



AI-3700/3170/3900/3190 Series Instruments

User Manual



1.Summary

- Yudian touch screen instruments include:
- AI-3170S/3170W/3190S/3190W split-type paperless recorder,
 - AI-3756/3756P/3759/3759P/3956/3956P/3959/ 3959P series artificial intelligence temperature controller/industry regulator,
 - AI-37028/37048/39028/39048 multi-channel touch screen artificial intelligence temperature controller/industry regulator,
 - AI-3702M/3704M/3706M/3902M/3904M/3906M multi-channel touch screen indicator.

2.Technical Specifications

2.1.Display

Color: TFT true color
Resolution (W×H): 800×480 pixels
Backlight: Long- lifespan LED
Operation method: Touch Screen

2.2.Memory

Usable memory for application data: 150 MB
Recording interval: interval with unit one second (1,2, 3 or 4 etc)

2.3.Communication

Interface type: RS232, RS485, Ethernet interface (10 / 100M adaptive Ethernet nterface)
Baud rate: 1200-19200 bps

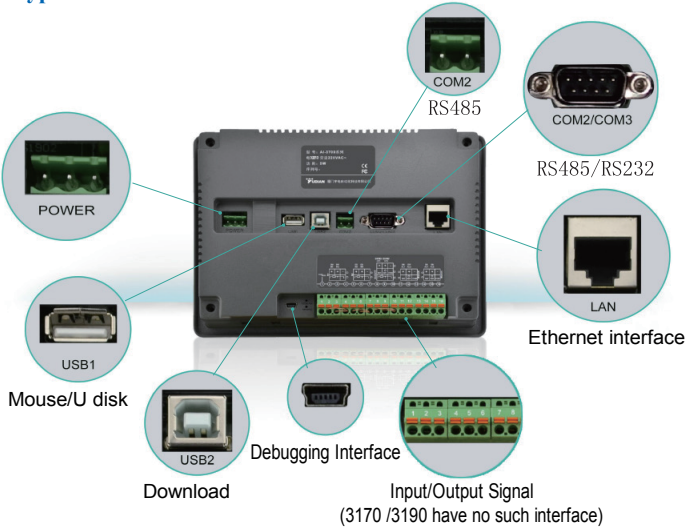
2.4.General Parameters

Electromagnetic compatibility (EMC) : ± 4KV/5KHz according to IEC61000-4-4;
4KV according to IEC61000-4-5.

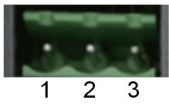
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4.Instrument Wiring

4.1.Interface Type

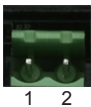


4.2.Power Wiring



Interface	POWER		
PIN	1	2	3
PIN Definition	-	Blank	+

4.3.Communication Wiring



Interface	COM2(RS485)	
PIN	1	2
PIN Definition	RS485+	RS485-



Interface	COM2(RS485)		COM3(RS232)		
PIN	1	6	2	3	5
PIN Definition	RS485+	RS485-	RS232 RXD	RS232 TXD	RS232 GND

Note 1: AI-3170S/3170W/3190S/3190W series must use COM2 interface, both COM2 and COM2/ COM3 interfaces are available.

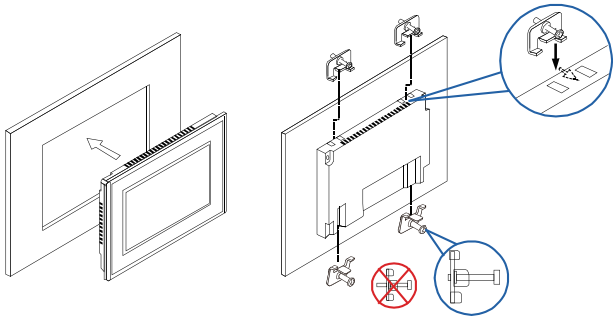
Note 2: For AI-3700/3900 series, no communication wire is required if there is no expanded function module.

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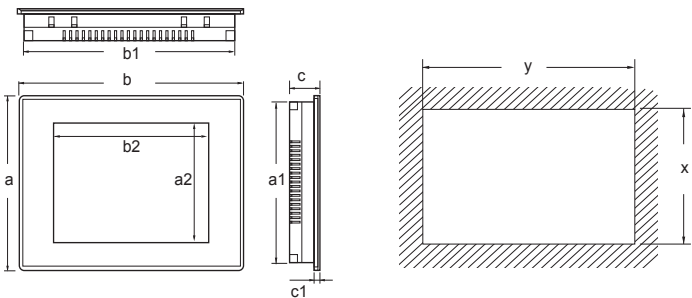
Isolation withstanding voltage :
Between power, relay contact or signal terminals ≥ 2300VDC;
between isolated Electroweak signal terminals ≥ 600VDC
Power supply: 100~240VAC,-15%~ +10%, 50-60Hz
Power consumption : ≤ 5W
Operating ambience: Temperature: -10℃ ~ + 60℃ ; Humidity: ≤ 90%RH
Storage temperature: -20℃ ~ + 80℃
Net weight: 0.7kg
Cooling: Natural

3.Instrument Installation

3.1.Hook Installation Diagram



3.2.Dimensional Drawings

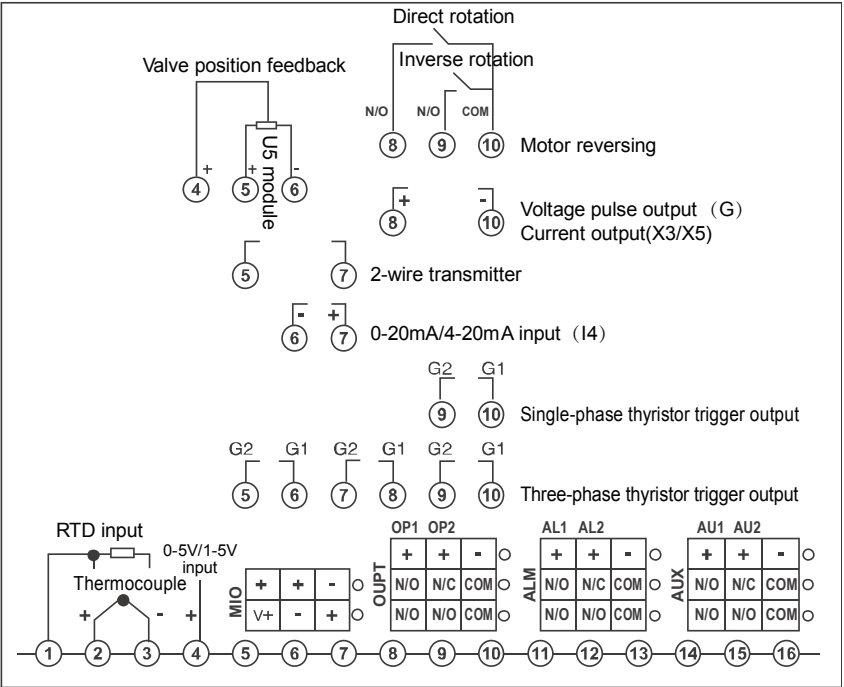


	Screen diagonal (mm)			Enclosure front (W×H×D) (mm)						Mounting Cutout (mm)	
		a2	b2	a	b	c	a1	b1	c1	x	y
3700 series (3170)	7inch	86	154	150	203	40	137	190	6	139	192
3900 series (3190)	9寸	112	198	170	231	38	158	219	6	160	221

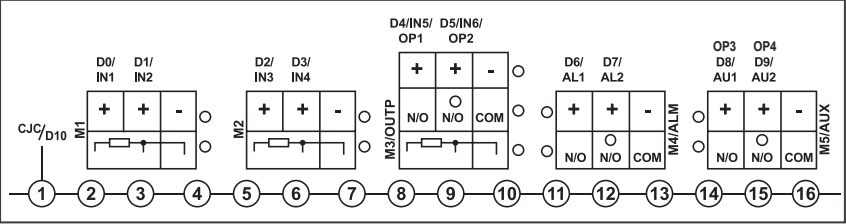
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4.4.Input and Output Wiring

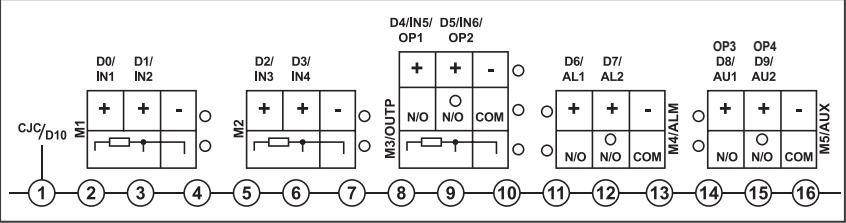
AI-3756/3756P/3759/3759P/3956/3956P/3959/3959Pseries artificial intelligence temperature controller/ industry regulator



AI-37028/37048/39028/39048 multi-channel touch screen Artificial intelligence temperature controller/industry regulator



AI-3702M/3704M/3706M/3902M/3904M/3906M multi-channel touch screen indicator.



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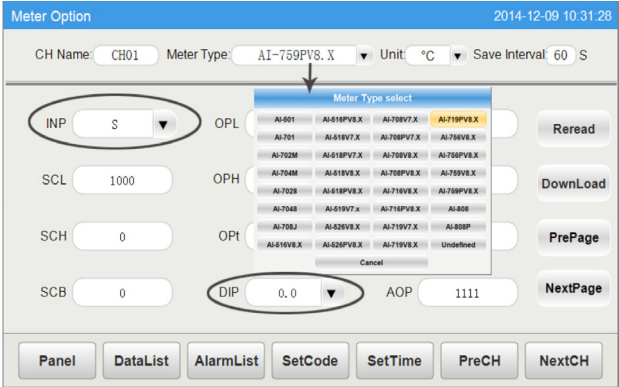
5.Operation Guidance

5.1 Instructions for First Time Operation:

When power is on, click 【MeterOpt】 , enter initial passcode 111.

At 【MeterOpt】 desktop:

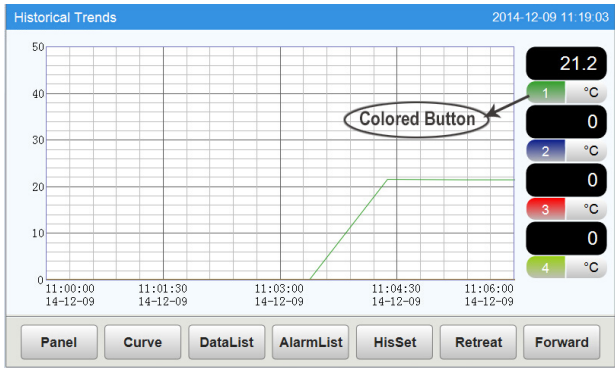
- 1) Select the meter type corresponding to the channel name.
Note : For AI-3170S/3170W/3190S/3190W, please select the model type. AI-3700 /3900series get model type itself.
- 2) Click 【Reread】 【Download】 to get default parameters or save new parameters.
Note 1: Select 【INP】 , 【DIP】 first, these two parameters are automatically saved when get modified, other parameters are affected when INP,DIP get modified.
Note 2: Once the other parameters are modified, the value will turn red unless 【Download】 button is clicked.
- 3) Click 【PrePage】 【NextPage】 to view all parameters of current channel.
- 4) Click 【PreCH】 【NextCH】 to switch channels. (every channel should follow above 1),2),3) steps if more than one channel.)
- 5) Click 【SetTime】 to reset current time. If the time is set backward, data recorded later will be erased, then the system will reboot itself.)



5.2 Instructions for Panel Desktop Operation:

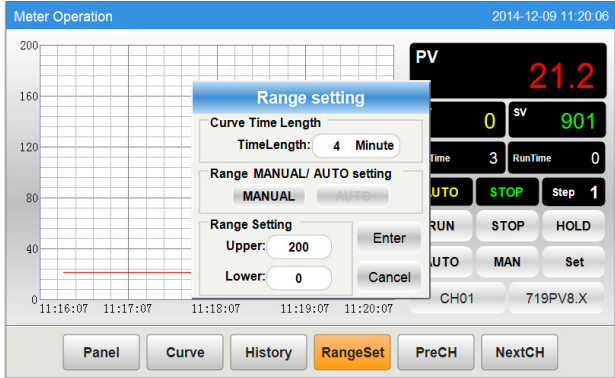
- 1) Click 【Panel】 , parameters 【PV】 , 【SV】 , 【MV】 etc will show up.
- 2) When the alarm is ON, Channel name shows in red, click 【AlarmList】 to get more details.
- 3) Click 【Channel name】 , detailed informations of each meter, like PV, SV, MV, Running state, Manual/Auto state etc will show up. (Programmable meter shows further the Running time and Step time.)

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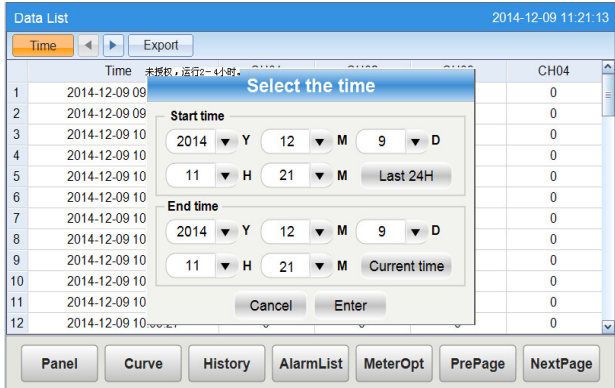
At 【RangeSet】 desktop:

Click 【RangeSet】 to set time span and Upper / Lower Range(range setting can be modified under manual state.)



At 【DataList】 desktop:

- 1) Click 【Time】 to set start / end time.
- 2) Click 【Last 24H】 to view data of last 24 hours.
- 3) Click 【Current】 to view data from the start time to the current time.

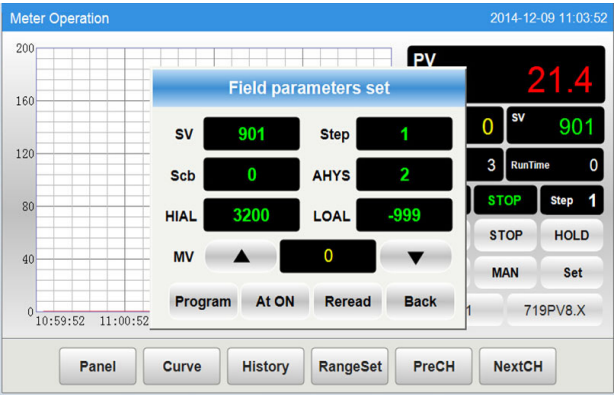


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- a.Curve graph shows 【PV】 in red while 【SV】 in green.
- b.Click 【RUN】 , 【STOP】 to switch running state, entering initial passcode 111 for the first time.

5.3 Instructions for Field Parameter Setting:

- 1) Click 【Panel】-【Channel Name】-【Set】 , field parameters 【SV】 【Step】 【Scb】 【AHYS】 【HIAL】 【LOAL】 【MV】 will show up.
Note 1: 【MV】 can be set under Manual state.
Note 2: For programmable meters, click 【Program】 - 【Program Setting】 to set 【SV】 .
- 2) Click 【At ON】 【At OFF】 to switch Auto-tuning state.
- 3) Click 【Program】 to go into program settings.
- 4) Click 【Reread】 【Download】 to get default programs and save new programs.
- 5) Click 【Select】 to the formulation, you can modify, add ,delete, save or apply programs.
Note : Once programs are modified, the value will turn red unless 【Download】 button is clicked.



5.4 Instructions for Other Desktops Operation:

At 【Curve】 desktop:

- 1) Click colored button to show / hide real time curve.
- 2) Click 【CurveSet】 to set time and Upper / Lower range.

At 【History】 desktop:

- 1) Click colored button to show/history curve.
- 2) Click 【HisSet】 to set time and Upper/Lower range.
- 3) Click 【Retreat】 【Forward】 to backward or forward 3/4 time axis.

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DataList Export:
Insert USB disk and wait for a while for hardware recognition. Clicking 【Export】 will export the data tables in a file named “hisdata.csv” in the USB disk.

At 【AlarmList】 desktop:

- 1) Click 【Real】 【His.】 to switch real(time) / history alarm list.
- 2) Click 【Options】 to select alarm type and display mode.

AlarmList Export:

Insert USB disk and wait for a while for hardware recognition. Clicking 【Export】 will export the data tables in a file named “almdata.csv” in the USB disk.

At 【MeterOpt】 desktop:

- 1) Select the meter type.
- 2) Select the unit.
- 3) Set record interval.(data recorded per 30S if you set “Save interval 30S” .)
- 4) Click 【SetPasscode】 to change initial passcode 111 to a new 3-digit one.
- 5) Click 【SetTime】 to set the current time.
If the time is set backward,, data recorded later will be erased, then the system will reboot itself.
- 6) Click 【Reread】 【Download】 to get default parameters or save new parameters.
- 7) Click 【PreCH】 【NextCH】 to switch channels.