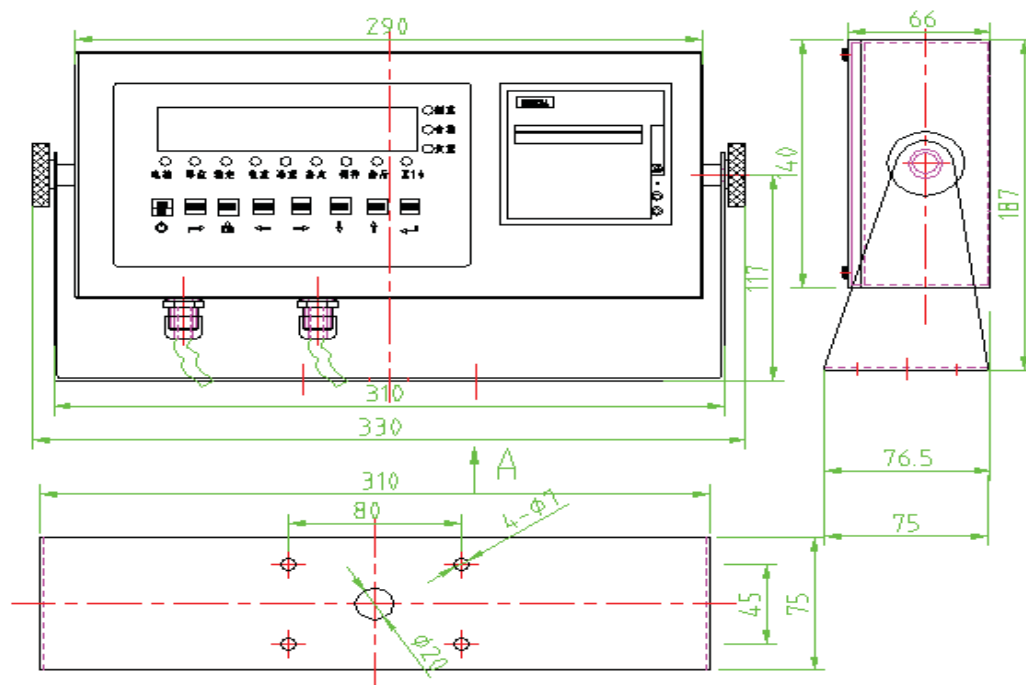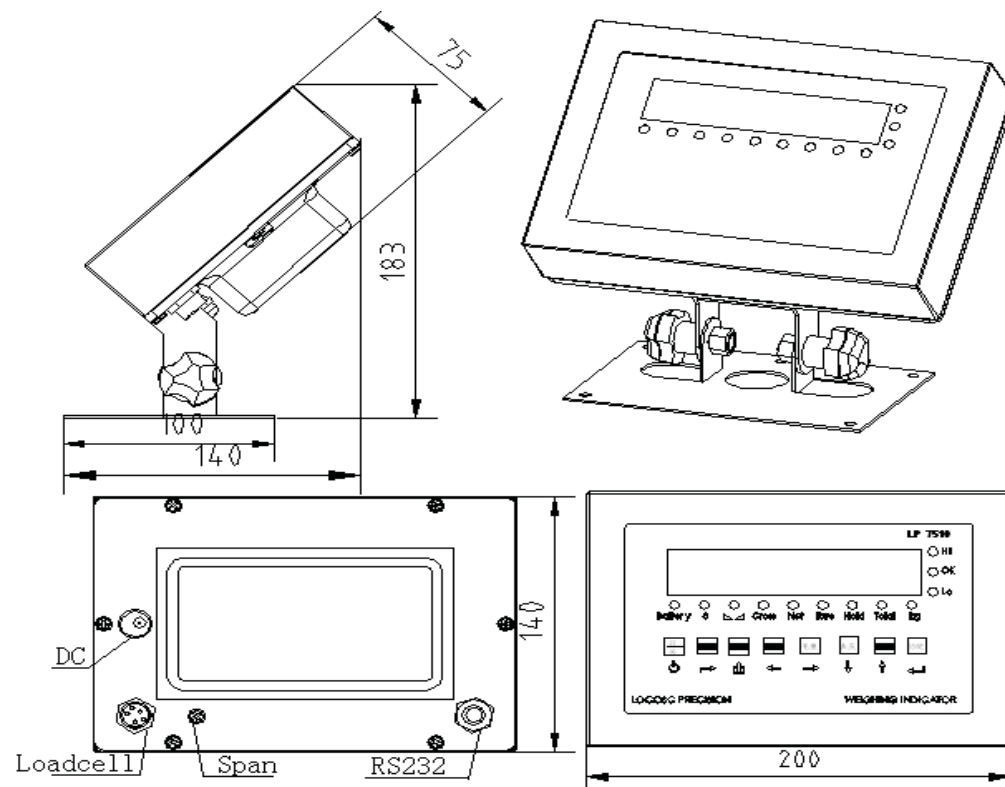## Unpacking

Ensure that all parts are accounted for:

- WeighSouth WS10 Indicator
- Weighing Platform
- Column
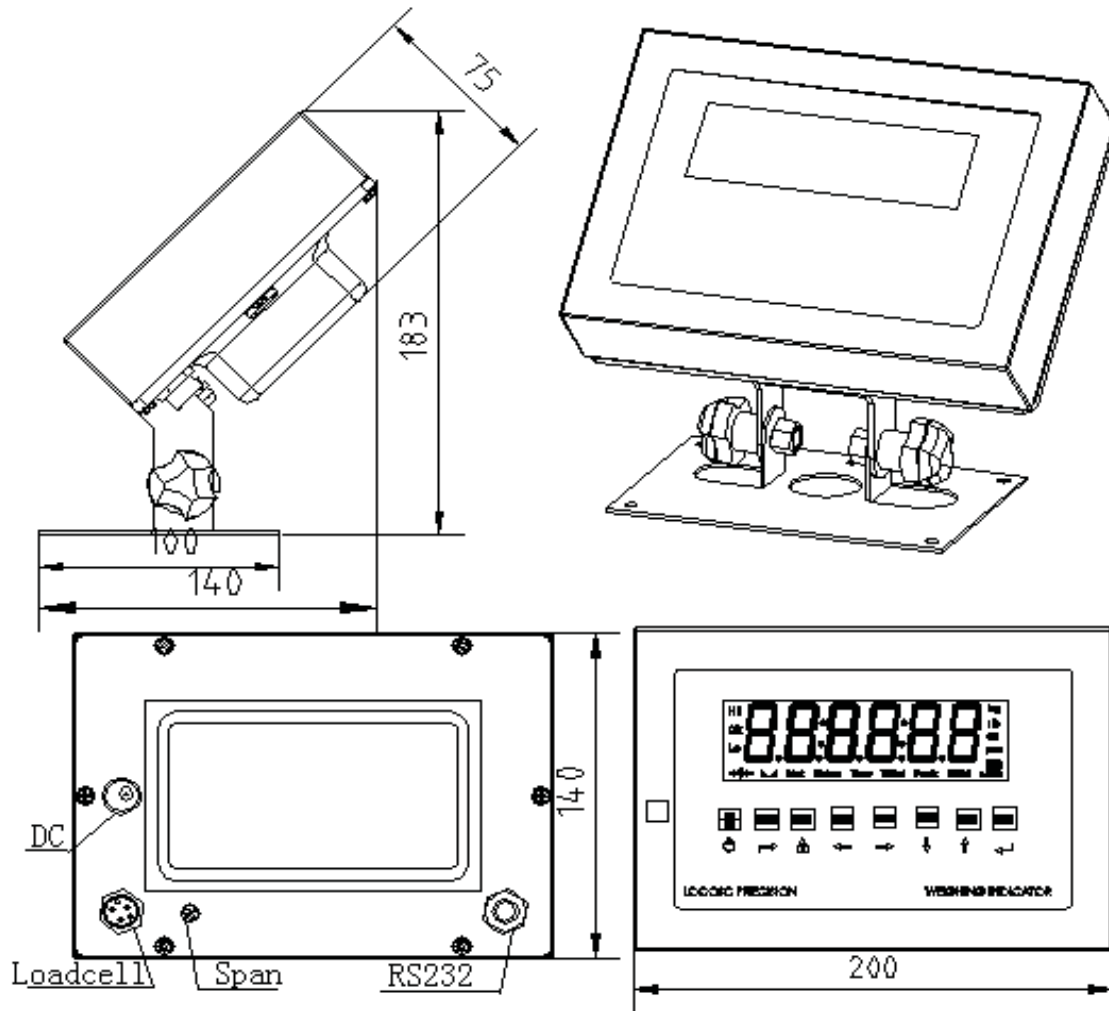- Wall Mount Bracket
- Required parts bag
- Operation manual

The correct location is crucial to the accuracy of the weighing results. Select a stable, vibration-free and level location. The ground must be able to safely bear the weight of the fully loaded scale.

Assembling

1. Set the weighing platform on the selected level workplace
2. After first removing the platter, loosen the shipping screws located at each corner   of the platform. Three full turns of the screws is necessary. The scale will not function properly if the shipping screws are touching the top sub assembly.
3. Attach the column to the underside of the bottom frame by using the 4 hexagon head screws supplied. On certain models choose which side of the weighing platform will better suit your needs.
4. Tuck the load cell cable in the column and out the top of the column.
5. Attach the indicator to the column using the Thumb screw provided.
6. Attach the Load cell connector to the WS10 Indicator by lining up the ports correctly.

1.3 Drawing

LP 7500

Battery · ☐ Gross Net Bre Hold Total kg

LOGO&G PRECISION   WEIGHING INDICATOR

DC

Loadcell   Span   RS232

DC

Loadcell　Span　　RS232

LCDGKC PRECISION　　WEIGHING INDICATOR

1.4 Battery instruction

1. When you use the internal battery first time, you should charge the battery fully, to prevent low voltage resulted from self leakage of battery.
2. When the "battery" light is on, means low battery.
3. The light turns to yellow during charging
4. When the light turns to green, means fully charged.
5. If the battery is not used for a long time, take it out to avoid leakage

2. Basic Operation

2.1 Keys

LED	Instruction
�8	Weighing data
kg	kg
lb	lb
Hold	Data hold
Gross	Gross weight
Net	Net weight
Tare	tare

◣◿	The weighing data is stable
⇨◀▶⇦	Weight is zero
Hi	Overload
OK	Ok
Lo	Underload
.	Decimal
PCS	Show the counting status
TOTAL	Go to accumulation mode

Keys function

Keys	Key Name	Key function
Print	Print	1. Work with "ZERO" TARE" "ON/OFF" key to perform many functions. 2. Print
Zero	Zero	Zero the weight within tolerance
Tare	Tare	At G.W mode, get the tare weight. At N.W mode, clear the tare, get the G.W
Gross	GrossWeight	At N.W mode, check the G.W, after 3 seconds back to N.W automatically
Count	Counting	Counting operation
kg/lb	Kg/lb Convert	Convert between kg and lb
Total	Accumulation	1. Accumulation 2. work together with " Print" to perform The accumulation function and check the accumulation result
ON/OFF	Power On/Off	Press 2 seconds to power on or power off

2.2
Power on & off

Press **ON / OFF** 2 seconds to power on or power off, after power on the indicator show "000000-999999".

2.3 Zero operation

 1. Initial zero setting:

   When power on the indicator, if the weight on the scale is within the initial zero tolerance, indicator show zero automatically.

 2. Manually Zero setting:

   When the scales is stable, and not the negative display, you can zero the weight within tolerance by press **zero** key.

2.4 Tare operation

   Press "TARE" key, the gross weight is tared, indicator shows the Net weight, the "Net" "tared" status light is on. At tare mode, Press" TARE" key, clear the tare weight, the indicator will show the gross weight.

2.5 Accumulation operation

At Zero mode, load weight till stable, Press **total** go to accumulation mode, "Total" light on, display" n 001", and then display loaded weight; unload the weight, back to zero, load the second weight again till stable. Press **total** display"n002" then display the second loaded weight. Repeat it agin and again, maximum 999 times.

Check the accumulation

   Press "PRINT "key and hold it then press "TOTAL"" key, display "n**", (it is the accumulating times) then show total weight. there are 8 digits totally. It shows the first 4 digits then the last 4 digits. For example, the first 4 digits is"0012", the last 4 digits is"34,56" It means the actual weight is "1234.56"

EXIT the accumulation function

When the indicator show the last 4 digits, Press $\boxed{\text{total}}$ hold it, the indicator shows "clrn", it means don't clear the total Weight, Press "PRINT" key to exit it; if you want to clear total weight, Press "ZERO" or "TARE" key, "clrn" change to "clry" it means clear total weight, then Press "PRINT" to clear the total weight and exit accumulating mode.

2.6 Print

If the weighing is stable, after connected with printer press "PRINT" can print the weight. Note: at tare mode, print with tare. If negative weight, cannot print. Set C30 for time format.

2.7 Hold

There are two different hold functions. Peak hold function and data hold function the setting is different accordingly.

C11=3 Automatic hold function
C11=0 close hold function.

2.8 COUNT

1. At weighing mode, load the weights on the platform scales, Press "Count" the indicator show" PCS 0" press" Zero" key input the quantity and press" Print" to confirm it.
2. Load the goods on the platform scales and then the indicator will show the quantity.
3. Press" Count" back to weighing mode.
4. If you want to weigh different goods, at weighing mode, put the sample on the platform scales, press" Count" the indicator show "0" Press " Count" hold it and then press " ON/OFF" the indicator show" PCS 0", press "Zero" input the sample quantity, press " Print" to confirm it. Then repeat the step 2 and 3.

3. Calibration and Parameter setting

3.1 Enter setting

There have two methods to enter the setting menu:

1. When the switch " CAL" is off, press the "PRINT" hold it and then press" HOLD" enter C08-39 setting.
2. Take out the sealing screw on the back of indicator, then press "CAL", at the "SPAN" position as below. press "PRINT" hold it and then press "HOLD" key , enter C01-C39 setting.
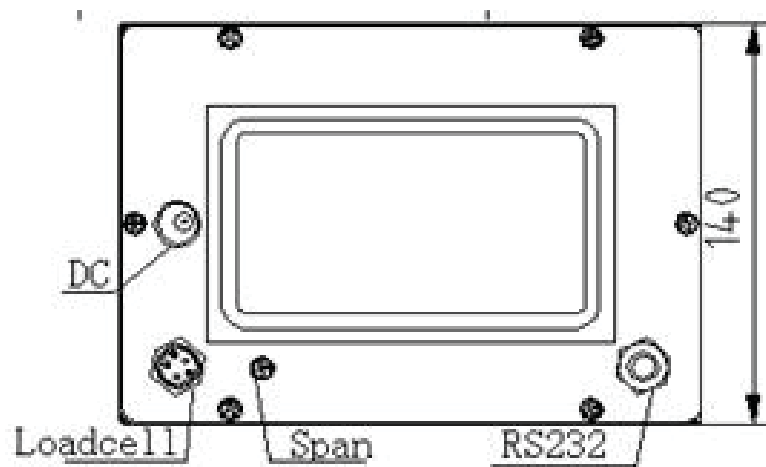
The key functions in setting:

← ┘   Enter

↑   Up

↓   Down

⏻   Power switch. Exit setting

Count   Exit & Save

3.2 Step of calibration operation:

According to the second method which can enter setting menu, C01-C39

Step	Method of Operation	Display	Remark
1		[C01]	After you enter calibration mode, it displays [C01]
2	press ↩	[C01 1]	Weight unit option: 1= kg 2= lb
3	press ↩ press ↩ press ↑ or ↓	[C02] [C02 0] [C02 2]	Set decimal digits option: 0/1/2/3/4 Select decimal digit example: two decimal point: [C02 2]
4	press ↩ press ↩ press ↑ or ↓	[C03] [C03 1] [C03 5]	Set graduation option: 1/2/5/10/20/50 Select required graduation example: graduation 5: [C03 5]
5	press ↩ press ↩ press ↑ or ↓ / ←	[C04] [0100.00] [0100.00]	Max capacity Example: max weighing 100kg: [0100.00]

6	press ↩
	press ↩
	press ↩
	press ↩
		[C05]
		[C05 0]
		[C05 1]
		[CAL 9]
		ooooooooo
		[0000.00]
			Zero calibration Option
			   0= No need zero calibration
			   1= Need zero calibration
			Calibration zero please choose
			1 and ensure scale is empty and
			"stable" light is on. Ensure zero
			calibration, countdown till
			show[0.00] (example for two
			Decimal point)

7	press ↩
	press ↩
	
	press ↑ or ↓
	
	press ↩
		[C06]
		[C06 0]
		
		[C06 1]
		
		[SPAN]
			Calibration option:
			   0= No need calibration
			   1= Need calibration
			Load weights on scales according to max. capacity. Suggest close to the max capacity, at least 10% of max. capacity

		[0100.00]	For example: the weights is 80kg As bellows:
	press ↑ or ↓ press ↲	[0080.00] [CAL 9] ...... [0080.00] [CAL End]	Input the 0080.00, count down , then indicator shows 0080.00 , calibration is over. If you want to set application function parameter. Press "PRINT" if you want to exit press "COUNT"
8	press ↲ press ↲ press ↑ or ↓	[C07] [07 0] [07 1]	Default parameters setting Option: 0= Non-restore default parameters 1= Restore default parameters Note: after the above parameters setting finish, please do not set default parameters to avoid the original setting parameters is lost.

3.3 Application function parameters setting chart

Function	Setting Item	Parameters setting and Instruction
Warning tone	C08 warning tone	**Option:** 0 = close warning tone 1 = open warning tone
Automatic power off	C09 Automatic power off	**Option:** 0= Close auto power off 10= Power off automatically if no change within 10 minute. 30= Power off automatically if no change within 30 minute. 60= Power off automatically if no change within 60 minute.
Power saving setting	C10 Power saving setting	**LED Version:** **Option:** 0= Close power saving setting 3= Close display if no change within 3 min. 5= Close display if no change within 5 min. **LCD Version:** 0= Close he backlight 1= Backlight when the weight change or press the keyboard 2= Constant backlight

Hold Function	C11
	Hold Mode
		Option: 0= Close hold function
		               1= Peak Hold /
		               2= Data Hold
		Instruction:
		Peak-hold: it shows the max. data, mainly application for materials testing, such as tension and pulling force.
		Date-hold: it shows current weight value. Mainly application for animal weighing.

Kg/Lb Conversion	C12 Kg/Lb Conversion	C12= 0 Stop kg/lb conversion C12= 1 kg/lb conversion is ok
Upper/Lower Limit Alarm	C13 Upper Limit Alarm Value	You can set it within the max. capacity limit
	C14 Lower Limit Alarm Value	
Inner Code Display	C15 Check inner code	Enter C15 to check the inner code
Date and Time	C16 Date	Enter C16, you can set the date, from left to right: year/month/day
	C17 Time	Enter C17, you can set the time from left to right: hour/min./sec.

Communication Setting	C18
	Serial interface data output method
		Option:
		  0= Close serial interface data output
		  1= Continuous sending, connect big display
		  2= Print method, connect printer.
		  3= Command request method, connect computer.
		  4= PC continues sending format, connect computer.
		  5= PC/ big display continuous sending format.

	C19 Baud rate	**Option:** 0=1200/1=2400/2=4800/3=9600

Zero Range	C20 Manually Zero Range	**Option:** 0= Close manually zero setting 1=±1% max capacity 2=±2% max capacity 4=±4% max capacity 10=±10% max capacity 20=±20% max capacity 100=±100% max capacity
	C21 Initial Zero Range	**Option:** 0= No initial zero setting 1=±1% max capacity 2=±1% max capacity 5=±1% max capacity 10=±1% max capacity 20=±1% max capacity
Zero Tracking	C22 Automatically Zero TrackingRange	**Options:** 0= Close zero tracking 0.5=±0.5d 1.0=±1.0d 2.0=±2.0d 3.0=±3.0d 4.0=±4.0d 5.0=±5.0d **Note:** 1. d = Division 2. The zero tracking range can not bigger than manual zero range.
	C23 Automatically zero tracking time	**Options:** 0= Close zero tracking time 1= 1 second 2= 2 seconds 3= 3 seconds
Overload Range	C24 Overload Range	**Option:** 00= Close overload range 01d~99d **Remark:** d= Division
Negative Display	C25 Negative Display Range	**Option:** 0= -9d 10= 10% max. capacity 20= 20% max. capacity 50= 50% max. capacity 100= 100% max. capacity

Standstill Time	C26 Standstill Time	**Option:** 0= quick 1= medium 2= slow
	C27 Standstill Range	**Option:** 1= 1d 2= 2d 5= 5d 10= 10d **d**= Division
Digital Filter	C28 Dynamic Filter Instruction: Dynamic filter is collecting the data filter before loaded weight. When loaded weight easily shaking (for example animal), you can set this filter to make weight display more stable	**Option:** 0= Close dynamic filter 1=1 Digital filter strength 2=2 Digital filter strength 3=3 Digital filter strength 4=4 Digital filter strength 5=5 Digital filter strength 6=6 Digital filter strength **Note:** Set dynamic filter strength carefully, the No. is bigger, more stable. if the loaded weight moves slightly. The setting is less than 3
Noise Filter	C29 Noise Filter	**Option:** 0=Close noise filter 1=1 Digital filter strength 2=2 Digital filter strength 3=3 Digital filter strength
Print Time and Date	C30 Print time and date	C30=0 yy.mm.dd C30=1 mm.dd.yy C30=2 dd.mm.yy C30=3 yy.mm.dd
Analog Output setting	C31 Output type	C31=0 0~5Vouput C31=1 4~20mA output
4~20mA Current Calibrate	C32 Calibrate current	Refer to 2.5
Relay Output Setting	C33 Relay output	C33= 0 close relay output C33= 1 Open relay output function 1 C33= 2 Open relay output function2 C33= 3 Preserved menu
Muti Comm.	C34 Communication add	C34= 0~99 Add. Code

Wireless Comm.	C35	C35=0~99 signal
Gravity of Calibration Location	C36	C36=9.7000~9.9999
Gravity of Destination	C37	C37=9.7000~9.9999
Version No.	C38	
Preserved Menu	C39	

4. Maintenance

4.1 Regular error and solution

ERROR	REASON	SOLUTION
UUUUUU	1. Overload 2. Wrong connection with load cell 3. Load cell has quality issue.	1. Reduce the weight 2. Check load cell connection 3. Inspect load cell. Check the input and output
nnnnnnn	1. Calibration is off 2. Wrong connection 3. Load cell has quality issue	1. Check scale feet to see if they are level 2. Check load cell connection. 3. Checking load cell: check input and output resistance
ERR1	During calibration, not input the weights or the weight is overload	Input the correct weights

ERR2	During calibration , the weights is below than Min. required weights	The calibration weights Minimum is 10% of Max. cap. Recommend 60%-80% of Max. Cap.
ERR3	During calibration, the input signal is negative	1. Check the connection 2. Check load cell for problems 3. Recalibration if still wrong change the PCB
ERR4	During calibration, the signal is unstable.	After the platform is stable, start calibration
ERR5		Change PCB

4.2 Daily Maintain

1. Protect the indicator from strong sunlight to prolong the using life
2. Good connection between load cell and indicator. Far from away from strong electric field, magnetic field.
3. Power off the indicator when lightning
4. Power off the indicator firstly before unplugging

4.3 Restore default parameter

Enter to calibration, Set C07=1. Press" PRINT" then press" TOTAL" to exit saving setting. All parameter will go back to default

Note : Do not restore default parameter if you are not professional

The Manufacturer warrants each product to be free from defects in materials and workmanship, and to conform to its published product specific cautions under normal use and service for the period of one year commencing from the date of purchase.

The foregoing warranty is extended only to the first purchaser and applies only to product failures due to defective materials and/or workmanship. Without limiting the generality of the foregoing, the foregoing warranty will not apply if, upon inspection, it is found that the product was: misused or abused; used for a purpose for which it was not designed; mishandled; placed in an improper environment; repaired by unauthorized personnel; or improperly installed or adjusted.

The sole and exclusive remedy in the event of any breach of the foregoing warranty shall be for the original purchaser to return the product to The Manufacturer, freight and insurance prepaid, for repair, replacement or credit, at The Manufacturer option. Any product repaired or replaced under the foregoing warranty shall be shipped back to customer freight and insurance prepaid.

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