

SHAKING INCUBATOR



Operation Manual



Model : LBSI - 100 A

Labnics Equipment

• Table of Content •

S. No.	Content	Pg. No.
1.1	Before Use	1
1.2	Safety Precaution	1
1.2.1	Power Connection	1
1.2.2	Installation	1
1.2.3	Operation	2
1.2.4	Maintenance	2
1.3	Product Feature	3
1.4	Specification	4
1.5	Parts and Functions	5
1.5.1	Main Controller	5
1.5.2	Main controller parts and description	5-8
1.6	Operation	9-11
1.7	Frequently Asked Question	12
1.8	Trouble Shooting	12
1.9	Setting Factory Parameters	13-15
1.10	Inspection Log For Shaking Incubator	16
1.11	Maintenance and Service Check List	17
1.12	Limited Warranty	18
1.13	Service Report	19

1.1 Before Use

Thank you for choosing Labnics Equipment Products.

Please read this operation manual carefully before use for your safety and optimum operating performance.

If you have any question, please contact sales representative or service department.

1.2 Safety Precaution

This manual contains important operating and safety information. You must carefully read and understand the contents of this manual prior to the use of this equipment.



Warning

To alert against any possible personal injuries.



Caution

To alert against any possible damage to the equipment.

1.2.1. Power Connection



Caution

1. Your Shaking Incubator is designed for 110VAC 60Hz 1P or 220VAC 50Hz
2. Check electrical requirement on the name plate before use.
3. Connect to receptacle with ground connection.
4. Be sure to connect on sufficient electrical current receptacle.

1.2.2. Installation



Caution

1. Do not use in high humid environment
 - * May cause Electrical leakage
 - * Corrosion may occur
2. Do not use in high temperature environment or beside instruments that generate heat.
3. Place on flat, rigid and leveled surface.

1.2.3. Operation



Warning

1. Hot surface or parts may cause serious injury.
2. Moving parts in the chamber may cause serious injury.
3. Do not put volatile, flammable and explosive material inside of chamber
4. Do not put volatile, flammable and explosive material nearby the instrument
5. Moving parts may cause serious injury during operation. Be sure to put or withdraw samples or containers in the rack after shaking motion is completely stop.



Caution

1. Be careful not to spill liquid on the control panel
2. When you place samples or containers on the flask holders or spring rack, be sure to balance the weight .
Imbalance may cause damage on motor or shaking mechanism and noise or vibration may occur.

1.2.4. Maintenance



Caution

1. Do not pour water or any liquid when you clean up chamber.
2. Do not use concentrated organic solvents for cleaning chamber surface.
3. Do not modify or alter electrical circuit or hardware.



1.3. Product Feature

Labnics Equipment LBSI-Series Shaking Incubator is.....

Ideal for any shaking application requiring controlled temperature and speed for microbiology, cell biology, cell culture, tissue culture, biochemistry, molecular biology, environmental engineering, oil testing field etc.

Feature

1. Temperature Range LBSI-100A ambient +5 ~ 60°C without cooling system
2. Built-in heating and cooling system and integrated controller.
3. Integrated digital PID controller enables temperature control in 0.1°C resolution and speed control in 1 rpm. Equipped with wait-off timer, alarm, auto-tuning and in built temperature calibration function.
4. Coaxial fan blade for air circulation in the chamber to keep homogeneous temperature throughout the chamber
5. Transparent acrylic window for sample observation during operation without opening the door.
6. Shaking motion automatically cut-off to protect user from moving parts when door is open.
7. Dual over-temperature protection safety and electrical leakage breaker.
8. Universal spring rack to accommodate various shapes of containers.
9. Size adjustable flask holder made by ABS resin with platform for convenience.
10. Light bulb in the chamber and on/off switch.

FRAME

SPCC metallic body with heavy duty epoxy powder coating in white and green.

No. 1 self balanced door with shock absorber with dark transparent acrylic viewing Window.

Height adjustable feet for balancing and anti-vibration.

INTERNAL CHAMBER

Stainless Steel 304 Polished (ANSI 304) with insulation.

Utility lamp and on/off switch.

CONTROL SYSTEM

Integrated Digital PID microprocessor control system for temperature and speed.

Digital display of PV and SV for temperature, rpm and time.

Control of temperature, cooler, speed and timer independently or integral.

Timer: 99min 59sec / 99hr 59min / continuous time scale selectable.

Adjustable start and stop speed in rpm/sec.

Class A Pt100 control sensor.

REFRIGERATION SYSTEM

LBSI-100A None

SAFETY

Shaking motion stops when door is open.

Adjustable over-temp. cut-off safety thermostat

Over current cut-off: Electrical leakage breaker.

ALARM SYSTEM

Audible and visual alarm system for;

- * Over temperature
- * Shaking motion failure
- * Disconnection of sensor

1.4. Specifications

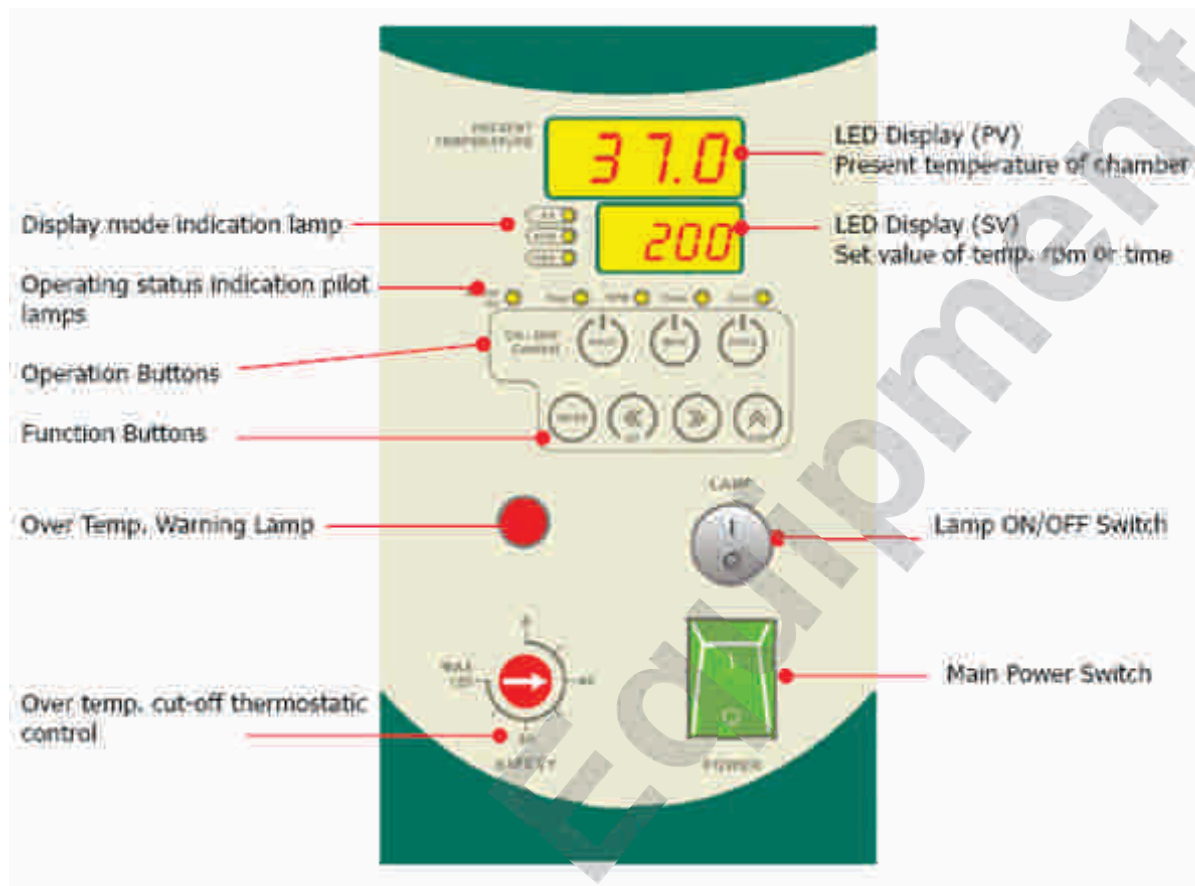
Model		LBSI-100A
Chamber Volume		115L
Temperature	Heating Type	Forced Convection
	Range	Ambient +5 °C- 60 °C without cooling system
	Accuracy	0.1 °C at 25 °C
	Uniformity	1.0 °C at 25 °C
Shaking Speed/ Stroke		60-300rpm/20mm orbital motion
Heater		400 watt
Control	Main Controller	Digital PID controller with timer and auto-tuning
	Wait off Timer	mm:ss/hh:mm/continuous selectable
	Sensor	Pt-100 ?
Safety Device	Temperature	Hydraulic over temperature protection safety device
	Electrical	Electrical leakage breaker
Dimension (W x D x H)mm	Chamber	550 x 585 x 360
	Overall	765 x 640 x 770
	Platform	500W x 510D
Refrigerator		None
Material	Internal	Stainless steel 0.8T polished (SUS 304)
	External	Steel 1T with epoxy powder coating
	Door	Weight balanced door with transparent Acrylic Window 340 x 300mm
Utility	Lamp	25 Watt crypton Lamp in chamber
Electrical Requirement		120VAC 60Hz 1P or 220VAC 50Hz 1P or 220VAC 60Hz 1P
Net Weight		80Kg
Shipping Weight		95Kg
Shipping Dimensions		950 x 750 x 1000 mm
Catalog No.		18150101

Optional Accessories

Descriptions	Catalog No.
Universal Spring Rack 500 x 495 x 140 mm	18150111
Flask holder size adjustable from 50 ~ 100ml x 30 EA Maximum	18150112
Flask holder size adjustable from 200 ~ 300ml x 20 EA	18150113
Flask holder size adjustable from 500ml x 12 EA or 1000ml x 5 EA	18150114

1.5. Parts and Functions

1.5.1. Main Controller



1.5.2. Main Controller Parts and descriptions

< DISPLAYS >



PV Digital LED Display

PRESENT TEMPERATURE

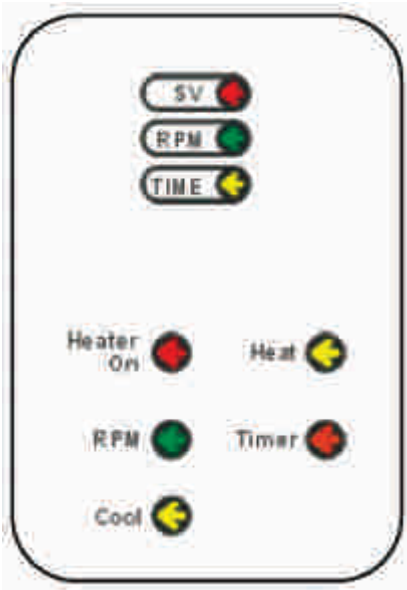
Displays present temperature in the chamber

SV Digital LED Display

Displays set value of temperature, rpm and time alternatively by pressing INC button

Display mode indication lamp lit when SV displays temp. Rpm or time accordingly.

< PILOT LAMPS >



Display Mode Indication Lamp

SV pilot lamp lit when SV LED displays set temperature

RPM pilot lamp lit when SV LED displays set rpm

TIME pilot lamp lit when SV LED displays time

Operating Status Indication Lamp

Heater On: Turned on when controller give output to heater. ON and OFF during PID control.

Heat: Turned on when heating starts by pressing HEAT button.

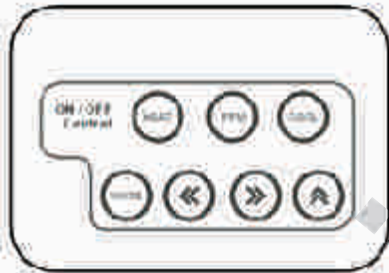
RPM: Turned on when shaking starts by pressing RPM button.

TIMER: Turned on when user set wait-off timer and timer starts count down by press HEAT or RPM button.

COOL: Blinks when cooler stops.

Lit on when cooler is running.

< OPERATION BUTTONS >



HEAT BUTTON

Start and stop heating. (Press to ON and press again to OFF)

RPM Button

Start and stop shaking. (Press to ON and press again to OFF)

COOL Button

LBSI-100A Shaking Incubator has no cooling system.

Button has no function.

MODE Button

Press to set temp. rpm and time.

Press to set factory parameters. (See how to set factory parameters on SETTING PARAMETER section)





LEFT SHIFT Button

Press to shift cursor to left digit when setting temp. rpm or time.

AUTO-TUNING Function

Press and hold for 5 seconds to start auto-tuning

Your Shaking Incubator was auto-tuned and calibrated before shipment.

About Auto-Tuning

The temperature of your Shaking Incubator is controlled by precise PID Microprocessor controller. Controller automatically calculate optimum operating parameters such as P, I, A and D value. Auto-Tuning command enables to optimize temperature control.

When Auto-Tuning needed

Your Shaking Incubator is auto-tuned before shipment. You do not need to auto-tune again before use.

Auto-tune is necessary in case of

- Replacing heater (after replacing heater and check temperature stability. If temperature stability is ok, auto-tuning is not necessary)
- Replacing main controller (when you replace main controller, you have to auto-tune again)

How to start Auto-Tuning

- Input factory parameter as per instruction.
- Set temperature at 37°C for LBSI-100A.
- Set rpm at 60 rpm.
- Press HEAT and RPM button to start temperature and rpm control.
- Press and hold LEFT SHIFT BUTTON for 5 seconds.
- LED displays blink indicating auto-tuning is stars with beep sound.
- Wait for 30 minutes to finish auto-tuning.
- LED displays stop blinking with beep sound indicating auto-tuning is finished.

Shaking Incubator is auto-tuned again and ready to use.



RIGHT SHIFT Button

Press to shift cursor to right digit when setting temp. rpm or time.

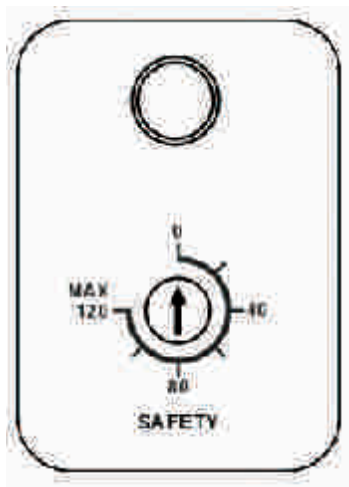


INC Button

Increase values by 1 increment.

DSP Function

In normal display mode, press INC button to change display on SV LED display to show set temp. rpm or time alternatively.

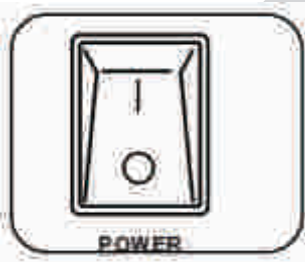


SAFETY LAMP/AUTO-THERMAL CUT-OFF SAFETY

THERMOSTAT

Safety lamp turned on indicating current chamber temperature is higher than over temp. Cut-off setting.

Turn auto thermal cut-off safety thermostat to 20% higher than normal operating temperature. (Ex. Your operating temperature is 40°C, set safety thermostat at 60°C, if chamber temperature increase higher than 60°C by any reason, thermostat automatically cut-off heater and lamp is turned on.)



POWER SWITCH

Main Power Switch.

1.6. Operation

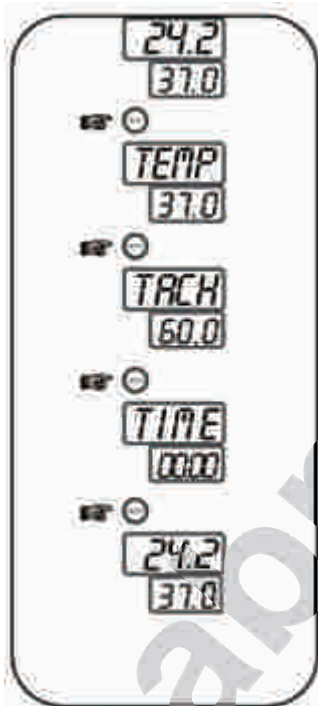
Before Operation

- 1) Check electrical requirement on the name plate before connecting.
- 2) Place your Shaking Incubator on the flat and level surface.
- 3) Remove packing material in the chamber.
- 4) Be sure to place shaking wire rack on the right position and well balanced.
- 5) Connect power plug in rear panel to wall mount receptacle.

Getting Started

- 1) Load sample containers on the Spring Wire Rack or Flask Holders.
- 2) Be careful sample containers are weight balanced symmetrically.
- 3) Turn the circuit breaker on located on the back. Turn the POWER switch on. The PV LED

READOUT displays current temperature of the chamber.



Setting Temperature, RPM and Time

You can change operating temperature, rpm and time by using MODE button.

Setting mode changes as left figure.

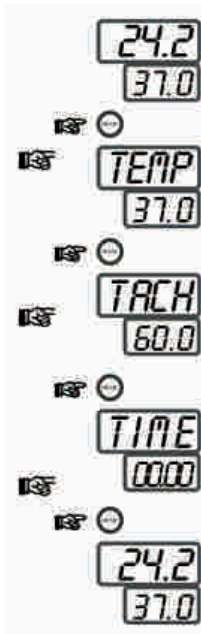
Setting Temperature

- 1) Press **MODE** button to set temperature in normal display mode.
- 2) **PV Digital LED displays "TEMP "** and **SV Digital LED** displays current SV temperature and prompt user input.
- 3) Press **SHIFT** button to move left or right digit.
- 4) Press **INC** button to increase or decrease value.
- 5) Press **MODE** button again to go RPM setting.
- 6) Press **MODE** button twice to go normal display mode.

(Illus. shown how to change operating temperature from 37.0°C to 40.0°C)

Temperature Range Setting

Model Range	LBSI-100A Ambient (room temp.) +5 ~ 60°C
-------------	--



Setting RPM

- 1) Press MODE button twice to set RPM in normal display mode.
- 2) PV Digital LED displays " TACH " and SV Digital LED displays current SV RPM and prompt user input.
- 3) Press SHIFT button to move left or right digit.
- 4) Press INC button to increase or decrease value.
- 5) RPM can be set from 20 ~ 220 rpm
- 6) Press MODE button again to go TIMER setting.
- 7) Press MODE button to go normal display mode.

(Illus. shown how to change operating RPM from 60 to 30)

Maximum operating RPM may be less than specified when sample is loaded in the shaking platform.
RPM may be affected by weight of load or other operating conditions.

Error Message

If motor cannot be started within 15 seconds after pressing RPM button, controller will warn error by audio visual message. Controller displays ERR0 and keeps beeping sound.

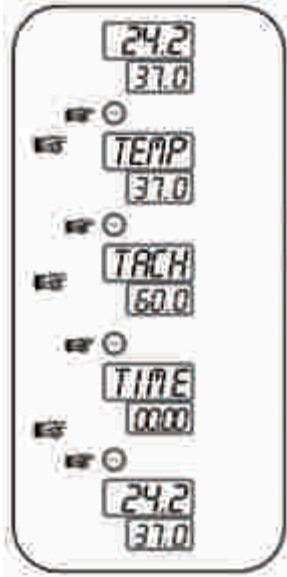
Press RPM button to escape from error status.

Trouble Shooting

Check any obstacle which may obstruct shaking motion.

Check total weight of sample loaded in the platform should not exceed max. load (less than 30kgs)

Check platform is well positioned to move back and forth.



Setting Timer

- 1) Press MODE button three times to set timer in normal display mode.
- 2) PV Digital LED displays " TIME " and SV Digital LED displays current time and prompt user input.
- 3) Press SHIFT button to move left or right digit.
- 4) Press INC button to increase or decrease value.
- 5) For continuous operation set time at 00.00.
- 6) Timer can be set from 1 Min to 99 Hr 59 Min.
- 7) Press MODE button to go normal display mode.

(Illus. shown how to change operating time from continuous to 1 Hr)

* Time scale can be changed in min:sec.

Refer factory parameter setting to change time scale.

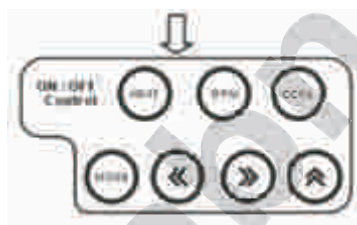


Over Temperature Protection

Safety lamp turned on indicating current chamber temperature is higher than over temp. cut-off setting.

Turn over temp, cut-off safety thermostat to 20% higher than normal operating temperature.

(Ex. Your operating temperature is 40°C, set safety thermostat at 60°C, if chamber temperature increase higher than 60°C by any reason, thermostat automatically cut-off heater and lamp is turned on.)



Start temperature control only

- 1) Press HEAT button to start temperature control.
- 2) Press HEAT button again to stop temperature control.

Start shaking control only

- 1) Press RPM button to start temperature control.
- 2) Press HEAT button again to stop temperature control.

Start temperature & shaking control

- 1) Press HEAT (COOL) and RPM button.
- 2) Press HEAT button again to stop temperature control.

1.7. Frequently Asked Questions

1.7.1. Temperature fluctuations over operating temperature

Cause: SAFETY setting is lower than operating temperature.

Solution: Turn SAFETY setting clockwise higher than operating temperature.

Cause: Alternation of optimum factory parameters.

Solution: Auto-tune again.

1.7.2. Temperature Overshoot

Cause: High room temperature

Solution: If your Shaking Incubator is LBSI-100A which has no cooling system and if room temperature is higher than 30°C, your Shaking Incubator cannot maintain less than 35.0°C.

1.7.3. LED displays uuuu and beep

Cause: Over heat higher than 61°C. Call service.

Solution: Your Shaking Incubator cannot be used over 60°C.

If temperature increase over 61°C, controller warning high temperature and cut-off heater.

Error Symbol	Cause	Solution
uuuu	Over heat higher than 61°C	Call for Service
nnnn	Sensor disconnection	Call for Service
ErrO	Motor failure or shaking disable	Remove obstacle, Lessen weight load, Check motor

1.8. Trouble Shooting

1.9. Setting Factory Parameters

To set factory parameter A, press and hold MODE Button for 5 seconds.

Press SHIFT and INC Button to change values.

Press MODE Button to go next parameter.

To escape from Parameter mode to normal display mode, press and hold MODE Button for 6 seconds.

To set factory parameter B,

Get back to normal display mode

Press and hold SET Button for 30 seconds.

Factory Parameter A

Parameter Symbol	Name of Parameter	Setting Range and Descriptions	Factory Default	User Set Value
BEEP	BEEP ON TIME	0 ~ 99 SEC	30	
	Beep on time in seconds after timer is over. If the value is set at 0, continuously beep until press RPM button			
Adj	Temperature Adjustment	- 99.9 ~ 299.9	Calibrated value	
	Compensate temperature deviation. If the actual temperature measured by standard thermometer is different from temperature which controller read, user can compensate temperature difference by Adj function. (Ex) Actual temp = 100.0 Displayed temp = 99.9 Set Adj at 0.1 Actual temp = 99.5 Displayed temp = 100.0 Set Adj at - 0.5			
COOL	COOLER ON TEMP.	- 99.9 ~ T-Lt value	35	
	SET Temp. > Cool value -> Cooler off SET Temp. < Cool value -> Cooler on Cooler turned on when set temp. is less than 35			
ALH	ALARM LIMIT HIGH	00.0 ~ 99.9	0.2	
	If temp. increase higher than set temp. + ALH, heater turned off automatically for safety.			
ALL	ALARM LIMIT LOW	00.0 ~ 99.9	0.3	
	If temp. decrease lower than set temp. - ALL, cooler turned off automatically for safety.			
USLP	Speed increment per second	1 ~ 59 RPM	5	Do not change
	Acceleration and deceleration rate when start up and stop shaking For smooth start-up and stop motion, keep this value high			
HYS	HYSTERESIS		0.2	
	Hysteresis range of ALH and ALL			
Frpm	Fix rpm speed display	0 ~ 99	5	
	Fix displayed operating RPM within a range. Control rpm drift			
Dloc	LOCK PASSWORD	0000, 1111	0000	
	Protect set values and parameters from unauthorized change N3 N2 N1 N0 Available value to set 0 or 1 0 or 1 0 or 1 0 or 1 Where N3 : KEY LOCK 1 : LOCK 0 : UNLOCK N2 : RESERVED 1 : 0 : N1 : PARAMETER DATA LOCK 1 : LOCK 0 : UNLOCK N0 : SET VALUE DATA LOCK 1 : LOCK 0 : UNLOCK N3 (KEY LOCK) : Protect pressing button. N1 (PARAMETER DATA LOCK) : Protect parameter values stored in the controller N0 (SET VALUE DATA LOCK) : Protect user set values such as temperature and time			

LED displays "PASS" and waiting for user input.

Press SHIFT and INC Button to change values.

Press MODE Button to go next parameter.

To escape from Parameter mode to normal display mode, press and hold MODE Button for 6 seconds.

Factory Parameter B

Parameter

Parameter Symbol	Name of Parameter	Setting Range and Descriptions	Factory Default	User Set Value
PASS	Password to enter Factory Parameter B Setting Mode	7777	7777	Do not Change
T-Lt	Maximum temperature limit to set	-99.9 ~ 299.9 °C	61	Do not Change
	Maximum temperature available to set. If T-Lt value set at 61 °C, user cannot input operating temperature higher than 61 °C If operating temperature exceeding this value, controller stop heating and warning by alarm uuuu message and beep sound for safety			
r-Lt	Maximum speed limit to set	0 ~ 1500 RPM	310	Do not Change
	Maximum RPM available to set. If R-LT value set at 350 RPM, user cannot input operating RPM higher than 350 If operating RPM exceeding this value, controller stop shaking and warning by alarm uuuu message and beep sound			
Gear	Gear Rate	1.0 ~ 60.0	4.5	Do not Change
	Geared motor ratio. User can calibrate shaking speed by changing this value. Setting range should be within 3.0 ~ 3.5 RPM can be calibrated by changing Gear Rate			
Prd	Period (Output Interval)	1 ~ 99 sec.	5	Do not Change
	Controller sensing temperature within the PRD interval (ex. 5 sec.) & decide heat-up or not. User can change this value for fine control. For air as a heating media, 5 seconds is optimum interval to control.			
P	Proportion	0 ~ 6999	Auto-tuned value	Do not Change
A	Anti-Integral	0 ~ 6999	Auto-tuned value	Do not Change
I	Integral	0 ~ 6999	Auto-tuned value	Do not Change
D	Differential	0 ~ 6999	Auto-tuned value	Do not Change

Parameter Symbol	Name of Parameter	Setting Range and Descriptions	Factory Default	User Set Value
Mode1	OPERATING MODE CONTROL	0000~1111	1111	
	<p>N3 N2 N1 N0</p> <p>Available value to set 0 or 1 0 or 1 0 or 1 or 2 0 or 1</p> <p>Where N3: TEMP. & TIMER 1: KEEP OPERATING TEMP. AFTER TIMER 0: STOP TEMP. CONTROL</p> <p>N2: MOTOR STOP 1: STOP SLOWLY 0: STOP IMMEDIATELY</p> <p>N1 : TIME SCALE 1 : HH :MM (00.00 ~ 99 hours 59 min) 0 : MM:SS (00.00 ~ 99 min 59 sec)</p> <p>N0 : POWER ON RESTORE 1 : ON 0 : OFF</p> <p>(During operation, if the electrical supply is turn out and get back again, restore the last operating condition and resume operating when POWER ON RESTORE function is ON)</p>			
Mode2	OPERATING MODE CONTROL	0000~1111	1000	
	<p>N3 N2 N1 N0</p> <p>Available value to set 0 or 1 0 or 1 0 or 1 0 or 1</p> <p>Where N3 : DECIMAL PLACE DISPLAY 1 : YES (0.1oC) 0 : NO (1oC)</p> <p>N2 : ALARM HIGH DATA TYPE 1 : ABSOLUTE 0 : RELATIVE</p> <p>N1 : ALARM LOW DATA TYPE 1 : ABSOLUTE 0 : RELATIVE</p> <p>N0 : HEATER OUTPUT CONTROL WHEN DOOR OPEN 1 : HEATER ON 0 : HEATER OFF</p>			
Mode3	OPERATING MODE CONTROL	0000	0000	
	<p>N3 N2 N1 N0</p> <p>Available value to set 0 or 1 0 or 1 0 or 1 0 or 1</p> <p>Where N3 : RESERVED</p> <p>N2 : RESERVED</p> <p>N1 : ALH 1 : START RELAY OFF 0 : START RELAY ON</p> <p>N0 : RESERVED</p>			
Cton	Defrost cycle time in minutes		400	No function for LBSI-100A
CtoF	Defrost duration time in minutes		15	No function for LBSI-100A
Cdly	Delay time of compressor start		1	No function for LBSI-100A
DrAn	Fix drift of temperature display within the set value		0.5	
	<p>Temperature drifts during operation owing to several reasons.</p> <p>To eliminate temperature drift, set DrAn value to fix temperature within the value</p>			
dton	Fix drift of temperature display within the set value during defrost		20	No function for LBSI-100A

1.10 Inspection Log for Shaking Incubator

Model :	LBSI 100 A	Serial No. :		Client :	
Date & Time:		Amb. Temp. :		Electricity :	VAC Hz
Refrigerant					

LBSI 100 A Pretest check list (Initial after each Checkpoint)

If Non-Applicable enter N/A

Termination of each electrical connections		Equipped with proper accessories	
Surge protection termination		Esthetics ok	
Control panel key switch tight			

LBSI 100 A TEST AREA, TEST LOG (NOTE) If units fails any portion of the test enter "NG" in the blank space Adjacent to that check point

Technician		Set point security verified	
Volts at plug / terminal strip / Hz		Labeling on components correct	
Cut in voltage		Molded plug not overheated	
Surge			
Verify over temp. protection			
Temperature Stability : 37.0°C	± 0.1°C		
Temperature Stability : 50.0°C	± 0.1°C		
Auto-tuning			
Minimum RPM : 20 rpm			
Maximum RPM : 300 RPM			
RPM stability :60 RPM	1 RPM		
No contact on moving parts			
No noise during operation			

Labnics Equipment

1.11 Maintenance and Service Check List

Model	LBSI - 100 A			
Descriptions	Shaking Incubator			
Serial No.				
Date	Check	Technician	Remarks	Sign
	Shipment			

		<input type="radio"/> Check <input checked="" type="radio"/> Clean-Up <input type="checkbox"/> Replace		
Article	Every 6 Month	Every Year	Every 2 Year	
Controller		<input type="radio"/>		
PT Sensor		<input type="radio"/>		
Heater		<input type="radio"/>	<input checked="" type="radio"/>	
TRIAC		<input type="radio"/>	<input checked="" type="radio"/>	
OPT		<input type="radio"/>	<input checked="" type="radio"/>	
MAIN S/W		<input type="radio"/>		
Motor Assy's		<input type="radio"/>		
Shaking Mechanism Assy's	<input type="checkbox"/>	<input type="radio"/>		
Power Belt		<input type="radio"/>		
Condenser Clean Up	<input type="checkbox"/>			
Cooling System		<input type="radio"/>		
Compressor		<input type="radio"/>		

1.12 Limited Warranty

Descriptions	Shaking Incubator
Model	LBSI - 100 A
Serial No.	
Warranty Period	12 Months after purchase
Date of Purchase	
Purchase From	

WARRANTY COVERAGE

Labnics Equipment warranty is obligatory for the products with following terms and conditions :

Labnics Equipment warrants the product against defects in materials and workmanship for a period of one (1) year from the date of original purchase ("Warranty Period"), providing that the unit is operated according to the instruction in the operating manual.

The guarantee comprises removal of all damages that arises during the guarantee period and that are proven to be due to faulty material or poor workmanship.

If a defect arises and a valid claim is received by Labnics Equipment within the Warranty Period, at its option, Labnics Equipment will :

- (1) Repair the product at no charge, using new or refurbished replacement parts.
- (2) Exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product.

If a defect arises and a valid claim is received by Labnics Equipment after the first one hundred and eighty (180) days of the Warranty Period, a shipping and handling charge will apply to any repair or exchange of the product undertaken by Labnics Equipment.

Labnics Equipment warrants replacement products or parts provided under this warranty against defects in materials and workmanship from the date of the replacement or repair for ninety (90) days or for the remaining portion of the original product's warranty, whichever provides longer coverage for you. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes Labnics Equipment property. When a refund is given, your product becomes Labnics Equipment property.

EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only to the product manufactured by or for Labnics Equipment that can be identified by Name Plate.

Labnics Equipment is not liable for any damage to or loss of any products or material stored or tested in the instruments or programs, data, or other information stored on any media contained within the product, or any non-Labnics product or part not covered by this warranty. Recovery or reinstallation of programs, data or other information is not covered under this.

Limited Warranty.

This warranty does not apply:

- (a) To damage caused by accident, abuse, misuse, misapplication, or non-Labnics products;
- (b) To damage caused by service performed by anyone other than Labnics Equipment;
- (c) To a product or a part that has been modified without the written permission of Labnics Equipment; or
- (d) If any Labnics serial number has been removed or defaced; or
- (e) If the unit is not used according to its purpose; or
- (f) No original spare parts are used.

To the maximum extent permitted by law, Labnics Equipment is not responsible for direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory, including any costs of recovering or reproducing any product or material stored or tested in the instruments, program or data stored in or used with the Labnics Equipment product, and any failure to maintain the confidentiality of data stored on the product. Labnics Equipment specifically does not represent that it will be able to repair any product under this warranty or make a product exchange without risk to or loss of material, programs or data.

For consumers who have the benefit of consumer protection laws or regulations in their country of purchase or, if different, their country of residence, the benefits conferred by this warranty are in addition to all rights and remedies conveyed by such consumer protection laws and regulations. To the extent that liability under such consumer protection laws and regulations may be limited, Labnics Equipment liability is limited, at its sole option to replacement or repair of the product or supply of the repair service again.

note: before you deliver your product for warranty service it is your responsibility to remove all products or materials stored in the instrument.

Before returning a defective unit, please contact local representative or our support center at info@labnics.com Labnics Equipment; if we agree to the unit being returned, arrange for careful packing and send the unit to Labnics Equipment.

Please remember to describe the kind of fault you found and state your complete address.

1.13 SERVICE REPORT

Customer's Address : _____	Tel.No.: _____
_____	Fax No.: _____
Contact Person / Designation : _____	Weekly Off.: _____
_____	Dept.: _____

Date	Time		System Configuration	Model	Serial No.	Date :	SR. No.	
	From	To					Status : OK <input type="checkbox"/>	Not OK <input type="checkbox"/>
						Installation <input type="checkbox"/>	Warranty <input type="checkbox"/>	
						Demonstration <input type="checkbox"/>		
						Maintenance <input type="checkbox"/>	Contract <input type="checkbox"/>	
						Repairs <input type="checkbox"/>		
						Application <input type="checkbox"/>	Billable <input type="checkbox"/>	
						Calibration <input type="checkbox"/>		
						Validation <input type="checkbox"/>	Courtesy <input type="checkbox"/>	

Nature of Problem : _____

Observation & Action Taken :

Customer's Remarks :

Parts Replaced :

Parts Recommended / Action Required : Yes <input type="checkbox"/> No <input type="checkbox"/>		Requisition Number :
Service Engineer's Name & Signature	Customer's Name, Signature, Date & Stamp	