GROUPS

ATC

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Feature and Module

- High accuracy, easy operation .
- Self-diagnosis function.
- Fuzzy control with PID auto adaption
- Be applicable with universal AC 85~256V SMPS or DC 24V power supply.
- Isolated Input and Output. Field replaceable modular output structure, with different output specification options.
- Software setting, various input specifications are acceptable, including TC, RTD and linear signal etc..
- Adapting intelligent PID control arithmetic without overshoot.
- Adjustable sensor compensation.Presetting emendation system(for input specification) inside
- Optional communication function, optional multi programmable segment function, ramp/soak.
- CE approved with high anti-interference feature.

Auto-tune PID | RS-485 | Fuzzy Logic | Program | Accuracy 0.3 | Modular | Input

Software (BASIC)

Self-study PID new algorithm with fuzzy control enable CD series controller to be competent for most applications. New PID definition.

Program (ADVANCED)

Optional programmable segments ramp/ soak function. (To be ordered separately) Programmable temp. / time parameter, segment jumps by priority of temp.

Input

Shift between different input specification, refer to the Form A.

Modular

Easy field replaceable modular structure, which is supported by more than 10 different optional output modules, can achieve multiple output specification and compounding.

CD SERIES MULTIFUNCTIONAL

Communication (RS485)

RS-485 communication module in the COMM interface enable CD series controller to communicate with PC, host computer or PLC. User can choose either Modbus protocol or Free protocol.(PC suit software is not included)

Main output module

- L4 — Relay module, Large capacitance, 30VDC/5A , 250VAC/5A NO/NC
- G — Voltage pulse, For SSR, 12VDC/30mA
- L2 — Relay module, Small capacitance, 30VDC/3A , 250VAC/3A NO/NC
- X — Linear Current, 4~20mA
- W1 — SCR, Large Capacitance, 100~240VAC/0.2A
- K1 — Single-way SCR, Zero-cross, 5~500A
- K3 — Three-way SCR, Zero-cross, 5~500A
- K5 — Single-way SCR, Phase-shifted, 5~500A

AUX module

- L5 — Dual relay, For alarm, 30VDC/2A , 250VAC/2A NO
- V12/V24/V5 — Power supply, For sensor, Max 50mA

- S — Communication, RS-485

Default specification and order code

Example: CD100FK01-L4-NNNH-N Means CD series 48*48 PID controller with K input, relay contact output and one high limit alarm.

Dimension	Panel model
48*48*90mm	CD100
48*96*90mm	CD400
96*48*90mm	CD401
72*72*90mm	CD700
96*96*100mm	CD900

Detail code: ① ② ③ – ④ – ⑤ ⑥ ⑦ ⑧ – ⑨ ⑩

① Function Code
- Single Segment PID control — Blank
- 10 programmable segments PID control — P

② Control mode
- Heating with PID (reverse action) — F
- Refrigeration with PID(positive action) — D
- Heating with Refrigeration two channels — F/D
- Transmitter — T

③ Input type
- Options please refer to the below Form A — 0

④ Main control output type
- Voltage output for solid state relay (G module) — G
- Linear current output 4~20mA (X module) — X
- Relay contact output, small load (L2 module) — L2
- Relay contact output, small load (L4 module) — L4
- Single-way zero-cross trigger output (K1 module) — K1
- Three-way zero-cross trigger output (K3 module) — K3
- Single-way phase-shift trigger output (K5 module) — K5

⑤ AUX output type, binding post AU2 — Options please refoForm B — A

⑥ AUX output type, binding post AU1 — Options please refer to Form B — B

⑦ Alarm output type, binding post AL2 — Options please refer to Form B — L

⑧ Alarm output type, binding post AL1 — Options please refer to Form B — H

⑨ Communication function option
- Do not have communication function — N
- RS-485 free protocol communiction — S
- RS-485 Modbus communiction — M

⑩ Power supply, work voltage
- Default power supply 85~265VAC SMPS — Blank
- Customized 24VDC direct current power supply — 24VDC

Input type Form A

Code	Input type	
K01	TC type K	0~400℃
K02	TC type K	0~800℃
K03	TC type K	0~1300℃
J01	TC type J	0~400℃
J02	TC type J	0~800℃
J03	TC type J	0~1200℃
S01	TC type S	400~1600℃
S02	TC type S	400~1700℃
E01	TC type E	0~800℃
E02	TC type E	0~1000℃
R01	TC type R	0~1600℃
R02	TC type R	0~1769℃
N01	TC type N	0~800℃
N02	TC type N	0~1300℃
T01	TC type T	0~350℃
P01	RTD Pt100	0~600℃
P02	RTD Pt100	-199~600℃
C01	RTD Cu50	-50~150℃
C02	RTD Cu50	-50~150℃
A00		-1999~9999
A04		-1999~9999
08	Resistor	-1999~9999
40	Resistor	-1999~9999
101	Voltage	-1999~9999
201	Voltage	-1999~9999
202	Voltage	-1999~9999
301	Voltage	-1999~9999
401	100~500mV Voltage	-1999~9999
501	Voltage	-1999~9999
601	Voltage	-1999~9999
701	0~10V Voltage	-1999~9999
801	2~10V Voltage	-1999~9999
901	0~20V Voltage	-1999~9999

⑤⑥⑦⑧ AUX and Alarm output, Form B

Code	Output mode
N	No output
H	High limit alarm
L	Low limit alarm
B	Higher deviation alarm
A	Lower deviation alarm
D	Within range alarm
E	Out of range alarm
V	Voltage for sensor

Note. CD100(48*48) has only one AUX slot. Alarm, AUX and communication module are using this slot. So CD100 can only select alarm OR communication at once, but not both

CH SERIES

Feature

CH series PID temperature controller is developed base on plastic and rubber machinery applications. Suitable for skin packing machine, packing machine, film making machine, bag making machine or vulcanizing machine. It has good performance on Laundry washing machine too. Original parameter setting with fuzzy control enables CH series controller to deal with most of plastic machine applications, which is easy and convenient.

- Accuracy 0.5 grade, three buttons, easy operation
- 3-digit LED dual line display
- Sensor break indicating or over range alarm
- Thermocouple input or RTD input
- PI artificial intelligent arithmetic, fuzzy, auto-tuning
- 220VAC power frequence transformer power supply
- Multiple alarm modes

CHR Series

New advanced model+R

PID Auto tune | Input | Low cost 220VAC | Fuzzy

Order Code

Example: CH102FK01-M*HN-30 220VAC

Means CH series 48*48 PID controller with K input 0~400℃, relay contact output and one alarm relay， default 220VAC power supply, software version 3.0

Dimension	Panel model
48*48*90mm	CH102
48*96*90mm	CH402
96*48*90mm	CH412
72*72*90mm	CH702
96*96*100mm	CH902

Detail code

① □ | ② □ | ③ □ | ④ * | ⑤ □ | ⑥ □ | ⑦ □

①
Control mode

Heating with PID (reverse action) — F

Refrigeration with PID (positive action) — D

②
Input type

Options please refer to the below Form A

③
Main control output type

Relay contact output 3A/250VAC — M

Voltage pulse output for SSR 8~12V ≤30mA — V

④
Alarm output type, binding post AL1

Options please refer to Form B

⑤
Alarm output type, binding post AL2

Options please refer to Form B

⑥
Software version — 30

⑦
Power supply, work voltage

Default power supply 220VAC SMPS — 220VAC

Customized 110VDC \ 24VAC or other power supply — 110VAC

Custom model CH412A for Laundry washing machine,96*48mm panel mounted with aluminous housing.

②
Input type Form A

Code	Input type	
K01	TC type K	0~400℃
K02	TC type K	0~800℃
K03	TC type K	0~1300℃
J01	TC type J	0~400℃
J02	TC type J	0~800℃
J03	TC type J	0~1200℃
S01	TC type S	400~1600℃
S02	TC type S	400~1700℃
B01	TC type B	400~1600℃
B02	TC type B	400~1700℃
E01	TC type E	0~800℃
E02	TC type E	0~1000℃
T01	TC type T	0~350℃
P01	RTD	0~500℃
C01	RTD	0~100℃
C02	RTD	0~150℃

④⑤
AUX and Alarm output, Form B

Code	Output mode
N	No output
H	High limit alarm
L	Low limit alarm
B	Higher deviation alarm
A	Lower deviation alarm
D	Within range alarm
E	Out of range alarm

Note: ⑥Software version is for after-sale service. We use to offer controller with the newest software as default. And software is updated without further notice.

CB SERIES

Feature

- SMPS 100~240VAC
- Multiple alarm modes
- 3-digit LED dual line display
- Accuracy 0.3 grade, four buttons, easy operation
- Sensor break indicating or over range alarm
- PI artificial intelligent arithmetic, fuzzy, auto-tuning
- Thermocouple input or RTD input, selectable by software setting

Optional function:

- Single channel NO/NC alarm relay output
- Two channel ONLY NO alarm relay output.
- Selectable displayed in Centigrade or in Fahrenheit

applications:

Designed for small oven, plastic dryer device, blending device, packing device, incubator device and heat press device.

PID Auto tune | Input | SMPS 100~240VAC | Fuzzy | Display °C/°F | Low cost

Order Code

Example: CB100FK01-V*HL-20

Means CB series 48*48 PID controller with K input 0~400C, voltage pulse output for SSR and two NO high limit and low limit alarms， default 100~240VAC power supply, software version 2.0

Dimension	Panel model
48*48*90mm	CB100
48*96 *90 mm	CB400
72*72 *90 mm	CB700
96*96 *100 mm	CB900

Detail code

① □ | ② □ | ③ □ | ④ * | ⑤ □ | ⑥ □ | ⑦ □

①
Control mode

Heating with PID (reverse action) — F

Refrigeration with PID (positive action) — D

②
Input type

Options please refer to the below Form A

③
Main control output type

Relay contact output — M

Voltage pulse output for solid state relay — V

④
Alarm output type, binding post AU1

Options please refer to Form B

⑤
Alarm output type, binding post AU2

Options please refer to Form B

⑥
Software version — 20

⑦
Power supply, work voltage

Default power supply 100~240VAC SMPS — Blank

Customized 24VDC direct current power supply — 24VDC

②
Input type Form A

Code	Input type	
K01	TC type K	0~400℃
K02	TC type K	0~800℃
J01	TC type J	0~400℃
J02	TC type J	0~800℃
E01	TC type E	0~800℃
N01	TC type N	0~800℃
P01	RTD Pt100	0~500℃

④⑤
AUX and Alarm output, Form B

Code	Output mode
N	No output
H	High limit alarm
L	Low limit alarm
B	Higher deviation alarm

Note: ⑥Software version is for after-sale service. We use to offer controller with the newest software as default. And software is updated without further notice.

CT SERIES PID TEMP. CONTROLLER COMBO TIMER

TEMP. CONTROL

Temp. & Time controlling is in one box now..

INDEPENDENT
TWO in ONE

TRIGGER TIMER

General Heat press machine

Open

Heating the plate with PID accurate temp. Control

Close

Timer can be triggered a switch. Display switch to tell user count down or count up time. When time is up, there is a relay output or buzzer alarm

- PID controlling/ Auto-tune
- Build-in trigger timer
- Display switch
- Voltage pulse output for SSR
- Relay contact or Buzzer output timer

Also suitable for..

Zipper machine

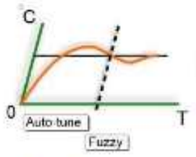
Shoe machine

Heat transfer device

Stamping machine

Functions..

Easy to settemp. value and time value



PIDcontrol withuzzy logienable the controller to hold stead temperature even the mould is fast folding

Four preset Relay(buzzer) output logics selectable for different machine design.

Two steps parameter lock to protect important system parameter from wrongly setting.

More dimension options

CT SERIES

CT series PID temperature controller and time

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Feature

CT series PID temp. controller with timer is developed for apparel machinery. Build-in trigger delay timer and alarm relay enable the controller to apply to different control logic. User can change the setting temp. value or time value very easily by pushing the front buttons. Also, parameter function protect the controller from being wrong set. Dual 3-digit LED display temp. info. Or time info. CT series is suitable for zipper machinery, printing machinery, heat press machinery, heat transfer machinery and shoe machinery.

- Accuracy 0.5 grade
- Sensor break indicating or over range alarm
- Thermocouple input or RTD input
- PI D with auto-tuning
- Multiple alarm modes options

Order Code

Example: CT400-FK01-VH/MSS-40 220VAC

This model number means 48*96mm CT series panel mounted PID temp. Type K thermocouple input, voltage pulse output for SSR. Controller for heating control with high limit alarm function. Build-in switch(hold on) trigger timer with relay output, counting unit is second. Software version 4.0. Apply to 220VAC power supply.

Dimension	Panel model
48*48*90mm	CT100
48*96*90mm	CT400
96*48*68mm	CT401B
72*72*90mm	CT700

Panel mounted

Detail code: □ □-□ □/□ □ □-□ □

①	②	③	④	⑤	⑥	⑦	⑧	⑨

① Control mode
- Heating with PID (reverse action): F
- Refrigeration with PID (Positive action): D

② Input type
- Options please refer to the below Form A

③ Main control output type, for temp. Control
- Relay contact output: M
- Voltage pulse output for solid state relay: V

④ Alarm output type, binding post AL
- Options please refer to Form B

⑤ Output type, for time Control
- Relay contact output: M
- Voltage pulse output for solid state relay: V
- Build-in Buzzer: Q

⑥ Unit of timer — H:hour, M:minute, S:second

⑦ Trigger mode of timer
- Hold on mode, hold the trigger to continue counting: S
- Auto-lock，automatically continue counting once triggered: P
- Auto-lock，automatically continue counting once triggered. With delay reset function: W
- Edge trigger, start to count only when it is triggered and reset: T

⑧ Software version: 46

⑨ Power supply, work voltage — Default power supply 85~265VAC SMPS: Blank

② Input type Form A

Code	Input type
K01	TC type K 0~400℃
K02	TC type K 0~800℃
K03	TC type K 0~1300℃
J01	TC type J 0~400℃
J02	TC type J 0~800℃
J03	TC type J 0~1200℃
P01	RTD 0~500℃

④ AUX and Alarm output, Form B

Code	Output mode
N	No output
H	High limit alarm
L	Low limit alarm
B	Higher deviation alarm
A	Lower deviation alarm

Note: ⑧Software version is for after-sale service. As a general rule, we offer controller with the newest software as default. And software is upgraded without further notice.

CF SERIES

CF series intelligent PID temp. controller

Feature

- Transformer power supply 250VAC ±10%, 50/60Hz
- Multiple alarm modes
- 4-digit LED dual line display
- Accuracy 0.5 grade, four buttons, easy operation
- Sensor break indicating or over range alarm
- PI artificial intelligent arithmetic, fuzzy, auto-tuning
- Thermocouple input, RTD input or linear signal input, selectable by software setting

PID Auto tune | Input | Power 220VAC | Fuzzy | Display 4-digit | Low cost

Applications:

Designed for skin packing machine, plastic packing machine, film blowing machine, bag making machine etc.

Order Code

Example: CF100FK01-M*HN-20

Means CF series 48*48 PID controller with K input 0~400C, Relay contact output and one high limit alarm, default 220VAC power supply, software version 2.0

Dimension	Panel model
48*48*90mm	CF100
48*96*90mm	CF400
72*72*90mm	CF700
96*96*100mm	CF900
96*48*90mm	CF401

Detail code: □ □ – □ * □ □ – □ □ (① ② ③ ④ ⑤ ⑥ ⑦)

① Control mode

Heating with PID (reverse action)	F

② Input type

Options please refer to Form A

③ Main control output type

Relay contact output	M
Voltage pulse output for solid state relay	V

④ Alarm output type, binding post AU1

Options please refer to Form B

⑤ Alarm output type, binding post AU2

Options please refer to Form B

⑥ Software version: 20

⑦ Power supply, work voltage

Default power supply 220VAC	Blank
Customized 24VDC direct current power supply	24VDC

② Input type Form A

Code	Input type	
K01	TC type K	0~400℃
K02	TC type K	0~800℃
K03	TC type K	0~1300℃
J01	TC type J	0~400℃
J02	TC type J	0~800℃
J03	TC type J	0~1200℃
S01	TC type S	400~1600℃
S02	TC type S	400~1700℃
B01	TC type B	400~1600℃
B02	TC type B	400~1700℃
E01	TC type E	0~800℃
E02	TC type E	0~1000℃
R01	TC type R	0~1600℃
R02	TC type R	0~1769℃
P01	RTD Pt100	0~500℃
P02	RTD Pt100	-199~600℃
C01	RTD Cu50	-50~100℃
C02	RTD Cu50	-50~150℃
301	0~500mV	-1999~9999
401	100~500mV	-1999~9999
501	0~5V	-1999~9999
601	1~5V	-1999~9999
A00	0~20mA	-1999~9999
A04	4~20mA	-1999~9999

④⑤ AUX and Alarm output, Form B

Code	Output mode
N	No output
H	High limit alarm
L	Low limit alarm
B	Higher deviation alarm
A	Lower deviation alarm
D	Within range alarm
E	Output of range alarm

Note: ⑥Software version is for after-sale service. As general rule, we offer controller with the newest software as default. And software is upgraded without further notice.

CF100(48*48mm) model can only support one alarm output.

C SERIES

C series PID temperature controller

Feature

High accuracy and easy operation. Self diagnoses sensor abnormal and overstep scale prompts function. Various input types are available, including thermocouple, thermal resistance and linear signal etc.. Various alarm mode combination. Input/output are isolated. PID automatic regulation(aut tuning) and fuzzy control function. Universal AC 85~265VAC SMPS power supply, with strong resistance to interference. Can be customized for Linear current input and output. Widely used in temperature, humidity, throw, weight, water level, refrigeration ,pressure control system.

PID Auto tune | Input | 85~265VAC SMPS | 4~20mA Current

Order Code

Example: C100FK01-M*HN-20

Means C series 48*48 PID controller with K input 0~400℃, relay contact output and one alarm relay, default 85~265VAC power supply, software version 2.0

Dimension	Panel model
48*48*90mm	C100
48*96*100mm	C400
96*48*100mm	C401
72*72*100mm	C700
96*96*100mm	C900

Detail code: □ □ – □ * □ □ – □ (① ② ③ ④ ⑤ ⑥ ⑦)

① Control mode

Heating with PID (reverse action)	F
Refrigeration with PID(positive action)	D

② Input type

Options please refer to Form A

③ Main control output type

Relay contact output	M
Voltage pulse output for solid state relay	V
Linear current output 4~20mA	X

④ Alarm output type, binding post AL1

Options please refer to Form B

⑤ Alarm output type, binding post AL2

Options please refer to Form B

⑥ Software version: 20

⑦ Power supply, work voltage

Default power supply 85~265VAC SMPS	Blank
Customized 24VDC direct current power supply	24VDC
Customized 24VAC alternating current power supply	24VAC

② Input type Form A

Code	Input type	
K01	TC type K	0~400℃
K02	TC type K	0~800℃
K03	TC type K	0~1300℃
J01	TC type J	0~400℃
J02	TC type J	0~800℃
J03	TC type J	0~1200℃
S01	TC type S	400~1600℃
S02	TC type S	400~1700℃
B01	TC type B	400~1600℃
B02	TC type B	400~1700℃
E01	TC type E	0~800℃
E02	TC type E	0~1000℃
T01	TC type T	0~350℃
P01	RTD	0~500℃
C01	RTD	0~100℃
C02	RTD	0~150℃

④⑤ AUX and Alarm output, Form B

Code	Output mode
N	No output
H	High limit alarm
L	Low limit alarm
B	Higher deviation alarm
A	Lower deviation alarm
D	Within range alarm
E	Out of range alarm

Note: ⑥ Software version is for after-sale service. As a general rule, we offer controller with the newest software as default. And software is updated without further notice.

R series

Analog temperature controller

Specifications

PD control, dead band range adjustable	0~50℃
Input spec. Options	K(default)/J / Pt100 / Cu50
Output spec. Options	Relay(default) 5A/220VAC / SSR
Supply voltage	220VAC(default) / 110VAC /380VAC / 24VDC

How to select a model

Model number ▶ MF-72
Input spec. ▶ K
Output spec. ▶ Relay
Range ▶ 0~399
Work voltage ▶ 220VAC

Example

MF-72-K399-Relay 220VAC (default)

MF-96

±1% F.S.
0~399(Degree C)
0~199(Degree C)
0~999(Degree C)

96*96mm(Panel)
90*90mm(Cut out)

MF-96DS

±1% F.S.
0~399(Degree C)
0~199(Degree C)

96*96mm(Panel)
90*90mm(Cut out)

MF-904

±1.5% F.S.
0~400(Degree C)
0~200(Degree C)
0~800(Degree C)
0~1200(Degree C)

96*96mm(Panel)
90*90mm(Cut out)

DB-903

±1.5% F.S.
0~400(Degree C)
0~200(Degree C)

96*96mm(Panel)
90*90mm(Cut out)

PN-901

±1.5% F.S.
0~400(Degree C)
0~200(Degree C)

96*96mm(Panel)
90*90mm(Cut out)

PN-903

±1.5% F.S.
0~400(Degree C)
0~200(Degree C)
0~600(Degree C)

96*96mm(Panel)
90*90mm(Cut out)

MF-72

±1% F.S.
0~399(Degree C)
0~99.9(Degree C)
0~199(Degree C)
0~999(Degree C)

72*72mm(Panel)
68*68mm(Cut out)

MF-704

±1.5% F.S.
0~400(Degree C)
0~100(Degree C)
0~200(Degree C)

72*72mm(Panel)
68*68mm(Cut out)

ZF-72

±1% F.S.
0~199(Degree C)
0~399(Degree C)

72*72mm(Panel)
68*68mm(Cut out)

DB-703

±1.5% F.S.
0~400(Degree C)
0~100(Degree C)
0~200(Degree C)

72*72mm(Panel)
68*68mm(Cut out)

DB-72

±1% F.S.
0~399(Degree C)
0~199(Degree C)
0~999(Degree C)

72*72mm(Panel)
68*68mm(Cut out)

PN-72

±1.5% F.S.
0~400(Degree C)
0~100(Degree C)
0~200(Degree C)

72*72mm(Panel)
68*68mm(Cut out)

MF-48

Al housing

±1% F.S.
0~399(Degree C)
0~99.9(Degree C)
0~199(Degree C)
0~999(Degree C)

48*96mm(Panel)
45*92mm(Cut out)

E5E4

±1% F.S.
0~399(Degree C)
0~99.9(Degree C)
0~199(Degree C)
0~999(Degree C)

48*96mm(Panel)
45*92mm(Cut out)

E5EM

±1% F.S.
0~399(Degree C)
0~199(Degree C)
0~999(Degree C)

48*96mm(Panel)
45*92mm(Cut out)

DB-48

Al housing

±1% F.S.
0~399(Degree C)
0~199(Degree C)
0~999(Degree C)

48*96mm(Panel)
45*92mm(Cut out)

MF-48C

±1% F.S.
0~399(Degree C)
0~99.9(Degree C)
0~199(Degree C)
0~999(Degree C)

48*48mm(Panel)
45*45mm(Cut out)

PN-48A

±1.5% F.S.
0~400(Degree C)
0~100(Degree C)
0~200(Degree C)

48*48mm(Panel)
45*45mm(Cut out)

Designed for bakery oven, pizza oven and food machine

- Bakery oven
- Pizza oven
- TC type K
- 96*96mm
- 220VAC/ 12VAC

MF-904A TPN-903

ZF-702

- Pizza oven
- TC type K
- 72*72mm
- 220VAC / 12VAC

Panel meter

Ampere meter / volt meter

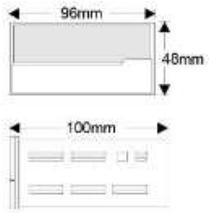
- Sampling cycle: 2.5 times per second
- Electromagnetic isolation AC signal input
- Optional 4 to 20mA transmitting output
- Isolated between power supply, input end and output end
- Maximum display range ±1999

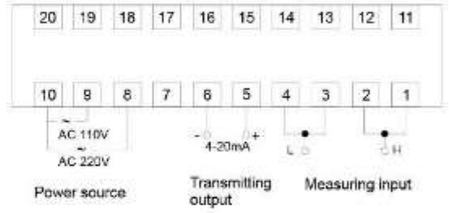
DP3 AMPERE/ VOLT METER MODEL NUMBER

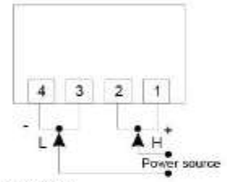
DP3 □ – □ □ □ □

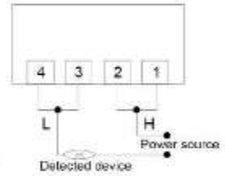
- Power supply [220VAC (Default) , 12~30V AC/DV, 48V AC/DC]
- Range [0.2, 2, 20, 200 ....]
- Detecting object [A: ampere-meter, V: volt-meter]
- Detecting type [A: AC current/voltage. D: DC current/voltage]
- Transmitting output [Blank: withoutput transmitting output (Default) , P: 4~20mA]

**If the power supply of meter is selected 12~30V AC/DC,the meter can not have a transmitting output.









Current direct input
mutual inductor is necessary
for beyond range 5 ampere

DP4-FR1 Tachometer, Frequency, line speed display

DP4-FR1

DP3-S

- Multi-display
- Function switch
- 96*48*100mm
- Intuitive visual
- High resolution

Measuring range	0~9999Hz or 0~9999tpm beyond indicating'...'
Function	Frequency meter, tachometer(default), Linear speed meter
Input signal	0-30V voltage pulse (default) or 4-20 mA linear current
Measuring error	±0.1%(23℃±5℃)
Input resistor	≥40 KΩ
Sampling	per 0.5 second
Respond speed	1 second
Ambient humidity	≤85%RH
Work condition	0~50℃
Power supply	AC 220V 50/60Hz
AUX power supply	DC 12V±5% load current
Weight	350g
Withstand voltage	AC 2000V
Insulated resistance	DC 500V≥100MΩ
Consumed power	≤3VA

Counters

Digital counter

Standard specification

- Preset digital counter (N,F,C,R mode), easy to set. Stable quality with power failure memory function.
- Output relay capacity **3A /250VAC (resistive load)**
- Power consumption ≤**5W**
- Work condition **Temp. -10~50**℃, **humidity ≤85%, no caustic and no strong EMI**

CMF700

6-digit LED dual display
Setting range 1~999999
Counting frequency 30Hz~2KHz

CMF402

6-digit LED single line display
Setting range 1~999999
Counting frequency 30Hz~2KHz

CMF100

4-digit LED dual display
Setting range 1~9999
Counting frequency 30Hz~2KHz

CMF802

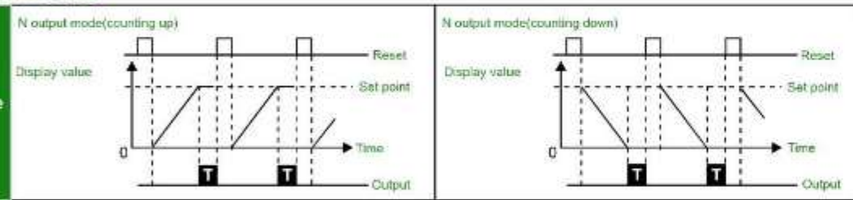
6-digit LED single line display (DIP setting)
Setting range 1~9999
Counting frequency 30Hz~2KHz

To pick up a model

Model	External size	Cut out size	Input specifications				Output	Direction	Power supply	Preset mode			
			Contact	Voltage Pulse	Encoder	Input channels				N	F	R	C
CMF700	72*72*100mm	68*68mm	●	●		1	One relay	Count up Count down	85~265VAC	●		●	●
CMF100	48*48*73mm	45*45mm	●	●		1				●		●	●
CMF402	96*48*90mm	92*45mm	●	●	●	1~2	One relay with +4~20mA turning			●	●	●	●
CMF802	72*72*90mm	68*68mm	●	●	●	1~2				●	●	●	●

Preset modes

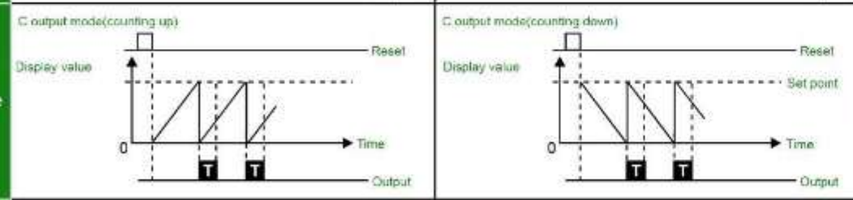
N mode



The control output and display value are held until a reset input is applied.

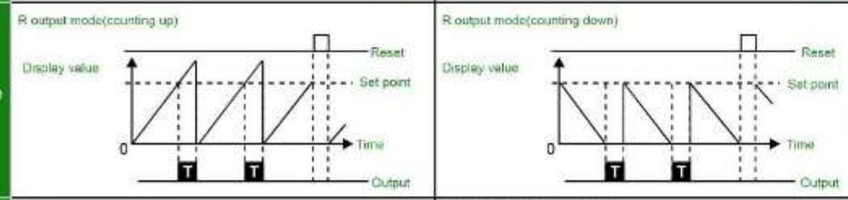
Set point= SV or DIP setting
T = Output maintain time (Hereinafter)

C mode



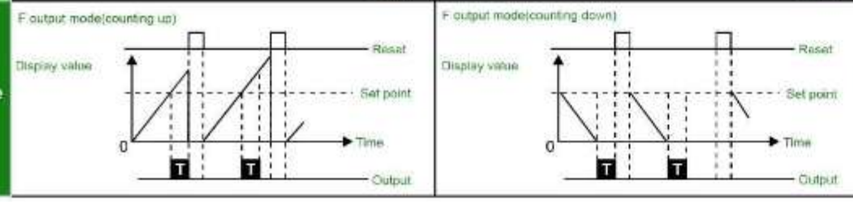
Display value resets when it is equal to setting value, and output maintains for a short time. Display value resets regardless to outputs.

R mode



Display value keeps on counting until output turns off. And then reset synchronously with output.

F mode



Display value resets only when Reset input is applied. It resets regardless to outputs.

CN48

CN48 multi-functional programmable counter / timer / frequency meter / tachometer

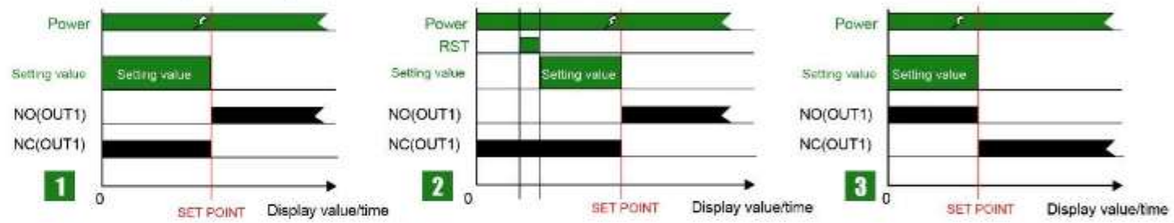
- *Power failure memory function, multi setting range / display mode available*
- *Can accept photoelectric/ proximity sensor / contact / encoder signal*
- *Six relay action logic programmable*
- *Software switch between four different working modes*

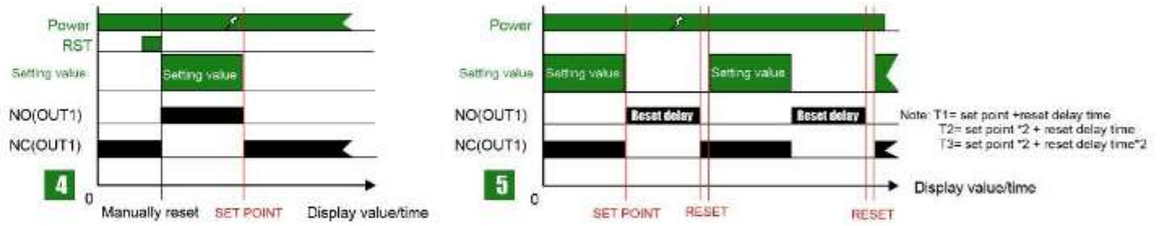
Timer — Single loop delay/ Dual delays(On / Off time)/ Totalize timer

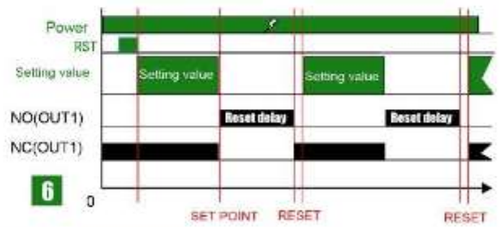
Counter — Count up/ Count down/ Multiplying display

Hz/Tacho — Frequency meter(Hz)/ Tachometer(RPM)/ Multiplying display

Time sequence diagram of relay output







Order code

Order code	Connection	Relays	External Pause	External Reset/ Zero	Sensor power supply
CN48-I (default)	Binding post (Panel mounted)	One relay	✓	✓	✓
CN48-II	PIN (Rail mounted)	One relay	✓	✓	✓
CN48-I-A	Binding post (Panel mounted)	Two relays		✓	
CN48-II-A	PIN (Rail mounted)	Two relays	✓	✓	

Note: For two relays output, user can select [one instant relay + one delay relay] or [two simultaneously delay relays]. Please clear before ordering. Relay type is fixed after it leaves factory.

Timer

On-delay timer relay

Standard specification

- Output relay capacity 3A/ 250VAC (resist)
- Power consumption ≤2W
- Work condition Temp. -10~50℃, humidity ≤85%, no caustic and no strong EMI

Analog time relay

Model	Specification						Functions				
	Installation				Input		Time reange, Fixed range Custom	Output options			
	External size	Cut out size	Panel	Din rail	Default	Custom		1	2	3	4
AH2-Y	58*88*68mm	52*64mm	●	●	220VAC	110VAC 380VAC 12VAC 24VAC 12VDC 24VDC	Generally (Choose only one) 1.2s,6s,12s,30s,60s, 1.2m,6m,12m,30m,60m ,1.2h,6h,12h,30h,60h		●	●	
TAH3-3	40*50*58mm	45.5*56mm	●	●					●	●	
TH3A	48*48*73mm	45*45mm	●	●					●	●	
CTDV-N4	58*88*68mm	52*64mm	●	●			Delay1: 1.2s, 12s Delay2: 1.2s, 12s				●

Digital time relay

Model	Specification						Functions				
	Installation				Input		Time setting range	Output options			
	External size	Cut out size	Panel	Din rail	Default	Custom		1	2	3	4
TH100	48*48*73mm	45*45mm	●	●	85~265VAC	110VAC 380VAC 12VAC 24VAC 12VDC 24VDC	0.1~9999 s/m/h	●	●	●	
TH200	58*88*68mm	52*64mm	●	●	220VAC		0.1~999 s/m/h		●	●	
TH300	40*50*58mm	45.5*56mm	●	●	220VAC		0.1~999 s/m/h		●	●	
TH100A	48*48*73mm	45*45mm	●	●	220VAC		0.1~99 s/m		●	●	
TH3CA	48*48*73mm	45*45mm	●	●	220VAC		0.1~9999 s/m/h	●	●	●	
TH2YC	58*88*68mm	52*64mm	●	●	220VAC		0.1~999 s/m/h Fixed		●	●	

Accessory(Option)

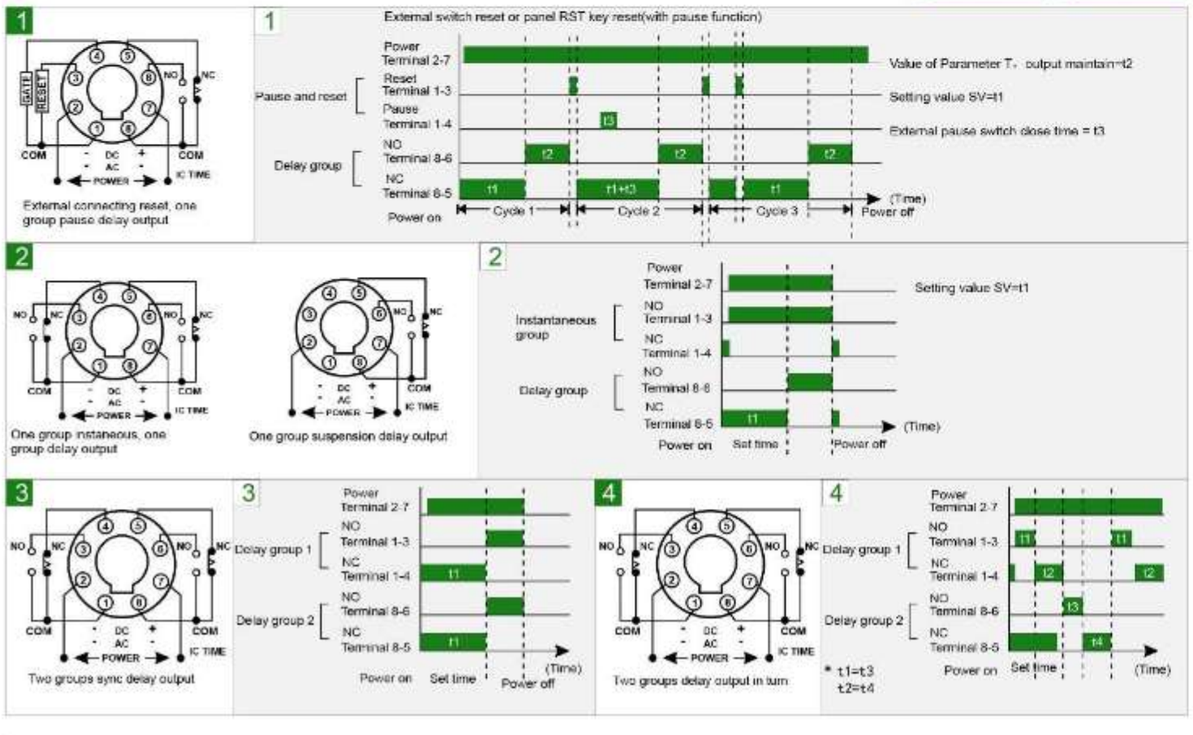
8-pin Connection base suitable for rail mount

All model ✓

Panel mount socket

TAH3-3 ✓

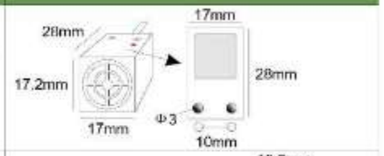
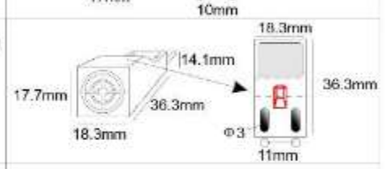
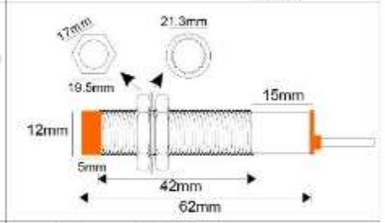
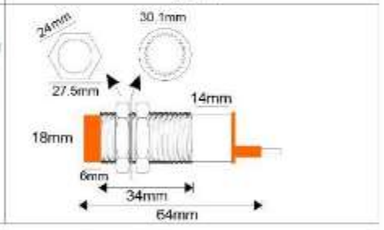
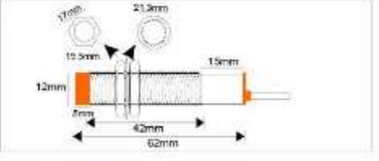
TH300 ✓



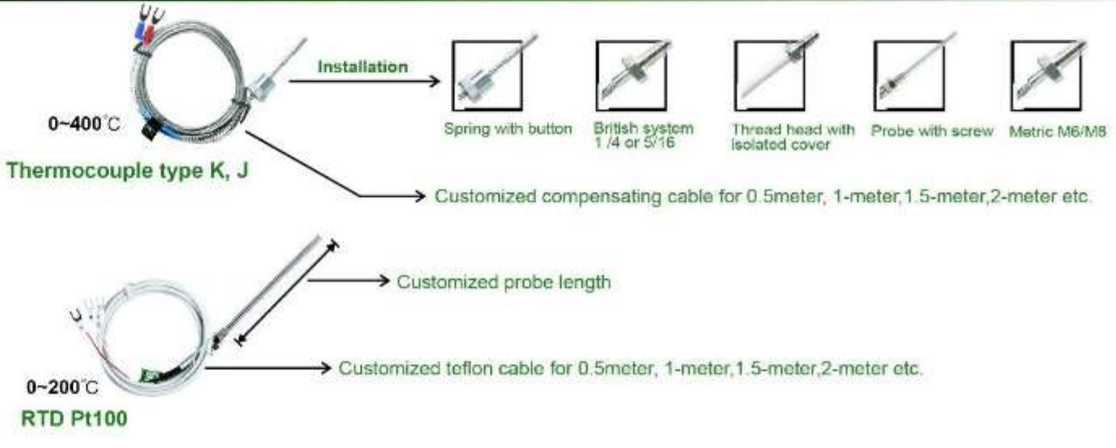
Sensors

TTL inductive proximity sensors

- Response hysteresis: ≤detecting distance*10%
- Response material: Iron, plumbum, steel, aluminium (detecting distance is different according to material)
- Response frequency: 100KHz(DC type),10Hz(AC type)
- Load current: ≤ 200mA (resistance)
- Ambient temperature: -25~70℃
- Cable: 2-meter (other custom)

Model number	Transistor	Power supply	Detect distance	Photos	Dimension
Q5MC1	NPN,NO	DC 10~30V 3-wire	Standard 5mm, Custom 2~8mm		
Q5MC2	NPN,NC				
Q5MB1	PNP,NO				
Q5MB2	PNP,NC				
SN04-N1	NPN,NO	DC 10~30V 3-wire	Standard 5mm, Custom 2~8mm		
SN04-N2	NPN,NC				
SN04-P1	PNP,NO				
SN04-P2	PNP,NC				
X5MC1	NPN,NO	DC 10~30V 3-wire	Standard 5mm, Custom 2~8mm		
X5MC2	NPN,NC				
X5MB1	PNP,NO				
X5MB2	PNP,NC				
12X4YD1	NO	AC 90~220V 2-wire	Standard 5mm, Custom 2~8mm		
12X4YD2	NC				
18X8YDC1	NPN,NO	DC 10~30V 3-wire	Standard 8mm, Custom 2~8mm		
18X8YDC2	NPN,NC				
18X8YDB1	PNP,NO				
18X8YDB2	PNP,NC				
18X8YD1	NO	AC 45~220V 2-wire	Standard 8mm, Custom 2~8mm		
18X8YD2	NC				
hall effect switch HC-X1215NC	NPN,NO	DC 10~30V 3-wire	Standard 8~15mm,		

Thermocouple / RTD



CS901

CS901 flat vulcanizing machine controller

Briefing

CS901 is a controller designed for flat vulcanizing machine. It can be a replacement of Programmable Logic Controller. Easy operation interface, bright LED display. Clearly indicate deflate process, inflate process, time delay, time duration of deflate, times of deflate, time duration of vulcanize, time duration of open mould(count down display). It can also control a series action of the machine, including mould close, deflate and vulcanize. CS901 is a stable controller of small size, easy installation and low price. Available 4 channels relay contact output, 5 trigger input and 1 alarm output. Using low direct micro current for external input or trigger binding post in order to protect external elements like buttons and pressure gauge.

tREX-CS901

Specifications

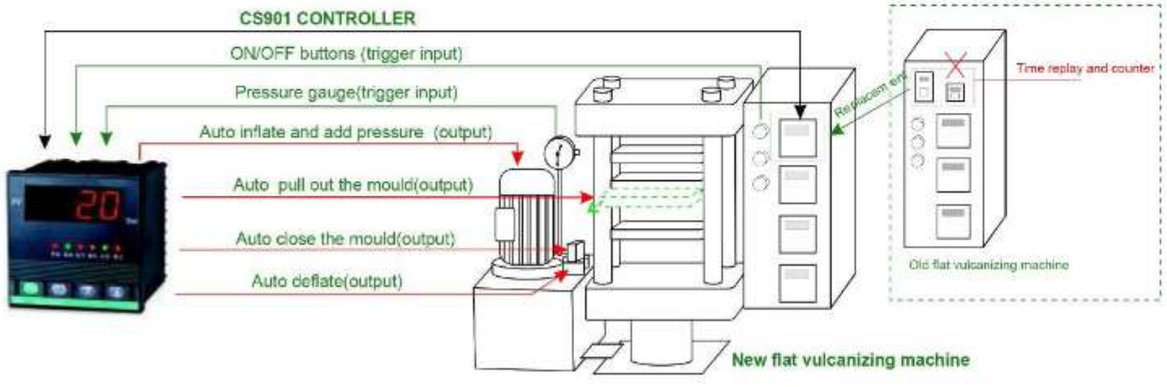
- Time error: < ±5%
- Time range: 0.1~9999second
- Relay capacity: 5A/250VAC resistance
- Power supply: AC220V±10% 50Hz (Or Customized),Consumption<5W
- Work condition: Temp. -10~50℃, humidity ≤85%, no caustic
- Dimension:(W*H*D) External 96*96*100mm Cut out 92*92mm

CLEAR DISPLAY

PROCESS INDICATORS

EASY OPERATION

Function and Features



CS901 is designed for new type of flat vulcanizing machine. Different from PLC, CS901 's action logic is not programmable(Preset by manufacturer). However, user can configure time duration of close mould, time duration of deflate and times of deflate. CS901 is able to control vulcanizing machine according to input signal from pressure gauge. User can regulate the pressure gauge(with multi pointer and contact signal output) in order to decide minimum required pressure level to start close mould, vulcanize and add pressure.

It's a very convenient alternative solution for old design (a counter and a timer), which can simplify the wiring inside the case. Moreover, CS901 set the low voltage binding post and high voltage post apart, which make it secure and stable. CS901 is a good choice for upgrade and renew flat vulcanizing machine.

CRH400

Temperature and humidity intelligent controller

GROUPS ATC THE BEST INDUSTRIAL EQUIPMENT

tREX-CRH400

Briefing

CRH400 has a variety of temperature / humidity sensor signal input, convenient for different types of user selection, a variety of combined control methods (warm / humidification, cooling / dehumidification, heating / dehumidification, cooling / humidification) output, user-friendly. The two auxiliary outputs can be freely defined as temperature or humidity auxiliary outputs. A variety of output options are available.

Specifications

- Temperature / humidity display resolution: 0.1 or 1 optional.
- Temperature and humidity measurement accuracy:
  K type thermocouple: ±1 °C;
  Pt100 platinum resistance: ±0.5 °C;
  NTC thermal resistance: ±1 °C
- Control mode: ON/OFF switch control mode.
- Relay contact output:
  Drive solid state relay signal output: 12VDC / 30mA.
- Working voltage: 85-265VAC
- Working environment: temperature 0 ~ 50 ° C,
  humidity <85% RH non-corrosive,no condensation.
  0-3V sensor: ±5% RH (10%-90% RH);
  AM2305: Humidity ± 2% RH (10% - 90% RH) / Temperature ± 0.3 ° C
  SHT10: humidity ± 4.5% RH (10% - 90% RH) / temperature ± 0.5 ° C;
  AM2322B: Humidity ± 2% RH (10% - 90% RH) / Temperature ± 0.3 ° C
- Dimensions (mm): 48 * 96 * 96 / 72 * 72 * 96;
  installation opening: 45 * 92 / 68 * 68.
  AC250V/3A (negative load) or AC250V/0.3A (inductive load)

Selection

CRH-400 P M– M M * N N * N N –N

- R: RS485 communication.
- X: Humidity current transmission output
- X: temperature current transmission output
- b: AL2 alarm mode (see alarm function for details) N: No alarm
- b: AL1 alarm mode (see alarm function for details) N: No alarm
- Humidity output mode: M: Relay V: SSR voltage
- Temperature output mode: M: Relay V: SSR voltage
- Humidity input signal
  V: 0-3V S: SHT10 A: AM2305 B: AM2322B
- Temperature input signal:
  N: NTC P: PT100 K: Type K thermocouple
  S: SHT10 A: AM2305 B: AM2322B
- Appearance size 400:48*96mm 700:72*72mm
- C: Temperature controller RH: Humidity controller
  CRH: Temperature and humidity controller

Applicable industry and scope

CL-609

Feature

- Small integrated intelligent temperature controller is applied to breeding (turtles, fish, snake) Industry for temperature control.
- Integrated digital LED display module, touch key, gently, with ease.
- Heating/cooling mode free switch, temperature probe self-diagnosis, a variety of alarm mode selection.
- Plug type power supply, socket type output roller temperature control system, convenient for the user in different situations, from complex wiring, maintenance free.
- Power supply lines all adopt BVR1.5 multiple strands of pure copper wire, form a complete set of air conditioning for high power socket, make sure long-term safe operation of the heating system is working effectively and safely.

Specification

- Power Supply: 220VAC 50/60Hz.
- Thermal Sensors: 50k NTC.
- Temperature Display Range:—40. 0℃～+120 ℃.Resolution:0.1C(-9.9 -99.9C).
- Temperature Controlling Range: —20. 0℃～+110 ℃. Resolution: ±1℃.
- Working Environment: −10℃～+60℃. Relative Humidity: 20%~ 85% (no condensation).
- Master Control Relay Contact Capacity: normally open contact 5A (recommended load: 0.5 horse refrigeration, heating 800W)

CL-309

Feature

- Intelligent temperature controller, small integration control system applied in the heating or cooling.
- High brightness LED display, Abnormal temperature sensor self-diagnosis, temperature setting range limit.
- Multiple alarm models, heating/cooling model free switch.

Specification

- Power Supply: 220VAC 50/60Hz.
- Thermal Sensors: 50k NTC.
- Temperature Display Range: —40. 0℃~+120℃ Resolution:0.1 C(-9.9 99.9C).
- Temperature Controlling Range: —20. 0℃~+110℃ Resolution: ±1℃.
- Working Environment: −10℃～+60℃. Relative Humidty:20%~85% (no condensation).
- Master Control Relay Contact Capacity contact 30A(recommended load:1 horse refrigeration,heating 2000W).
- Auxiliary Relay Contact Capacity: 3 A normally open contacts.
- Outer Size: 76*36*82mm. The installation hole: 71 * 30 mm.

CL-809A

Feature

- Double digital display/double settings/double sensors/double relay integrated intelligent temperature controllers, applied in Aquiculture (turtles, fish, snakes) temperature control. Form a complete set of water level switch stop heating water shortage protection can be realized
- Integrated digital LED display module, touch key, gently, with ease.
- Heating/cooling switch free model, Temperature probe sel-diagnosis, a variety of alarm mode selection.
- Plug type power supply, socket type output roller temperature control system, convenient for the user in different situations,from complex wiring, maintenance free.
- Power supply lines all adopt BVR1.5 multiple strands of pure copper wire, form a complete set of air conditioning for high power socket to maintain long-term safe operation of the heating system.

Specification

- Power Supply: 85~265 VAC 50/60Hz.
- Thermal Sensors: 50k NTC.
- Temperature Display Range:—40. 0℃～+120 ℃. Resolution:0.1C(-9.9 —99.9C).
- Temperature Controlling Range: —20. 0℃～+110 ℃. Resolution: ±1℃.
- Working Environment: −10℃～+60℃. Relative Humidity: 20%~ 85% (no condensation).
- Master Control Relay Contact Capacity: normally open contact 10A (recommended load: 0.5 horse refrigeration, heating 800W)

CL-809

Feature

- Double integration of embedded intelligent temperature controller, applied to the control system of heating or cooling.
- High brightness LED display, abnormal temperature sensor self-diagnosis, temperature setting range limit.
- Multiple alarm models, heating/cooling model switch.
- Double protection of temperature control, temperature control and protection of interaction, to ensure the safe operation of the temperature control system.

Specification

- Power Supply: 220VAC 50/60Hz.
- Thermal Sensors: 50k NTC.
- Temperature Display Range: —40. 0℃～+120 ℃. Resolution:0.1C(-9.9 -99.9C).
- Tmperature Controlling Range: —20. 0℃～ + 110℃. Resolution:±1℃.
- Working Environment: −10℃～+60℃. Relative Humidity:20% ~85% (no condensation).
- Master Control Relay Contact Capacity: normally open contact 30A(recommended load: 1 horse refrigeration,heating 2000W).
- Auxiliary Relay Contact Capacity: 3 A normally open contacts.
- Outer Size: Width 160 * High 110 * Depth 96mm. The Bottom Size: Width1 60 * High 200 mm

Pets

Heater