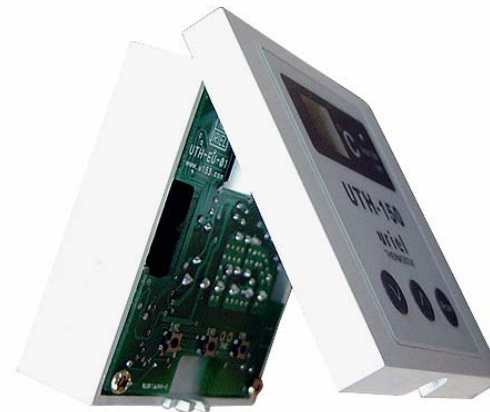


# UTH-150

(Built-in Type)



# FUNCTION (SENSE MODE)

## LAMP MARKS

HEAT ON : WHEN OUTPUT IS HIGH, IT IS MARKED "ON" (RED LAMP)  
 SET : ONLY SETTING UP, IT IS ON (GREEN LAMP)

## BASIC MOTIONS

POWER IS ON/OFF WITH POWER KEY: DURING OFF, NO KEY WORKS.  
 UPON PUSHING  $\nabla$  OR  $\wedge$  BUTTON, THE SET LED IS ON AND THE SET VALUE IS DISPLAYED. NO CHANGE OF A KEY FOR 3SEC AFTER CHANGE OF SET TEMP., THE SET LED IS OFF AND THE PRESENT TEMP. IS DISPLAYED.

## FUNCTIONS

tn, THE START OF FUNCTION, IS DISPLAYED AFTER PUSHING  $\nabla$  AND  $\wedge$  KEY FOR 3 SEC SIMULTANEOUSLY  
 IN THE DISPLAY OF tn, BY PUSHING  $\wedge$  KEY, MENU IS DISPLAYED IN THE ORDER OF En - in - St. IF SELECTING A MENU, PUSH  $\nabla$  AND  $\wedge$  KEY SIMULTANEOUSLY.

EN METHOD = THIS WORKS BY SENSOR; SET THE TARGET TEMP FOLLOWING TO <Table 1>.

FOR SETTING UP, PUSH  $\nabla$  AND  $\wedge$  KEY SIMULTANEOUSLY AFTER SETTING UP THE TARGET TEMP. IN THE FINAL STEP, AU FLICKERS FOR 3 TIMES AND THE SET VALUE IS SAVED. AFTER COMPLETING THE SETTING, SET THE TEMP WITH  $\nabla$ ,  $\wedge$  KEY; IF NO CHANGE IN KEY, THE PRESENT TEMP IS DISPLAYED AFTER 3SEC. AND RUN.

Table 1

Role	Display	Basic Set	Scope of Set	Motion description
Class. of function	tn	S	SEN, TIMER, RESET	SEN(Sensor Motion Type), TIMER(Time Motion Type), RESET(initialization)
air-conditioning classification	-C	HH	HH, CC	HH(Heating Mode) CC(Cooling Mode)
Set Min Temp	-L	0°C	-20°C ~ under max temp	Set the lowest temp within the scope of temp
Set Max Temp	-H	60°C	Over min temp ~80°C	Set the highest temp within the scope of temp
Set temp deviation	IF	2°C	0°C ~5°C	ON/OFF motion in the deviation between set and present temp
Output delay time	Ly	20sec	01sec ~ 60sec	At the time of ON of output, move as late as the delay time
Set overheating temp	Ht	60°C	Over max temp ~ 80°C	Error occurrence in case the overheating sensor temp is exceeding the set temp. (Option)
Compensating temp set	ES	00°C	-10°C ~ 10°C	Scope for compensating the deviation of real temp.

# FUNCTION (TIMER MODE)

**IN TYPE** = WITH TIMER MODE, WORK BY SETTING THE CYCLE AND STEP . (SEE TABLE 2)

(IF USE TIMER MODE, MUST DISJOIN THE SENSOR.)

IF SENSOR IS DOWN IN USING THE SENSOR MODE, IT SWITCHES TO TIMER MODE AUTOMATICALLY.

## TIMER FUNCTION

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

BY PUSHING  $\nabla$  AND  $\wedge$  KEY FOR 3 SEC SIMULTANEOUSLY, THE INITIAL TN IS DISPLAYED. PUSH  $\wedge$  KEY FOR EN DISPLAY. EN WORKS BY SENSOR AS THE SAME TO THE PRESENT METHOD. IF PUSH  $\wedge$  KEY ONE MORE, IN IS DISPLAYED; AT THIS TIME BY PUSHING  $\nabla$  AND  $\wedge$  KEY SIMULTANEOUSLY , THE PRESENT CYCLE VALUE IS DISPLAYED. WITH  $\nabla$  AND  $\wedge$  KEYS, SET THE CYCLE. IF PUSHING  $\nabla$  AND  $\wedge$  KEY SIMULTANEOUSLY ONCE AGAIN, AU FLICKERS AND THE CYCLE VALUE IS SAVED AND THE PRESENT SET STRENGTH IS DISPLAYED.

HOW TO SET BY SEVICEMAN = PUSH  $\nabla$  AND  $\wedge$  KEY SIMULTANEOUSLY – tn DISPLAYS ON THE WINDOW – SELECT TIN– PUSH  $\nabla$  AND  $\wedge$  KEY SIMULTANEOUSLY – DISPLAY THE CYCLE VALUE (CYCLE) – SELECT CYCLE (BASIC UNIT: 3MIN.)

– SET CYCLE VALUE – PUSH  $\nabla$  AND  $\wedge$  KEY SIMULTANEOUSLY – AU FLICKERS – SAVE COMPLETION

\* PLEASE NOT TO BE SET BY A CONSUMER.

HOW TO USE BY A CONSUMER= SELECT THE USE STRENGTH BY USING  $\nabla$  ,  $\wedge$  KEYS(BASIC 1<sup>ST</sup> STEP)

**Table 2**

Step	Output (ON)	Output (OFF)	Remarks
1	15sec * S	45sec * S	※ S – selected cycle value  If 1min S=1 If 3min S=3 If 5min S=5 * * ※ (If 20min s = 20 , value multiplying by 20)  ※ (If 60min s = 60 , value multiplying by 60)  It is the length of ON and OFF.
2	20sec * S	40sec * S	
3	25sec * S	35sec * S	
4	30sec * S	30sec * S	
5	35sec * S	25sec * S	
6	40sec * S	20sec * S	
7	45sec * S	15sec * S	
8	50sec * S	10sec * S	
9	55sec * S	5sec * S	
10	60sec * S	0sec * S	

# ERROR DISPLAY AND INITIALIZATION FUNCTION

- \* BASIC CYCLE: 3MIN SETTING (CYCLE OPTION: RANGE OF 1MIN ~ 60MIN)
- \* AFTER SELECTING CYCLE, BY PUSHING ∇ AND ▲ KEY SIMULTANEOUSLY, AU FLICKERS AND THE SET IS COMPLETED.(SERVICEMAN)
- \* THE STRENGTH IS SELECTED BY CONSUMER IN THE TARGET TEMP. (CONSUMER)
- \* BASIC STEP IS THE 1<sup>ST</sup> STEP SETTING (STRENGTH OPTION: RANGE OF 1<sup>ST</sup> !10<sup>TH</sup> STEP)
- \* PLEASE SELECT THE STRENGTH IN THE STATE THAT THERE IS NO SENSOR; IF JOINING THE SENSOR, IT SWITCHES TO THE SENSOR MODE IMMEDIATELY.

## ERROR MESSAGE

### SNAPPING OF TEMP SENSING SENSOR

IF TEMP SENSING SENOR IS SNAPPED, THE CONTROLLER IS CONVERTED TO TIMER MODE AUTOMATICALLY.  
(IF WHILE USE THE TEMP MODE, THE PRESENT TEMP IS NOT DISPLAYED OR THE SET TEMP DOES NOT RISE OVER 10 DEGREES, THE CONTROLLER IS WORKING WITH TIMER MODE. SO CHECK THE SNAPPING OF TEMP SENSING SENSOR.)

### SHORT OF TEMP SENSING SENSOR

IF SENSOR IS SHORT, THE OUTPUT OF CONTROLLER IS OFF AND “ES” DISPLAY ON THE WINDOW FLICKERS.  
(SHORT IS OCCURRED FOR THE REASON OF BREAKDOWN OF SENSING SENSOR UNIT , SENSOR EXTENSION, ELECTRIC LEAKAGE IN THE SENSOR FIXING UNIT, SO IT IS NECESSARY FOR CHECK. IF THE CAUSE IS REMOVED, IT WILL RETURN AUTOMATICALLY.)

### OVERHEATING ERROR

IF OVERHEATING SENSOR TEMP IS EXCEEDING THE OVERHEATING SET TEMP, THE OVERHEATING ERROR IS OCCURRED AND THE OUTPUT OF CONTROLLER IS OFF; “HT” FLICKERS ON THE TEMP WINDOW.  
( CHECK 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)  
- AUTO RETURN AFTER ERROR RELEASE -

### INITIALIZATION

1. BY PUSHING ∇ AND ▲ KEY FOR 3SEC SIMULTANEOUSLY , TN DISPLAYS ON THE WINDOW. AT THIS TIME BY PUSHING ▲ KEY, IT WORKS IN THE ORDER OF EN – IM –ST. WHEN ST IS DISPLAYED, BY PUSHING ∇ AND ▲ KEY SIMULTANEOUSLY , FF IS DISPLAYED. AT THIS TIME BY PUSHING ▲ KEY , ON IS DISPLAYED; . BY PUSHING ∇ AND ▲ KEY SIMULTANEOUSLY , SAU FLICKERS FOR 3TIMES AND INITIALIZATION IS COMPLETED.
2. BY PUSHING POWER(ON/OFF) BUTTON FOR ABOUT 10SEC, AU FLICKERS FOR 3TIMES AND THE INITIALIZATION IS COMPLETED.  
(AT THEM TIME OF INITIALIZATION, THE SENSOR MODE SET VALUE AND TIMER MODE VALUE ARE CHANGED BASIC SET VALUE ,WHICH IS SAVED.)

SPEC.

Classi	Item		SPECIFCATIONS
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		2kw
	Load	No. of circuit	1 circuit
Max capacity		10A (Resistance load)	
precision	Temp precision		$\pm 1^{\circ}\text{C}$ ; change condition of $1^{\circ}\text{C}$ per 30 sec (Delay Option 20sec)
Motion	Power input display		Display ON , Temp display
	Output display		Heat lamp: ON display
	Range of temp		Possible to select within the range between $-20^{\circ}\text{C}$ ~ $80^{\circ}\text{C}$
	Output delay(Optional)		01sec ~ 60sec
Sensor	Kind		NTC : Negative Temperature Coeffcicent Epoxy molding
	Precision %		1 %
	25 $^{\circ}\text{C}$ rated resistance		5000 ohm , Beta Constant = 4000 $^{\circ}\text{k}$
	Quantity		SENSOR 1 : for sensing temp , SENSOR2 : checking for overheating (Option)
Function (Capacity)	Safe device	Snapping/ Short of Sensor Line	Snapping of temp sensing sensor: switch to timer mode, short: "ES" (Error Short) displays and break the output
		Overheating Prevention Sensor(OPTION)	The temp sensed in the overheating sensor is higher than that of set overheating temp: "Ht" (Over Heat) displays and break the output
		resistance for fuse	10 ohm (protecting the inside circuit of controller)
Others	Outer case		Anti-flammable
	Weight		270g
	Dimension (mm)		80(W) * 80(H) * 30(D)
	Temp used.	Air temp	$0^{\circ}\text{C}$ ~ $40^{\circ}\text{C}$
		Air moisture	Under 80 %

# HOW TO CONNECT LINES

