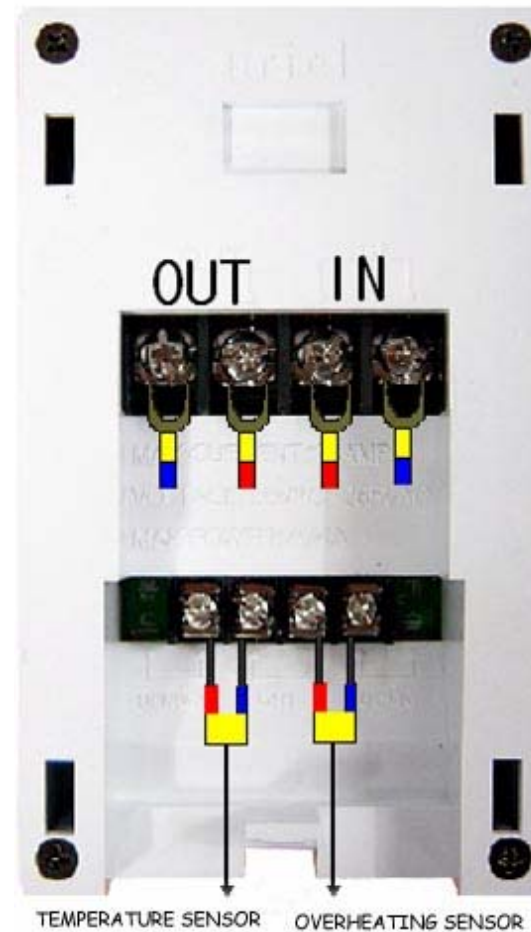




# UTH-200 Installation and Manual





# Display Windows & Functions



## 1. LCD DISPLAY WINDOW

① BAR DISPLAY: WHILE THE CONTROLLER IS WORKING, DISPLAY ON / OFF OF OUTPUT IN THE SIDE OF HEATER. IF OUTPUT IS OFF (ON), THE MOTION OF BAR IS STOPPED (WORKING) ON THE BOTTOM WITH THE DISPLAY OF "OFF (ON)" AS SHOWN THE PHOTO.



②TEMP DISPLAY: THE PRESENT TEMP IS ALWAYS DISPLAYED ON THE WINDOW WHILE THE BASIC SENSOR MODE IS WORKING. IF NO KEY OPERATION, THE PRESENT TEMP IS DISPLAYED. IF TOUCHING THE TEMP SET BUTTON (UP/DOWN), THE SET TEMP IS DISPLAYED. WITH THE FIRST TOUCH, THE SET TEMP IS DISPLAYED AND BY ADDING UP/DOWN, THE SET TEMP GOES UP/DOWN.



## 2. BASIC MOTIONS

POWER KEY IS FOR POWER ON/OFF. IN THE STATE OF OFF, ANY KEY OR CONTROLLER DOES NOT WORK.

UPON ▼ OR ▲ KEY WORKS, THE BAR GRAPH DISPLAY ON THE BOTTOM IS DISAPPEARED, THE PRESENT SET TEMP IS DISPLAYED. AFTER SET THE DESIRE TEMP, THE PRESENT TEMP AND BAR GRAPH ON THE BOTTOM IS DISPLAYED IF THERE IS NOT TOUCH FOR 3SEC. SINCE THE BUTTON IS EMPLOYED THE METHOD OF TOUCH, BY TOUCHING LIGHTLY, IT WORKS. MAKE SURE THAT THIS DOES NOT RESPOND WITH OTHER MATTER.



WHILE POWER BUTTON IS WORKING, IF CONTROLLER IS ON, BUZZ SOUNDS FOR 2TIMES AND IF OFF, IT SOUNDS FOR 1TIME FOR EASY DISTINCTION.

MAKE SURE NOT OT TOUCH OTHER KEY(S) AT THE SAME TIME.



## 3. RESET FUNCTION

THIS MAKES ALL FUNCTIONS TO RESET TO THE ORINAL STATE OF FACTORY CONFIGURATION. IF THERE IS ANY ERROR IN CONTROLLER DUE TO WRONG SET OR NOISE, RESET MAKES ALL SET RANGE AND SET TEMP TO THE ORIGINAL STATE OF FACTORY CONFIGURATION. BY PUSHING POWER BUTTON FOR 10SEC., "SAU" ON TEMP WINDOW FLICKERS FOR 3TIMES AND ALL VALUES OF CONTROLLER ARE CHAGED TO THE BASIC VALUES.

(IN THE TIME OF RESET, SENSOR MODE SET VALUE AND TIMER MODE VALUE ARE CHANGED TO THE BASIC VALUES AND SAVED.)





# Sensor Mode Motion & Set Method



## 4. SENSOR MODE

THIS CONTROLS THE POWER ON/OFF BY COMPARING THE PRESENT AND HOPE TEMP AFTER (SET) SENSING BY SENSOR.

HOW TO SET

BY MOUNTING THE SENSOR ON THE SENSE UNIT OF CONTROLLER, IT WILL SET AUTOMATICALLY, IT IS POSSIBLE TO CHANGE THE DETAILED SET ADDITIONALLY.

BY PUSING ▼ AND ▲ FOR 3SEC., SIMULTANEOUSLY, STN FOR INDICATING THE START OF FUCTION IS DISPLAYED.

BY PUSHING UP KEY IN THE STAE OF STN, DISPLAY AS THE ORDER OF SEN – TIN – I-D. IF SEN IS SET IN THE DISPLAY WINDOW, TOUCH ▼ , ▲ BUTTONS SIMULTANEOUSLY ONCE MORE TIME. AFTER PROCEEDING THE LAST STEP AS ABOVE, THE DISPLAY OF “SAU” FLICKERS FOR 3TIMES AND THE SET VALUE CHAGED IS SAVED.

## 5. TERMS OF DISPLAY WINDOW (SENSCOR MODE)

**SEN** : AS THE METHOD OF SENSOR MODE, THE BASIC MOTION MODE (BY USING THE TEMP SENSING SENSOR, MOVE AFTER COMPARING THE PRESENT TEMP TO THE SET TEMP.)

**T – L** : THIS SETS THE LIMITS OF MIN. TEMP IN HOPE TEMP SET , THE MIN. TEMP IS ABLE TO SET WITHIN THE MAX. TEMP.

**T – H** : THIS SETS THE LIMITS OF MAX. TEMP IN HOPE TEMP SET , THE MAX. TEMP IS ABLE TO SET WITHIN THE MIN. TEMP.

**D I F** : THIS SETS THE TEMP DEFLECTION FOR CONTROLLER’S POWER ON. IT IS RECOMMENDED TO ASSIGN THE DEFLECTION OF TEMP FOR CONTROLLER ACCORDING TO THE ENVIRONMENT TO BE INSTALLED.

**DLY** : THIS SETS THE TIME WHEN POWER WILL BE ON. IT IS RECOMMENDED TO SET THE DELAYING TIME TO BE “20SEC” BASICALLY SINCE IT MAY INFLUENCE THE CONTROLLER’S LIFE.

**OHT** : THIS MAKES POWER BE OFF BY FORCE WHEN OVERHEATING SENSOR SENSING TEMP. IS OVER THE SET TEMP.  
(THE OVERHEATING TEMP. SET SHOULD BE ASSIGNED OVER THE MAX. TEMP.)

**RES** : THIS BASIC RESISTANCE VALUE IS FOR PROMOTING THE ACCURACY. ONLY PECIAL CASE, THIS VALUE SHOULD BE CHANGED.

**SAU** : AFTER ENDING THE SET ACCORDING TO THE ABOVE ORDER, “SAU” FLICKERS FOR 3 TIMES AND ALL CHANGES ARE APPLIED.





# Set Limits and Error Display



FUNCTION	SET LIMITS	BASIC SET
MOTION MODE SELECT	SENSOR MODE – TIMER MODE	SENSOR MODE IN CASE OF MOUNTING SENSOR, TIMER MODE IN CASE OF SEPARATING SENSOR
MIN. TEMP SET	-9 °C ~ UNDER MAX. TEMP.	0 °C
MAX. TEMP SET	OVER MIN. TEMP ~ 114 °C	60 °C
TEMP DEVIATION SET	00 °C ~ 05 °C	02 °C
DELAYING TIME SET	01SEC. ~ 60SEC.	20 SEC
OVERHEATING TEMP SEC	OVER MAX TEMP ~ 119 °C	60 °C
BASIC RESISTANCE SET	-10 °C ~ 10 °C	00 °C

## 6. ERROR MESSAGE

### ① TEMP SENSING SENSOR SNAPPING

IF SENSOR IS SNAPPED, CONTROLLER WORKS BY CHANGING TO TIMER AUTOMATICALLY.  
(IF THE PRESENT TEMP IS NOT DISPLAYED WHILE TEMP MODE IS WORKING OR THE SET TEMP DOES NOT GO UP OVER 10°C, THE MODE IS ALREADY CHANGED TO TIMER MODE. IN THIS CASE CHECK WHETHER THE SNAPPING IS OCCURRED ON THE EXTENSION CORD OF SENSOR UNIT.)



### ② TEMP SENSING SENSOR SHORT CIRCUIT

IF SENSOR IS SHORT, THE OUTPUT OF CONTROLLER IS OFF AND WITH ALARM, “ES” FLICKERS ON THE TEMP DISPLAY WINDOW .  
(THIS MAY OCCURE DUE TO THE DESTRUCTION OF SENSOR UNIT, SHORT IN THE SENSING CORD EXTENSION, LEAKAGE IN THE SENSOR MOUNTED PART,  
EEC, IT IS NECESSARY FOR CHECKING. AFTER REMOVING THE CAUSE IT RETURNS AUTOMATICALLY. )



### ③ OVERHEATING ERROR

THIS OCCURS WHEN OVERHEATING SENSOR TEMP IS EXCEEDING THE TEMP OF OVERHEATING SET TEMP. IT MAKES THE OUTPUT OF CONTROLLER BE OFF  
AND WITH ALARM, “OHT” FLICKERS ON THE TEMP. DISPLAY WINDOW.  
(CHECK THE STATE OF OVERHEATING SENSOR, CONTROLLER RELAY MOTION, ETC. IF OCCURS DUE TO NOT MOUNTING OVERHEATING SENSOR, CONFIRM THE SHORT IN THE TEMP SENSOR UNIT OR TEMP SET VALUE. AFTER REMOVING THE CAUSE OF ERROR, IT RETURNS AUTOMATICALLY.)





# Timer Mode Function & Set



## 7. TIMER MODE FUNCTION

- ❖ FOR USING TIMER FUNCTION, BE SURE TO REMOVE THE TEMP SENSOR.
- ❖ BY PUSHING UP & DOWN KEY FUNCTION SIMULTANEOUSLY FOR 3SEC, THE INITIAL STN IS DISPLAY. IF PUSHING ▲ FOR ONCE TIME, SEN DISPLAY IS APPEARED. AS A METHOD OF SENSOR, SEN IS THE SAME TO THE PRESENT USE ONE. BY PUSHING ▲ KEY FOR ONE TIME, TIN DISPLAY IS APPEARED AND AT THAT TIME, BY PUSHING ▼ ▲ KEYS SIMULTANEOUSLY, THE PRESENT CYCLE VALUE IS DISPLAYED. THE CYCLE IS ABLE TO BE SET USING ▼ ▲ KEYS. BY PUSHING ▼ ▲ KEYS SIMULTANEOUSLY ONCE AGAIN, SAU FLICKERS, CYCLE VALUE IS STORED AND THE PRESENT SET LEVEL IS DISPLAYED.

- ① HOW TO SET BY OPERATOR= PUSH ▼ ▲ KEYS SIMULTANEOUSLY – STN IS DISPLAYED ON DISPLAY SCREEN – SELECT TIN – PUSH ▼ ▲ KEYS SIMULTANEOUSLY – CYCLE VALUE DISPLAY(CYCLE) – SELECT CYCLE (BASIS: 3MIN.) – SET CYCLE VALUE – PUSH ▼ ▲ KEYS SIMULTANEOUSLY – SAU FLICKERS – COMPLETION OF STORE  
( BE SURE NOT TO PERFORM THE SETTING UP BY CONSUMER.)
- ② HOW TO USE BY CONSUME = WITH ▼, ▲ KEY, SELECT LEVEL (BASIS: 1STEP)

- ❖ BASIC CYCLE IS SET TO 3MIN CYCLE. (ABLE TO SELECT THE CYLCE FROM 1MIN TO 60MIN)
- ❖ AFTER SELECTING CYCLE, BY PUSHING ▼, ▲ KEYS SIMULTANEOUSLY, SAU FLICKERS AND SETTING UP IS COMPLETED.(OPERATOR)
- ❖ WITH LEVEL UNDER USE, CONSUMER MAY SELECT A CERTAIN TEMP. (CONSUMER)
- ❖ BASIC STEP IS SETTED TO 1 LEVEL. (ABLE TO CONTROL THE LEVEL FROM 1<sup>ST</sup> LEVEL TO 10<sup>TH</sup> LEVEL)
- ❖ IN CASE THERE IS NO SENSOR, IT IS POSIBLE TO SELECT LEVEL, BUT IN CASE OF ATTACHING A SENSOR, IT WILL CHANGE TO SENSOR MODE IMMEDIATELY





# Set Limits and Working Time



STEP	OUTPUT(ON)	OUTPUT(OFF)	REMARKS
1L	15SEC * S	45SEC * S	※ S: SLECTED CYCLE VALUE IF 1MIN, S=1 IF 3MIN, S=3 IF 5MIN, S=5 * * * ※ (IF 20MIN, S = 20 , VALUE MULTIPLYING 20, 20) ※ (IF 60 MIN, S = 60 , MULTIPLYING 60, 60) IT BECOMES THE LENGTH OF ON AND OFF.
2L	20SEC * S	40SEC * S	
3L	25SEC * S	35SEC * S	
4L	30SEC * S	30SEC * S	
5L	35SEC * S	25SEC * S	
6H	40SEC * S	20SEC * S	
7H	45SEC * S	15SEC * S	
8H	50SEC * S	10SEC * S	
9H	55SEC * S	5SEC * S	
10H	60SEC * S	0SEC * S	



## 8. SPEC.

CLASS.	ITEM		SPECIFICATIONS
POWER UNIT	RATED INPUT VOLTAGE		85V AC ~ 265V AC (UNIVERSAL VOLTAGE)
	OUTPUT VOLTAGE		85V AC ~ 265V AC (UNIVERSAL VOLTAGE)
	DRIVING METHOD		ELECTRONIC
	MAX. OUTPUT		4KW
	LOAD	NO. OF CIRCUIT	1CIRCUIT
		MAX. CAPACITY	18A (RESISTANCE LOAD)
ACCURACY	TEMP ACCURACY		$\pm 1^{\circ}\text{C}$ : CONDITION OF CHANGING $1^{\circ}\text{C}$ PER 30SEC. (DELAY OPTION 20SEC)
MOTIONS	OUTPUT DISPLAY		LCD DISPLAY WINDOW BAR MOTION, ON DISPLAY
	TEMP ZONE		POSSIBLE TO SELECT WITHIN THE ZONE OF $-9^{\circ}\text{C}$ ~ $14^{\circ}\text{C}$
	OUTPUT DELAY (OPTION)		01SEC ~ 60SEC
SENSOR	KIND		NTC : NEGATIVE TEMPERATURE COEFFCICENT EPOXY MOLDING
	ACCURACY %		1 %
	25 $^{\circ}\text{C}$ RATED RESISTANCE		5000 OHM , BETA CONSTANT = 4000 $^{\circ}\text{K}$
	QUANTITY		SENSOR 1 : FOR SENSING TEMP, SENSOR2 : FOR CHECKING OVERHEATING (OPTION)
FUNCTION (CAPACITY)	SAFE DEVICE	SNAPPING, SHORT OF SENSOR LINE	IF SNAPPING IN SENSOR LINE, CHANGE TO TIMER OPERATION AUTOMATICALLY. IF SHORT IN SENSOR LINE, "ES" (ERROR SHORT) IS DISPLAYED WITH BUZZ OF OUTPUT BREAK.
		OVERHEATING PREVENTION SENSOR (OPTION)	IF OVERHEATING SENSING TEMP IS OVER SET OVERHEATING TEMP, "OHT" (OVER HEAT) IS DISPLAYED WITH BUZZ OF OUTPUT BREAK.
		RESISTANCE FOR FUSE	10 OHM (FOR PROTECTING CIRCUIT IN THE CONTROLLER)
OTHERS	OUTER CASE		NONFLAMMABLE
	WEIGHT		270G
	DIMENSION(MM)		70(W) * 120(H) * 40(D)
	USE TEMP.	AIR TEMP	$0^{\circ}\text{C}$ ~ $40^{\circ}\text{C}$
		AIR HUMIDITY	UNDER 80 %