



Multi-Channel programmable controller

TEMP 2020M SERIES



Quick browse and data search



SD memory card support



Available for maximum 22 channel control and monitoring



Maximum of 24 channel digital recording



Available for constituting the customized operation screen



CE/IP65 certified product

SAMWON
Promising the Best



Product feature



Excellent screen quality

- 640 * 480 high resolution, 256K color TFT – LCD application
- Selection of diverse size 5.7" / 7.5"

Easy and convenient touch method

- Convenient product control and setting using touch screen interface

Available for constitution of the user customized operation screen

- Operation screen can be created according to user's request (Optional)

Multi-language support

- Supporting various languages of Korean, English and Chinese

High precision control

- $\pm 0.1\%$ Precision control through input 18bits A/D converter (0.01°C resolving power)
- $\pm 0.3\%$ analog output through output 14bits D/A converter

Free PC software supported

- PC monitoring program
- Conversion into Excel or TEXT file

Main function



Quick browse and data search

Explore file-based data trending



Total 24 channel digital recording

Real time monitoring and data saving for the present data of main channel, setting data and the present data of output quantity and sub-channel



SD memory card support

Data storing into the SD memory card and available for up/download for the set parameter



Sufficient storage space

Internal memory : 4GB
Maximum storage period : 5 years (12channels, stored every 1 second)



Individual PID Control

Main channel 6PID
Sub channel 1PID/channel



Digital input 24 point

Available for operation/stop, hold/step, pattern selection and error sensing using 24 point DI input signal
Change of error name and supporting of DO output for DI input



Digital output 32 point

Possible to use more than 80 kinds of DO signal (Operation, DI, Manual, USER, IS, TS, ALM, RUN etc.) as contact output of 32 point (12 + 20)



Operation time management

Display of the operation starting time, estimated termination time and operation time up to now



Convenient user memo function

Available to note user's memo on trend data



Input data calibration function

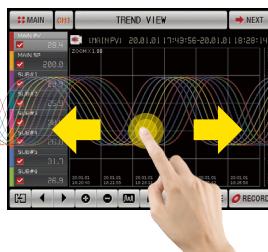
Available for entire calibration of overall application and range calibration of sectional application
Main channel 8 point, sub channel 6 point/Channel

Quick browse and data search

- Available for file-based data trending and search
- Supports high-speed data acquisition and various display functions
- Support navigation bar for data display and search
- Available to note user's memo on trend data

Exploring data

Navigate data by moving left / right



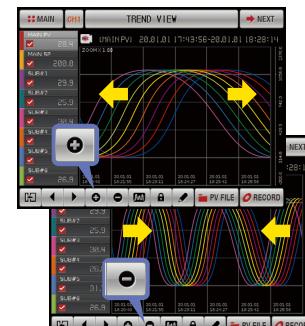
User notes

Available to note user's memo on data



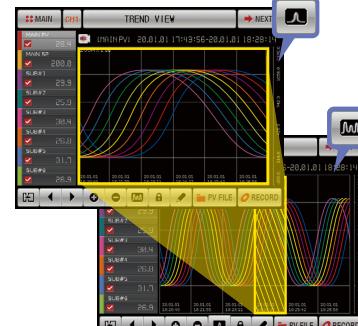
Zooming in / out of data

Available to zoom in or out for analysis



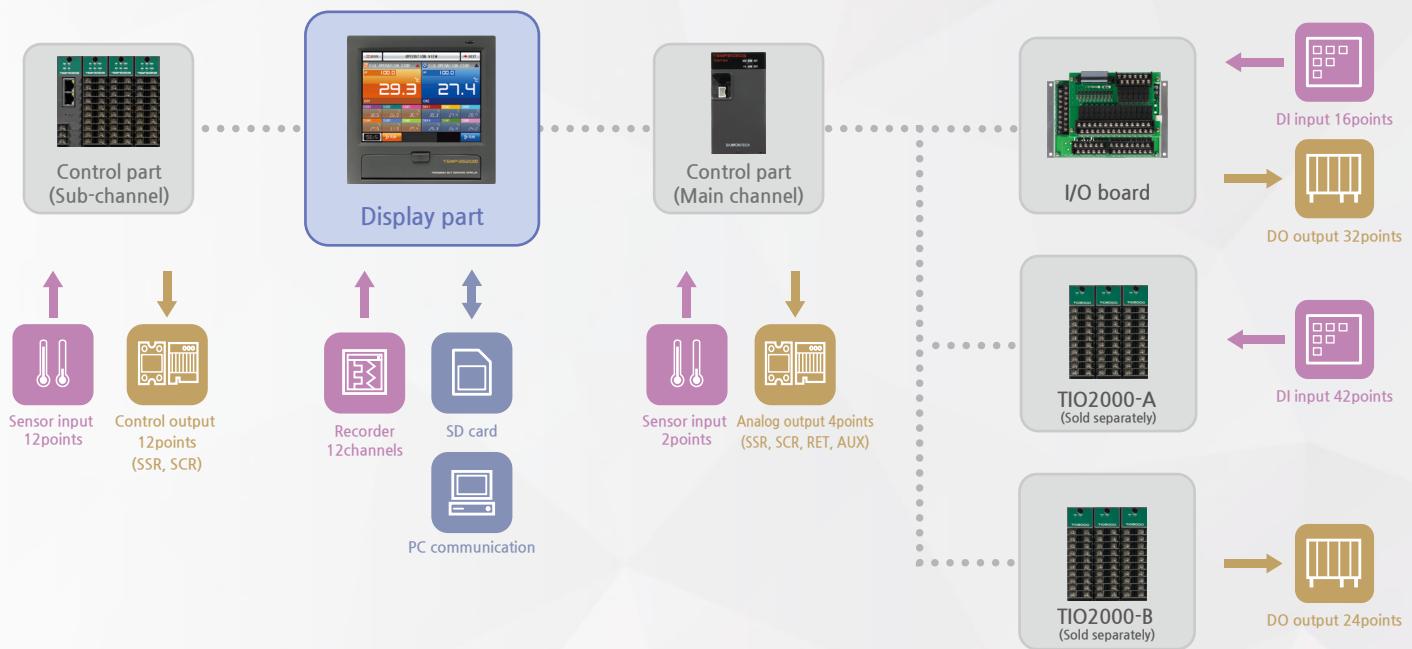
View data section

Available to analyze data by enlarging and analyzing desired data section in



System configuration

- Configuration separated by display, control, and input / output board / Available to mount panel mount and VESA mount / Various system configurations and work ability



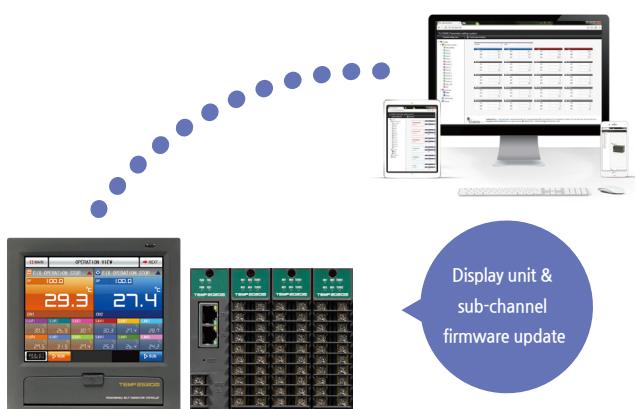
Multi-Channel Independent Control

- Multi-Channel Independent Control and individual recordings Storage Management



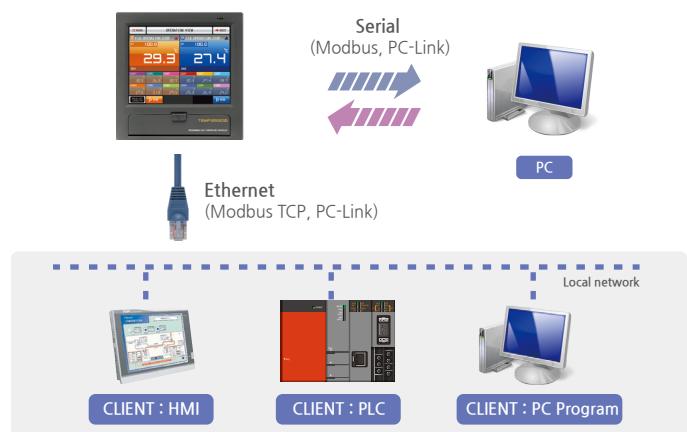
Internal web server

- Available for display and sub-channel firmware updates via self-contained web server
- Accessible through various devices such as PC, smartphone, tablet



Multiple access

- Serial (RS232, RS485 selection), Simultaneous connection by Ethernet communication
- Supports Modbus ASCII, Modbus RTU, Modbus TCP Universal Communication Protocol



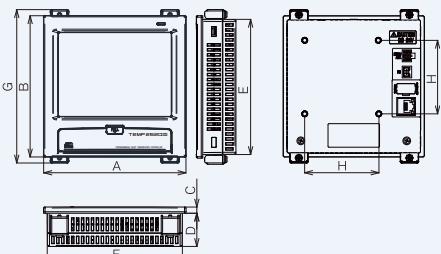
Product Specification

| Group | Item | TEMP2520M | TEMP2720M | TEMP2020M | TIO2000-A | TIO2000-B |
|-----------------|------------------------------------|---|---|-----------------------------|------------------------------|-----------|
| Screen | Display | 5.7" TFT - LCD | 7.5" TFT - LCD | - | - | - |
| | Resolution | 640(W) x 480(H) | - | - | - | - |
| | Language | Korean, English, Chinese | - | - | - | - |
| | Mount type | Panel mount, VESA mount(MIS-D 75) | - | - | - | - |
| Control channel | Main channel | 2channel | - | Max. 20channel | - | - |
| | Sub-channel | - | - | 20point(Universal input) | - | - |
| Analog input | Input quantity | 2point(Universal input) | - | - | - | - |
| | TC | K, J, E, T, R, B, S, L, N, U, W, Platin II, C | - | - | - | - |
| | RTD | Pt100(IEC), Jpt100(JIS), 1/100 available to display | - | - | - | - |
| | DCV | 0.4~2V, 1~5V, 0~10V, -10~20mV, 1~100mV (4~20mA, 0~20mA, External resistance 250Ω, 500Ω Attach) Scale : -1999 ~ 30000 | - | - | - | - |
| | Sampling period | 250ms/Channel | - | - | - | - |
| | Input accuracy | ±0.1% of full scale ±1 digit(A/D 18 bits) | - | - | - | - |
| | Input correction no | 8point interval correction and total correction | 6point/Channel | - | - | - |
| | Display unit | TC/RTD °C, °F DCV °C, °F, Blank, %, Pa, kPa, %RH, mV, V, Ω, mmHg, kgf | - | - | - | - |
| Analog output | Output specification (Max. 4point) | Voltage output : 24V DC (SSR) 4point | ON voltage : 15V DC 1point/Channel | - | - | - |
| | Current output (SCR) 4point | 4~20mA DC | 4~20mA DC, 0~20mA DC, 0~5V DC, 1~5V DC, 0~10V DC, 0~100mV DC | - | - | - |
| | Output type | Load resistance : Max. 600Ω | Load resistance : Max. 550Ω | - | - | - |
| | Output level | Control output/Transmission output(PV, SP)/Subsidiary output | Control output | - | - | - |
| Digital input | Contact point specification | Basic 16point(Contact point capacity : Max. 12V DC, 10mA), A contact point or B contact point operation selection | 8point | Max. 42point (14point/UNIT) | - | - |
| | Contact point function | Run/Stop/Hold/Step, selectable run patterns, DI sensing delay time setting, selection of DI error screen (Display of error message or user setting photo) | - | - | - | - |
| Digital output | Contact point specification | Basic 12point(additional 20point when option is selected) | - | - | Max. 24point (8point/UNIT) | - |
| | | C contact point relay basic 4point | Normal open(Max. 30V DC/1A, 250V AC/1A) Normal close(Max. 30V DC/1A, 250V AC/1A) | - | - | - |
| | | A contact point relay basic 8point | - | - | A contact point relay 8point | - |
| | | A contact point relay additional 20point (I02 option) | Normal open(Max. 30V DC/1A, 250V AC/1A) | - | - | - |
| Program | Pattern/Seg Q'ty | 500 pattern/Channel, 99 segment/Channel | - | - | - | - |
| | Segment set time | Max. 999H 59M 59S | - | - | - | - |
| | Function | Ascending/Descending change ratio, standby operation, operation start condition, input pattern name, recovery mode after blackout, operation at pattern termination | - | - | - | - |
| PID control | Repetition | Entire repetition and range repetition | - | - | - | - |
| | PID group | 6 PID group(Zone PID 5 group + deviation PID 1 group or Seg PID 6 group)/Channel | 1 groups/Channel | - | - | - |
| Data back-up | PID type | Zone PID, Deviation PID, Seg PID | Zone PID | - | - | - |
| | Etc functions | Setting the auto tuning reference point, PID time constant copy, differential control method selection | Setting the auto tuning reference point, differential control method selection | - | - | - |
| Communication | Storage media | SD/SDHC card(FAT32 format) | - | - | - | - |
| | Storage function | Program pattern/Parameter set data backup and recovery, Save PV/SP | - | - | - | - |
| Power | Communication spec | Available to choose RS485/RS232C with switch, available for connection of max 31units, Communication speed: Max.115,200bps | - | - | - | - |
| | Protocol | Ethernet(TCP/IP) PC-Link, PC-Link(Checksum), Modbus(ASCII, RTU, TCP) | - | - | - | - |
| Power | Electric source | Max. 24V DC 22VA | Max. 24V DC 15VA | Max. 24V DC 1.3VA/UNIT | Max. 24V DC 2.5VA/UNIT | - |
| | Lithium cell | Keeping the setting data(CR2032) | - | - | - | - |



External dimension and panel cutting size

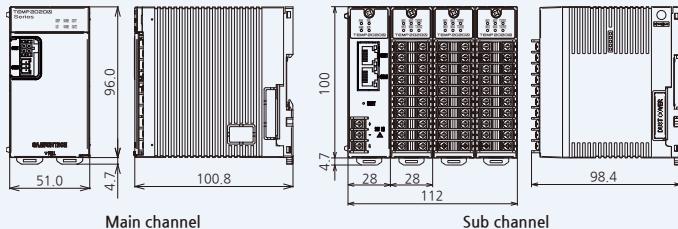
Display part



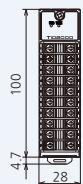
| (Unit : mm) | | |
|-------------|-------|-------|
| MODEL | 2520M | 2720M |
| A | 144 | 203 |
| B | 144 | 180 |
| C | 6.5 | 6.5 |
| D | 33.5 | 38.2 |
| E | 137.5 | 173 |
| F | 137.5 | 196 |
| G | 156 | 192 |
| H | 75 | 75 |

※ Panel cutting size : E, F (Tolerance : 0 / +1.0)

Control part



TIO2000



Model code

TEMP2*20M-0*/SD/12

- Display LCD size
5 : 5.7inch | 7 : 7.5inch
- I/O board
0 : I/O1 (Relay 12Point) | 1 : I/O1,2 (Relay 32Point)
- SD Card
SD : SD Card
- Sub channel
12 : 12channel (CH1 : 6channel, CH2 : 6channel)

I/O Board

