

GTD Series 16 Channels **Temperature Controller**

For GTD-A Version

http://www.toky.com.cn



Features:

- O Multiple thermocouple signal types for option, weak isolation between signal inputs, able to connect grounding probe.
- ⊙With many functions, measured display, control output, RS485 communication, etc
- ⊙Multi PID algorithm for option, with auto-tuning function.
- OWith power uniform distribution function for multi-channel loads.

Suitable for industrial machinery, machine tools, measuring instruments.

National High-tech Enterprise/National Standard Draftin	150	GB		A	
Hotline: 400-0760-168	Version: KKGTE)-16L	-A01-	A/0-20	2101

The instruction explain instrument settings, connections, name and etc, please read carefully before you use the temperature controller. Please keep it properly for necessary reference.

Safe Caution

∆ Warning

- When the failure or abnormal of products lead to a system of major accidents, please set the proper protection circuit in the external. 2)
- Please don't plug in before completing all the wire.Otherwise it may lead to electric shock fire. fault. Not allow to use outside the scope of product specification, otherwise it may lead to
- 3) fire,fault.
- Not allow to use in the place where is inflammable and explosive gas
- Do not touch power terminal and other high voltage part when the power on, otherwise 5)
- you may get an electric-shock. Do not remove, repair and modify this product, otherwise it may lead to electric shock, fire, 6) fault

∆Caution

- 1) The product should not be used in a nuclear facility and human life associated medical equipment
- 2) The product may occur radio interference when it used at home. You should take adequate countermeasures.
- 3) The product get an electric shock protection through reinforced Insulation. When the product is embedded in the devices and wiring, please subject to the specification of embedded devices.
- 4) In order to prevent surge occurs, when using this product in the place of over 30m indoor
- wiring and wiring in outdoor, you need to set the proper surge suppression circuitry.5) The product is produced based on mounting on the disk. In order to avoid to touch the wire connectors, please take the necessary measures on the product.
- 6) Be sure to observe the precautions in this manual, otherwise there is a risk of a major injury or accident.
- When wiring, please observe the local regulation.
- To prevent to damage the machine and prevent to machine failure, the product is connected with power lines or large capacity input and output lines and other methods please install proper capacity fuse or other methods of protection circuit.
- 9) Please don't put metal and wire clastic mixed with this product, otherwise it may lead to electric shock, fire, fault, 10) Please tighten screw torque according to the rules. If not, it may lead to electric shock and
- 11) In order not to interfere with this products to dissipate heat, please don't plug casing
- around the cooling vent hole and equipment.
- 12) Please don't connect any unused terminal.
- 13) Please do the cleaning after power off, and use the dry cleaning cloth to wipe away the dirt. Please don't use desiccant, otherwise, it may casue the deformation or discoloration of the product.
- 14) Please don't knock or rub the panel with rigid thing.
- 15) The readers of this manual should have basic knowledge of electrical,control, computer and communications.
- 16) The illustration, example of data and screen in this manual is convenient to understand,instead of guaranteeing the result of the operation.
- 17) In order to use this product with safety for long-term, regular maintenance is necessary The life of some parts of the equipments are by some restrictions, but the performance of some will change for using many years.
- 18) Without prior notice, the contents of this manual will be change. We hope these is no any loopholes, if you have questions or objections, please contact us

1) This product is used in the following environmental standards. (IEC61010-1) [Overvoltage category II, class of pollution 2].

2) This product is used in the following scope:environment, temperature, humidity and environmental conditions. Temperature:0~50 C ;humidity:45~85%RH; Environment condition:Indoor warranty.The altitude is less than 2000m.

3) Please avoid using in the following places: The place will be dew for changing temperature; with corrosive gases and flammable gas;with vibration and impact;with water, oil, chemicals, smoke and steam facilities with Dust, salt, metal powder;and with clutter interference, static electric and magnetic fields, noise; where has air conditioning or heating of air blowing directly to the site; where will be illuminated directly by sunlight; where accumulation of heat will happen caused by radiation. 4) On the occasion of the installation, please consider the following before installation. In order to protect heat saturated, please ensure adequate ventilation space. Please consider connections and environment, and ensure that the products below for more than 50mm space. Please avoid to installed over the machine of the calorific value (Such as heaters. transformer, semiconductor operations, the bulk resistance). When the surrounding is more

than 50 , please using the force fan or cooling fans.But don't let cold air blowing directly to the product. In order to improve the anti - interference performance and security, please try to stay away from high pressure machines, power machines to install. Don't install on the same plate with high pressure machine and the product.

The distance should be more than 200mm between the product and power line.

2. Cable caution:

1. Installation

1) Please use specified compensation wire in the place of TC input. Please use insulated TC if the measured device is heated metal.

2) Please use the cable of lesser resistance in the place of RTD input, and the cable(3 wire) must be no resistance difference, but the total length is within 5m.

3) In order to avoid the effect of noise, please put the input dignal away from meter cable, power cable, load cable to wiring.

4) In order to reduce the power cables and the load power cables on the effect of this product, please use noise filter in the place where easy to effect. You must install it on the grounding of the disk if you use the noise filter, and make the wiring to be shortest between noise filter output side and power connectors. Don't install fuse and switch on the wiring of noice filter output side,otherwise it will reduce the effect of noise filter. 5) It takes 5s from input power to output. If there is a place with interlocking actions circuit

signal,please use timer relay. 6) Please use twisted pair with a shield for analog output line, can also connect the common-mode coil to the front-end of the signal receiving device to suppress line interference

if necessary, to ensure the reliability of signal.

7) Please use twisted pair with a shield for remote RS485 communication cable, and deal with the shield on the host side earth, to ensure the reliability of signal.

8) This product don't have the fuse; please set according to rated voltage 250V, rated current 1A if you need; fuse type:relay fuse. 9) Please use suitable slotted screwdriver and wire.

. Terminal distance: 5.0mm. Screwdriver size: 0.6X3.5, length of slotted screwdriver

>130mm. Recommended tightening torque: 0.5N.m. Proper cables: 0.25 ~ 1.65mm single cable/multiple core cable

10) Please don't put the Crimp terminal or bare wire part contact with adjacent connector.

II. Model Illustration

GTI	0	A: Version Blank: without RS485 comm. 16: 16 channels	8: with RS485 comm.
	0	T: transistor output F: DC 24V power supply	

- ansistor output
- DC 24V power supply

GTD series multi-channels temperature controller

III. Model description

Model	Control output	RS485
GTDF-T168	Transistor output	Yes
GTDF-T16	Transistor output	No

IV. Specification

1. Electrical parameters:

Transistor open collector outpution level 2
DC 24V, max 100mA, withstand voltage:100V
1 times per second per channel
DC 24V
< 4VA
Indoor use, temperature: $0 \sim 50^{\circ}$ C no condensation, humidity < 85%RH, altitude<2000m
-10 ~ 60°C, no condensation
RS485 port, Modbus-RTU protocol
Input/output/power to shell > 20MΩ
IEC/EN61000-4-2 Contact ±4KV /Air ±8KV perf.Criteria
IEC/EN61000-4-4 ±2KV perf.Criteria B
IEC/EN61000-4-5 ±0.5KV perf.Criteria B
IEC/EN61000-4-29 0% ~ 70% perf.Criteria B
Circuit between power and other input/output AC1000V,1min
About 400g
PC/ABS (Flame Class UL94V-0)
PVC film and PEM silicone key
10 years
Transistor open collector outpution level 2

2. Measurement signal parameter

Inpu	ut Type	Symbol	Measurement range	Resolution	Accuracy	Input impedance/ Auxiliary current	Comm. code
к	K1	61	-50 ~ 1200	1℃	0.5%F.S±3digits	>500kΩ	0
n	K2	65	-50.0 ~ 999.9	0.2°C	0.5%F.S±1°C	>500kΩ	16
	J1	JI.	0~1200	1℃	0.5%F.S±3digits	>500kΩ	1
J	J2	ЗS	0.0~999.9	0.2°C	0.5%F.S±1℃	>500kΩ	17
_	E1	61	0~850	1℃	0.5%F.S±3digits	>500kΩ	2
E	E2	65	0.0~850.0	0.3℃	0.5%F.S±1℃	>500kΩ	18
т	T1	<u>۲</u> ۱	-50 ~ 400	1℃	0.5%F.S±3℃	>500kΩ	3
'	T2	۶5	-50.0 ~ 400.0	0.4℃	0.5%F.S±3℃	>500kΩ	19

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In	out Type	Symbol	Measurement range	Resolution	Accuracy	Input impedance/ Auxiliary current	Comm. code
	В	ь	250~1800	1℃	1%F.S±2℃	>500kΩ	4
	R	~	-10~1700	1℃	1%F.S±2℃	>500kΩ	5
	S	S	-10 ~ 1600	1℃	1%F.S±2°C	>500kΩ	6
N	N1	n ;	-50 ~ 1200	1℃	0.5%F.S±1℃	>500kΩ	7
1	N2	٩n	-50.0~999.9	0.2°C	0.5%F.S±1℃	>500kΩ	20
0	~ 50mV	- 612	-1999~9999	12bit	0.5%F.S±3digits	>500kΩ	12

3. Isolation diagram:

	RS485 port	Eunctional isolation AC 1000V
	AU1 OUT CH1-CH4 transistor output	: Functional isolation AC 500V
Power	OUT CH5-CH8 transistor output	
supply	AU2 OUT CH9-CH12 transistor output	
	OUT CH13-CH16 transistor output	
	TC CH1-CH16 TC input	

V. Dimension and installation (unit:mm)



(N-1)x3.81+4.60 Terminal Top View



Front view of terminal

VI. Wiring diagram



No	Symbol	Name	Function description					
1	PV	PV display (red)	Measured value or parameter menu symbol					
2	sv	SV display (green)	Set value or parameter set value: when it displays					
3	СН	Channel display (red)	Channel number					
	AL1	Alarm 1# indicator (red)	1st alarm indicator, alarm on when the light is on, alarm off when the light is off.					
4	AL2	Alarm 2# indicator (red)	2nd alarm indicator, alarm on when the light is on, alarm off when the light is off.					
4	СОМ	COM indicator (red)	Communication status indicator, after receiving data the light is on, after sending data, the light is off.					
	AT	AT indicator (red)	Auto-tuning indicator, during the auto-tuning process, the light is on.					
	SET	SET key	Menu key/ confirm key, press it to enter/exit parameter modification mode, saving modified value, and switch between channels.					
5	«	Shift/AT key	Activation key/shift key/AT auto-tuning key, in measurement control mode, keep pressing it to enter/exit auto-tuning.					
	*	Add key/ R/S	Add key/menu up key; in measurement control mode, keep pressing it to switch between RUN & STOP mode.					
	≽	Decrease key Decrease key/ menu down key						
6	OUT CH 1-16 control output		Control output indicator of each channel, output on when the light is on, output off when the light is off.					

VIII. Operation process and menu illustration

1. Operation process



a. In normal measurement control mode, keep pressing "ee" key for 3 sec to enter the parameter menu viewing mode, press "ee" key to switch the display channel, the channel number is displayed in the CH indication window, parameters displayed on the panel correspond to the displayed channel numbe.

b. In menu viewing mode, press " $\textcircled{\sc s}$ " or " $\textcircled{\sc s}$ " key to check the common menu parameters circularly.

c. In menu viewing mode, press "()" key to flash the viewed menu parameter value to enter the parameter modification mode, and each press of the key can move one bit to the left in cycle.

d. In parameter modification mode, press " (ゑ) " or " (ゑ) " key once to increase or decrease the flashing data bit by one.

e. In parameter modification mode, after the parameter is modified, press " er " key to save the modified value, and keep pressing it for 3 sec to exit to the menu viewing mode.

f. In normal measurement control mode, keep pressing " () key for 3 sec to enter the PID auto-tuning state.

h.In ormal measurement control mode, keep pressing "(<i>)" key for 3 sec to enter/exit the running mode or stop mode; in stop mode, the SV window displays "STOP". Note: SSM menu should be set as 1 to enable the operation function.

IX. Menu illustration

: No mater what model, what control mode it is, these parameters will be displayed always. Г : According to different model and control mode, these parameters will be hidden. 1. Common menu illustration

No.	Symbol	Name	Illustration	Setting range	Factory setting				
1	PY	PV	Measured value, it will flash or display LLLL/ HHHH when the value overflow measure range. Unit: °C /°F or no unit.	Refer to measured signal table	No				
2	50	SV	Target temperature set value,unit:°C /°F or no unit.	SLL~SLH	200				
3	СH	CH	Channel number display window	1~99					
4	108	LCK	Lock function; 0001:SV value cannot be changed; 0010: menu set value can be read only; 0033: advanced menu can be accessed; 0123: menu restore factory setting	0~9999	0				
5	866	ADD	Communication address for this meter	1~247	1				
6	683	BAD	RS485 communication baud rate 0: 1200; 1: 2400 2: 4800; 3: 9600; 4: 19200; 5: 38400; 6: 57600; 7: 115200;	0~7	3				
7	рису	PRTY	Communication parity check setting, 0:NO 1:ODD 2:EVEN	0~2	0				
8	J986	DATC	Communication data transport sequence 000; 1st bit function reserved; 2nd bit is byte sequence exchange; 3rd bit function reserved.	Refer to communication protocol	0				

3 R.: Au. Tot altern value, note: the minus is dealed as aboulde FL - FH International activity of the about	No.	Symbol	Name	Illustration	Setting range	Factory
10 May I HYM 1-size for the second model. 0 - 1000 1 11 May I (M) 1-second model. 0 - 1000 1 12 May I (M) 1-second model. 0 - 1000 1 12 May I (M) 2-rel atam value, when AD1-8, and aber fully control. 0 - 1000 1 13 May I (M) 2-rel atam value, when MD1-8, in a deviation value. 0 - 6 4 14 May I (M) 2-rel atam value, when it is as a deviation value. 0 - 6 4 15 ek (M) 2-rel atam value weak it is increase for outing weak it. File outing weak it. 0 - 6 4 16 P P Prophosing data the main its base its down and the set outing weak i				1st alarm value, note: the minus is dealed as absolute		setting 10
Image (1) Encience Numer AD1-56, 2nd attarm function is mixed. 0	-					
12 RL2 Aug 2nd alarm value, note the minus is dealed as FL - FH S 13 MS2 MY2 And alarm mode 0 - 1000 1 14 MS2 MY2 And alarm mode 0 - 5 1 15 ek OT How of the minute is and advalue output; 5: PID Cooling, output; 6: PID Cooling, output; 7: PID	11		AD1	1st alarm mode,note: when AD1=0, close alarm	0 ~ 12	3
13 142 147 20-1000 1 14 R82 Q12 2nd alarm hydresis 0 - 6 4 15 cs Q1 Control Mode, D; CM/OFF Heating control; 1: FID Control 0 - 6 1 15 cs Q1 Control Mode, D; CM/OFF Heating control; 1: FID Control 0 - 5 1 16 P P Phoptomular the male to string use a, the later term of the divide of walks. Demands the	12	0.2		2nd alarm value, note: the minus is dealed as	FI ~ FH	5
14 Re2 AD2 PAD 2nd atam mode 0 -6 4 15 e^{\pm} OT Control Mode, 0: ON/OFF Heating control: 1: PID Mode: 16 colling, 2: ON/OFF Heating control for the step control for the mode mode: 16 colling, 2: ON/OFF Heating control for the step control for the mode mode: 16 colling, 2: ON/OFF Heating control for the step control for the mode mode: 16 colling, 2: ON/OFF Heating control for the step control for the mode mode: 16 colling, 2: ON/OFF Heating control for the step contr						-
Image: Construct of the set of the second process of the second p			AD2			4
4: Over temperature cooling output; 5: PID Cooling 16 P 17 1: Poportional and the main for setting using in the fasting the proportional and the seture is the stonger the integral ation is. Integral the the state is the stonger the integral ation is. Integratine the state is the stonger the deviation of the deviation of the state is the stonger the value is the stonger the deviation of the stonger the value is the value is the stonger the value is the value is the stonger the value is thevalue is thevalue is the value is the value is the value is theva			(1)	Control Mode, 0: ON/OFF Heating control; 1: PID		
Image: Second	15	30	OT	heating;2: ON/OFF Cooling control;3: Reserved; 4: Over temperature cooling output; 5: PID Cooling	0~5	1
17 1 1 otherwise it is weaker and the more it tends to elimitate the finitual tends is to weak. Units is the elimitate in the system specification can be elimitated the initial of the set weak. The system specification can be estimated the initial of the elimitate intervent tends to elimitate the system suitable value. The langer the value is, the stronger the differential action is. Units is suitable value. The langer the value is, the stronger the differential action is. Units is suitable value. The langer the value is, the stronger the differential action is. Units is suitable value. The langer the value is the stronger the differential action is. Units is sub to the value is the stronger the value is the stronger the value. Stronger the value is the stronger the value is the stronger the value. The value is the stronger the value is the stronger the value. The value is the stronger the value is the stronger the value is the value is the value is the stronger the value is thevalue is the value is thevalue is the value is the value	16	p	Ρ	Proportional band: the smaller the setting value is, the faster the system responds; otherwise, it is slower. Increasing the proportional band can reduce the oscillation, but it will increase the control deviation. Decrease the proportional band can reduce the control deviation, but it will cause	0~9999	30
18 diamonal D prevented by reducing the differential action to a suitable value. The larger fite value is, the stronger 0-9999 30 19 x-15 OVS Fite larger fite value is, the stronger walue is, the stronger value is, the value is, the stronger value is, the stronger value is, the stronger value is, the stronger value value is, the stronger value val	17	;	I	otherwise, it is weeker. and the more it tends to eliminate the deviation from the set value. The deviation may not be eliminated if the integral	0~9999	120
19 o:15 OVS Stylest value) ¹ OVS(prestion limit), fore to doe output, the worse the control stability is Please set the appropriate value according to the actual statutor. This Hornis is unavailable with its 09999 5 20 R + 5, AM AM AUTO-AM AUTO-AM AUTO-AM 21 C P C P Destination control study is please set the appropriate value set to 0 1200 1 22 As b AM Morris MAN(T) is manual control comport. Unit is 1200 1 23 LoP POT control organ control organ compressor refrequention 1999.9 - 5.0 23 LoP INP Pestion control hystersigNegabive return differential control of control and to the decimality of the decimal present table (transpart) parameters to a malled 1999.9 999.9 5.0 24 PS PS Amend value, display value= actual measured value (transpart) status and table of the decimal measured value (transpart) status and table on the deciman measure table on the decimal	18	0	D	prevented by reducing the differential action to a suitable value. The larger the value is, the stronger the differential action is. Unit: s	0~9999	30
20 RADIE ANDIE ANDIE ANDIE 21 C2 CP CP OUT1 control cycle, 1:SS control output. 1 - 200 1 22 db DB Position control hystersis/progative return differential control), or cooling control and compressor refrigeration prostion. -1999.9. -999.9. 5.0 23 Lo2 NN Optional input signal see the corresponding table of input signal anameters for details. Note: output (page 2) -1999.9. 5.0 24 PS PS Amend value (signal value= actual measured value entropic trainer strains (page 2) -1999.9. 9.0 25 RC; ACT Control Mode 0 1: SSR Output or Transistor output (0.0. 0.0. -5 0 26 RC; ACT Control Mode 0 1: SSR Output or Transistor output (0.0. 0.0. -2.0 (0.0. 0.0. 27 RE2 AD2 Andia table standard and matching and the standard and s	19	aus	ovs	value) > SV(set value) + OVS(overshoot limit), force to close output. The smaller this value is, the smaller the PID adjustment range is, the worse the control stability is. Please set the appropriate value according to the actual situation. This function is unavailable when it is set to 0	0~9999	5
21 121 12 <t< td=""><td>20</td><td>8-5</td><td>A-M</td><td></td><td>AUTO~AM</td><td>AUTO</td></t<>	20	8-5	A-M		AUTO~AM	AUTO
22 4-200 Flag Control and compressor refiguration 199.9 ~ 22 db DB Position control hystersis/generation differential control, or cooling to the desimal point position. 199.9 ~ 23 hu0 NIN Position control and compressor refiguration. 199.9 ~ 23 hu0 Initial parameters to be expressor refiguration. 199.9 ~ 5.0 24 PS PS Amend value, display value= actual measured value. 199.9 ~ 199.9 ~ 24 PS PS Amend value, display value= actual measured value. 199.9 ~ 199.9 ~ 25 Action Mame Illustration Setting range first to input display value: actual measured value. 199.9 ~ 199.9 ~ 26 RE2 Ad alarm extensions function, refer to alarm extension on cost on the display value, this value is unrelated with actual measured value. Setting range first to input display value, this value is actual to Cost this value on some costains its value is actual to Cost this value. So in cost to its function. The inear signal input mit the setting value. First to its value is actual to Cost this value. For the paratio so to cost this the range on the paratio so to cost this the range. 0.0 ~ 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0 (0 2.0	21	5P	СР	OUT1 control cycle, 1: SSR control output,	1 ~ 200	1
22 db DB control and compressor refigeration -199.9 - 999.9 5.0 23 In-0 INP Optional input signal searches for details.Note: other refevant parameters for details.Note: other refevant parameters for details.Note: other refevant parameters is to be modified -referant is input refevant parameters is to be modified -referant is input referant parameters is to be modified -referant parameters is to referant parameters is to be modified -referant parameters is to referant parameters is the referant parameters is to referant parameters is the referant parameters is the refarat parameters is the refaration parameters is the ref						
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[24] (**) PS + amend value (**) <td>23</td> <td>inP</td> <td>INP</td> <td>input signal parameters for details,Note: other relevant parameters to be modified</td> <td>signal para- meters table</td> <td>K1</td>	23	inP	INP	input signal parameters for details,Note: other relevant parameters to be modified	signal para- meters table	K1
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1 1 0			AE1	1st alarm extensions function, refer to alarm extension		
27 Hisc (2) extension function table 0-3 0 28 aP DP Decimal point setting is effective under the linear signal input 0-3 0 29 dt- DTR PV fuzzy tracking value, properly set this value on some occasions. It can get a more stable control display value, hits value is unrelated with actual measured value. Note: after setting this value, eatam output operation is subject to actual measured value, 26 tas 0 to close this function. The temperature input unit Pahrenheit or Calsus. The inear signal input unit Engineering Digits 0.0 ~ 2.0 0.0 ~ 1 0. 30 555 SSM Press the key on the panel to switch the RUN/STOP operation switch. 0: prohibited, 1: OPEN 0 ~ 1 0 31 511 FL Low limit of target setting value range FL-FH Measure range low limit, the setting value Refer to measured signal parameter table 0 33 FL FL Measure range low limit, the setting value Refer to measured signal parameter table 0.0 0.0 0.0 34 FH H Measure range how limit, the setting value 0.0 -5.0 100.0 0.0 35 oLL OLL Output tow limit, limit		-				
28 8P DP signal input 0 0 29 dt- DT FV fuzzy tracking value, properly set this value on some occasions. It can get a more stable control display value, Note: after setting this value, elarm output operation is subject to actual measured value, alarm output operation is subject to actual measured value, alarm output operation is subject to actual measured value, alarm output operation is subject to actual measured value, alarm output operation is subject to actual measured value, alarm output operation is subject to actual measured value, alarm output operation is subject to actual measured value, alarm output operation is subject to actual measured value, alarm output operation is subject to actual measure and put off. 0.0 ~ 2.0 0.0 ~ 2.0 30 555 SSM Press the key on the panel to switch the RUN/STOP 0 ~ 1 0 31 5LL SLH Nue winth 0; prohibited, 1: OPEN 0 ~ 1 0 33 FL FL Measure range low limit, the setting value Refer to measure tange to winth. 34 FH FH Measure range low limit, the setting value Refer to measure tange to winth. 35 SLL OLU Output tow limit, limit the output low limit current amplitude. 0.0 ~ 100.0 36 SLH FF FV digital filter coefficient, the value larger, the stronger of the filtering effect 0 ~ 255 10 37 FE FT Output tow limit, timit the output high li	27	H66		extension function table	0~5	0
29 dtr - DTR ccasions, it can get a more stable control display value, its value is unrelated with actual measured value. Note: and ther setting value, alarm output operation is subject to to S-2.0 (0~2.0) 0.0 ~ 2.0 (0~2.0) 30 555 SSM persent time value. Set as 0 to close this function. The temperature input unit: Engineering Digits 0.0 ~ 1 0 31 51.1 SLH ELM With of target setting value range FL-FH 0 32 51.4 SLH High limit of target setting value range FL-FH 0 33 51.4 FL Measure range low limit, the setting value mage Refer to measured signal parameter table 0 34 51.4 FH Measure range high limit, the setting value mage best table value must be less than measure range low limit. Refer to measured signal parameter table 35 51.2 OLL Output low limit, limit the output low limit current amplitude. 5.0 ~ 100.0 0.0 36 51.4 OLL Output ligh limit, limit the output low limit setting 0.0 ~ 255 10 37 52 FT OLD to light light control (FLZ): Advanced fuzzy PID FUZ/STD FUZ 38 92 PT Compressor start delay time, unit: s<	28	ЗP	DP		0~3	0
30 \$55* SSM Press the key on the panel to switch the RUN/STOP operation switch, 0: prohibited, 1: OPEN 0 ~ 1 0 31 \$11 SLL Low limit of target setting value range FL~FH 32 \$1.H SLH High limit of target setting value range FL~FH 33 FL FL Measure range low limit, the setting value must be less than measure range high limit must be more than measure range low limit. Refer to mesure signal parameter table 34 FH Measure range high limit, the setting value must be more than measure range low limit. Refer to mesure signal parameter table 35 ott. OLL Output low limit, limit the output high limit current amplitude. -5.0 ~ 100.0 0.0 36 ott. OLL Output low limit, limit the output high limit current amplitude. -5.0 ~ 100.0 0.0 37 FL FT PV digital filter coefficient, the value larger, the stronger of the filtering effect 0 ~ 255 10 38 PL PT Compressor start delay time, unit: s 0 ~ 0 9999 0 39 Pot PDC PID algorithm option: (ICU2): Advanced fuzzy PID rutput measured signal parameter start start mustes time store start meastronge locator: (26)°F (25)	29	dtr	DTR	occasions, it can get a more stable control display value, this value is unrelated with actual measured value. Note: after setting this value, when alarm setting value is equal to SV setting value, alarm output operation is subject to actual measured value. Set as 0 to close this function. The temperature input unit: Fahrenheit or Celsius. The		1.0
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33 FL FL Inclusion of the parameter is a set of the parameter is p	32		SLH			
34 FH Measure range high limit, the setting value must be more than measure range low limit. Refer to measure signal parameter signal parameters are written into setting value must be greater than low limit setting Refer to measure signal si	33	۶ε	FL		measured signal	0
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36 situal value influst be tess than flight minit certaing 0.0 ~ 105.0 100.0 37 Fit FT Setting value must be greater than low limit setting 0.0 ~ 105.0 100.1 37 Fit FT PV digital filter coefficient, the value larger, the stronger of the filtering effect 0 ~ 255 10 38 Pt PT Compressor start delay time, unit: s 0 ~ 9999 0 39 Pst PDC PID algorithm option:0(FUZ): Advanced fuzzy PID arithmetic; 1(STD): normal PID arithmetic FUZ/STD FUZ 40 Ufilts UNIT note: this unit setting 'C. Celsius 'F: Fahrenheit, measurement signals, '': No unit display (26)'F (25)'C (25)'C 40 Ufilts UNIT note: this unit setting rotection; (RAM): RAM without power failure protection, RAM, RAM without power failure, ti s generally used for frequent writing, The parameters served in EEPROM has the limit of writing. The parameters strate the parameters are written into be canged RAM. it means that the parameters saved in EEPROM with the upper computer PLC. The method of using this parameter, is parameter served are saved in EEPROM, and then PRS is modified to RAM, and the equipment factory h	25		011			0.0
30 32.4 OLD Setting value must be greater than low limit setting 0.0 100.0 37 FL FT PV digital filter coefficient, the value larger, the stronger of the filtering effect 0 ~ 255 10 38 PL PT Compressor start delay time, unit: s 0 ~ 9999 0 39 P.C PDC PID algorithm option:0(FUZ): Advanced fuzzy PID arithmetic; 1(STD): normal PID arithmetic FUZ/STD FUZ 40 USHE UNIT Temperature unit setting is only for temperature measurement signals, "": No unit display (25)°C (25)°C (25)°C (25)°C 40 USHE UNIT Note: EEP and RAM. EEP means that the setting parameter serve position: 0 (EEP):EEPROM with out power failure protection. Bescription of setting parameter storage location: EEP and RAM. EEP means that the setting parameters are written into EEPROM and can be permanently saved after power failure. It is generally used for factory setting parameters of equipment. Because EEPROM by the equipment manufacture. It is usually used for frequent parameters of equipment. Because EEPROM how the upper computer PLC. The method of using this parameter is parameters saved in EEPROM with the upper computer PLC. The method of using this parameters that the parameters saved in EEPROM, and then PRS is modified to RAM, and the equipment is delivered to the user for use, so as to prevent erroneous modification or long-term communication writing data from damaging the EEPROM. EEP/RAM EEP/RAM <	35	OLL	OLL	Setting value must be less than high limit setting	-5.0 ~ 100.0	0.0
37 P+2 P1 stronger of the filtering effect 0 × 233 10 38 P2 PT Compressor start delay time, unit: s 0 ~ 9999 0 39 P2.C PDC PID algorithm option:0(FUZ): Advanced fuzzy PID arithmetic; 1(STD): normal PID arithmetic FUZ/STD FUZ 40 Ufilt: UNIT Temperature unit setting "C: Celsius "F: Fahrenheit, note: this unit setting is only for temperature measurement signals, "_": No unit display (25)°C (25)°F (25)°F 40 Ufilt: UNIT Temperature unit setting is only for temperature measurement signals, "_": No unit display (26)°F (25)°C 41 UNIT: EEP arameter reserve position: 0 (EEP)EEPROM with power failure protection. Description of setting parameter storage location: EEP and RAM. EEP means that the setting parameters are written into EEPROM and can be permanetly saved after power failure. It is generally used for factory setting parameters of equipment. Because EEPROM has the limit of writing times, box many and too frequent writes will be damaged (RAM: it means that the parameters are stored in RAM without writing limit and will not be damaged due to frequent writing. The parameters saved in EEPROM by the equipment manufacture. It is usually used for frequent parameters writing when communicating with the upper computer PLC. The method of using this parameter is tos at this parameter to EEP First. After the equipment and set the parameters is modified to RAM, and the equipment and set the parameters is modified to RAM, and the equi	36	аξЯ	OLH		0.0 ~ 105.0	100.0
38 Pt PT Compressor start delay time, unit: s 0 ~ 9999 0 39 PdC PDC PID algorithm option:0(FUZ): Advanced fuzzy PID arithmetic; 1(STD): normal PID arithmetic FUZ/STD FUZ 40 USHE UNIT note: this unit setting 'C: Celsius 'F: Fahrenheit, measurement signals, '''': No unit display (25)°C (26)°F (25)°C 40 USHE UNIT note: this unit setting is only for temperature measurement signals, '''': No unit display (26)°F (25)°C 41 Setting parameter reserve position: 0 (EEP):EEPROM with power failure protection, 1(RAM): RAM without power failure protection. EEP and RAM. EEP means that the setting parameters are written into EEPROM and can be permanently saved after power failure. It is generally used for factory setting parameters of equipment. Because EEPROM has the limit of writing times, too many and too frequent writes will be damaged PAM: it means that the parameters are stored in RAM without miting limit and will not be damaged due to frequent writing. The parameters saved in EEPROM by the equipment manufacturer. It is usually used for frequent parameters writing when communicating with the upper computer PLC. The method of using this parameters, the parameters are saved in EEPROM and then PRS is modified to RAM, and the equipment is delivered to the user for use, so as to prevent erroneous modification or long-term communication writing data from damaging the EEPROM. EEP/RAM EEP/RAM 42 -55 RSS RSUNSTOP reserve positi	37	۶٤	FT	PV digital filter coefficient, the value larger, the	0 ~ 255	10
33 P34: PDC arithmètic; 1(STD): normal PID arithmetic PD2/SID	38	PE	PT	· · ·	0 ~ 9999	0
40 Unite Unite (STD): normal PD antimited: (25)°C 40 Unite UNIT Temperature unit setting is only for temperature measurement signals, ".": No unit display (25)°C 40 Unite UNIT note: this unit setting is only for temperature measurement signals, ".": No unit display (26)°F (25)°C 40 Setting parameter reserve position: 0 (EEP):EEPROM with power failure protection. Description of setting parameter storage location: EEP and RAM. EEP means that the setting parameters are written into EEPROM and can be permanently saved after power failure. It is generally used for factory setting parameters of equipment. Because EEPROM has the limit of writing times, too many and too frequent writes will be chamaged f4AM: it means that the parameters saved in EEPROM by the equipment manufacturer. It is usually used for frequent parameters writing when communicating with the upper computer PLC. EEP/RAM EEP 41 9-5 PRS set after the equipment factory has finished debugging the equipment and set the parameters are saved in EEPROM by the equipment factory has finished debugging the equipment and set the parameters, the parameters are saved in EEPROM, and then PRS is modified to RAM, and the equipment is delivered to the user for use, so as to prevent erroneous modification or long-term communication writing data from damaging the EEPROM. EEP/RAM EEP 42 -55 RSS RUNISTOP reserve position." (EEP):EEPROM with power failure protection. (fRAM): RAM without power failure protection. (fRAM): RAM without power	39	275	PDC	PID algorithm option:0(FUZ): Advanced fuzzy PID	FUZ/STD	FUZ
41 Setting parameter reserve position: 0 (EEP):EEPROM with power failure protection; 1(RAM): RAM without power failure protection. Description of setting parameter storage location: EEP and RAM. EEP means that the setting parameters are written into EEPROM and can be permanently saved after power failure. It is generally used for factory setting parameters of equipment. Because EEPROM has the limit of writing times, too many and too frequent writes will be damaged;RAM: it means that the parameters are stored in RAM without writing limit and will not be damaged due to frequent writing. The parameters set after the equipment is powered off will not be saved. After power on, they will be restored to the parameters saved in EEPROM by the equipment multifacturer. It is usually used for frequent parameters writing when communicating with the upper computer PLC. The method of using this parameter is to set this parameter to EEP first. After the equipment factory has finished debugging the equipment and set the parameters, the parameters are saved in EEPROM, and then PRS is modified to RAM, and the equipment is delivered to the user for use, so as to prevent erroneous modification or long-term communication writing data from damaging the EEPROM. EEP/RAM EEP 42 -55 RSS RUN/STOP reserve position: 0 (EEP):EEPROM with power failure protection: 1(RAM): RAM without power failure protection. this parameter method: if the instrument is required to be in stop mode every time when it is powered on, first set RSS to EEP, and then set "start stop operation" = STOP. This setting parameter will be saved for a long time; Then set RSS to RAM. When using, the upper computer starts/stops the instrument still enters STOP mode. EEP/RAM EEP				Temperature unit setting °C: Celsius °F: Fahrenheit,	(25)°C	(25)°C
41 9-5 PRS set of factory setting parameters of equipment. Because EEPROM has the limit of writing times, too many and too frequent writes will be damaged/RAM: it means that the parameters are stored in RAM without writing limit and will not be damaged due to frequent writing. The parameters set after the equipment is powered off will not be saved. After power on, they will be restored to the parameters saved in EEPROM by the equipment manufacturer. It is usually used for frequent parameters writing when communicating with the upper computer PLC. The method of using this parameters is modified to RAM, and the equipment and set the parameters are saved in EEPROM by the equipment factory has finished debugging the equipment and set the parameters, the parameters are saved in EEPROM. and then PRS is modified to RAM, and the equipment is delivered to the user for use, so as to prevent erroneous modification or long-term communication writing data from damaging the EEPROM. EEP/RAM EEP/RAM 42 -55 RSS RSUNISTOP reserve position: 0 (EEP):EEPROM with power failure protection; 1(RAM): RAM without power failure protection, this parameter method; if the instrument is required to be in stop mode every time when it is powered on, first set RSS to EEP, and then set "start stop operation" = STOP. This setting parameter will be saved for a long time; Then set RSS to RAM. When using, the upper computer starts/stops the instrument, which is stored in RAM. After power on again, the instrument stime parameters starts of long time; Then set RSS to RAM. EEP/RAM EEP	40	Unit	UNIT	note: this unit setting is only for temperature measurement signals, "_" : No unit display Setting parameter reserve position: 0 (EEP):EEPROM with power failure protection; 1(RAM): RAM without power failure protection. Description of setting parameter storage		(25)℃
42 -55 RUN/STOP reserve position: 0 (EEP):EEPROM with power failure protection; 1(RAM): RAM without power failure protection, this parameter method: if the instrument is required to be in stop mode every time when it is powered on, first set RSS to EEP, and then set "start stop operation" = STOP. This setting parameter will be saved for a long time; Then set RSS to RAM. When using, the upper computer starts/stops the instrument, which is stored in RAM. After power on again, the instrument still enters STOP mode. EEP/RAM The actual power of each channel load, used for the The actual power of each channel load, used for the	41	P-5	PRS	parameters are written into EEPROM and can be permanently saved after power failure. It is generally used for factory setting parameters of equipment. Because EEPROM has the limit of writing times, too many and too frequent writes will be damaged;RAN: It means that the parameters are stored in RAM without writing limit and will not be damaged due to frequent writing. The parameters set after the equipment is powered of will not be saved. After power on, they will be restored to the parameters saved in EEPROM by the equipment manufacturer. It is usually used for frequent parameters writing when communicating with the upper computer PLC. The method of using this parameter is to set this parameter to EEP first. After the equipment factory has finished debugging the equipment and set the parameters are saved in EEPROM, and then PRS is modified to RAM, and the equipment fication or long-term communication	EEP/RAM	EEP
	42	-55	RSS	RUNSTOP reserve position: 0 (EEP):EEPROM with power failure protection; 1(RAM): RAM without power failure protection. this parameter method: if the instrument is required to be in stop mode every time when it is powered on, first set RSS to EEP, and then set: "start stop operation" = STOP. This setting parameter will be saved for a long time; Then set RSS to RAM. When using, the upper computer starts/stops the instrument, which is stored in RAM. After power on again, the instrument still enters STOP mode.	EEP/RAM	EEP
43 LPH total power limit; Unit: KW.When set to 0, this channel 0.0~999.9 0.0 don't participate in power limitation	43	сРя	LPH	total power limit; Unit: KW.When set to 0, this channel	0.0~999.9	0.0

Conti	inued													
No.	Symbol	Name				I	llus	stration				Setti	ng range	Factory setting
44	ડાશ	SLPL	Total power limit, limits the pow participating channel when the controls exceeds the total powe no power limit function					ver distribution of each total power of channel output er limit value; Unit: kW; Set to 0,				0.0	~ 999.9	0.0
45	RU IP	AU1P (3)	Auxiliar AU2 ou	y out	put 1 p functior	rogramr า	nin	g, use f	or pro	gramm	ing	() ~ 32	1
46	RUSP	AU2P (3)	Auxiliar AU2 ou			rogramr า	ning	g, use f	or pro	gramm	ing	()~32	17
47	ძი	DN				of chann annels ac							1~16	16
48	dhS	DNS	number (of cha	nnel 1 in	annel nun 1 multi-ma 318 repr	chir	ne applic	ation. F	or exam	ple:		1~84	1
49	dat	DNT		<i>.</i>		me, 0 mea	ns c	cancel au	itomatic	cycle dis	splay	()~99	4
50	287	VER	Softwa	re ve	rsion.									
			ters and											
·		criptio	n: "☆" n	nean	s HY, "									eeeb)
Alarr code		A	larm mo	de									lent from larm acti	
1	Hig ala		absolut	e va	lue			∆ sv		V ☆ A			→ → PV	
2	Lov ala		absolute	e val	ue					AL	☆₩	∆ sv	→ PV	
3		ligh lim ue alar	nit devia m	tion						∆ sv	SV+AL		→ → PV	
4	×L ala		it deviat	tion v	alue			<u> </u>	SV-AL	☆ ¥ 	;		→ PV	
5		ligh/lov ue alar	w limit d m	eviat	ion				SV-AL	∆ SV	SV+AL		→ → PV	
6		ligh/lov ue alar	w limit ir m	nterva	al			,	SV-AL	∆ sv	SV+AL	₹↓	→ PV	
Alarr code		A	Jarm mo	ode									AL2) are ust be se	
7			ow limit val alarr		olute		AL1			∆ sv		A	≜ ☆ ↓	→ PV
8		Migh and low limit deviation value interval alarm ↓☆↓ ↓☆↓					 ► PV							
9	and		t absolu nit devia ırm				☆ SV-F	AL1		∆ sv		A	<u></u> <u></u> <u></u>	→ PV
10	and		t deviati nit absol ırm			F	AL1	.		∆ sv		sv	+AL2	→ PV
11	High		mit abso	olute	value	<u> </u>			AL1	∆ sv	AL	2		⇒ P\
12	High		mit devi	ation	value	*		S۱	▲ ☆ ↓	∆ sv	v☆ sv+	AL2		₽V
abso	olute va	alue.				on alarn	n is	set as	a neg	jative i	numb	er, it w	ill be dea	led as ar
	Alarm		sion fun n handli			when								
	alue		display						Р	ower o	on, ala	arm inf	nibition	
	0		n status						P	ower	on, no	alarm	inhibitio	n
	1		Forced	alarr	n outpu	ut (As long as the alarm condition is met, alarm								
	2		Forced	aları	m close	Э				output	Imme	ediatel	y.)	
	3	Alarm	n status	rema	ains the	e same							nibition	
	4		Forced	alarr	n outpu	ut	(PV value arm is fo	
	5		Forced			e							rk norma	
(3)	Auxilia	Auxiliary output function table						, ,						
Code	Function Code Fu		Inction		Code	Fu	Inction		Code	Fund	tion			
0	NO 9 CH		19-AL1	18 CH2-AL2		27	CH11	-AL2						
1	CH1-AL1 10 CH		10-AL1	_	19	CH	H3-AL2		28	CH12	2-AL2			
2	CH2-AL1 1		11	CH	11-AL1				29	CH13	3-AL2			
3	CH3-AL1		.1	12	CH	12-AL1		21	CH	15-AL2		30	CH14	-AL2
4		CH4-AL1		13		13-AL1		22		H6-AL2		31		5-AL2
5	-	CH5-AL		14		14-AL1		23		H7-AL2		32		6-AL2
6	-	CH6-AL		15		15-AL1		24		-18-AL2				
7		CH7-AL		16		16-AL1		25		19-AL2				
-	+			10	01	10-74L1		20	0	10-ALZ				

X. Key function operation 1. Monitoring mode operation(RUN/STOP)

CH8-AL1

17

26

CH10-AL2

CH1-AL2

SSM is set in open meter operation; (Otherwise, the settings only be modified during communication.
 Under the measure mode, long press " (A)" key to enter the STOP mode, SV window will display "STOP", main control output will stop or keep the minimum output.
 Under STOP mode, long press " (A)" key to exit STOP mode, press " (K)" key to modify SV value.

Under STOP mode, alarm output and analog output work normally.
 PID auto-tune operation:

8

Continued

Before auto-tune procedure, please switch off the control output load power, or set the meter as STOP mode.

2) Before auto-tune procedure. PV value should meet below condition: when it is PID heating control. PV needs to be much smaller than SV; when it is PID cooling control, PV needs to be much larger than SV. 3) Before auto-tune procedure, please set a proper alarm value or eliminate the alarm condition, in order to prevent the auto-tune procedure from being affected by alarm output.

Set PID type and SV value; the factory default setting is fuzzy PID.
 Set as PID control, if there is OLL & OLH output limiting, please set the output to a proper range;

factory default setting is OLL=0%, OLH=100%. 6) Exit STOP mode, or switch on the load Power, immediately long press " (()" key to enter auto-tune mode, then the AT indicator light is on...

The auto-tune procedure will take some time, in order not to affect auto-tune result, please don't modify the parameters or power-off.

8) When AT light goes out, it automatically exits auto-tune mode, PID parameters will be updated automatically, and then the meter will control automatically and exactly.

9) During the auto-tune procedure, below actions will cause the termination of the precess, long press "(CC)" key, measure beyond the scope, abnormal display, switch to STOP mode, power-off, etc. 10) Note: In the occasions with output limiting operation, sometimes, even if the auto-tune is carried out, the best PID parameters still cannot be obtained.

11) Experienced users can set a proper PID parameter according to their experience.

3. Single channel power limit:

Single criatine power limit: 1) OLL and OLH are used to limit the mini to maximum range of the single channel output control amount, which is 0 to 100% by default. 2) The OLL setting value must be less than the OLH setting value. 3) If the OLH setting value is too small, the control efficiency and speed will be affected, and the target value may not be reached. 4) The single-channel power limit cannot realize the total power limit function

4. Total power limit function:

1 otal power limit uncuon: 1) When the actual power LPH setting value of each channel is greater than 0, that is, this channel participates in the function of total power limit SLPL and power even distribution. 2) If the total power limit value SLPL is set too small, it will affect the control response speed of each limit channel, or even fail to reach the target value. Therefore, it should be set appropriately according to the actual diffusion. to the actual situation.

3) After setting the LPH and SLPL values, the controller will automatically stagger and distribute the load power evenly to avoid the impact of the simultaneous full power output of each channel on the

grid yIII. 4) The channel that is performing auto-tuning will temporarily exit the total power limit, and will automatically recover after the auto-tuning is completed.

XI. Simple troubleshooting method

Display	How to troubleshoot
LLLL/HHHH	Check whether the input is disconnected; check the FH value and FL value; whether the work temperature is normal & the input signal selection is correct.
No display after power on	Check whether the voltage is normal; whether the contact is poor; whether the internal protection of grid harmonics is too high.
No output	Check whether the wiring is correct; whether the contact is bad; whether the ACT/OT menu setting is wrong;
No communication	Troubleshoot hardware connection, instrument settings,software read settings; binary conversion errors; address errors; data errors

XII. Protocol

It uses Modbus RTU communication protocol, read 04 area to keep the register function number be 0x03, write function number 0x10 or 0x06, adopts 16-bit CRC check, it does not return the check error. The data type is a 16-bit signed or unsigned integer.

Data frame format:

Start bit	Data bit	Stop bit	Check bit
1	8	1	None/Odd/Even

1. Read register

Example: The host reads PV1 value (PV1=200)

The register address of PV1 is 0x2000 ("0x" stands for hexadecimal), because the data type of SV is a 16-bit integer (2 bytes), 1 register. The decimal integer 200 is converted to hexadecimal as 0x00C8. Note: When reading data, you should first determine the decimal point position and convert the read data to get the actual value.

Read multiple registers	Device address	Function code	Start ADD High bit	Start ADD Low bit	Data Length high bit	Data Length low bit	CRC code	CRC code
Host request	0x01	0x03	0x20	0x00	0x00	0x01	0x8F	0xCA
Slave responds normally	0x01	0x03	0x02 nc	of bytes	0x00	0xC8	0xB9	0xD2
Slave abnormal response	0x01	0x83	0x02 Error code Example: host request add is 0x2011			0xC0	0xF1	

2. Write multiple registers

Example: The host writes multiple registers (using function code 10) write SV1 value (SV1=150) The register address of SV1 is 0x2110, because the data type of SV1 is 16-bit integer (2 bytes), 1 register. The decimal integer 150 is converted to hexadecimal as 0x0096. Before writing data, convert the data to the corresponding magnification and then write the data to the meter.

	Host request (write multiple registers)												
Meter add	Function code	Start ADD High bit	Start ADD Low bit	Data length high bit	Data lengti low b	h byte	Data high bit	Data low bit	CRC code				
0x01	0x10 0x21 0x10		0x00 0x01		0x02	0x02 0x00		0x15	0xAC				
		Slave	responds r	normally (v	write m	ultiple regis	sters)						
Meter add	Func		Start Start ADD ADD High bit Low bit		it	Data length high bit	Data length low bit		code bit	CRC code high bit			
0x01	0x01 0x10 0x2		0x21	0x10)	0x00	0x01	0x	0A	0x30			

Host write single register (06 function code) write SV value (SV=150)

Write single register	Meter add	Function code	Add high bit	Add Iow bit	Data high bit	Data low bit	CRC	CRC
Host request	0x01	0x06	0x21	0x10	0x00	0x96	0x02	0x5d
Slave normal responds	0x01	0x06	0x21	0x10	0x00	0x96	0x02	0x5d
Slave abnormal response	0x01	0x86 fun	ction code	0)	02 erro coo	le	0xC3	0xA1

Communication abnormal handling: In the case of abnormal response, the highest bit of the function number is set to 1. For example, if the function number requested by the master is 0x03, the corresponding item of the function number returned by the slave is 0x83. 0x01---Illegal function: The instrument with the function number sent by the host does not support it. 0x02---The address is illegal: the register address specified by the host exceeds the allowable range of the instrument parameter address.

range of the instrument parameter address. 0x03----Illegal value: The write data value sent by the host exceeds the allowable range of the instrument.

Instrument parameter address mapping table

No.	Address (register number ①)	Parameter	Parameter Description	Qty	Read Write	Remark					
1	0x2000~0x200F(48193~48208)	PV1~PV16	Measured value	1	R						
2	0x2010~0x201F(48209~48223)	STA1~STA16	Status value	1	R						
	Unlisted address reserved										
3	0x2100~0x210F(48449~48464)	MV1~MV16	PID control output	1	R/W						
4	0x2110~0x211F(48465~48481)	SV1~SV16	Setting value	1	R/W						
5	0x2120~0x212F(48481~48496)	RSA1~RSA16	Switch	1	R/W	0:RUN 1:STOP					
6	0x2130~0x213F(48497~48512)	SSM1~SSM16	Panel R/S enable switch	1	R/W	0:Banned 1:ON					
7	0x2140~0x214F(48513~48528)	SLL1~SLL16	Limit setpoint upper limit	1	R/W						
8	0x2150~0x215F(48529~48544)	SLH1~SLH16	Limit setpoint lower limit	1	R/W						
	Ur	listed address res	erved			-					
9	0x2200~0x220F(48705~48720)	INP1~INP16	Input type	1	R/W						
10	0x2210~0x221F(48721~48736)	FL1~FL16	Upper range limit	1	R/W						
11	0x2220~0x222F(48737~48752)	FH1~FH16	Lower range limit	1	R/W						
12	0x2230~0x223F(48753~48768)	DP1~DP16	Demical point	1	R/W						
	Ur	listed address res	erved								

Continued from the front chart

NO.	Address (register number ①)	Parameter	Parameter Description	Qty	Read Write	Remark
13	0x2300~0x230F(48961~48976)	PS1~PS16	Display correction value	1	R/W	
14	0x2310~0x231F(48977~48992)	FT1~FT16	Display filter coefficients	1	R/W	
15	0x2320~0x232F(48993~49008)	DTR1~DTR16	Show trace values	1	R/W	
16	0x2330~0x233F(49009~49024)	BRL1~BRL16	Transmission output lower limit	1	R/W	Reserved
17	0x2340~0x234F(49025~49040)	BRH1~BRH16	Transmission output upper limit	1	R/W	Reserved
	ĺ	Jnlisted address	reserved			
18	0x2400~0x240F(49217~49232)	OLL1~OLL16	Output lower limt	1	R/W	
19	0x2410~0x241F(49233~49248)	OLH1~OLH16	Output upper limt	1	R/W	
20	0x2420~0x242F(49249~49264)	UNIT1~UNIT16	Measurement display unit	1	R/W	
21	0x2430~0x243F(49265~49280)	PRS1~PRS16	Set parameter save location	1	R/W	0:RON
22	0x2440~0x244F(49281~49296)	RSS1~RSS16	RUN/STOP Save Location	1	R/W	1:RAM
	<u> </u>	Jnlisted address				
23	0x2500(49473)	DN	Display channel quantity	1	R/W	
24	0x2501(49474)	DNS	Display the starting channel number	1	R/W	
25	0x2502(49475)	DNT	Channel cycle display time	1	R/W	
26	0x2503(49476)	AU1P	Auxiliary output 1 program	1	R/W	
27	0x2504(49477)	AU2P	Auxiliary output 2 program	1	R/W	
	. ,	Unlisted address				
28	0x2600~0x260F(49729~49744)	AL11~AL116	Alarm value	1	R/W	
29	0x2610~0x261F(49745~49760)	AD11~AD116	Alarm method	1	R/W	
	0x2620~0x262F(49761~49776)	HY11~HY116		1	R/W	
30 31	,		Alarm hysteresis	1	R/W	
51	0x2630~0x263F(49777~49792)	AE11~AE116	Alarm expansion mode		R/W	
32	0x2700~0x270F(49985~410000)	AL21~AL216	Alarm value	1	R/W	
33	0x2710~0x271F(410001~410016)	AD21~AD216	Alarm method	1	R/W	
34	, ,			1	R/W	
-	0x2720~0x272F(410017~410032)	HY21~HY216	Alarm hysteresis			
35						
	0x2730~0x273F(410033~410048)	AE21~AE216	Alarm expansion mode	1	R/W	
36		Unlisted address	s reserved			
	0x2800~0x280F(410241~410256)	Jnlisted address	s reserved Control method	1	R/W	
37	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272)	Jnlisted address OT1~OT16 P1~P16	reserved Control method Proportional band	1	R/W R/W	
36 37 38	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288)	Jnlisted address OT1~OT16 P1~P16 I1~I16	reserved Control method Proportional band Integration time	1 1 1	R/W R/W R/W	
37 38 39	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304)	Unlisted address OT1~OT16 P1~P16 I1~I16 D1~D16	reserved Control method Proportional band Integration time Differential time	1 1 1	R/W R/W R/W R/W	
37 38 39	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320)	Unlisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16	reserved Control method Proportional band Integration time Differential time Overshoot limit	1 1 1	R/W R/W R/W	
37 38 39 40	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320)	Jnlisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Jnlisted address	s reserved Control method Proportional band Integration time Differential time Overshoot limit s reserved	1 1 1 1	R/W R/W R/W R/W	
37 38 39 40 41	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512)	Jnlisted address OT1-OT16 P1-P16 I1-I16 D1-D16 OVS1-OVS16 Jnlisted address CP1-CP16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle	1 1 1 1 1	R/W R/W R/W R/W	
37 38 39 40 41 42	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2910~0x291F(410513~410528)	Jnlisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Jnlisted address CP1~CP16 DB1~DB16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis	1 1 1 1 1 1	R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2910~0x291F(410513~410528) 0x2920~0x292F(410529~410544)	Jnlisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 OVS1~OVS16 Jnlisted address CP1~CP16 DB1~DB16 AM1~AM16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch	1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2910~0x291F(410513~410528) 0x2920~0x292F(410529~410544) 0x2930~0x293F(410545~410560)	Jnlisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Jnlisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle	1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W	Reserved
37 38 39 40 41 42 43 44	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2910~0x291F(410513~410528) 0x2920~0x292F(410529~410544) 0x2930~0x293F(410545~410560) 0x2940~0x294F(410561~410576)	Julisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Julisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor	1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W	Reserved
37 38 39 40 41 42 43 44 45	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x291F(410513~410528) 0x2920~0x293F(410549~410544) 0x2930~0x293F(410545~410560) 0x2940~0x294F(410561~410576)	Julisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Julisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 Julisted address	s reserved Control method Proportional band Integration time Differential time Overshoot limit s reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor s reserved	1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 46	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410513~410528) 0x2920~0x292F(410529~410544) 0x2930~0x293F(410545~410560) 0x2940~0x294F(410561~410576)	Julisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Julisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 Julisted address ACT1~ACT16	s reserved Control method Proportional band Integration time Differential time Overshoot limit s reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor s reserved Control execution way	1 1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 46 47	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410497~410512) 0x2900~0x291F(410513~410528) 0x2920~0x293F(410545~410560) 0x2940~0x294F(410561~410576) 0x2A00~0x2A0F(410753~410768) 0x2A10~0x2A1F(410769~410784)	Julisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Julisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 Julisted address ACT1~ACT16 PT1~PT16	s reserved Control method Proportional band Integration time Differential time Overshoot limit s reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor s reserved Control execution way Compressor cooling start delay	1 1 1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 46 47 48	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410513~410528) 0x2900~0x293F(410549~410544) 0x2900~0x293F(410561~410560) 0x2940~0x293F(410561~410576) 0x2A00~0x2A0F(410753~410768) 0x2A10~0x2A1F(410769~410784) 0x2A20~0x2A2F(410785~410800)	Jnlisted address OT1~OT16 P1~P16 D1~D16 OVS1~OVS16 Jnlisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 Jnlisted address ACT1~ACT16 PT1~PT16 PDC1~PDC16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor reserved Control execution way Compressor cooling start delay PID type	1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 46 47 48 49	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2800~0x290F(410497~410512) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410513~410528) 0x2900~0x293F(410545~410560) 0x2900~0x293F(410561~410576) 0x2900~0x294F(410561~410576) 0x2400~0x2A0F(410753~410768) 0x2A00~0x2A0F(410765~410800) 0x2A10~0x2A3F(410765~410800) 0x2A30~0x2A3F(410801~410816)	Jhisted address OT1-OT16 P1-P16 I1-In D1-D16 OVS1-OVS16 Jhisted address CP1-CP16 DB1-DB16 AM1-AM16 CP11-CP116 PC1-PC16 Jhisted address ACT1-ACT16 PT1-PT16 PDC1-PDC16 LPH1~LPH16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor reserved Control execution way Compressor cooling start delay PID type Actual load power (KW)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 46 47 48 49	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410513~410528) 0x2900~0x293F(410549~410544) 0x2900~0x293F(410561~410560) 0x2940~0x293F(410561~410576) 0x2A00~0x2A0F(410753~410768) 0x2A10~0x2A1F(410769~410784) 0x2A20~0x2A2F(410785~410800)	Jnlisted address OT1~OT16 P1~P16 D1~D16 OVS1~OVS16 Jnlisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 Jnlisted address ACT1~ACT16 PT1~PT16 PDC1~PDC16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor reserved Control execution way Compressor cooling start delay PID type	1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 46 47 48 49	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2820~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2910~0x291F(410513~410528) 0x2920~0x292F(410529~410544) 0x2920~0x293F(410545~410560) 0x2940~0x294F(410753~410568) 0x2A00~0x2A0F(410763~410768) 0x2A00~0x2A1F(410769~410784) 0x2A00~0x2A3F(410801~410816) 0x2A40(410817)	Jhisted address OT1-OT16 P1-P16 I1-In D1-D16 OVS1-OVS16 Jhisted address CP1-CP16 DB1-DB16 AM1-AM16 CP11-CP116 PC1-PC16 Jhisted address ACT1-ACT16 PT1-PT16 PDC1-PDC16 LPH1~LPH16	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor reserved Control execution way Compressor cooling start delay PID type Actual load power (KW) Total Load Power Limit (KW)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 44 45 46 47 48 49 50	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2820~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2910~0x291F(410513~410528) 0x2920~0x292F(410529~410544) 0x2920~0x293F(410545~410560) 0x2940~0x294F(410753~410568) 0x2A00~0x2A0F(410763~410768) 0x2A00~0x2A1F(410769~410784) 0x2A00~0x2A3F(410801~410816) 0x2A40(410817)	Jnlisted address OT1-OT16 P1-P16 I1~P16 D1~D16 OVS1~OVS16 Jnlisted address CP1-CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1-PC16 Jnlisted address ACT1~ACT16 PT1~PT16 PD1~PDC16 LPH1~LPH16 SLPL	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor reserved Control execution way Compressor cooling start delay PID type Actual load power (KW) Total Load Power Limit (KW)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W R/W R/W R/W R/W R/W R/W R/W R/W R/W	
37 38 39 40 41 42 43 44 45 44 45 46 47 48 49 50 51	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2910~0x291F(410513~410528) 0x2920~0x292F(410529~410544) 0x2920~0x293F(410545~410560) 0x2940~0x294F(410753~410568) 0x22400~0x204F(410753~410768) 0x22A00~0x2A0F(410753~410768) 0x2A10~0x2A1F(410769~410784) 0x2A20~0x2A2F(410785~410800) 0x2A30~0x2A3F(410801~410816) 0x2A40(410817)	Jnlisted address OT1-OT16 P1-P16 I1~P16 D1-D16 OVS1-OVS16 DB1-DB16 AM1~AM16 CP11-CP116 PC1-PC16 Jnlisted address ACT1~ACT16 PT1-PDC16 PT1-PDC16 LPH1-LPH16 SLPL Jnlisted address	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor reserved Control execution way Compressor cooling start delay PID type Actual load power (KW) Total Load Power Limit (KW) reserved	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W	
37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x291F(410513~410528) 0x2920~0x292F(410529~410544) 0x2930~0x293F(410545~410560) 0x2940~0x294F(410753~410768) 0x2A10~0x2A0F(410753~410768) 0x2A10~0x2A0F(410753~410768) 0x2A20~0x2A2F(410785~410800) 0x2A30~0x2A3F(410801~410816) 0x2A40(410817)	Jnlisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Jnlisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 Jnlisted address ACT1~ACT16 PDC1~PDC16 PDC1~PDC16 LPH1~LPH16 SLPL Jnlisted address ADD	s reserved Control method Proportional band Integration time Differential time Overshoot limit s reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor s reserved Control execution way Compressor cooling start delay PID type Actual load power (KW) Total Load Power Limit (KW) s reserved Communication address	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W	
37	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410513~410528) 0x2920~0x293F(410529~410544) 0x2930~0x293F(410545~410560) 0x2940~0x294F(410553~410560) 0x2400~0x2A0F(410753~410768) 0x2A00~0x2A2F(410769~410764) 0x2A20~0x2A3F(410801~410816) 0x2A30~0x2A3F(410801~410816) 0x2A00(412033) 0x2F00(412034)	Julisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Julisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 PC1~PC16 PC1~PC16 PD1~PT16 PDC1~PDC16 LPH1~LPH16 SLPL Julisted address ADD BAD	reserved Control method Proportional band Integration time Differential time Overshoot limit reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor reserved Control execution way Compressor cooling start delay PID type Actual load power (KW) Total Load Power Limit (KW) reserved Communication address Communication baud rate	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W	
37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53	0x2800~0x280F(410241~410256) 0x2810~0x281F(410257~410272) 0x2820~0x282F(410273~410288) 0x2830~0x283F(410289~410304) 0x2840~0x284F(410305~410320) 0x2900~0x290F(410497~410512) 0x2900~0x290F(410513~410528) 0x2920~0x293F(410529~410544) 0x2930~0x293F(410545~410560) 0x2940~0x294F(410553~410568) 0x2A00~0x2A0F(410753~410768) 0x2A00~0x2A3F(41080-410784) 0x2A00~0x2A3F(41080-410816) 0x2A00(412033) 0x2F00(412034) 0x2F00(412035)	Julisted address OT1~OT16 P1~P16 I1~I16 D1~D16 OVS1~OVS16 Julisted address CP1~CP16 DB1~DB16 AM1~AM16 CP11~CP116 PC1~PC16 PC1~PC16 PC1~PC16 PDC1~PC16 PDC1~PDC16 PDC1~PDC16 LPH1~LPH16 SLPL Julisted address ADD BAD PRTY	s reserved Control method Proportional band Integration time Differential time Overshoot limit s reserved Main control cycle Bit control hysteresis Automatic hand switch Cooling control cycle Cooling scaling factor s reserved Control execution way Compressor cooling start delay PID type Actual load power (KW) Total Load Power Limit (KW) s reserved Communication address Communication baud rate Check Digit Selection	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R/W R/W	

Note (): The register number is formed by converting the address into decimal and adding 1, and then adding the register identification code 4 in front; for example: the register number of the data address 0x2000 is 8192+1=8193 and then adding 4 in front, that is, the register number 48193; Related applications can be seen such as Siemens S7-200 PLC. Note (2): Channel status indication, when the data bit is 1, it means executing, and when it is 0, it means not executing.

[D9	D8	D7	D6	D5	D4	D3	D2	D1	D0		
		AT	НННН	LLLL	°C	F	AL2	AL1		OUT1		
N	Note (3): DTC communication data transmission sequence description											

DTC:
Build a state at a state of the state

%16-bit CRC check code to obtain C program unsigned int Get_CRC(uchar *pBuf, uchar num)



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