

XB6 Series Temperature Acquisition Module User Manual



Nanjing Solidot Electronic Technology Co., Ltd.

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Product Overview

1.1 Product overview

XB6 series temperature acquisition module supports resistance temperature detector (RTD), thermocouple (TC) and other types of sensors. There are two types of the module: 4-channel and 8-channel. The module is equipped with X-Bus backplane bus and supports our XB6 series coupler modules.

1.2 Product features

- Support RTD, TC and resistance temperature measurement
- Sensitivity: 0.1 °C

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- Support single-channel filtering setting
- Support single channel enable setting
- RTD, TC, and resistive sensors all support disconnection detection
- Support 50Hz suppression

2 Product Parameters

2.1 General parameters

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Interface parameters	
Product Model	XB6-A80TM/XB6-A40TM
Product Description	XB6 Series Temperature Acquisition Module
Bus protocol	X-bus
Transmission rate	6 Mbps
Power supply	5 VDC,via the X-bus
Rated current consumption	80 mA
Technical parameters	
Size	106×73×25.7 mm
Weight	120 g
Working temperature	-10~+60℃
Storage temperature	-20~+75℃
Relative humidity	95%, non-condensing
Protection degree	IP20
EMI immunity/emission	Conforms to EN IEC61000-6-4-2019
EMS immunity/emission	Conforms to EN IEC61000-6-2-2019
Vibration resistance	Conforms to EN 60068-2-6
Shock resistance	Conforms to EN 60068-2-27/29

Technical parameters					
Number of inputs	4、8				
Sensor types	тс	RTD	R		
Connection method	2-wire	2-wire, 3-wire	2-wire		
	K: -200~1370°C J: -200~1200°C E: -200~1000°C S: -50~1690°C B: 50~1800°C	Pt100: -200~850°C Pt200: -200~600°C Pt500: -200~600°C Pt1000: -200~600°C	15Ω~3kΩ		
Measurement error	±0.3%	20~60 $^\circ \rm C$, ±0.5 $^\circ \rm C$ Full temperature range, ±0.7 $^\circ \rm C$	±0.1%		
Sensitivity	0.1℃		±0.1Ω		
Resolution	16 bit (int type)				
Conversion time (when all channels' filtering stages is 1)	40 ms	125 ms			
Input filter	Single channel filtering, configurable (number of stages 1 to 10)				
Open circuit diagnosis	YES				
Open circuit diagnosis time	2ms				
Maximum input voltage per channel	30VDC				
Electrical isolation	500VAC, no isolation between channels				
Channel indicator	Green LED				
Up and down overflow function	YES				

3 Panel

3.1 Module structure

Name of product components



3.2 Indicator functions

ID	Color	Status	Status description		
Р	Green	ON	Normal status of working power supply		
	Green	OFF	Unpowered or abnormal power supply		
	Green	ON	Normal system operation		
R		Flashing1 Hz	I/O module connected, X-bus system ready for interaction		
		OFF	Unpowered, no X-bus data interaction, or abnormal status		
Channel	Green	ON	Channel is enabled and sensor is connected normally		
indication	Green	OFF	Channel is disabled and sensor is connected abnormally		

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4 Wiring

4.1 Wiring terminal

Wiring terminal						
	Number of poles	16 P				
Signal wire terminal	Number of poles	20 P				
	Wire gauge	28~16 AWG 0.2~1.5 mm ²				

4.2 Wiring instructions and requirements

Wiring tool requirements As the terminals are based on a screw-free design, cable installation and removal can be realized with a slotted screwdriver (size: ≤ 3 mm). Stripping length requirements

Recommended stripping length: 10 mm

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Wiring method

For a single-strand hard wire, after stripping a required length, press the button while inserting the single-strand wire

For a multi-strand flexible wire, after stripping a required length, directly connect it or use a compatible cold-pressed terminal (tubular insulated terminal, as shown in the table below). Press the button whiling inserting the wire.

Specification of tubular insulated terminal								
Specification	Model	Cable section area (mm ²)						
	E0510	0.5						
	E7510	0.75						
	E7512	0.75						
	E1010	10						
	E1012	1.0						
Length of tubular insulated terminal L ≥10 mm	E1510	15						
	E1518	1.5						

4.3 Wiring diagrams

4.3.1 Electrical diagram

Electrical diagram



4.3.2 XB6-A80TM



*PE internal conduction *2-wire RTD requires external shorting of "-" and "C" *4-wire sensor needs to be changed to 2-wire or 3-wire access

4.3.3 XB6-A40TM



*PE internal conduction *2-wire RTD requires external shorting of "-" and "C" *4-wire sensor needs to be changed to 2-wire or 3-wire access

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5 Operation

5.1 Parameter settings and functions

5.1.1 Sensor selection

The module supports sensor type configuration function (see <u>2 product parameters</u> for sensor type details). The module only supports the corresponding type of sensor, a single channel cannot be configured. **Note: The default sensor type is PT100.**

5.1.2 Filtering function

The single channel of the module can filter each measurement value through the filtering function. Perform sliding average processing of N times of data acquisition to reduce the jitter range of the measurement value, which improves stability and accuracy.

Filtering time = number of module cycles (N) × module cycle time

Module cycle time = conversion time + disconnection detection time

Note: 1 N configuration range 1~10.

② Default setting of filtering parameter: 1/time.

5.1.3 Channel enable function

The module can determine whether the channel is used or not by setting the "Enable/Disable" parameter. If the channel is set to not in use, the channel is disabled and -9999 is displayed whether the sensor is connected or not.

Note: The factory default setting for all channels is Disable.

Temperature acquisition module and XB6-El0002, XB6-CB0002 coupler connected successfully after the default enable state.

5.1.4 Disconnection detection

TC, RTD and resistive sensors all support disconnection detection, and display -9999 when disconnected.

5.2 Upstream and downstream process data and functions

5.2.1 Temperature/resistance data acquisition

The upstream data (Input) of the temperature module is the temperature or resistance data collected for each channel. Each channel data is a signed integer of 2 bytes, and the collected data is 10 times of the actual data value. The read data is divided by 10, which is the real temperature or resistance value in °C or Ω .

5.2.2 Data compensation function

The downstream data (Output) of the module is a manual compensation function for each channel data, and the data compensation value can be entered according to the actual needs. After setting the compensation value, the compensated temperature or resistance value will be automatically calculated in the upstream data (Input), i.e., the upstream data is the final compensated temperature or resistance data. Divide the readout data by 10, which is the compensated temperature or resistance value in °C or Ω .

5.3 Application in TwinCAT3 software environment & parameters

configuration

The module has to be used with the "XB6-EC2002ST" coupler.

For details on adding and configuring the module configuration files, see the "XB6 Series EtherCAT Slice I/O User Manual" operation section.

The manual is available at: https://www.solidotech.com/en/documents/manual

- 1. Sensor type selection
- a. Double click Box1 (XB6-EC0002) and switch to the "Startup" tab as shown in the figure below.



b. Right-click "Insert" to enter the "Edit CANopen Startup Entry" screen, as shown in the figure below.

 \times

Edit CANopen Startup Entry

Transition ☐ I -> P ☑ P -> S [☐ S -> 0 [Index (h] S -> P Sub-Ind] O -> S	nex): 2000 lex (dec): 0 date Complete	Access	OK Cancel
Data (hexbin):	11			Hex Edit
Validate Mask:				
Comment	Subladex 000			Edit Entru
Common K.				Eak Erkiy
Index	Name	Flags	Value	^
<u>⊟</u> 2000:0	XB6-A80TM Config	RW	> 17 <	
2000:01	Sensor Type	RW	PT100 (0)	
2000:02	Channel1 Filter Time	RW	0x00000001 (1)	
2000:03	Channel2 Filter Time	RW	0x00000001 (1)	
2000:04	Channel3 Filter Time	RW	0x00000001 (1)	
2000:05	Channel4 Filter Time	RW	0x00000001 (1)	
2000:06	Channel5 Filter Time	RW	0x00000001 (1)	
2000:07	Channel6 Filter Time	RW	0x00000001 (1)	
2000:08	Channel7 Filter Time	RW	0x00000001 (1)	
2000:09	Channel8 Filter Time	RW	0x00000001 (1)	
2000:0A	Channel1 Enable	RW	Disable (0)	
2000:0B	Channel2 Enable	RW	Disable (0)	
2000:0C	Channel3 Enable	RW	Disable (0)	~
<				>

c. Select the module of the existing model, e.g. "XB6-A80TM", click "Sensor Type", and select the sensor to be used in the "Set Value Dialog" interface, as shown in the figure below.

Edit CANopen	Startup Entry				×
Transition □I -> P ☑ P -> S □S -> 0	□ S -> P □ O -> S	Index (hex): Sub-Index (dec):	2000 1 Complete	Access	OK Cancel
Data (hexbin): Validate Mask: Comment:	00 00 00 00 00				Hex Edit
Index ⊡~ 2000-0	Name XB6-A80TM Confi	n	Flags RW	Value >17≺	^
2000:01 	Channell Filter Tir Chann Chann Chann Chann Chann	ne e Dialog	RW	0x00000001 (1)	×
2000:06 2000:07 2000:08 2000:09	Chanr Dec: Chanr Hex: Chanr Chanr Enum:	0 0x00000000 PT100		OK Cancel	
2000:0A 2000:0B 2000:0C <	Chanr Chanr Chanr Bool: Binary:	PT100 PT200 PT500 PT1000 NI120 Resistance T	уре	E dit.	······································
1112 12 12 12 12 12 12 12 12 12 12 12 12	Bit Size: Couplemented Channel 1 Channel 2 Channel 3	K J T E N S R B		.0 .0	41.0 Input 41.0 Input 43.0 Input 45.0 Input
	Channel 4	С		0	47.0 Inout

After the configuration is completed, the software needs to perform Reload operation and re-power the module.

2. Filter Configuration

- a. Enter "Edit CANopen Startup Entry" interface
- b. Select the channel of the module to be modified, and modify the filter value as needed.

Edit CANopen Startup Entry							
Transition □ I -> P □ P -> S [□ S -> 0 [Index (hex): Sub-Index (dec Validate	c):	2000 2 Complete Ad		OK Canc	el	
Data (hexbin):	01 00 00 00					Hex Ec	lit
Validate Mask:							
Comment:	Channel1 Filter Ti	me				Edit En	iry
Index	Name			Flags	Value		
Ė~ 2000:0	XB6-A80TM Config	ļ		RW	> 17 <		
2000:01	Sensor Type			BW	PT100(0)	-	
2000:02	Channel1 Filter Tim	e		RW	0x00000001 (1)		
2000:03	Channel2 Filter Tim	e		RW	0x00000001 (1)		
2000:04	Channel3 Filter Tin	Set Value D	ialor		~ ~~~~~~	, ,	
2000:05	Channel4 Filter Tin	Set value D	alog	9			\sim
2000:06	Channel5 Filter Tin	Deet				OK	1 I I
2000:07	Channel6 Filter Tin	Dec.				UK	
2000:08	Channel/ Filter Tin	Hex:	Hex: 0x00000001			Cancel	
2000.03	Channell Enable	Float:	1 4012985e-45				
2000:0R	Channel? Enable						
2000:00	Channel3 Enable						
<		Bool:		<u>0</u> <u>1</u>		Hex Edit	
IN A	Binary:	01	00 00 00		4		
1	CouplerState	Bit Size:	0	1 08 01	6 🖲 32 🔾 64	0?	pu
	Channel 1					-	

After the configuration is completed, the software needs to perform Reload operation and repower the module.

3. Channel Enable

- a. Enter "Edit CANopen Startup Entry" interface.
- b. Select the channel of the module to be modified and modify the enable parameters.

Edit CANopen Startup Entry									\times	
Transition Index (h □ I -> P Index (h ☑ P -> S □ S -> P Sub-Index □ S -> O □ O -> S □ Valid			(hex): dex (dec): lidate	200 10	00 Complete A			OK Cancel		
Data (hexbin):	00 00 00 00							Hex Edit	
Validate Mas	:k:									
Comment:		Channel1 Er	nable						Edit Entry	
Index		Name			F	ags	Value		^	
2000	D:06	Channel5 Filte	er Time		RW 0x00000		0x00000001	(1)		
2000	D:07	Channel6 Filte	er Time		BW		0x00000001	(1)		
2000	D:08	Channel7 Filte	er Time		B	W	0x00000001	(1)		
2000	0:09	Channel8 Filte	er Time		B	W	0x00000001	(1)		
2000	D:0A	Channel1 Ena	able		R	W	Disable (0)			
2000	D:0B	Channel2 Ena	able	0.001			D:LI- (0)			$\overline{\mathbf{v}}$
2000	D:0C	Channel3 Ena	able	Set Valu	Set Value Dialog				×	
2000	D:OD	Channel4 Ena	able	_					01/	_
2000	D:OE	Channel5 Ena	able	Dec:		U			UK	
2000	U:UF	Channel6 Ena	able	Hex:		0x0000000			Cancel	
2000	0:10	Channel/ Ena		F						
E020-0	Enable Conference Market Harve		Enum:		Disable		~			
E Poso.o Coningured Module Idenic L				Enable						
<			Book		0	1		Hey Edit		
IName C		2000.				Tron Edic.				
	*	CouplerState	2	Binary:		00 00 00 00			4	
	*	Channel 1	-!	Bit Size:		01 0	8 🔾 16 🤅	32 🔿	64 () ?	

After the configuration is completed, the software needs to perform Reload operation and re-power the module.

4. Data Interaction

a. Take XB6-A80TM module as an example: If the module has signal input, you can monitor it in "Inputs" of the module, as shown in the figure below.

G O 🔂 To - 🗇 🖌 🗕		Name	Online	Туре	Size	>Add	In/Out	User
Search Solution Explorer (Ctrl+;)	.م	🔁 Channel 1	1092	INT	2.0	41.0	Input	0
Solution 'TwinCAT Project50' (1 project)	-	🔁 Channel 2	996	INT	2.0	43.0	Input	0
TwinCAT Project59 (1 project)		🕫 Channel 3	19958	INT	2.0	45.0	Input	0
SYSTEM		🔁 Channel 4	1088	INT	2.0	47.0	Input	0
MOTION		🕫 Channel 5	0	INT	2.0	49.0	Input	0
I PLC		🔁 Channel 6	0	INT	2.0	51.0	Input	0
🚯 SAFETY		🐔 Channel 7	0	INT	2.0	53.0	Input	0
96. C++		🔁 Channel 8	0	INT	2.0	55.0	Input	0
▲ <u></u> I/O								
Device 2 (EtherCAT)								
image								
i ₩age-Into								
SyncUnits								
Inputs								
Outputs								
👂 🛄 InfoData								
A D Box 1 (XB6-EC0002)								
👂 🛄 Inputs								
Outputs								
 Module 1 (XB6-A80TM) 								
👂 🕒 Inputs								
👂 🔚 Outputs								
WcState								
👂 🔜 InfoData								
👾 Manadana								

The input register information table (read-only property) temperature is a 2-byte signed integer, which is 10 times the actual temperature value. The read data divided by 10 is the real temperature or resistance value in °C or Ω . 5.

5. Temperature compensation

a. The temperature compensation function only supports thermocouple type sensor, take XB6-A80TM module as an example, channel 1 connects to thermocouple sensor, and the sensor type selects K type thermocouple, as shown in the figure below.

Edit CANopen St	Edit CANopen Startup Entry ×								
Transition ☐ I -> P ☑ P -> S ☐ S -> 0]S-> P]O-> S	Index (hex) Sub-Index	: 2 (dec): 1	000] Complete A			OK Cancel		
Data (hexbin):	Set Value Dia	alog				×	Hex Edit		
Validate Mask: Comment:	6 0x00000000	6		OK Cance	el e	Edit Entry			
Index Name 2000:0 ×B6-A -200 Sensor	Enum:	K			~		^		
200 Chann	Bool:	<u>0</u>	1		Hex Ed	it			
-200 Chann -200 Chann	Binary:	06 00 00 00	1		4				
-200 Chann -200 Chann	Bit Size:	01 08	016	32 6.	4 () ?				
-200 Channe	el7 Filter Time	RW	0x000000	01 (1)					
-200 Chann	el8 Filter Time	RW	0x000000	01 (1)					
- 200 Chann	el1 Enable	RW	Disable (0))					
-200 Channe	el2 Enable	RW	Disable (0))					
- 200 Chann	el3 Enable	RW	Disable (0))					
200 Channe	el4 Enable	RW	Disable (0))					
-200 Chann	el5 Enable	RW	Disable (0))					
200 Channe	el6 Enable	RW	Disable (0))			~		

After the configuration is completed, the software needs to perform Reload operation and re-power the module

b. After channel 1 is enabled, the measured temperature is 24°C, as shown in the figure below.



c. In the module "Outputs", you can set the temperature compensation value of 50, i.e. 5 $^\circ$ C, as shown in the figure below.

Solution Explorer 🗸 👎 🛪	TwinCAT Project4 😚	×						
G O 🏠 To - 🗇 👂 🗕	Name	Online	Type	Size	>A	In/Out	User ID	Linked to
Search Solution Explorer (Ctrl+:)	Channel 1 Offset	50	SINT	1.0	41.0	Output	0	
	Channel 2 Offset	0	SINT	1.0	42.0	Output	0	
Solution 'TwinCAT Project4' (1 project)	Channel 3 Offset	0	SINT	1.0	43.0	Output	0	
IwinCAI Project4	Channel 4 Offset	0	SINT	1.0	44.0	Output	0	
	Channel 5 Offset	0	SINT	1.0	45.0	Output	0	
	Channel 6 Offset	0	SINT	1.0	46.0	Output	0	
	Channel 7 Offset	0	SINT	1.0	47.0	Output	0	
	Channel 8 Offset	0	SINT	1.0	48.0	Output	0	

d. After setting the compensation value, the temperature of channel 1 is 29° C, as shown in the figure below.

Solution Explorer \bullet \mp \times	TwinCAT Project4	+ ×						
G O 🕼 To - 🗊 👂 🗕	Name	Online	Туре	Size	>A	In/Out	User ID	Linked to
Search Solution Evaluator (Ctrl Lt)	🕿 Channel 1	291	INT	2.0	41.0	Input	0	
search solution explorer (curr,)	Channel 2	-9999	INT	2.0	43.0	Input	0	
Solution 'TwinCAT Project4' (1 project)	Channel 3	-9999	INT	2.0	45.0	Input	0	
TwinCAT Project4	Channel 4	-9999	INT	2.0	47.0	Input	0	
SYSTEM	Channel 5	-9999	INT	2.0	49.0	Input	0	
MOTION	Channel 6	-9999	INT	2.0	51.0	Input	0	
PLC	Channel 7	-9999	INT	2.0	53.0	Input	0	
SAFELY	🕶 Channel 8	-9999	INT	2.0	55.0	Input	0	
 Devices Device 2 (Ether(AT)) 								
SyncUnits								
Inputs								
Outputs								
InfoData								
Box 1 (XB6-EC0002)								
Inputs								
Outputs								
🔺 🔷 Module 1 (XB6-A80TM)								
👂 🛁 Inputs								
Outputs								
WcState								
👂 幅 InfoData								
背 Mappings								

5.4 Application in TIA Portal V14 software environment & parameters

configuration

The module has to be used with the "XB6-PN2002ST" coupler.

For details on adding and configuring the module configuration files, see the "XB6 Series PROFINET Slice I/O User Manual" operation section.

The manual is available at: https://www.solidotech.com/en/documents/manual

- 1. Sensor Selection
- a. Open "Device View", as shown in the figure below.

项	目(2)编辑(E)视图(2)插入(2)在线(2)选项(12)工具	Ð	窗口(W) 帮助(H)												
3	🚰 📑 保存项目 🚐 🐰 油 🗈 🗙 🌖 ミ (デキ 🗄	IB.	🚹 🖳 📮 🖉 被至在线 🖉 被至3	愿线	år 🗷	J. X			-投索> 🖬						
	项目树 □ ◀	项	目5 → 未分组的设备 → PNIO [X											- 61	×
I	设备	Г									₫ 拓	卜视图	📥 网络视图	1) 设备视图	
	19 🔤 🔮		设备概览											_	
			₩ 模块		机架	插槽	地址	Q炮址	次型	订货号	固件	注释		访问	
끩	💌 🗋 项目5 🔤 🗹 💽		V PNIO		0	0			XB6-PN0002	1234567	V10.00.00			PLC_1	^
Π.	※加納设备		PN-IO		0	0 X1			PNIO					PLC_1	
	此音和吟格		X86-A80TM_1		0	1	6883	6471	X86-ABOTM		1.0			PLC_1	
2	PLC_1 [CPU 1211C AC/DC/RIy]				0	2									
	17 设备组态				0	3									
	至我和診断				0	4									
	•	22			0	5									
	▶ 🛺 工艺对象				0	6									
	▶ @ 外部源文件	52			0	7									
	・ 🚂 r.c 変量				0	8									
	▶ []] FLC 数据类型				0	9									
	▶ 🥅 监控与强制表				0	10									
	▶ 🙀 在线备份				0	11									
	🕨 📴 Traces				0	12									6 H.
	▶ 🌆 设备代理数据				0	13									

b. In the offline state, select the module of existing model, for example, "XB6-A80TM", select the corresponding channel, and set the sensor parameters as shown in the figure below.



*After the modification, download the program and re-power the module.

2. Filtering parameter setting

In the "Device View" menu, select the module of existing model, for example "XB6-A80TM", select the corresponding channel, and set the filtering parameters as shown below.



*After the modification, download the program and re-power the module

3. Channel Enable Function

In the "Device View" menu, select the module of the existing model, for example, "XB6-A80TM", select the corresponding channel, and set the enable parameters as shown in the figure below.



*After the modification, download the program and re-power the module

4. Data display

• I/O mapping address

Click "Device View", and under the "Device Overview" menu folder, you can find the address assigned by the system software to the I/O module, or modify the address as needed, as shown in the following figure.

						e	🖁 拓扑视图 🛛 🚠	网络视图	🛛 设备视图
设备概览									
₩ 模块	机架	插槽	1地址	Q 地址	类型	订货号	固件	注释	
PNIO	0	0			XB6-PN0002	1234567	V10.00.00		
PN-IO	0	0 X1			PNIO				
XB6-A80TM_1	0	1	6883	6471	XB6-A80TM		1.0		
	0	2							
	0	3							
	0	4							
	0	5							
	0	6							
	0	7							
	0	8							
	0	9							
	0	10							
	0	11							
	0	12							
	0	13							
	0	14							

Data Validation

Double-click "Add New Monitor Table", enter the module channel address, and click the button to

monitor the input data, as shown below.

设备						
1 I I I I I I I I I I I I I I I I I I I	$\vec{r} = \vec{r} = \vec{r}$	19 10 91 % S	🖓 📡 OP 1			
	i 名;	称	1址	显示格式	监视值	修改值
▼ 🗋 项目27 🛛 🗹 🔍 🔍	1	🔳 %I	IW68	带符号十进制 🔽	-9999	
📑 添加新设备	2	%	IW70	带符号十进制	-9999	
晶 设备和网络	3	%	IW72	带符号十进制	-9999	
🔹 🔽 PLC_1 [CPU 1211C AC/D 🗹 🔵	4	%	IW74	带符号十进制	-9999	
■ 设备组态	5	%	IW76	带符号十进制	175	
鬼 在线和诊断	6	%	IW78	带符号十进制	-9999	
🕨 🔜 程序块 📃 🔵	7	%	IW80	带符号十进制	-9999	
▶ 🙀 工艺对象	8	%	IW82	带符号十进制	-9999	
▶ 词 外部源文件	9	~	忝加>			
▶ 🚂 PLC 变量 🛛 🔵						
▶ 📴 PLC 数据类型						
▼ 폟 监控与强制表						

The input register information table (read-only property) temperature is a 2-byte signed integer, which is 10 times the actual temperature value. The read data divided by 10 is the real temperature or resistance value in °C or Ω . 5.

5. Temperature compensation

a. The temperature compensation function only supports thermocouple type sensor, take XB6-A80TM module as an example, channel 1 connects to thermocouple sensor, sensor type select K type thermocouple, channel 1 enable, as shown in the figure below.

XB6-A80TM_1 [XB6-A80TM]		☑ 属性	
常規 10 变量 系统常	教 文本		
▼ 常规 目录信息	模块参数		-
输入 模块参数	XB6-A80TM Parameter		
1/0 地址	Temperature Sensor Select:	THERMOCOUPLE_K	
	Channel0 Filter(1-10):	1	
	Channel1 Filter(1-10):	1	
	Channel2 Filter(1-10):	1	
	Channel3 Filter(1-10):	1	
	Channel4 Filter(1-10):	1	
,	Channel5 Filter(1-10):	1	
	Channel6 Filter(1-10):	1	
	Channel7 Filter(1-10):	1	
	Channel O Enable:	Enable	
	Channel 1 Enable:	Disable	
	Channel 2 Enable:	Disable	
	Channel 3 Enable:	Disable	
	Channel 4 Enable:	Disable	
	Channel 5 Enable:	Disable	~

*After the modification, download the program and re-power the module

b. Check channel 1 in the monitor table, the measured temperature is 24.4 °C, as shown in the figure below.

项目3 → PLC_1 [CPU 1214C DC/DC/DC] → 监控与强制表 → 监控表_1														
学 学 🛛														
i	名称 地址	显示格式	监视值	修改值	9	注释	变量注释							
1	%IW68	带符号十进制	244											
2	%IW70	带符号十进制	-9999											
3	%IW72	带符号十进制	-9999											
4	%IW74	带符号十进制	-9999											
5	%IW76	带符号十进制 💌	-9999											
6	%IW78	带符号十进制	-9999											
7	%IW80	带符号十进制	-9999											
8	%IW82	带符号十进制	-9999											
9	%QB64	带符号十进制	0											
10	%QB65	带符号十进制	0											
11	%QB66	带符号十进制	0											
12	%QB67	带符号十进制	0											
13	%QB68	带符号十进制	0											
14	%QB69	带符号十进制	0											
15	%QB70	带符号十进制	0											
16	%QB71	带符号十进制	0											
17	<新増>													

c. In the monitor table output control QB64~QB71, set the temperature compensation value 50 that is 5 °C, after setting the compensation value, the temperature of channel 1 is 29.4 °C, as shown in the figure below.

untor t													
项目3	PLC_1 [CPU 1214	C DC/DC/DC	〕▶ 监控与强制 ³	表 ▶ 监控表_1				_ = = ×					
			0										
2 2	1		ĩ										
i	名称	地址	显示格式	监视值	修改值	9	注释	变量注释					
1		%IW68	带符号十进制	294									
2		%IW70	带符号十进制	-9999									
3		%IW72	带符号十进制	-9999									
4		%IW74	带符号十进制	-9999									
5		%IW76	带符号十进制	-9999									
6		%IW78	带符号十进制	-9999									
7		%IW80	带符号十进制	-9999									
8		%IW82	带符号十进制	-9999									
9		%QB64	带符号十进制 💌	50	50	🗹 🔔							
10		%QB65	带符号十进制	0									
11		%QB66	带符号十进制	0									
12		%QB67	带符号十进制	0									
13		%QB68	带符号十进制	0									
14		%QB69	带符号十进制	0									
15		%QB70	带符号十进制	0									
16		%QB71	带符号十进制	0									
17		<新増>											