

KELI	process name	calibration	批准	
			会签	
KM04A85	document number		审核	
	version number	C-1	校对	
	page	7pages	编制	刘金环 2015/10/13

一、Test

1.1 Equipment needed

DC power supply, multimeter, simulator, UART2RS232 connector, PC;

1.2 General parameters and wiring instructions

The power supply range : DC 9V~30V

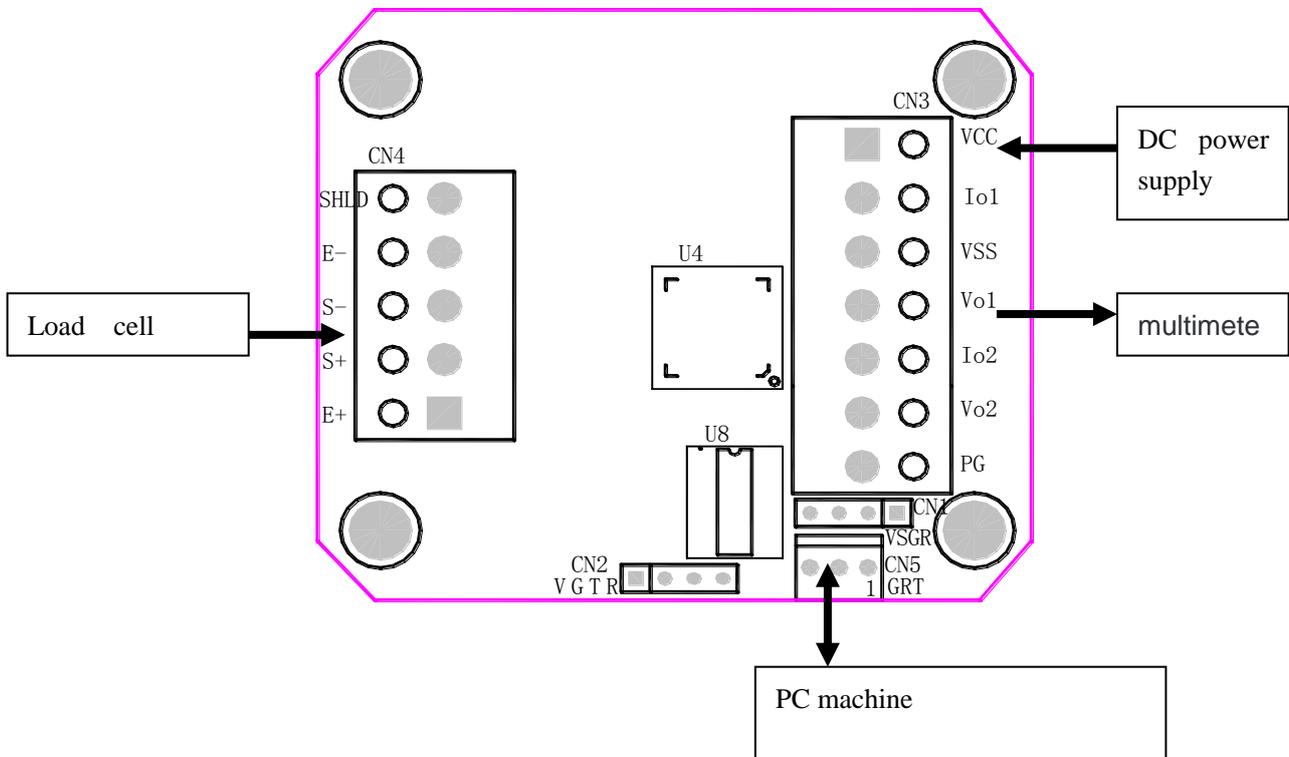
excitation voltage: DC5V;

Module input signal: $\pm 15mV$

output: 4~20mA; (Other output methods are optional. See calibration software for details)

composition error: $< 0.1\%F.S.$;

1.3 wiring diagrams



1.4 load cell CN4 SENSOR

Load cell: Select sensitivity to 2.0mV/V load cell access according to module identification (if there is an order requirement, it shall be based on the order requirement);

Pin	description	Color
1	Excitation+ E+	Red
2	Signal + S+	Green
3	Signal - S-	White
4	Excitation- E-	Black
5	Shield SHLD	Thick black

1.5 Power interface CN3 POWER

The power supply range is DC 9V~30V (It is recommended to use DC24V voltage) 。 The pin is defined as follows:

Pin	description	Color
1	Positive power supply VCC	Red
2	Current 1 output Io1	Green
3	Negative power supply VSS	Black
4	Voltage 1 output Vo1	White
5	Current 2 output Io2	/
6	Voltage 1 output Vo2	/
7	Shield PG	Thick black

1.6 Program burn interface CN1 SWIM

Pin	description	Color
1	power supply V	red
2	burning end S	orange
3	public land G	black
4	reset terminal R	white

1.7 RS232Communication Interface CN5

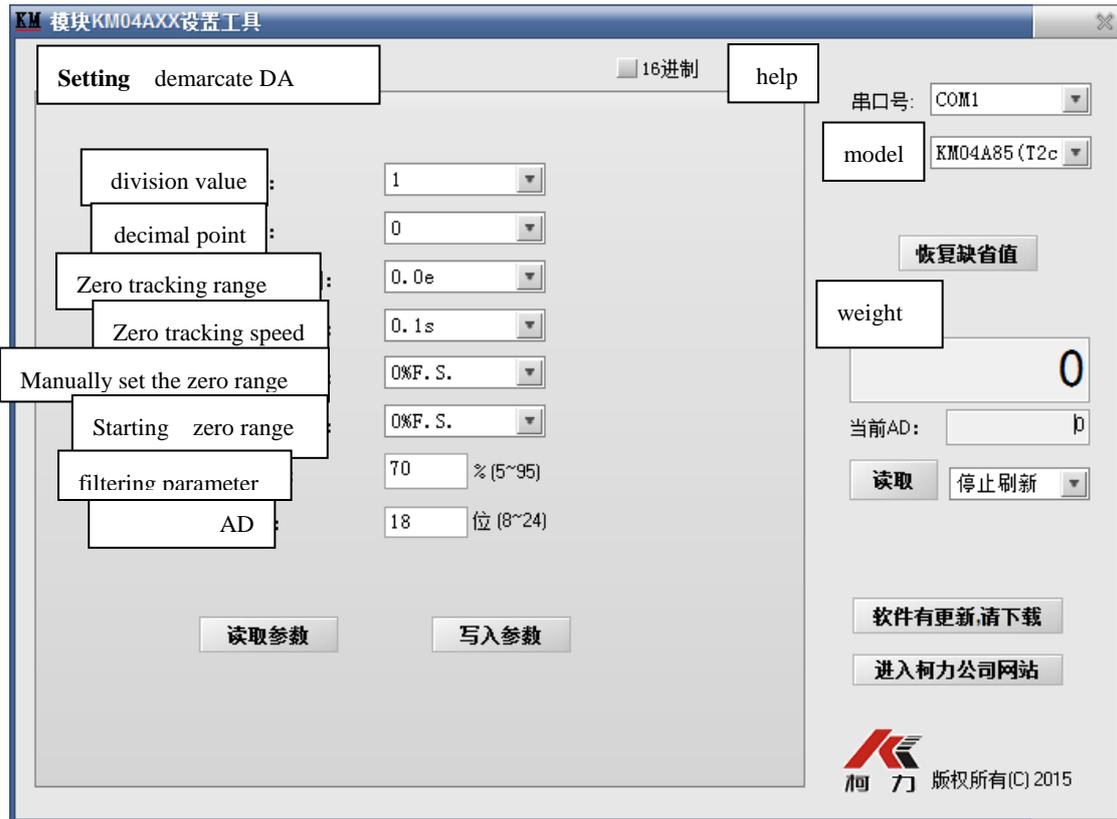
Pin	description	Color
1	Data sender	Green
2	Data receiving end	White
3	Public land	Black

2,Calibration software interface

2.1 【parameter setting , interface

As shown below

Module KM04AXX setting tool



2.2 Setup interface

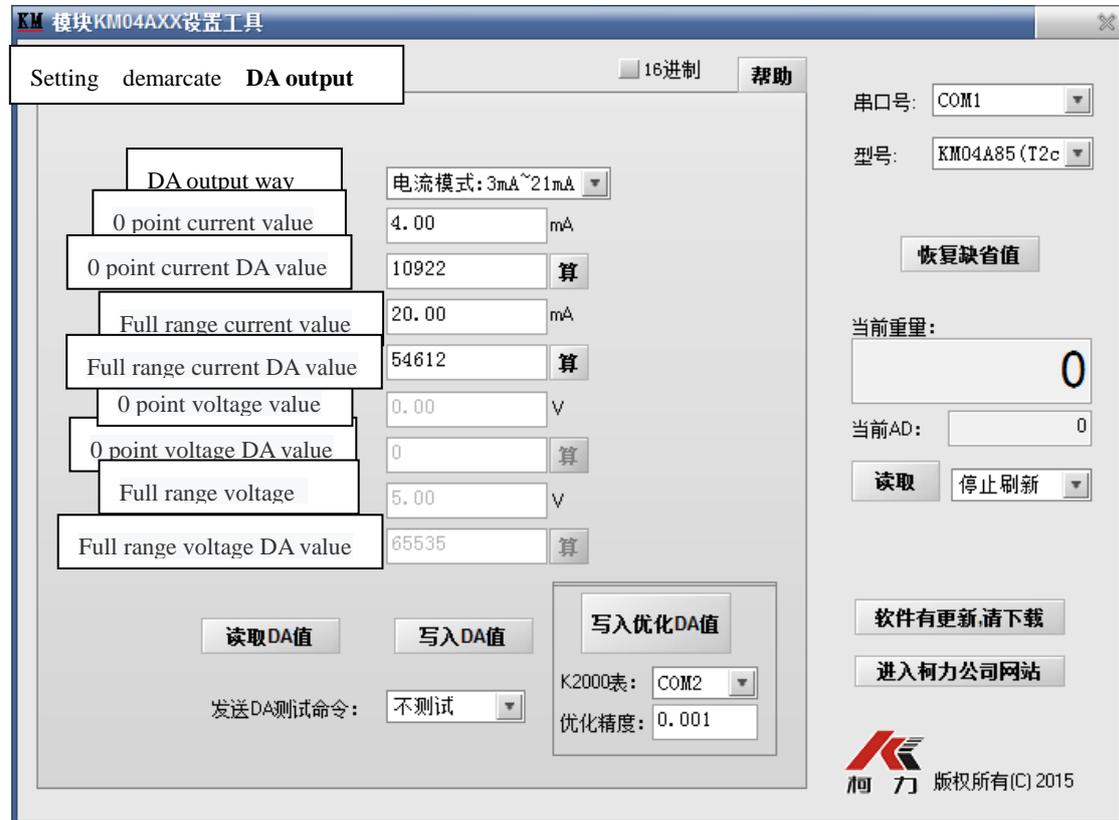
As shown in the following figure



2.3 【 DA output】 Setting

As

below



Second, the parameters read and write steps

3.1 Open the settings tool

Double-click on the PC to enter the setup tool interface.

3.2 Setting the communication interface

1, set the serial port number, according to the PC and the module connected to the serial port to set, the default is COM1;

2. Select the calibration module model KM04A85 (T2c);

3.3 Reading module parameters

1. In the [Parameter Setting] interface, click [Read Parameter] to read the module parameters.

2. In the [Calibration] interface, click [Read Calibration Value] to read the module calibration value;

3. On the [DA Output] interface, click [Read DA Value] to read the module DA parameters.

3.4 Write module parameters

1. In the [Parameter Settings] interface, modify the parameters in the corresponding dialog box. As shown in Figure 2.1, click [Write Parameters] to write the parameters to the module.

2. In the [Calibration] interface, modify the parameters in the corresponding dialog box. As shown in the 2.2 icon, click [Write Calibration Value].

Write the calibration value to the module;

3. In the [DA Output] interface, modify the parameters in the corresponding dialog box. As shown in Figure 2.3, click [Write DA Value] to write the DA parameters to the module.

Fourth, calibration operation

4.1 DA parameter correction

1. In the [DA output] interface, [DA output mode] select [current mode: 3~21mA]

2. Rewrite [send DA test command] to [zero point test], [zero current value] fill in [4.0mA], click [calculation] button after [zero current DA value];

By reading the multimeter data, compare it with [Zero current value], modify the corresponding DA value (increase or decrease the DA data), click [Write DA value] to check whether the multimeter output data and [Zero current value] are Consistent (error is $< 0.1\%$ FS, ie error < 0.01 mA).

If the data is inconsistent, repeat the above operation, and finally make the multimeter output data consistent with [zero current value].

3. Rewrite [send DA test command] to [full scale test], [full scale current value] fill in [20mA], click [calculation] button after [full scale current DA value];

By reading the multimeter data, compare it with [full-scale current value], modify the corresponding DA value (increase or decrease the DA data), click [Write DA value] to view the multimeter output data and [full-scale current value]. **■** Is it consistent (the error is $< 0.1\%$ FS, ie the error < 0.01 mA).

If the data is inconsistent, repeat the above operation, and finally make the multimeter output data consistent with [full-scale current value].

4. Rewrite the [send DA test command] to [not test], and the DA parameter correction is completed.

4.2 Module linear calibration steps

1, calibration points

Enter the [Calibration] interface, in the [Calibration] interface, select the calibration point according to the linearity of the analog sensor;

2, the number of input

In the [Calibration] interface, in the [Index] dialog box, write the number of divisions of the current sensor to be calibrated. The calculation method is: $\text{division number} = 500 * \text{sensor sensitivity}$

3, zero calibration

In the [Calibration] interface, in the calibration column, select [Zero], adjust the analog sensor, and make the analog sensor in no-load state. Click the [Read] button next to the calibration bar to read the zero AD value into the software. Click [Write Calibration Value];

Click the [Read] button under [Current AD] to check whether the [Current Weight] display value is consistent with the [Weight Value] corresponding to [Zero Point] in the calibration column;

If it is inconsistent, modify the [AD value] corresponding to [Zero Point] in the calibration column, click [Write Calibration Value], continue to view the [Current Weight] display value,

repeat this operation, and make the [current weight] display value and the calibration column. [Zero] The corresponding [weight value] is the same.

4, weight linear calibration

In the [Calibration] interface, in the calibration column, select [Load Point X], adjust the analog sensor, and let the analog sensor output the analog signal of the corresponding weight. Click the [Read] button next to the calibration bar to read the zero point AD value. In the software, click [Write Calibration Value];

Click the [Read] button under [Current AD] to check whether the [Current Weight] display value is consistent with the [Weight Value] corresponding to [Load Point X] in the calibration column;

If it is inconsistent, modify the [AD value] corresponding to [Load Point X] in the calibration column, click [Write Calibration Value], continue to view the [Current Weight] display value, repeat this operation, and make [current weight] display value and calibration column. The [weight value] corresponding to [Load Point X] is the same.

5, rated weight input

In the [Calibration] interface, in the calibration column, select [Rated Point], modify the weight value corresponding to [Rated Point], and make the weight value consistent with the rated weight of the sensor; click the corresponding [AD Value] to calculate the rated point. AD; click [write calibration value], the module linear calibration is completed.

V. Inspection

The KM04A85 module is inspected according to the KM04A85 module factory inspection project.

Six, finished goods storage

