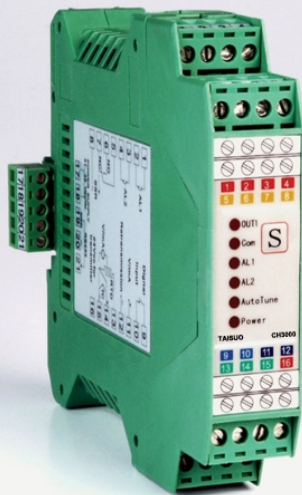


★ **TEMPERATURE SENSOR**
TEMPERATURE CONTROL
MI CABLE&HEATER
THERMOCOUPLE COMPONENTS

TST
 泰索科技
TAISUO

V2009-EN



NINGBO TAISUO TECHNOLOGY CO., LTD

Professional manufacturer of temperature controller

- DIN-Rail process controller&transmitter
- Panel mounted temperature controller
- Temperature&Humidity controller
- Thermostat
- Counter, Timer
- Temperature control solution

ISO9001: 2000

RoHS
2002/95/EC



TAISUO®

BKc®

NEW modular PID process controller&transmitter Model CH3000

Main Features:

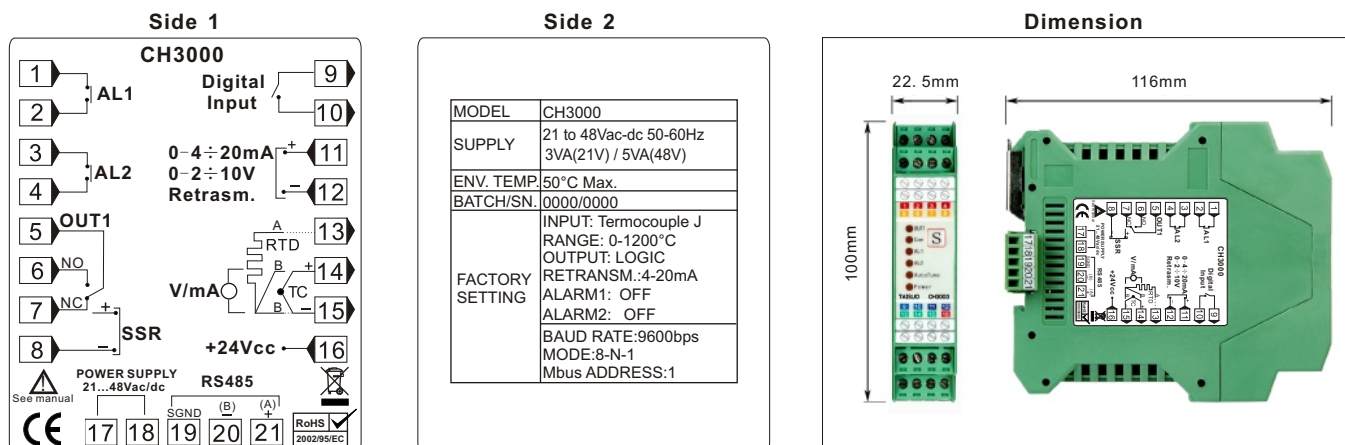
- PID Autotune DIN-Rail controller
- 3% re-transmission accuracy
- All plug-in connections
- Multi input signal: TC, RTD, mA, Volts
- RTD type Pt100/Pt1000 selectable
- Multi output: Relay, SSR logic, mA, Volts
- RS485 serial interface MODBUS/RTU protocol
- Opto isolated digital input feature
- RAMP set-point
- Input/Output galvanic isolation
- Network or standalone operation
- Automatic/Manual operation
- Heating/cooling control selectable
- Two configurable relay alarms
- Second control set-point selectable
- Offset input signal selectable
- 24Vcc Power output for two wire transmitters
- Power in 21-48Vdc/ac
- Dimensions 116×100×22.5mm



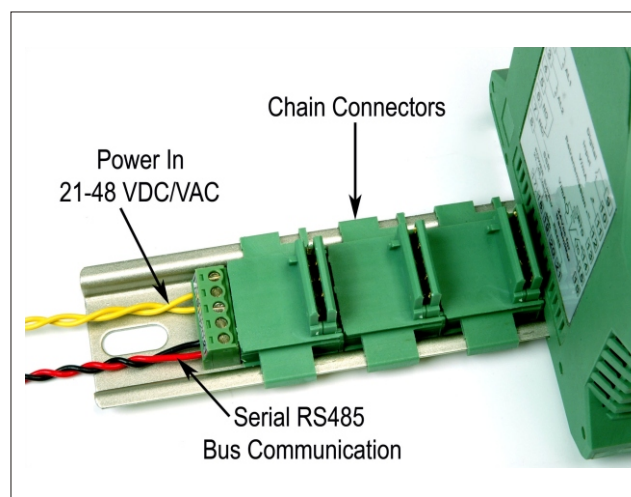
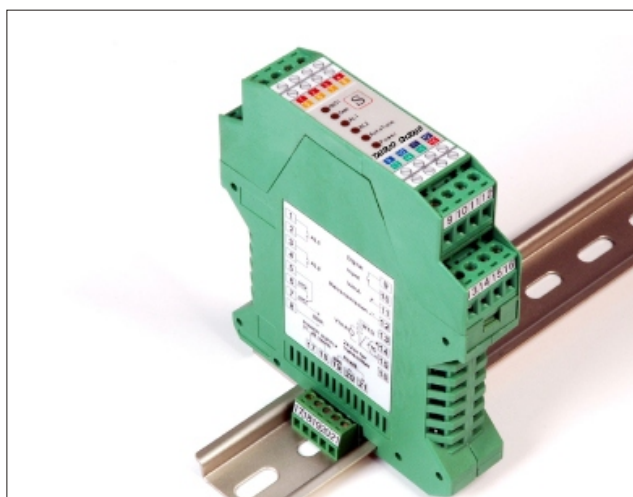
General Specifications:

Mounting type:	DIN Rail
Operating environment:	0 to 50°C, relative humidity 30% to 85% (non-condensing)
RS485 serial interface:	<ul style="list-style-type: none"> • Read/write all device programming parameters • Maximum devices on network: 128 • Blinking LED indicates serial RS485 running status • 2400, 4800, 9600, 19200 bps rate selectable
Temperature sensor input:	<ul style="list-style-type: none"> • Thermocouple types: K, J, E, N, T, R, S, B, $\pm 0.25\%$ full scale • RTD types: PT100/PT1000, $\pm 0.20\%$ full scale • Selectable °C/°F • Resolution: 0.1/1 digit selectable
Linear signal input:	<ul style="list-style-type: none"> • 0/2-10Volts • 0/4-20mA, with external 250 ohm shunt resistor on input terminals • Range -1998 to 9999 programmable
RAMP set-point:	<ul style="list-style-type: none"> • One shot RAMP • Continuous RAMP • RAMP running at power on or changing SV value is selectable
Digital input:	<ul style="list-style-type: none"> • Opto-isolated. Dry contact actuation • Programmable for: switching between two control setpoints; auto/manual switching, and parameters lock
Supplementary power output for two-wire transmitter input:	24VDC@35mA max. Short circuit protection
Control method:	<ul style="list-style-type: none"> • PID autotune, PID manual, ON/OFF • Automatic/Manual operation • Direct/Reverse action selectable
Re-transmission	<ul style="list-style-type: none"> • Re-transmission to 0/4-20mA or 0/2-10V • accuracy $\pm 0.30\%$ • The load resistor max. 500 ohm at mA re-transmission • The load resistor min. 1000 ohm at V re-transmission
Cold junction	<ul style="list-style-type: none"> • NTC resistor to measure cold junction temp. • Cold junction compensation available

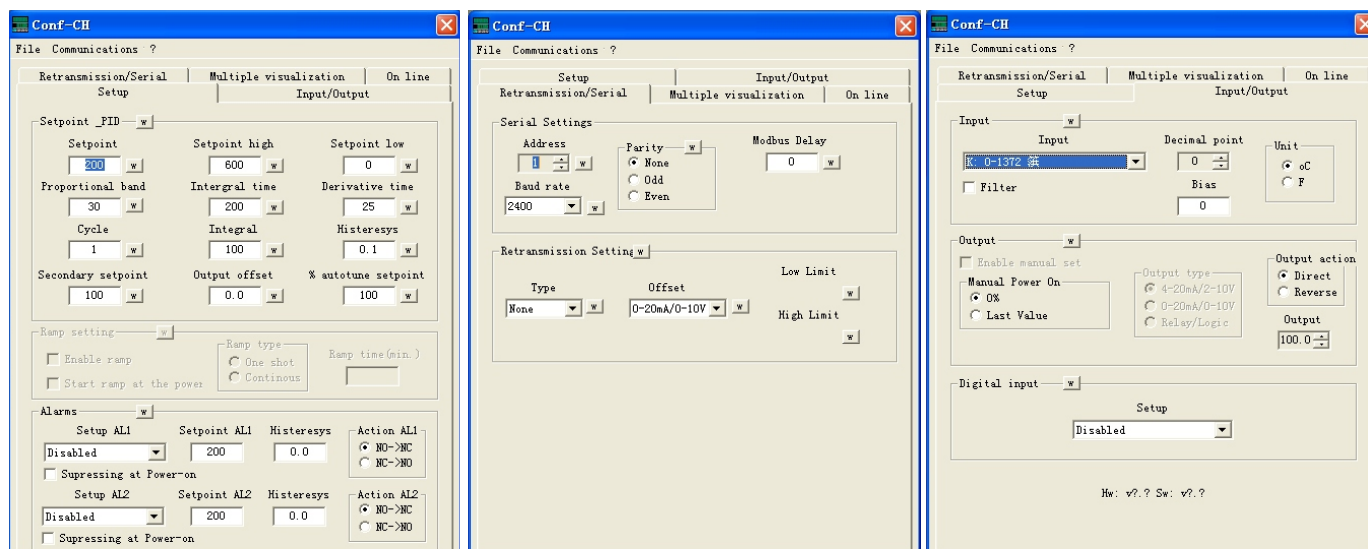
Connection&Dimension



DIN-Rail mounting



Conf-CH3000 software



- * Users set all parameters through this Conf-CH software
- * The register and coil address is referred in the instruction manual

UNIVERSAL-INPUT PID process temperature controller Model CH, PXR, TS-E5

Main Features

- Independent process and set point displays
- Universal input: TC, RTD, mA, Volts
- Control output: Relay/SSR/continuous output
- Two configurable relay alarms
- Heating/cooling control selectable
- Power in 100 to 240VAC/21 to 48VAC/DC

Optional Features

- RS485 serial interface MODBUS/RTU protocol
- Opto isolated digital input feature
- RTD type Pt100/Pt1000 selectable
- RAMP set-point
- Automatic/Manual operation
- Second control set-point selectable
- 24Vcc Power output for two wire transmitters

Technical data

Input

User configurable for K-J-E-N-T-R-S-B,
RTD Cu50-Pt100-Pt1000
linear signals 0/4-20mA, 0/1-5VDC, 0/2-10VDC

Control

PID control; ON/OFF
(integral and differential action can be disabled)
PID algorithm with integral action limitation function
Sampling time optimised for temperature process
Auto-tuning function
Selectable heating/cooling control

Main heating/cooling output

- SPDT relay 5A@250VAC, 6A@125VAC relay
- +12VDC logic driving SSR, 35mA max. load
- 0/4-20mA or 0/2-10V continuous isolated
- Cycle time 0 to 100s
- Resolution 0.01s

Alarms output

2 alarms with SPST relay output
configurable modes



Difference of three models:

CH: 7 segments LED display

PXR: CHIP LED display

TS-E5: LCD display

* Alarm mode codes:

A: deviation high alarm; **B:** deviation low alarm
C: deviation high/low alarm; **D:** band alarm
E: deviation high alarm with hold action
F: deviation low alarm with hold action
G: deviation high/low alarm with hold action
H: process high alarm; **J:** process low alarm

Operation

Automatic/Manual modes

A key on the front panel makes it easy to switch between AUTO/MAN modes.

Power supply

- 100-240VAC 50/60HZ consumption 4W
- 21-48VAC/DC consumption 4W

Operating environment

Temperature 0 to 50°C,
Relative humidity 30% to 85% (non-condensing)

Please contact our sales for more optional features information.



- Parametric configuration/supervision via serial interface and PC (Conf-CH software)

The Conf-CH software enables

- Read/write all device parameters
- Real time display/acquire process variable for one or multiple devices
- Table saved in Excel format

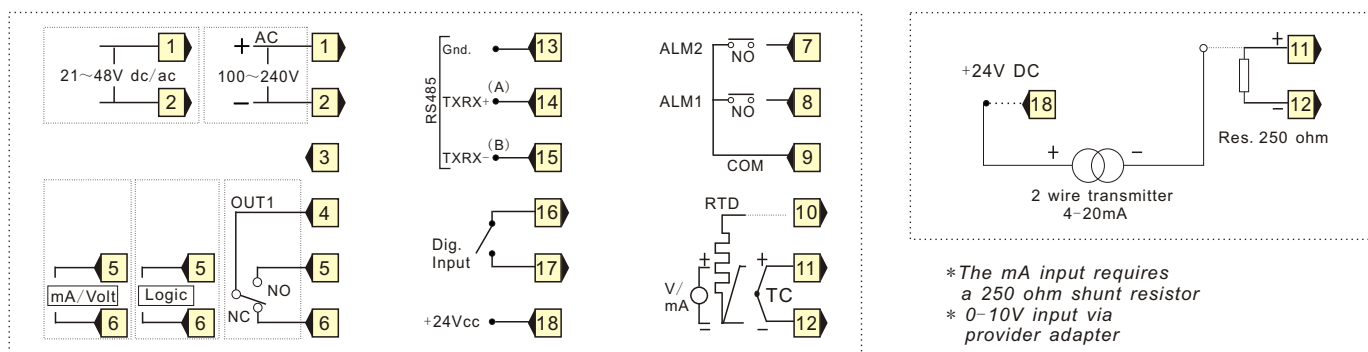
Order code

Dimensions of CH PXR TS-E5	CH102 (48×48×100mm) ; CH402 (48×96×100mm) CH502 (96×48×100mm) ; CH902 (96×96×100mm) PXR4 (48×48×100mm) ; PXR5 (48×96×100mm) PXR9 (96×96×100mm) TSG-E5 (48×48×100mm) ; TSE-E5 (48×96×100mm) TSA-E5 (96×96×100mm) ; TSS-E5 (24×48×100mm)									
Control method	PID control (reverse action) PID control (direct action) Heating/cooling PID control (two outputs)	F D W								
Universal input	Define factory setting of input/range EX. K07 (thermocouple K input, range 0-1372℃)									
OUTPUT 1	Relay output SSR logic output Voltage/mA continuous output SCR zero-cross output SCR phase-shift output						M V 8 G T			
OUTPUT 2	Relay output SSR logic output						M V			
ALARM 1	No ALARM 1 ALARM 1 active (see *Alarm mode codes)							N □		
ALARM 2	No ALARM 2 ALARM 2 active (see *Alarm mode codes)							N □		
RS485 interface	No RS 485 serial interface RS 485 interface is active , MODBUS/RTU protocol								N C	
Power supply	100 to 240 VAC 21 to 48Vac/dc									7 I

Input and Range code

Input sensor	Code	Range (℃)	Input sensor	Code	Range (℃)	Input sensor	Code	Range (℃)
K	K 01	0 – 200	E	E 01	0 – 800	Pt100	D 01	–199.9–649.0
	K 02	0 – 400		E 02	0 – 1000		D 02	–199.9–200.0
	K 03	0 – 600	N	N 01	0 – 1200		D 05	–100.0–200.0
	K 04	0 – 800		N 02	0 – 1300		D 08	0.0 – 200.0
	K 05	0 – 1000	T	T 01	0 – 400		D 10	0.0 – 500.0
	K 06	0 – 1200		T 02	0 – 100	C 01	–50 – 100.0	
	K 07	0 – 1372		T 03	0 – 200	C 02	–50 – 150.0	
J	J 01	0 – 200	R	R 01	0 – 1600	Cu50	C 03	–50 – 50.0
	J 02	0 – 400		R 02	0 – 1769		C 04	0.0 – 50.0
	J 03	0 – 600	S	S 01	0 – 1600		C 05	0.0 – 100.0
	J 04	0 – 800		S 02	0 – 1769		C 06	0.0 – 150.0
	J 05	0 – 1000	B	B 01	400 – 1800		A 01	–1999 – 9999
	J 06	0 – 1200		B 02	0 – 1820		0/1–5V; 0/2–10V V 01	–1999 – 9999

Wire connection



MULTI-INPUT PID process temperature controller Model TM-700W

Main Features

- Independent process and set point displays
- Multi input: K/J/E/N/PT100
- Control output: Relay/SSR logic
 - ▲SPDT relay 5A@250VAC, 6A@125VAC relay
 - ▲+12VDC logic driving SSR, 35mA max. load
- One configurable relay alarm
- Heating/cooling control selectable
- Auto-tuning
- Control method: PID, ON/OFF
(integral and differential action can be disabled)
- Power in 100 to 240VAC
- Operating environment
Temperature 0 to 50°C,
Relative humidity 30% to 85% (non-condensing)
- Plug-in plastic housing



Order code

DIMENSIONS	TMG (48×48×100mm) ; TME (48×96×100mm) TMF (96×48×100mm) ; TMA (96×96×100mm) TMD (72×72×100mm)					
		- 7	<input type="checkbox"/>	<input type="checkbox"/>	W	<input type="checkbox"/>
	4 digits display PID controller	7				
OUTPUT	Relay output SSR logic output	4 5				
ALARM	No alarm Deviation high alarm Deviation low alarm Deviation high/low alarm Process high alarm Process low alarm Process high/low alarm	0 1 2 3 4 5 6				
Multi input low cost model					W	
Multi input signals: K、J、E、N、T、R、S、B、PT100 (please define the default setting of the input signal and range)						<input type="checkbox"/>

Model code example: TMG-741W K 0-400°C

Multi input model, dimension 48×48×100mm, relay output, one deviation high alarm,
default input type K, range 0-400°C

*This multi-input model has many advantages including low cost, saving big stock, good control effect, it is very popular in global and domestic market. It is widely used in kinds of machines and control systems.
CE certified, pass EN61000-4-4 standard.*

MULTI-INPUT Programmable thermostat Model STP321, STP322

Main Features

- Multi input: K/J/PT100/Cu50/mA/NTC
- Control output: Relay/SSR logic
 - ▲SPDT relay 15A@250VAC
 - ▲+12VDC logic driving SSR
- One configurable relay alarm
- Heating/cooling control selectable
- Time delay available for cooling control action
- Control method: ON/OFF
- Power in 100 to 240VAC; 21 to 48V AC/DC
- Operating environment
 - Temperature 0 to 50°C,
 - Relative humidity 30% to 85% (non-condensing)
- Dimension 75×33×70mm
- Optional feature
 - +12Vcc output for power 2 wire transmitter

Special

This instrument can be done as a humidity controller.



Temperature controller

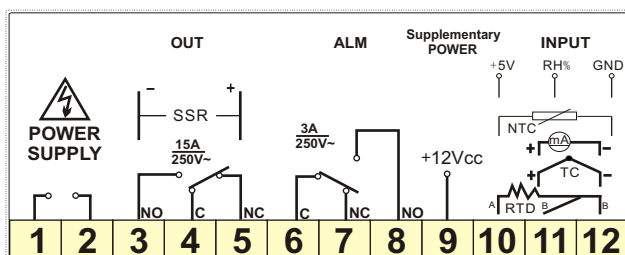


Humidity controller

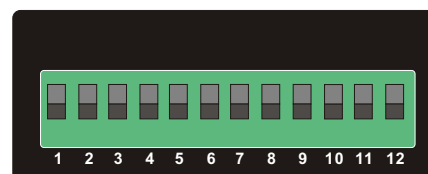
Order code

MODELS	STP321: One main output STP322: One main output + one alarm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTROL	Heating Cooling	H C					
OUTPUT	Relay output SSR logic output	2 5					
ALARM	No alarm Deviation high alarm Deviation high/low alarm Process high alarm Deviation low alarm Band alarm Process low alarm	0 1 2 3 5 6 7					
INPUT	Thermocouple K/J RTD Pt100 NTC (please specify an input type as factory setting, if you need mA, V, Cu50, or PT1000 input, please define specially.)	1 2 7					
POWER OUTPUT	No 12Vcc power output for external transmitter With 12Vcc power output for external transmitter	N V					
POWER SUPPLY	100 to 240VAC 21 to 48V AC/DC	7 I					

Wire connection



Instrument back terminals



SINGLE-INPUT PID process temperature controller

Model TM-N7000, XMT-6000

TM-N7000



XMT-6000



Main Features

- Independent process and set point displays
 - ▲ TM-N7000 is 4 digits display
 - ▲ XMT-6000 is 3 digits display
- Single input: K/J/E/N/PT100
- Control output: Relay/SSR logic
 - ▲ SPDT relay 5A@250VAC, 6A@125VAC relay
 - ▲ +12VDC logic driving SSR, 35mA max. load
- One or two configurable relay alarms
- Heating/cooling control selectable
- Auto-tuning
- Control method: PID, ON/OFF
- Power in 100 to 240VAC
- Operating environment
 - Temperature 0 to 50°C,
 - Relative humidity 30% to 85% (non-condensing)
- Plug-in plastic housing

Order code

DIMENSIONS	TMG (48×48×100mm) ; TME (48×96×100mm) TMF (96×48×100mm) ; TMA (96×96×100mm) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> TMD (72×72×100mm) XMTG (48×48×100mm) ; XMTE (48×96×100mm) XMTF (96×48×100mm) ; XMTA (96×96×100mm) XMTE (72×72×100mm)					
	4 digits display PID controller	7				
	3 digits display PID controller	6				
OUTPUT	Relay output	4				
	SSR logic output	5				
	SCR output (shift phrase)	6				
	SCR output (zero cross)	7				
	continuous output	9				
ALARM	No alarm		0			
	Deviation high alarm		1			
	Deviation low alarm		2			
	Deviation high/low alarm		3			
	Process high alarm		4			
	Process low alarm		5			
	Process high/low alarm		6			
INPUT	Thermocouple			1		sensor type and range
	RTD			2		

Model code example: TMG-N7411 K 0-400°C

Dimension 48×48×100mm, relay output, one deviation high alarm, input type K, range 0-400°C

PID PROGRAMME temperature controller Model TM-N7000P

Main Features

- Independent process and set point displays
- PID control with Auto tuning; ON/OFF control
- Input signals: (specify at ordering)
 Thermocouple: K/J/E/N/T/S/R/B
 RTD: PT100/CU50
 Linear signals: 0/4-20mA; 0/1-5V
- Main control output:
 Relay/SSR logic/continuous Volt/mA
- Selectable heating/cooling control
- Two programmable alarms
- Max. 32 segments
- Available dimensions: 72*72mm; 96*96mm
- Power supply: 100-240VAC
- Operating environment: Temperature 0 to 50°C,
 Relative humidity 30% to 85% (non-condensing)



How does this programme controller work?

There are max. 32 segments available in this controller, for each segment, there are two parameters PT (for setting time) and SP (for setting set point). The instrument will control the load climbing on the set point within set time.

Example:

Segment time: (unit: minute)

PT1=120; PT2=120; PT3=120; PT4=180; PT5=200; PT6=240

Set point: (°C)

SP1=50; SP2=80; SP3=110; SP4=160; SP5=220; SP6=230

There are 6 segments in this example:

SEGMENT ONE: temperature heat to 50°C within 120mins.

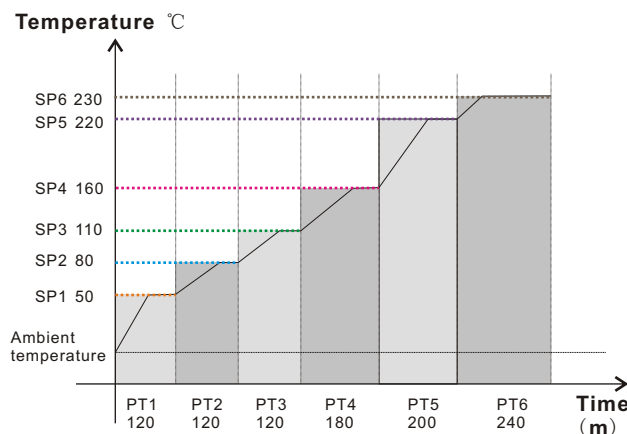
SEGMENT TWO: temperature heat to 80°C within 120mins.

SEGMENT THREE: temperature heat to 110°C within 120mins.

SEGMENT FOUR: temperature heat to 160°C within 180mins.

SEGMENT FIVE: temperature heat to 220°C within 200mins.

SEGMENT SIX: temperature heat to 240°C within 240mins.



Order code

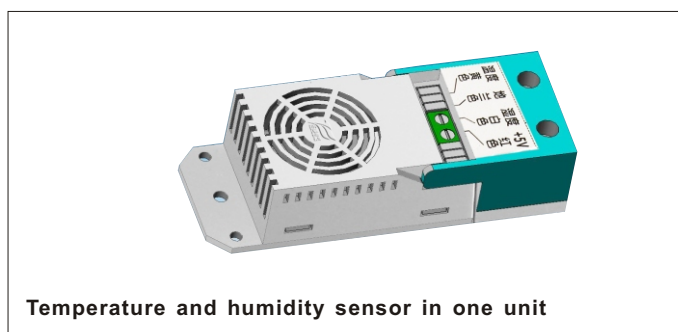
DIMENSIONS	TMG (48×48×100mm) ; TME (48×96×100mm) TMA (96×96×100mm) ; TMD (72×72×100mm)	- N7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- 32P
OUTPUT	Relay output SSR logic output SCR output (shift phrase) SCR output (zero cross) continuous output	4 5 6 7 9				Segments
ALARM	No alarm Deviation high alarm Deviation low alarm Deviation high/low alarm Process high alarm Process low alarm Process high/low alarm		0 1 2 3 4 5 6			
INPUT	Thermocouple RTD (define the input signal and range)				1 2	

Temperature&Humidity controller

WH-7000 is an economical instrument with temperature control and humidity control in one unit and independent temperature and humidity digital display.

Main Features

- Independent process and set point display temperature and humidity values
- Temperature sensor input: Pt100 or Cu50
- Humidity sensor should be defined
- Control output: Relay/SSR logic/mA continuous
 - ▲SPDT relay 5A@250VAC, 6A@125VAC relay
 - ▲+12VDC logic driving SSR, 35mA max. Load
- Basic error
 - tempreature $\pm 1\%F. S. +1d$
 - humidity $\pm 3\%$
- Temperature and humidity sensor could be in one unit, and can be seperated, it's upon cusotmer's requests
- Two configurable relay alarms
- Humidity control action is selectable
- Power in 100 to 240VAC
- RS485 interface is available upon request



OVEN controller TM-2000

Main Features

- Independent process and set point displays
- PID control with auto tuning
- Main control output: Relay; SSR; SCR
- Selectable heating/cooling control.
- Timer and temperature controller united in one unit
- Two modes to start timer function:
 - A)timer starts at power on
 - B)timer starts when process value arrived at setpoint
- Environment
 - 0 ~ 50°C ambient temperature
 - 45 ~ 85% non-condensing humidity
- Power supply
 - 100~240VAC 50-60Hz 4VA



Operation

<p>Press "SET" key to display "SP" parameter, user could set the set point in this status</p>	<p>Press "SET" key again to display "ST" parameter, user could set time point here. In SV window, the first two digits means hours, last two digits means minutes. The time mark will blink when the timer is counting.</p>	<p>When the time arrives at setpoint, it will show "End" in time window. If user want to see how much time in rest in the process, press "TIME" key to see the value.</p>	<ul style="list-style-type: none"> •When the time arrives at setpoint, if user want to start timing again, press "RESET" 3 seconds to start. •When the time arrives at setpoint, the main output is off. •Set "ST" = 0000 to disable the timer function. •When the alarm is active, the inner bee will ring 4 times with interval 3 seconds.
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TIMER JS series

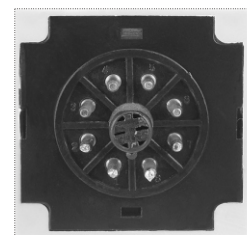
JS series is an intelligent timer with many smart modes which are all configurable:
When start timing; How the output relays activate;
Normal timing or count down; etc.

Technical data

- Independent process and set point display
- Micro processor is applied in the timer
- High accuracy, wide time delay range
- Bumpless transfer, good quality
- Power supply 220VAC (50/60Hz)
- Time relay accuracy 0.01 class ± 0.01 second
- Configurable output relays
- Normal timing and count down modes selectable
- Easy to operate
- Ambient environment
0 ~ 50°C ambient temperature
45 ~ 85% non-condensing humidity
- Dimensions
JSZG 48×48×88mm
- Terminal wiring types
Terminals type, and socket pin type



Terminal type

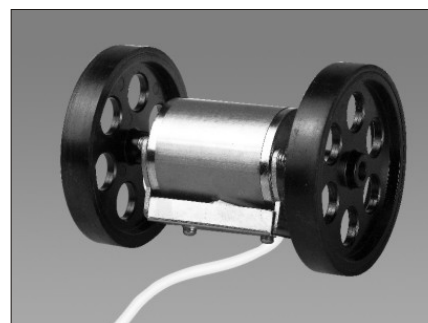


Pin type

COUNTER TS-0005

Main Features

- Power supply: 100-240VAC (50/60HZ)
- Input signals: Proximity Switch, Photoelectric Switch, HALL Switch, Standard Voltage Switch, ON/OFF external signal
- Alarms: Deviation high and deviation low alarm
Alarm relay: 3A/250VAC
- Output time delay: 1s to 99999s programmable
- 5pcs 7 segments LED display Process value and Setting value respectively
- Clear up function (reset "0")
1) Through Clear up key on face panel
2) External signal to reset (except for TSG-0005)
3) Automatic clear up set in software
- Ambient environment
0 ~ 50°C ambient temperature
Humidity < 85% non-condensing
- Dimensions
TSG-0005: 48×48mm; TSE-0005: 48×96mm;
TSD-0005: 72×72mm; TSF-0005: 96×48mm
- Length counter is available upon request.
- Seperate length sensor from the digital counter is available upon requests. Especcially applied in cable industry, cloth machines, etc.



Seperate part for collecting the length of the load, then report to the digital counter

We have more models and controllers on offer, Please contact our sales for more information and discuss your need, we could find a solution for you:

+86 574 6250 5590 tst@taisuo.com

Voltage Regulator TS-V Control panel ABB800



Application

Voltage regulator TS-V and control panel ABB800 is specially used in blowing machines, patent design and functions enable blowing machines more efficient and automatic.

Main Features

- Output impulse: breadth value $\geq 3V$, width $\geq 50\mu s$ (load is 20Ω)
- Voltage setting range: 0 to 220V (specials upon request)
- Working environment: temperature 0 to $50^{\circ}C$, relative humidity $\leq 85\%$ non-corrosive
- Power supply: AC $220V \pm 15\%$, 50Hz/60Hz; about 3VA
- Available dimensions: TSG-V $48 \times 48 \times 88mm$; TSA-V $96 \times 96 \times 100mm$; TSD-V $72 \times 72 \times 100mm$
TSG-2V $48 \times 48 \times 88mm$ (twin voltage regulator in one unit)

TEMPERATURE CONTROL SOLUTION SUPPLIER

When you want to control the temperature of the oven, meal container, heater, home appliances, etc. . .

TELL US WHAT AND HOW YOU WANT TO CONTROL

WE OFFER SOLUTIONS

WE DESIGN AND DEVELOP THE CONTROLS

WE PRODUCE AND REALIZE THE CONTROL

Whatever you want to control the temperature for, control the devices at home or in industry, ask TAI SUO team to offer ONE STOP service!

