INFANT INCUBATOR

P-002

STABLE

AMBIENT TEMPERATURE MONITORING

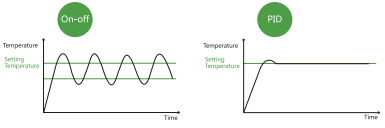
With ambient temperature probe EcoLa series incubator is able to compare the gap between ambient and setting temperature and changing heating power output accordingly in order to provide more stable inside hood air temperature.

HEATING SYSTEM MONITORING

EcoLa monitors not only hood air temperature but also radiator and circuit air temperature. By collecting each parts' temperature information, EcoLa's temperature control system is much more accurate and safe than others.

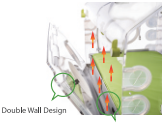
PID FUZZY ALGORITHM

With the help of latest PID technology, EcoLa minimizes the temperature variability to unprecedented 0.2 ℃ and temperature overshoot is also reduced dramatically.



TEMPERATURE UNIFORMITY

EcoLa series incubator's air circuit system is designed based on massive experimentation. With plenty aerodynamics knowledge,the temperature uniformity is improved as much as possible in order to give infant the safest micro-environment.



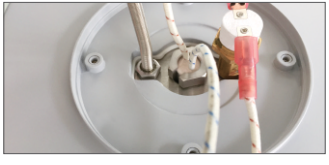
RELIABLE

HEATING SOURCE DOUBLE PROTECTION

EcoLa is equipped with both thermocouple and mechanical temperature switch to protect the heating source of heating system and evaporator. Thermocouple reads real time temperature and limits the temperature in a safe range by feedback the temperature value to control module. While mechanical temperature switch is in series circuits, if the heating source temperature goes unmoral level, temperature switch cuts off the circuit physically.

THREE CHANNEL TEMPERATURE SENSORS

There are three channel of temperature sensors in the module box. One channel is for reading hood temperature to remain the temperature at setting value. Another temperature sensor is in an individual circuit for protection only. The third sensor is used to compare the reading with other two sensors. If the reading of three sensors differ from 0.8°C,alarm is triggered.



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ALARM LIST

EcoLa provides wide range of physiological and technical alarms in order to improve the treatment effect and eliminate residual risk from the device.

A. System Fault Alarm

Stuck Key	This alarm occurs when a stuck key is detected.
Sensor Disconnect	This alarm occurs when communication with the sensor module fails.
Sensor Module Failure3	This alarm occurs when the controller detects a sensor module fan is not rotating.
Sensor Module Failure6	This alarm occurs when the controller detects the ambient temperature sensor is open or shorted.
Sensor Module Failure8	This alarm occurs when the controller detects that the sensor module watchdog reset.
Low Air Flow	This alarm occurs when an air circulation failure is detected.
Air Flow Probe Failed	This alarm occurs if the air flow probe connection is open or short circuited.
Motor Failed	This alarm is activated when the fan motor speed falls outside specified tolerances.
Power Failure	This alarm occurs when the AC power supply is off.(within 30s)
Battery Disconnect	This Alarm occurs when battery is disconnected.
Sensor Out of Position	This alarm occurs when the sensor module is not in the hood.
Access Panel Open	This alarm occurs when access panel is open.
Heater Failed1	This alarm occurs when the heater is over temperature.
Heater Failed2	This alarm occurs when the heater is damaged.
Air Probe Failed	This alarm occurs when one of the two thermistors in the sensor module differ from the other by 0.8°C or both two thermistors have a measurement error exceeding acceptable limits.
Skin1 Probe Fail Alarm	This alarm occurs in the Skin mode if the Skin1 probe is electrically open or shorted.
Watchdog Failed	This alarm occurs when a failure is detected with the watchdog.

B. Temperature Alarm

High Skin Temperature	This alarm occurs when the indicated displayed temperature differs from the set temperature by > 0.5°C or >1.0°C (user selectable, default 1.0°C).
Low Skin Temperature	This alarm occurs when the indicated displayed temperature differs from the set temperature by < 0.5°C or <1.0°C (user selectable, default 1.0°C).
Remove Skin2 Probe	This alarm occurs when two skin probes are installed and the Skin mode is selected.
Skin Probe Disconnect	This alarm is activated when the Skin1 temperature probe (only in the Skin mode) is removed from the sensor module. The associated monitoring display is blanked. (within 30s)
High Temp CutOut	Under air control, this alarm is activated if the displayed incubator temperature reaches 38°C for set temperatures <37°C, or 40°C for set temperatures >37°C. Under skin control, this alarm is activated if the incubator temperature reaches 40°C for any set temperature.
High Air Temperature	This alarm occurs when the indicated displayed temperature differs from the set temperature by >1.5°C.
Low Air Temperature	This alarm occurs when the indicated displayed temperature differs from the set temperature by <2.5°C.
High Skin1 Temperature	This alarm occurs when the Air mode is enabled and the infant skin temperature (from the Skin1 probe) is >38.0°C when the Override mode is not active, or >39.0°C when the >37°C mode of operation is active.
High Skin 2 Temperature	This alarm occurs when the Air mode is enabled and the infant skin temperature (from the Skin2 probe) is >38.0°C when the Override mode is not active, or >39.0°C when the >37°C mode of operation is active.

C. Humidity Alarm

Humidity Heater Failed 1	This alarm occurs when the humidity heater temperature is over heat.
Add Water	No enough water in water reservoir.
Low Humidity	This alarm occurs when the humidity is 10% lower than setting humidity. Note: The alarm is blocked for 30 minutes everytime turn on the machine, or 15 minutes everytime the humidity setting value is changed.
Reservoir Out of Position	This alarm occurs when the water reservoir not in position.
Humidity Heater Failed 2	This alarm occurs when the heater thermocouple wires are open or shorted.

D. Oxygen Alarm

Oxygen Cell Difference	This alarm occurs when the oxygen cell readings differ by more than 3%. As a result, the oxygen flow into the system is interrupted.
Low Oxygen	This alarm occurs when the displayed oxygen value is >3% below the oxygen set point.
High Oxygen	This alarm occurs when the displayed oxygen value is >3% above the oxygen set point.
Change Oxygen Cells	This Alarm occurs when the oxygen cells are out of date.
Check O2 Supply	This Alarm occurs when the O2 source pressure is low or high.
Servo O2 System Fail	This Alarm occurs when proportional value is failed.
O2 Cell Disconnect	This Alarm occurs when the oxygen cell is disconnected with module box.

8" LCD display, user friendly interactive operation interface


Big storage drawers


Ergonomic designed handle with perfect height

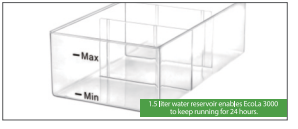

Detachable water reservoir, easy to clean and sterilize


Can be operated from both side of hood

COMFORTABLE

- EcoLa provides newborn a supper quiet environment. With the help of aerodynamics, EcoLa's hood sound is reduced to 45dB.
- With great detail design, EcoLa is also devoted to provide medical personnel pleasure operation experience.


Three auxiliary power output



1.5 liter water reservoir enables EcoLa 3000 to keep running for 24 hours.


Tente castor with lock

SPECIFICATION

Give every newborn the best start in life

Physical Attributes	Height 126.1cm to 146.1cm	Width 99.7cm	Depth 57.7cm	Weigh 80kg
Hood Specifications	Tubing access ports 10	Access door size 18 x 13cm	Mattress to hood height 4.8cm	
	Soft bed mattress size 73.6 x 38.6 x1.8cm	Mattress tilt ±12°	Drawer depth 36cm	
	Drawer size 28.0 x 24.7cm 28.0 x 11.3cm(x2)			
Temperature Control Modes	Temperature control modes Skin and air temperature control mode	Air mode control temperature range 20° C-37° C	Air mode control override temperature range 37° C-39° C	
	Air mode control accuracy ≤±1.0°C	Skin mode control temperature range 34° C-37° C	Skin mode control override temperature range 37° C-38° C	
	Skin temperature accuracy ±0.3°C	Dual-skin temperature monitoring Yes		
Servo Humidity Option	Humidity control range 30%-95% RH	Humidity control operating time without refilling 24 hours	Humidity control reservoir capacity 1500ml	
	Humidity display accuracy ±5% RH	Humidity control accuracy ±5% RH		

Performance	Air flow velocity across mattress < 10 cm/sec	Temperature rise time at 22 °C (72 °F) ambient <20min (From 22 °C, 50% RH, to 35 °C)	Temperature variability < 0.2 °C
	Temperature overshoot < 0.5 °C maximum	Temperature uniformity with a level mattress < 0.8 °C	Operating noise level in hood ≤45dBa
	Carbon Dioxide (CO2) Level <0.5%		
Servo Oxygen Option	Oxygen display accuracy of full scale ± 2%	Oxygen control accuracy (100% calibration) ± 3%	Oxygencontrol accuracy (21% calibration) ± 5%
	Oxygen control range 21 % to 65%	Oxygen display resolution 1%	
Scale Option	Weight range 300 g to 8 kg	Weight display resolution 1 g	Weight accuracy ±10 g
Operating Environment	Temperature 20° to 30° C	Humidity 10 to 95% RH	Air Velocity Up to 0.3 m/sec
Storage/Shipping Information	Temperature -25° to 60° C	Humidity 0 to 95% RH	

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