



# SmartGen Kio22 Analog Input/Output Module User Manual

[Home](#) » [SmartGen](#) » SmartGen Kio22 Analog Input/Output Module User Manual 

## Contents

- [1 SmartGen Kio22 Analog Input/Output Module](#)
- [2 OVERVIEW](#)
- [3 SPECIFICATION](#)
- [4 WIRING](#)
- [5 PROGRAMMABLE PARAMETER SCOPE AND DEFINITION](#)
- [6 ELECTRICAL CONNECTION DIAGRAM](#)
- [7 OVERALL DIMENSION AND INSTALLATION](#)
- [8 Documents / Resources](#)
  - [8.1 References](#)
- [9 Related Posts](#)



**SmartGen Kio22 Analog Input/Output Module**



## OVERVIEW

KIO22 is a K-type thermocouple to 4-20mA module, which is used to convert 2 analog inputs of K-type thermocouple into 2 current outputs of 4-20mA. Users can use MODBUS protocol to realize parameter configuration and data collection via LINK interface.

## PERFORMANCE AND CHARACTERISTICS

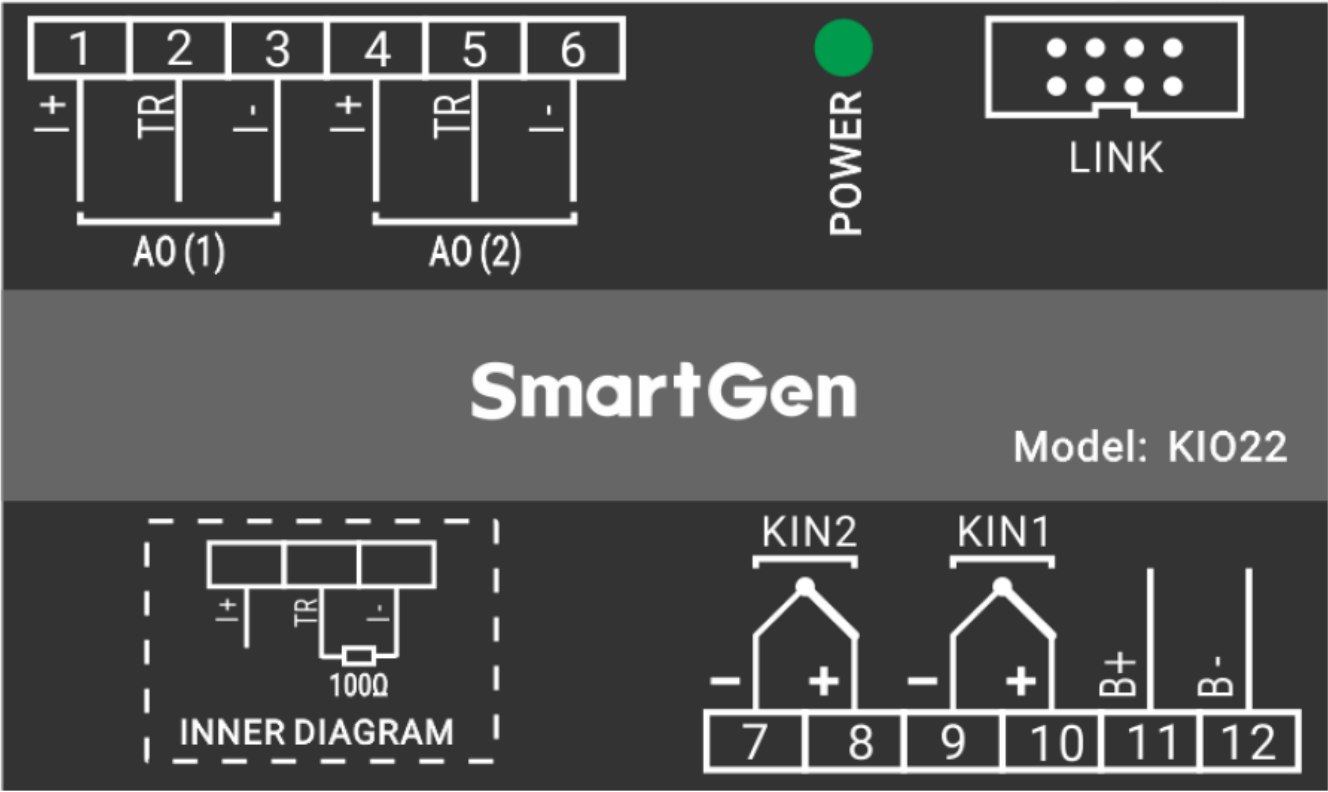
Its main characteristics are as follows:

- With 32-bit ARM SCM, high hardware integration, improved reliability;
- DC(8~35)V working voltage;
- 35mm guide rail installation method;
- Modular design and pluggable connection terminals; compact structure with easy mounting.

## SPECIFICATION

| Items                          | Contents                                               |
|--------------------------------|--------------------------------------------------------|
| Working Voltage Range          | DC(8~35)V                                              |
| LINK Interface                 | Baud rate: 9600bps Stop bit: 1-bit<br>Parity bit: None |
| Case Dimension                 | 71.6mmx93mmx60.7mm (LxWxH)                             |
| Working Temperature & Humidity | Temperature: (-40~+70)°C;    Humidity: (20~93)%RH      |
| Storage Temperature            | Temperature: (-40~+80)°C                               |
| Protection Level               | IP20                                                   |
| Weight                         | 0.115kg                                                |

WIRING

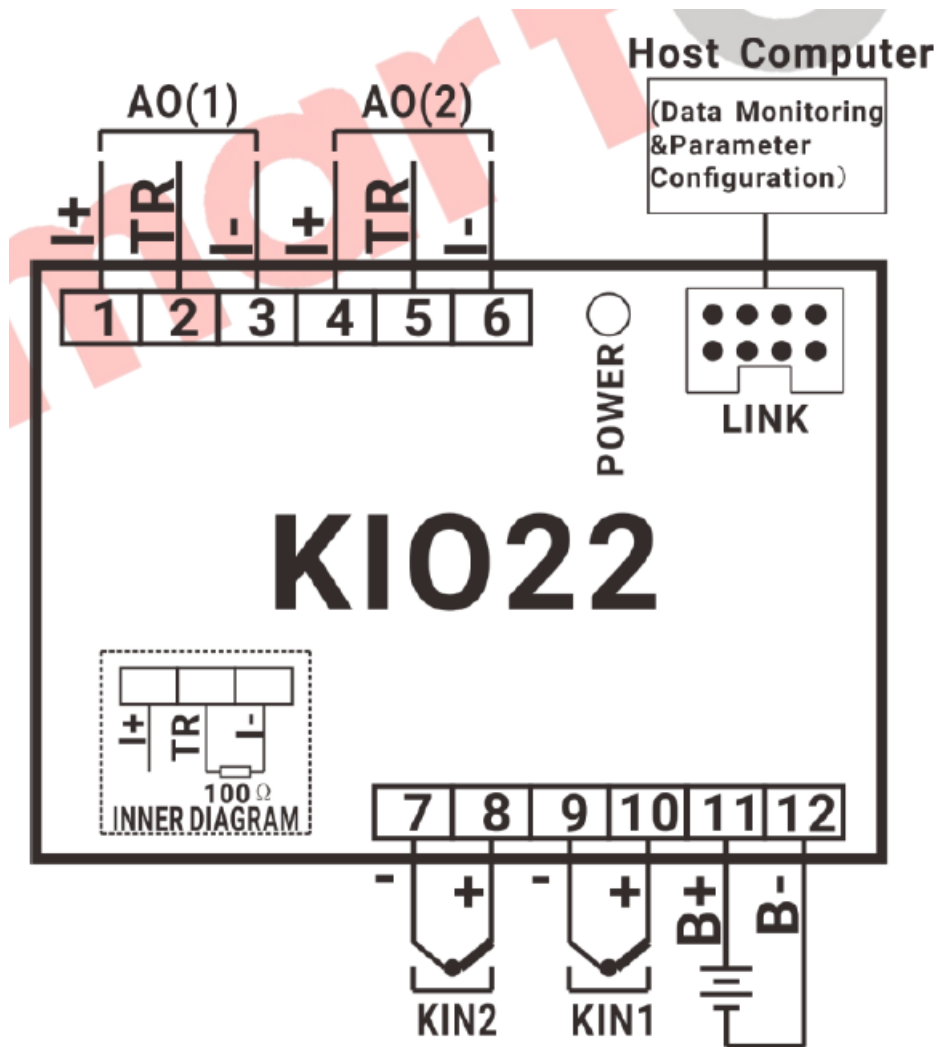


| No. | Function          | Cable Size         | Remark                                                                                                                                                             |
|-----|-------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | AO(1) I+          | 1.0mm <sup>2</sup> | Current positive output.                                                                                                                                           |
| 2.  | AO(1) TR          |                    | TR and I+ are short connection, the internal 100Ω resistance can be connected to the output circuit, and the output signal can be converted into a voltage signal. |
| 3.  | AO(1) I-          |                    | Current negative output.                                                                                                                                           |
| 4.  | AO(2) I+          | 1.0mm <sup>2</sup> | Current positive output.                                                                                                                                           |
| 5.  | AO(2) TR          |                    | TR and I+ are short connection, the internal 100Ω resistance can be connected to the output circuit, and the output signal can be converted into a voltage signal. |
| 6.  | AO(2) I-          |                    | Current negative output.                                                                                                                                           |
| 7.  | KIN2 –            | 0.5mm <sup>2</sup> | K-type thermocouple sensor                                                                                                                                         |
| 8.  | KIN2 +            |                    |                                                                                                                                                                    |
| 9.  | KIN1 –            | 0.5mm <sup>2</sup> | K-type thermocouple sensor                                                                                                                                         |
| 10. | KIN1 +            |                    |                                                                                                                                                                    |
| 11. | DC Power Input B+ | 1.0mm <sup>2</sup> | DC power positive input.                                                                                                                                           |
| 12. | DC Power Input B- | 1.0mm <sup>2</sup> | DC power negative input.                                                                                                                                           |
| /   | POWER             |                    | Power normal indicator.                                                                                                                                            |
| /   | LINK              |                    | Communicate with host computer via MODBUS RTU protocol.                                                                                                            |

## PROGRAMMABLE PARAMETER SCOPE AND DEFINITION

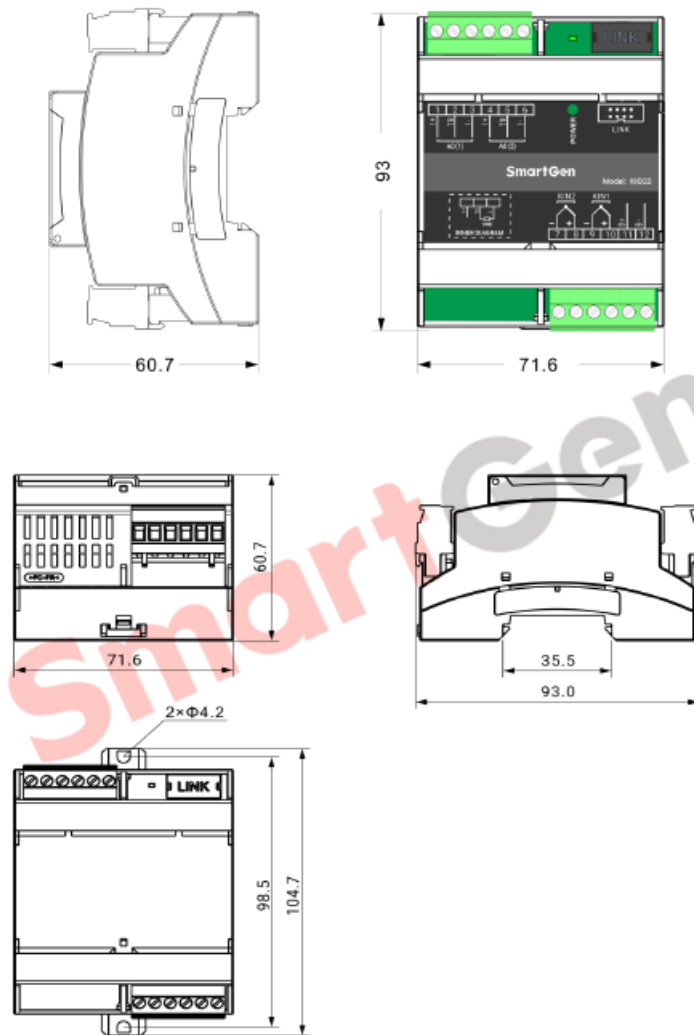
| No. | Item                                                    | Range        | Default | Description                                                                               |
|-----|---------------------------------------------------------|--------------|---------|-------------------------------------------------------------------------------------------|
| 1   | Output 1<br>The temperature value corresponding to 4mA  | (0-1000.0)°C | 0       | The temperature value of the thermocouple sensor corresponding to 4mA from the output 1.  |
| 2   | Output 1<br>The temperature value corresponding to 20mA | (0-1000.0)°C | 1000.0  | The temperature value of the thermocouple sensor corresponding to 20mA from the output 1. |
| 3   | Output 2<br>The temperature value corresponding to 4mA  | (0-1000.0)°C | 0       | The temperature value of the thermocouple sensor corresponding to 4mA from the output 2.  |
| 4   | Output 2<br>The temperature value corresponding to 20mA | (0-1000.0)°C | 1000.0  | The temperature value of the thermocouple sensor corresponding to 20mA from the output 2. |

## ELECTRICAL CONNECTION DIAGRAM



**Fig.2 Electrical Connection Diagram**

**OVERALL DIMENSION AND INSTALLATION**



### SmartGen Technology Co., Ltd.

No.28 Jinsuo Road Zhengzhou Henan Province P. R. China

Tel: +86-371-67988888/67981888/67992951

+86-371-67981000(overseas)

Fax: +86-371-67992952

Web: [www.smartgen.com.cn/](http://www.smartgen.com.cn/)

[www.smartgen.cn/](http://www.smartgen.cn/) Email: [sales@smartgen.cn](mailto:sales@smartgen.cn)

### Documents / Resources

|                                                                                     |                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><a href="#">SmartGen Kio22 Analog Input/Output Module [pdf] User Manual</a></p> <p>Kio22 Analog Input Output Module, Kio22, Analog Input Output Module, Input Output Module, Output Module</p> |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### References

- 众智
- 众智

