CE
IP65

CRS

KC
MSIP-REM-
S31-1000SERIES

Certificate of Patent
No. 10-1545206

SAMWON
Promising the Best

Temperature & Humidity Programmable Controller

TEMI1000
SERIES

Programmable Controller

TEMP 1000

[PROG RUN] EXPERIMENT OF PATTERN 1

FIX OPERATION RUN

130.0

TEMPERATURE °C
19.00
SP: 19.00   MV: 50.0%

HUMIDITY %
19.0
SP: 19.0   MV: 50.0%

FIX OPERATION RUN
TEMPERATURE
15.00 °C
HUMIDITY
15.0 %

12.00   12.0

TEMI1000
Series
DISP NONE T.MV
I/O NONE H.MV

FIX OPERATION RUN

TEMPERATURE °C
12.00
SP: 12.00   MV: 50.0%

HUMIDITY %
12.0
SP: 12.0   MV: 50.0%

RUNNING PID NUMBER: 1
TOTAL PROCESS TIME: 0000H00M55S

Temp-AT   Humi-AT   Stop

TEMI1200
PROGRAMMABLE TEMPERATURE AND HUMIDITY CONTROLLER

SAMWONTECH

TOUCH — Touch screen interface

Extension of operation screen

States display lamp name changed

Multi-language system

SD Card — SD memory card support

PC software — Free pc software

Temperature & Humidity Programmable Controller   SERIES TEMI1000
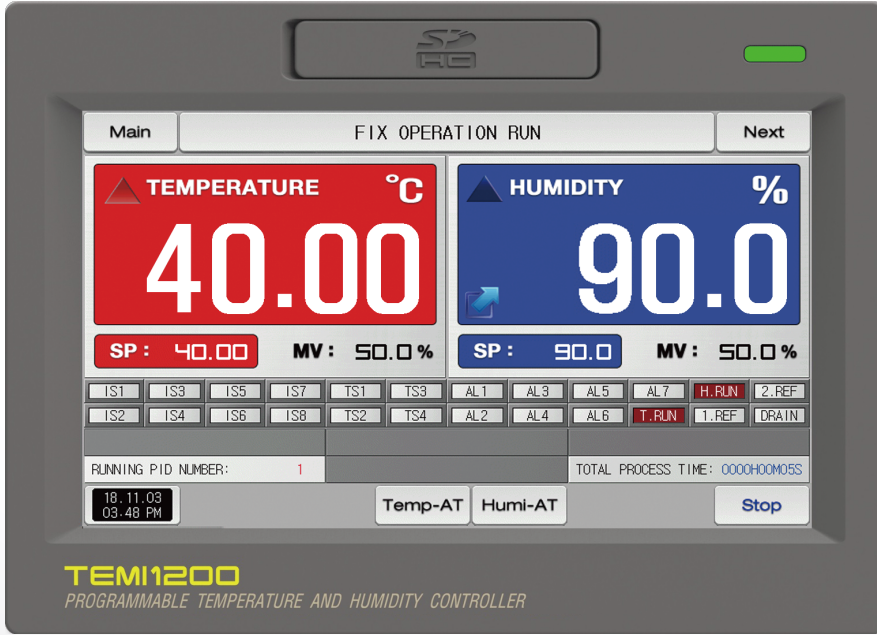
* The actual size of the TEMI1200 model.

Specialized controller
As a specialized controller for temperature and humidity, synchronized control system with PT-PT, PT-DCV

Specialized humidity control
Humidity control algorithm according to the equipment size implements a stable control

High accuracy
Precision control with 18bit A/D Convertor
TEMP : ±0.1% ± 1 digit of F.S
HUMI : ±1.0% ± 1 digit of F.S

Optimizing PID group
Precision control by 6 group of TEMP/HUMI and 3 group of temperature only

Humidity display mode
Depending on the humidity setting to determine whether the currentdisplay of humidity
→ Humidity data management easier
Automatic mode : At humidity setpoint 0.0% set, "- - - . - " display
Manual mode : At humidity setpoint 0.0% set, now humidity pv display

Main Functions

Touch screen interface
Easy operation and setting using touch screen interface

Edit DI error screen
Users can create/upload JPG images as needed and display when an error occurs

Separated hardware
Configuration in seperation of display, controller and input/output board configuration of diverse system and easy workability(Support VESA mount)

Digital input
Available for operation/stop, hold/step, pattern selection and error sensing using 16point DI input signal change of error name and supporting of DO output for DI input

Digital output
32 digital outputs (ST'D 12 + OPT 20) points can be assigned to about 80types of various signal like Logical, DI, Manual, User, IS, TS, ALM, RUN and so on

Powerful communication
Basic include RS232C/485 serial communication
(Communication speed 115,200bps)
Ethernet support

States display lamp name changed
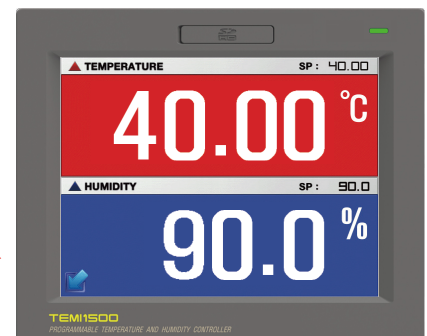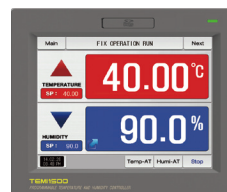Possible to change the status lamp type and name on operation display

States display lamp name edit
(Can input by up to 5 letters)

Expansion function of run screen
Retain PV visibility by expansion function of run screen

Various patterns
Fix and program control are possible and when program control, possible to set 80 petterns/1200 segments

High accuracy
Precision control with 18bit A/D convertor
±0.1% ± 1 digit of F.S

Control PID of a variety
Temperature control PID group(5 Zone PID + 1 Deviation PID or 6 Seg PID)Zone, Deviation, Seg PID etc. various PID offer

Various unit displays
When using DCV sensor, various kinds of industrial sensors can be connected as well as temperature by displaying various kinds of 12 units.
(℃, ℉, EDIT, %, Pa, kPa, %RH, mV, V, Ω, Torr, Kgf)

Heating·cooling control
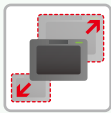Heat and cooling control by equipments
(Option)

Free pc software
Free PC multi-monitoring software for Communication and SD Viewer for data management of SD data

Available in a variety of sizes
Available in a variety of sizes from 1200/1300/1500/1900
(1200 model cutting size: 113.3 X 80.6 mm)

Digital recorder function
Real-time monitoring displays as trend graph and easy data acquiaitions of PV, SP no additional Recorder required

Input sensor bias
Offset value depending on characteristics of system helps smooth PV line applying assigned offset by each flexibly predefined ranged

SD memory card support
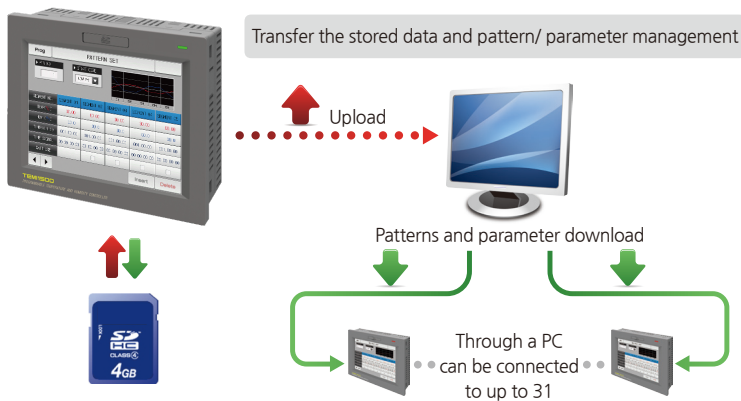The pattern and parameter can be up/download via SD memory card

Multi-language system
Supporting of various languages of Korean, English, Chinese and Japanese and it is appropriate for globalization
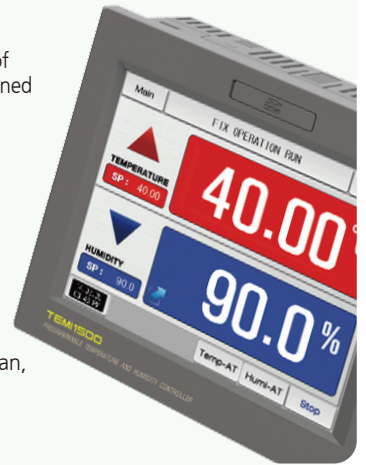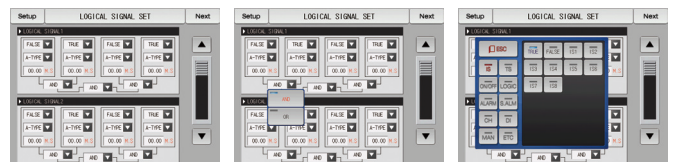
Practical use of internal memory
The data(data, pattern, parameter) stored in internal memory can be checked, up/download via PC S/W, SD card.

Transfer the stored data and pattern/ parameter management

Upload

Patterns and parameter download

Through a PC can be connected to up to 31

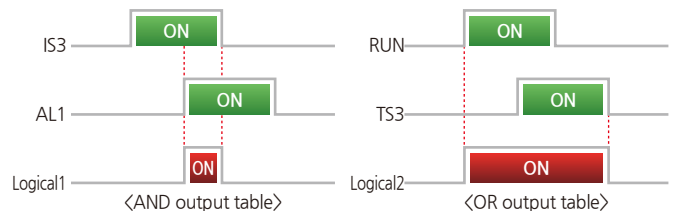(Internal memory 64MB : If the sampling time was 1 second, the TEMI controller is stored about 90 days TEMP is about 180 days)

Logical signal set
The combination of the various signals is possible and logical output is possible
(AND, OR, A/B contact, Timer operation possible)

An example of the Logical signal behavior

IS3 — ON
AL1 — ON
Logical1 — ON
〈AND output table〉

RUN — ON
TS3 — ON
Logical2 — ON
〈OR output table〉

Product specification

Group	Items	TEMI1000		TEMP1000	
Screen	Display/Resolution	1200	4.3″ Wide TFT-LCD / 800(W) × 480(H)	1300	5.0″ Wide TFT-LCD / 800(W) × 480(H)
		1500	5.6″ TFT-LCD / 640(W) × 480(H)	1900	9.0″ Wide TFT-LCD / 800(W) × 480(H)
	Language	Korean, English, Chinese, Japanese			
	Mount type	PANEL mount, VESA mount(MIS-D 75)			
Analog input	Number of point	2points(Temperature : 1point, Humidity : 1point)		1point(Universal input)	
	Type	TEMP. PT1 100Ω	-90.00 ~ 200.00°C	TC	K, J, E, T, R, B, S, L, N, U, W, Platinel II , C
		PT2 100Ω	-100.0 ~ 300.0°C	RTD	PT100 (IEC) , JPT100 (JIS) , 1/100 Displayable
		DCV	-1.000 ~ 2.000V(-100.0 ~ 200.0°C)	DCV	0.4~2V, 1~5V, 0~10V, -10~20mV, 1~100mV
		HUMI. PT1 100Ω	-10.0 ~ 110.0°C(0.0 ~ 100.0%)		(4~20mA, 0~20mA, External resistance 250Ω,
		DCV	1.000 ~ 5.000V(0.0 ~ 100.0%)		500Ω attach) Scale : -1999 ~ 30000
	Sampling time	Each temperature and humidity 250ms		250ms	
	Input accuracy	TEMP. ±0.1% of full scale ±1 digit(A/D 18bits)		±0.1% of full scale ±1 digit(A/D 18bits)	
		HUMI. ±1.0% of full scale ±1 digit(A/D 18bits)			
	Bias	Each 4points piece and full bias for temperature and humidity		8points of piece and full bias	
	Display unit	TEMP. °C		TC/RTD	°C, °F
		HUMI. %		DCV	°C, °F, EDIT, %, Pa, kPa, %RH, mV, V, Ω, Torr, Kgf
Analog output	Output specification (Max. 4points)	Voltage output(SSR) 4points	ON voltage : 24V DC(Load resistor : Min. 600Ω/Pulse width : Min. 5ms)		
		Current output(SCR) 4points	4~20mA DC(Load resistor : Max. 600Ω)		
	Output type	Control output(TEMP., HUMI.)/Transmission output(PV, SP)		Control output(Heating · Cooling-Option)/ Transmission output(PV, SP)/Auxiliary output	
	Output accuracy	±0.3%(D/A 14bits)			
Digital input	Contact point specification	Selection of 8points, 16points(Contact point capacity : Max. 12V DC, 10mA) Selection of operation for A or B point			
	Contact point function	Run/Stop/Hold/Step, selectable run patterns, set DI detect delay time, select DI error monitor(text or picture)			
Digital output	Contact point quantity	I/O1 8points A-contact relay / 4points C-contact relay		A-contact	Normal open(Max. 30V DC/1A, 250V AC/1A)
		I/O1,2 I/O1 + Additional 20points A-contact relay		C-contact	Normal open(Max. 30V DC/1A, 250V AC/1A)
		I/O3 8points A-contact relay			Normal close(Max. 30V DC/1A, 250V AC/1A)
	Signal type (TEMI/TEMP)	Inner signal(10/8)	On/Off signal(TEMP:10, HUMI:5/7)	Logical signal(8)	Error signal(1)	User signal(1)
		Time signal(4/8)	Fix·Programmable end signal(2)	DI signal(16)	Sensor open signal(2/1)	Ref signal(2)
		Alarm signal(8/4)	Up·Soak·Down signal(6/3)	Manual signal(12)	Fix timer signal(2/1)
		Run signal(2/1)	Wait signal(2/1)	Drain signal(TEMI:1)	Seg alarm signal(TEMP:4)
Program	Pattern/Segment	120 Patterns/1200 Segments		80 Patterns/1200 Segments	
	Segment time	Max. 999hours 59minutes 59seconds			
	Function	Up/Down slope rate, Wait, Operating start code, Pattern name, Power stop mode, PT end mode			
	Repetition	Repeat All/Section repeat			
PID control	PID groups	9 PID groups(6 PID groups for TEMP.·HUMI. + 3 PID groups for TEMP. only)		6 PID groups(5 Zone PID groups + 1 Deviation PID group or 6 Seg PID groups)	
	PID type	Zone PID		Zone PID, Deviation PID, Seg PID	
	Auxiliary functions	Set autotuning point, PID tuning gain, Selectable HUMI. control code		Set autotuning point, PID tuning gain, Selectable disease control code	
Data back-up	Storage media	Internal memory(64MB) SD/SDHC card(FAT32 format)			
	Logging function	Program pattern/Parameter can be backup and restored, PV/SP can be stored. (You can use the SD card, data backup and data transfer of internal memory can be)			
Comm-unication	Interface	Basic : Flexible to change between RS485/RS232C by DIP switch, Max. 31 nodes, Max. 115,200 bps Option : Ethernet(TCP/IP),TEMI/P1200 is not available *In case of selection of ethernet, RS232C/485 is not available			
	Protocol	PC-Link, PC-Link(Checksum), Modbus(ASCII, RTU)			
Power	Rated voltage	Max. 24V DC 22VA			
	Lithium battery	For setup data retention(CR2032)			

External dimension and panel cutting size

Display part

(Unit : mm)

Model	1200	1300	1500	1900
A	116.3	151	154	239.2
B	83.6	108	126.6	155.7
C	3.8	6.8	6.8	6.8
D	32*	34.9	34.9	34.9
E	80.6	103.3	120	150.8
F	113.3	146.3	147.4	234.3
G	94.2	121.4	138.8	168.9
H	-	75	75	75

※ Panel Cutting size : E, F
 - Tolerance : 0/+1.0, 0/+0.6(1200 Model)
*1200 model upper SD card breaking size: 37.3

Control part

I/O Board

I/O1   I/O2   I/O3

Model code

TEMI1 ***** 00 - 0 ***** / ***** / ***** / N / B
①   ③   ④   ⑤

TEMP1 ***** 00 - ***** ***** / ***** / ***** / ***** / B
①   ②   ③   ④   ⑤   ⑥

① LCD display size
  2 : 4.3inch wide | 3 : 5inch wide
  5 : 5.6inch | 9 : 9inch wide
② Control method
  0 : General control | 1 : Heating·Cooling control
③ I/O board
  0 : I/O1 (Relay 12Points, DI 16Points)
  1 : I/O1, 2 (Relay 32Points, DI 16Points)
  2 : I/O3 (Relay 8Points, DI 8Points)
④ SD Card
  N : None | SD : SD Card
⑤ Ethernet communication
  N : None | CE : Ethernet
⑥ SYNC operation
  N : None | SC : SYNC operation