Signal calibrator

Committed to process automation solutions

Datasheet

Yamataha

C702S

Multi-functional Hand-held Signal Calibrator has a multiple signal Output and measurement including voltage, current and thermoelectric couple with LCD screen and silicone keypad, simple operation, longer standby time, higher accuracy and programmable output.

Product Introduction

Model	Yamataha C702S
Operating temperature and humidity	-10~55℃, 20~80% RH
Storage temperature	-20-70℃
Size	115*71*30(mm)
Weight	300g
Power	4 AAA batteries or 5V/1A power adapter
Power dissipation	200mA, 4 hours under full load when powered by 4 AAA batteries (nominal capacity of a single battery is 1100mAh), and 17 hours in standby mode
OCP	30V

Features

- Highly accurate within 0.1% of the DC voltage range for source and measure
- Source and measurement can be performed simultaneously.
- Loop power supply function (24 VDC)
- Sweep functions that allow 3 types of continuous outputs:

> Line out function
> Stepping out function
> Segmentation output(c/m) function

Application

LAB Industrial field;

PLC Process Instrument;

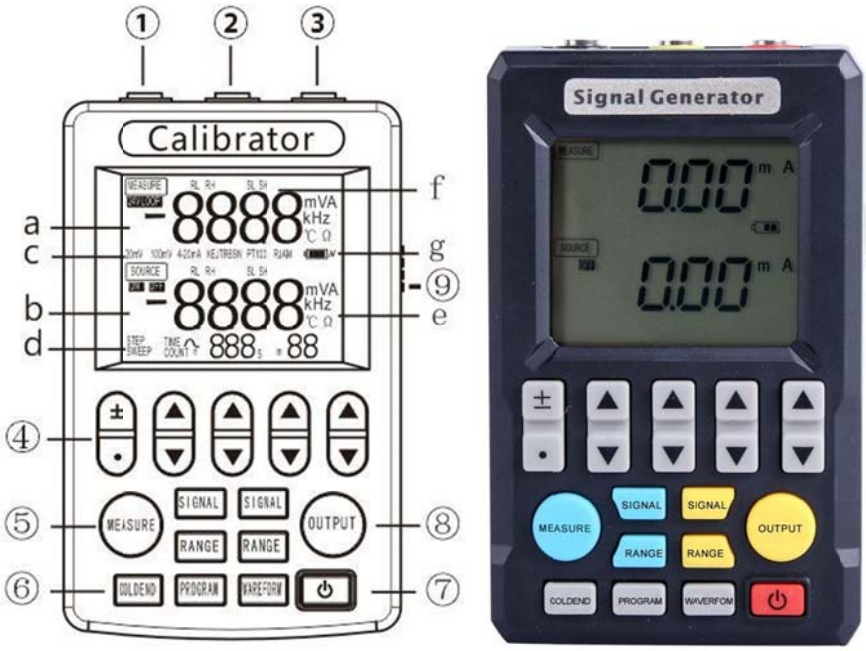
Electric value;

other area’s debugging.

Function and system design

Technical Specifications

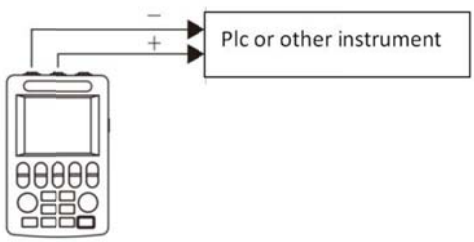
Item	Signal	Range	Accuracy	Resolution	Remark
DC voltage	20mV	0.00-24.00mV	±0.2%	0.01mV	
	100mV	0.0-100.0mV	±0.2%	0.1mV	
	V	Output 0.00-15.00V	±0.2%	0.01V	Output: max current 30mA measure: input Impedance 1.2MΩ
		Measure 0.00-30.00V	±0.2%	0.01V	
DC current	mA	0.00-24.00mA	±0.2%	0.01V	Output: max load 750Ω measure: input Impedance 100Ω
	4-20mA	4/8/12/16/20mA	±0.2%	0.01mA	
Passive current	mA	0.00-24.00mA	±0.2%	0.01mA	Output: external Power 16-30V
Power output	24VLOOP	24V/16V	10%	0.1V	Drive Current 24mA
Thermocoupl e	K	-270-1372℃	±1%	1℃	Output: start from 0℃
	E	-270-1000℃	±1%	1℃	
	J	-210-1200℃	±1%	1℃	
	T	-270-400℃	±1%	1℃	
	R	-50-1768℃	±1%	1℃	
	B	0-1820℃	±1%	1℃	
	S	-50-1768℃	±1%	1℃	
	N	-270-1300℃	±1%	1℃	
Resistance	Ω	15.0-400.0Ω	±0.2%	0.1Ω	
		0.0-400.0Ω	±0.2%	0.1Ω	
The thermal resistance	PT100	-199.9-650.0℃	±0.2%	0.1℃	



Each part and function

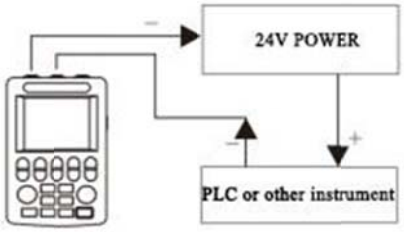
No.	Type	Remark
①	Common (black)	/
②	Output(yellow)	/
③	Measure(red)	/
④	Modify button	▲▼ Increase and reduce the value • Switch the decimal point ± Toggle the value plus or minus
⑤	Measure function button（blue）	【Signal】: select the type of the signal 【Range】: select the measuring range 【Measure】: open/exit the output function
⑥	Cold end and program function button	【Cold end】: show/modify cold end(only when measuring TC) 【Program】: enable the program function 【Waveform】: change the programmable output wave
⑦	Power	Turn on/off
⑧	Output function(yellow)	【Signal】: select the type of output signal 【Range】: select the range of output signal 【Output】: open/exit the output function
⑨	Switch (factory default off)	1. auto power off: auto power off if there's not anyoperation 2. manual cold end: manual setting when measuring the TC 3. passive output: output the passive current signal 4. Low power mode: output the 16v voltage to transmitter when Input the passive current.In order to reducing the power dissipation and lengthen the working time.

1. 4~20mA/TC output:



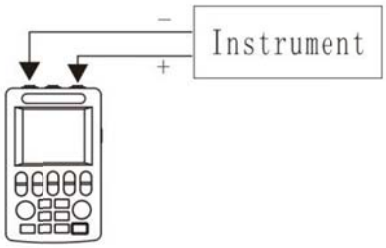
output active current/voltage to instrument

2. passive current output



2 wires transmitter simulatorl

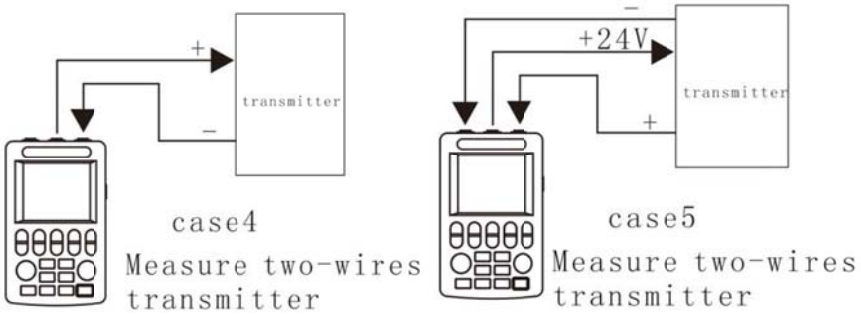
3. voltage, active current measurement



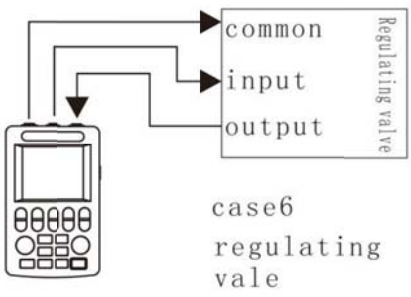
Use and wiring

Measure voltage/active current signal

4. passive current measure



5. regulating valve



Functions

• Line out

The signal can be output linearly according to the time set by the user.

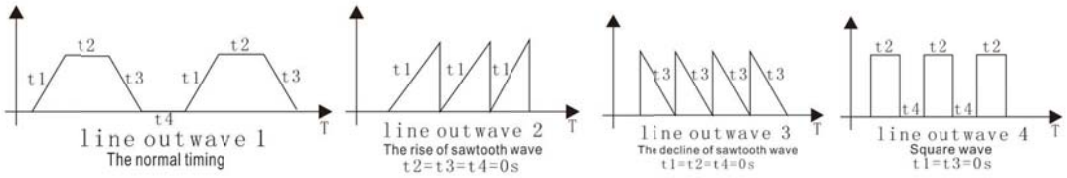
①press ▲▼set the Main setpoint

②press【waveform】, “sweep” shows in screen, open the line out function

③press【program】, set the “time” 0-999s there’s 4 sections(rise time/hold time[top]/fall time/hold time[low])

④press【program】, set the “count”:0-999

⑤⑥the same to 5.1



• Stepping out

The signal can be output by step according to the value set by the user.

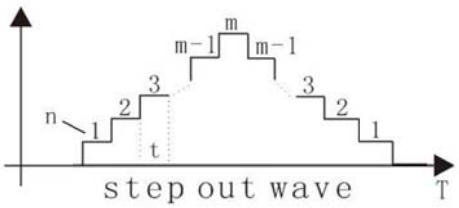
①press ▲▼ set the Main setpoint

②press【 waveform 】, “step” shows in screen, open the step out function

③press【program】 set “time”:0-999s

④press【program】 again, set n/m

⑤⑥the same to 5.1



• Segmentation output(n/m)

Through segmentation you can sprite voltage, current, TC signal to n/m times output. Output value=Main setpoint*(n/m)

①press to change the Main setpoint

②press【program】open the segmentation output mode. Show the n/m manual

③press【program】 set the M:1-20

④press set the N:0-m

⑤press【output】 open/exit the output

⑥press【program】 exit the program function.