UTH-JPT INSTALLATION AND MANUAL

DISPLAY SCREENS AND FUNCTIONS

LCD DISPLAY SCREEN

BAR DISPLAY: THIS DISPLAYS THE PRESENT STATE OF OUTPUT TO THE SIDE OF HEATER AS ON / OFF WHILE THE CONTROLLER IS WORKING.
AS FIGURE, IF OUTPUT IS OFF, THE BAR OPERATION IN THE BOTTOM IS STOPPED WITH THE DISPLAY OF “OFF”; IF OUTPUT IS ON, THE BAR OPERATION IS CONTINUED WITH THE DISPLAY OF “ON.”

TEMP DISPLAY: WHILE THE PRIMARY SENSOR MODE IS WORKING, THE PRESENT TEMP IS DISPLAYED ON TEMP DISPLAY SCREEN ALL THE TIME. UNLESS OTHER KEY MOTION, THE PRESENT TEMP IS DISPLAYED, AND BY TOUCHING THE TEMP SET BUTTON (UP/DOWN), THE PRESENT SET TEMP IS DISPLAYED. WITH THE FIRST MOTION, THE SET TEMP IS DISPLAYED AND WITH ADDITIONAL TOUCH, THE SET TEMP GOES UP OR DOWN.

BASIC MOTIONS
POWER IS ON/OFF WITH POWER KEY AND IN CASE OF OFF, THE MOTIONS OF OTHER KEY AND CONTROLLER ARE SUSPENDED.

UPON TOUCHING UP(△) OR DOWN (▽), THE DISPLAY OF BAR GRAPH IN THE BOTTOM IS DISAPPEARED AND INSTEAD OF IT, THE PRESENT SET TEMP IS DISPLAYED. IF THERE IS NO TOUCH FOR THREE (3) SECONDS AFTER SETTING A TEMP, THE PRESENT TEMP IS RECOVERED AND THE BAR GRAPH IN THE BOTTOM IS DISPLAYED. THE BUTTON IS OPERATED BY ONLY SOFT TOUCH WITH YOUR FIGURE. PLEASE PAY ATTENTION NOT TO TOUCH WITH OTHER MATTER EXCEPT THE FIGURE SINCE IT MAY NOT WORK.

WHILE THE POWER BUTTON IS ON, IF THE CONTROLLER IS ON, THE SOUND OF BUZZER IS PRODUCED FOR TWO (2) TIMES AND IF OFF, THE SOUND FOR ONE (1) TIME: SUCH SOUND MAKES IT EASY TO DISTINGUISH ON AND OFF. PAY ATTENTION NOT TO TOUCH WITH OTHER KEY AT THE SAME TIME.

INITIALIZATION FUNCTION
THIS IS FOR RESETTING TO THE FUNCTION SET IN THE PLANT. IN CASE OF A WRONG SET OR AN ERROR MOTION OF CONTROLLER, THIS RESTORES ALL SET RANGE AND SET TEMP TO THE STATE SET IN THE PLANT. BY TOUCHING THE POWER BUTTON FOR ABOUT TEN (10) SECONDS, ‘SAU’ FLICKERS FOR THREE (3) TIMES ON THE TEMP DISPLAY SCREEN AND ALL VALUES ON THE CONTROLLER IS CHANGED TO THE INITIAL ONES.
(AT THE TIME OF SETTING INITIALIZATION, THE SENSOR MODE SET VALUE AND TIMER MODE VALUE ARE CHANGED TO THE INITIAL ONES AND SAVED.)

SENSOR MODE MOTIONS AND HOW TO SET

SENSOR MODE
THIS MODE COMPARES THE PRESENT TEMP SENSED FROM THE SENSOR AND THE DESIRED TEMP (SET VALUE) AND CONTROLS THE GAP OF TEMPS BY POWER ON/OFF.

HOW TO SET
IN CASE OF ATTACHING THE SENSOR ON THE SENSE SPACE ON THE CONTROLLER AS THE BASIC MOTION METHOD, THE SENSOR IS SET AND WORKS AUTOMATICALLY. THE DETAILED SET IS POSSIBLE ADDITIONALLY.

UPON TOUCHING UP(△) OR DOWN (▽) BUTTON FOR THREE (3) SECONDS SIMULTANEOUSLY, **Stn**, THE MENU THAT FUNCTION STARTS, IS DISPLAYED. IN THE MENU OF "**Stn**," BY TOUCHING UP(△) BUTTON, THE MENU IS DISPLAYED IN THE ORDER OF "**SEn" –"tin" – "l.d.**" IN CASE OF DESIGNATING "**SEn**" ON THE DISPLAY SCREEN, TOUCH UP(△) OR DOWN (▽) BUTTON AT THE SAME TIME ONCE AGAIN. WHEN THE FINAL STAGE IS REACHED AFTER GOING THROUGH THE ABOVE PROCESS, THE MENU OF "**SAU**" FLICKERS FOR THREE (3) TIMES AND THE CHANGED SET VALUE IS SAVED.

TERMINOLOGIES OF DISPLAY SCREEN AND EXPLANATION (SENSOR MODE)

Sen : AS SENSOR MODE METHOD, THIS IS A BASIC MOTION MODE (BY USING THE TEMP DETECTION SENSOR, THIS WORKS BY COMPARING THE PRESENT TEMP AND THE SET TEMP).

t-L : IN GENERAL USE, THIS HAS THE FUNCTION OF SETTING THE MINIMUM TEMP RANGE IN SETTING A DESIRED TEMP. THE SET OF MINIMUM TEMP IS POSSIBLE WITHIN THE RANGE OF THE MAXIMUM TEMP.

t-H : IN GENERAL USE, THIS HAS THE FUNCTION OF SETTING THE MAXIMUM TEMP RANGE IN SETTING A DESIRED TEMP. THE SET OF MAXIMUM TEMP IS POSSIBLE WITHIN THE RANGE OF THE MINIMUM TEMP.

diF : THIS SETS THE TEMP DEVIATION SO THAT THE OUTPUT OF CONTROLLER MAY BE ON. IT IS RECOMMENDED TO DESIGNATE THE TEMP DEVIATION ACCORDING TO THE CIRCUMSTANCES OF CONTROLLER INSTALLATION.

dLy : THIS SETS THE DELAY TIME TILL THE OUTPUT IS ON. THE DELAY TIME MAY EXERT AN INFLUENCE ON THE LIFE OF CONTROLLER, SO IT IS RECOMMENDED TO SET THE BASIC SET TIME TO BE "TWENTY (20) SECONDS."

Oht : IN CASE THAT THE TEMP DETECTED BY THE OVERHEATING SENSOR IS EXCEEDING THE SET TEMP, THIS FORCES THE OUTPUT OFF. (IN SETTING THE OVERHEATING TEMP, IT SHOULD BE DESIGNATED ABOVE THE MAXIMUM TEMP.)

rES : THIS IS A STANDARD RESISTANCE VALUE FOR IMPROVING THE PRECISION OF TEMP RANGE. IT IS RECOMMENDED TO CHANGE IN SPECIAL CASE.

SAU : AFTER ALL SETS ARE COMPLETED ACCORDING TO THE ABOVE ORDER, "**SAU**" FLICKERS FOR THREE (3) TIMES AND THIS MACHINE WORKS ACCORDING TO THE CHANGED SET.

RANGE OF SET AND ERROR MESSAGE

DUTY	RANGE OF SET	BASIC SET
MOTION MODE SELECTION	SENSOR MODE-TIMER MODE	IF ATTACHING SENSOR, SENSOR MODE, IF DISJOINING, TIMER MODE
MINIMUM TEMP SET	-20℃~UNDER THE MAX. TEMP	0℃
MAXIMUM TEMP SET	OVER MIN. TEMP ~180℃	60℃
TEMP DEVIATION SET	00℃~05℃	02℃
DELAY TIME SET	01 SEC ~ 60 SEC	20 SEC
OVERHEATING TEMP SET	OVER MAX. TEMP ~180℃	60℃
BASIC RESISTANCE SET	-10℃~10℃	00℃

ERROR MESSAGE

SNAPPING OF TEMP SENSING SENSOR
IF TEMP SENSING SENOR IS SNAPPED, THE CONTROLLER IS CONVERTED TO TIMER MODE AUTOMATICALLY.

(IN CASE THE PRESENT TEMP IS NOT DISPLAYED OR THE SET TEMP DOES NOT RISE OVER 10℃ WHILE USE THE TEMP MODE, THE CONTROLLER IS WORKING WITH TIMER MODE, SO CHECK WHETHER OR NOT THE SNAPPING OF TEMP SENSING SENSOR AT THE TIME OF EXTENSION OF TEMP SENSING SENSOR.)

SHORT OF TEMP SENSING SENSOR
IF SENSOR IS SHORT, THE OUTPUT OF CONTROLLER IS OFF AND “ES” IS DISPLAYED ON THE TEMP DISPLAY SCREEN WITH WARNING SOUND AND FLICKER.
(SHORT IS OCCURRED FOR THE REASON OF BREAKDOWN OF SENSING SENSOR UNIT, SENSOR EXTENSION, ELECTRIC LEAKAGE IN THE SENSOR FIXING UNIT, SO CHECK IS NEEDED. AFTER ERROR RELEASES, AUTO RETURN),

OVERHEATING ERROR
IF OVERHEATING SENSOR TEMP IS EXCEEDING THE OVERHEATING SET TEMP, THE OUTPUT OF CONTROLLER IS OFF AND “**Oht**” IS DISPLAYED ON THE TEMP DISPLAY SCREEN WITH WARNING SOUND AND FLICKER.
(CHECK THE STATE OF OVERHEATING SENSOR, CONTROLLER RELAY MOTIONS, ETC. IF OVERHEATING IS OCCURRED WHEN THE OVERHEATING SENSOR IS NOT FIXED, CHECK THE ELECTRIC LEAKAGE IN THE TEMP SENSOR UNIT OR CONFIRM THE SET TEMP VALUE. AFTER ERROR RELEASES, AUTO RETURN).

TIMER MODE MOTIONS AND HOW TO SET

TIMER FUNCTION

* IF WISH TO USE TIMER FUNCTION, MUST DISJOIN THE TEMP SENSOR.

BY TOUCHING UP/DOWN KEY FOR 3 SEC SIMULTANEOUSLY, THE INITIAL **Stn** IS DISPLAYED. AT THIS TIME BY TOUCHING ▵ KEY ONCE AGAIN, THE MENU OF **SEN** IS DISPLAYED. **SEN** WORKS IN THE SAME METHOD TO THE SENSOR. BY TOUCHING **SEN** AGAIN, THE MENU OF tin IS DISPLAYED. AT THIS TIME BY TOUCHING UP (▵) AND DOWN (▽) KEY SIMULTANEOUSLY, THE PRESENT CYCLE VALUE IS DISPLAYED. WITH UP/DOWN KEY, SET THE CYCLE. BY TOUCHING UP (▵) AND DOWN (▽) KEY SIMULTANEOUSLY AND ONCE AGAIN, '**SAU'** FLICKERS, THE CYCLE VALUE IS SAVED, AND THE PRESENT SET STRENGTH IS DISPLAYED.

HOW TO SET BY SEVICEMAN = PUSH UP (▵) AND DOWN (▽) KEY SIMULTANEOUSLY – **Stn** DISPLAYS ON THE DISPLAY SCREEN – SELECT tin- PUSH UP (▵) AND DOWN (▽) KEY SIMULTANEOUSLY – DISPLAY THE CYCLE VALUE (CYCLE) – SELECT CYCLE (BASIC UNIT: 3MIN.) - SET CYCLE VALUE - PUSH UP (▵) AND DOWN (▽) KEY SIMULTANEOUSLY - **SAU** FLICKERS – SAVE COMPLETION
(GIVE ATTENTION NOT TO BE SET BY A CONSUMER)

HOW TO USE BY A CONSUMER= SELECT THE USE STRENGTH BY USING UP (▵) AND DOWN (▽) KEY (BASIC 1^{st} STEP)

* BASIC CYCLE: 3 MIN SETTING (CYCLE OPTION: RANGE OF 1MIN ~ 60MIN)
* AFTER SELECTING CYCLE, BY TOUCHING UP (▵) AND DOWN (▽) KEY SIMULTANEOUSLY, **SAU** FLICKERS AND THE SET IS COMPLETED. (SERVICEMAN)
* THE STRENGTH IS SELECTED BY CONSUMER IN THE DESIRED TEMP. (CONSUMER)
* BASIC STEP IS THE 1^{st} STEP SETTING (STRENGTH OPTION: RANGE OF 1^{st} ~10^{th} STEP)
* PLEASE SELECT THE STRENGTH IN THE STATE THAT THERE IS NO SENSOR; IF JOINING THE SENSOR, IT SWITCHES TO THE SENSOR MODE IMMEDIATELY.

SET RANGE AND MOTION HOURS

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

I.D. (HOW TO SET THE ROOM NUMBER)

COMMUNICATION SET

IN ORDER TO COMMUNICATE BETWEEN THE MAIN CONTROLLER FOR 128 CIRCUITS AND THE INDIVIDUAL CONTROLLER CORRESPONDING TO EACH ROOM NUMBER, IT IS NECESSARY TO SET **I.D** EACH OTHER.
FIRST SET THE ROOM NUMBER ON THE MAIN CONTROLLER FOR 128 CIRCUITS, THEN SET EACH INDIVIDUAL CONTROLLER MATCHING TO THE MAIN CONTROLLER.

HOW TO SET I.D FOR INDIVIDUAL CONTROLLER

BY TOUCHING UP/DOWN KEY FOR 3 SEC SIMULTANEOUSLY, THE MENU OF **Stn** IS DISPLAYED. AT THIS TIME BY TOUCHING △ KEY ONCE AGAIN, THE MENU IS DISPLAYED IN THE ORDER OF "**SEn**" –"**tin**" – "**l.d**." AFTER THE MENU OF "**i.d**" IS DISPLAYED, TOUCH UP/DOWN KEY SIMULTANEOUSLY ONCE AGAIN. THEN THE MENU FOR SETTING "thn (THOUSAND UNIT) IS DISPLAYED.

SET OF **thn** (THOUSAND UNIT): IN THE STATE OF SETTING thn, SET THE ROOM NUMBER OF THOUSAND UNIT WITH UP/DOWN KEY. IF WISHES TO SET HUNDRED UNIT OF ROOM NUMBER, SET "0" AND TOUCH UP/DOWN KEY SIMULTANEOUSLY ONCE.

SET OF **hnd** (HUNDRED UNIT): IN THE STATE OF SETTING **hnd**, SET THE ROOM NUMBER OF HUNDRED UNIT WITH UP/DOWN KEY. IT IS POSSIBLE TO SET THE RANGE OF 001-999. AFTER SETTING THE DESIRED ROOM NUMBER, TOUCH UP/DOWN KEY SIMULTANEOUSLY ONCE. '**SAU'** ON THE DISPLAY SCREEN FLICKERS AND THE SET OF ROOM NUMBER IS COMPLETED.

- MAKE SURE NOT TO DUPLICATE THE ROOM NUMBER. THERE MAY BE A RISK OF COMMUNICATION ERROR OR WRONG MOTION.

SPEC

CLASSI.	ITEM		SPECIFICATIONS
Power unit	Rated input voltage		85V AC ~ 265V AC (Universal voltage)
	Output voltage		85V AC ~ 265V AC (Universal voltage)
	Driving method		Electronic Type
	Max output		6 kw
	Load	No. of circuit	1 circuit
		Max capacity	25 A (Resistance load)
precision	Temp precision		± 1℃ ; change condition of 1℃ per 30 sec (Delay Option 20 sec)
Motion	Communication Method		485 communication method, compatible to 232 communication method
	Output display		Bar motion on LCD Display Screen: ON display
	Range of temp		Possible to select within the range between -20 ℃ ~ 180 ℃
	Output delay(Option)		01 sec ~ 60 sec
Sensor	Kind		NTC : Negative Temperature Coeffcicent Epoxy molding
	Precision %		1 %
	25 ℃ rated resistance		5000 ohm , Beta Constant = 4000 °**k**
	Quantity		SENSOR 1 : for sensing temp , SENSOR 2 : checking for overheating (Option)
Function (Capacity)	Safe device	Snapping/ Short of Sensor Line	Snapping of temp sensing sensor: auto change to timer mode, short: “ES” (Error Short) displays, break the output, and buzzer
		Overheating Prevention Sensor(OPTION)	The temp sensed in the overheating sensor is higher than that of set overheating temp: “**oHt**” (Over Heat) display, break the output, and buzzer
		Resistance for fuse	10 ohm (protecting the inside circuit of controller)
Others	Outer case		Anti-flammable
	Weight		230 g
	Dimension (mm)		115(W) * 115(H) * 48(D)
	Temp used.	Air temp	0 ℃ ~ 40 ℃
		Air moisture	Under 80 %

CONNECTION DIAGRAM

Backside of Controller

Joint Bolt

Temp Sensing Sensor
Overheating Prevention Sensor
Communication Line
(White, Black)

Controller Cover

Backside of Controller

Output Power

Input Power

Power Box