KYL-816 Wireless Analog Acquisition Module

User Manual

Shenzhen KYL Communication Equipment Co., Ltd

Add: 3705-3707, Building C, Huangdu Square (South of Shenzhen Exhibition Center),Yitian Road, Futian District, Shenzhen, Guangdong, China 518048

Tel: 86-755-82943662
Fax: 86-755-83408785
Skype：KYL-Sunny
Yahoo messenger: KYL_Sunny@yahoo.com
MSN: KYL-Sunny@hotmail.com
Email: sales02@rf-data.com
Web: www.rf-data.com

Before using our products, please read the user manual carefully.
Any questions, please contact us at the above mentioned ways.

I. About KYL-816

KYL-816 Wireless Analog Acquisition Module, with the function of analog acquisition and wireless transmission, is widely used for wireless remote control and data collection. Designed according to industrial standard, KYL-816 works under wide range temperatures to meet client's requirement for whole day using. Besides, KYL-816 adopts narrowband FM technology. Its anti-jamming ability is strong.

Ⅱ. Features of KYL-816:

1. Analog: two channels 0-5V voltage input and two channels 0-5V voltage output

2. Power supply: 12-14V, over current protection

3. Power monitor circuit and watch dog circuit in its CPU to ensure the module to operate in adverse environment.

4. With indicator lights for power supply and data transmission.

5. Sopport Modbus RTU protocol.

Ⅲ、Technical Parameters of KYL-816

1. Analog：12 bit ADC;　Input type：Voltage 0－5V

2. Impedance Input：20MΩ.

3. Frequency：433MHz

4. Modulation: FSK

5. Output power：　≤500mW

6. Transmit current：　<350mA

7. Receive sensitive：-123dBm (1200bps)

8. Receive current：　<50mA

9. Antenna impedance：50Ω

10. Communication distance：Above 3Km (BER=10-5@1200bps，in the open air)

11. Work temperature：-20℃～+60℃(industrial standard)

12. Size：13.8*9.0*4.0cm

IV. Instruction of the indicator lights

1. Indicator light for power supply：indicating power is on or off;

2. Indicator light for working：Indicating the equipment works normally, the blinker period is 4S when equipment works normally.

3. Indicator light for transmitting：Indicating data transmitting.

4. Indicator light for receive：Indicating data receiving.

Ⅴ. How to use KYL-816

1. Transmission mode of KYL-816

1）point to point initiative transmission mode:

The transmission equipment acquires 0-5V voltage analog signal timing, codes them and transmits wirelessly. The receiving equipment receives the signal, codes and outputs the voltage analog signals. So the input voltage from the receiving equipment will be the same with the output voltage from the transmitting equipment.

The transmitting interval can be set from 10mS to 60S. When it is set as "000", KYL-816 just works as the receiving equipment. It will not transmit any data. Otherwise, it works as transmitting equipment which can transmit acquired data according to the transmitting interval you set. The minimum transmitting interval is related to the transmission distance. So please specify this when placing the order.

2）Principal and subordinate acquisition mode.

When the receiving equipment doesn't need to show the input voltage from the transmission equipment, but just to transmit the acquired data to a PC or other terminals, you can choose Principal and subordinate mode. The Principal equipment is the PC or other terminal which connecting with a wireless transceiver module (such as KYL-300I). And the subordinate equipments can be acquisition units having address codes with No.0 to No.255 (the transmitting interval set as"0"). Under this mode, the wireless transceiver module transmits acquisition command so that the principal equipment can take charge of 255 acquisition modules.

2. Parameter setting（Picture one：Software instruction）
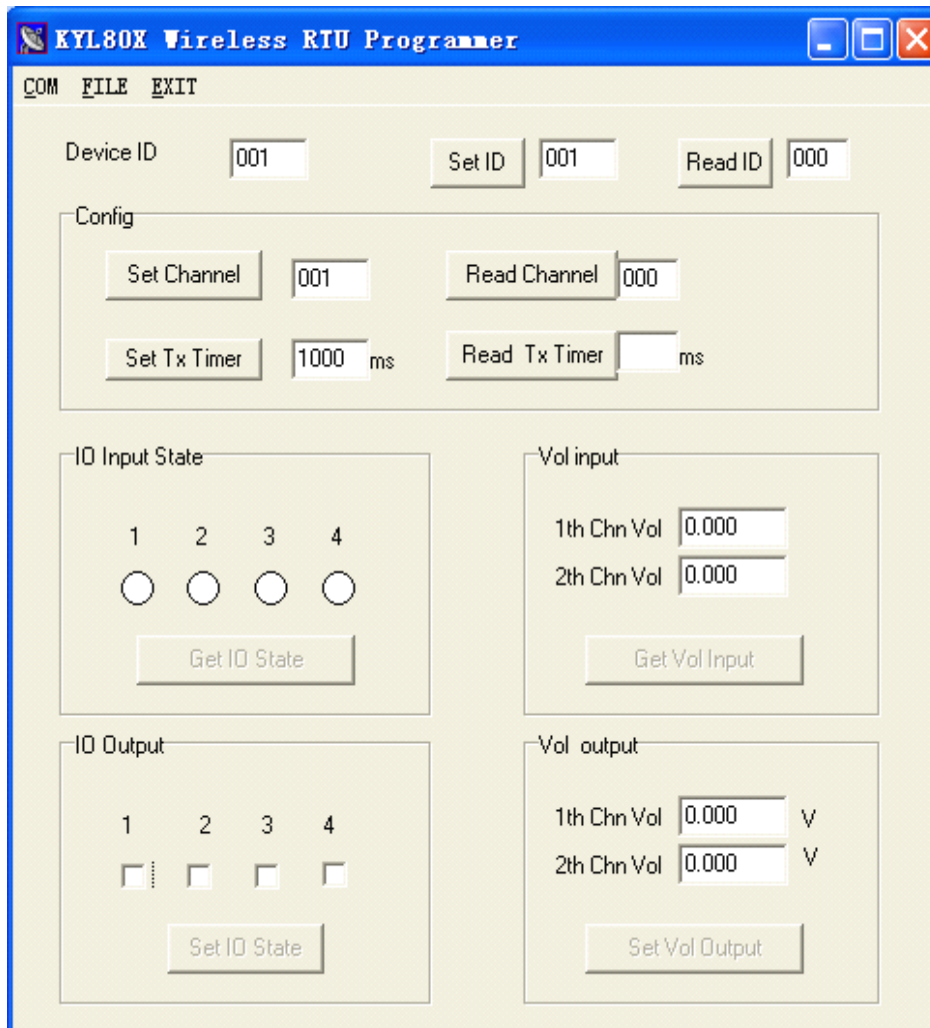
As the above picture shows:

Clients can set parameters by KYL-80X software.

1）Module address: From 000 to 255;

2）Channel: Totally eight channels, each channel has different frequency;

3）Transmission interval: It will be in effect only when the module is under point to point transmitting mode. The minimum transmitting interval is different subject to baud rate of the module. When setting as "000", the module works at subordinate mode. It just takes charge in receiving the output data.

3. How to use the software

1）Connect the module to a PC, open the software KYL-80X, then choose the right port.

2）Electrify, if connect successfully, the software will show " read success". Then "read ID", read success. You can change the parameter.

Note:

1） When reading or setting parameter, please fill in the appointed ID first, which is the current module address. You can also get the current module's address by "read ID". The "write ID" command helps you change the current module address.

2） When setting the channel, the maximum channels is eight. Please set two modules at the same channel, otherwise they can not communicate.

3） Change parameter wirelessly. Connect the module to PC by UART port (not the UART port of KYL-816). Then you can change the parameter of the KYL-816.

4） Under point to point mode, many double equipments work at the same time, It is suggest to set different channels for different double equipments.

Ⅵ. **Connection Definition** （Picture two: connection for setting parameter）

Pin No.	Function	Definition	Remark
1	VCC (Power supply input)	DC：12-24V	
2	GND	Grounding of power supply	
3	ON-OFF output	power controlling output (5V)	
4	GND	Signal Ground	
5	Relay no power output		
6	Relay no power output		
7	Current output	4mA-20mA	
8	GND	Signal Ground	
9	Second channel analog voltage input		
10	GND	Signal Ground	
11	First channel analog voltage input		
12	GND	Signal Ground	
13	Second channel analog voltage output		
14	GND	Signal Ground	
15	First channel analog voltage output		
16	GND	Signal Ground	

Ⅶ. Connection sketch map

LED1 LED2 LED3 LED4

16 15 14 13 12 11 10 9   8 7 6 5 4 3 2 1
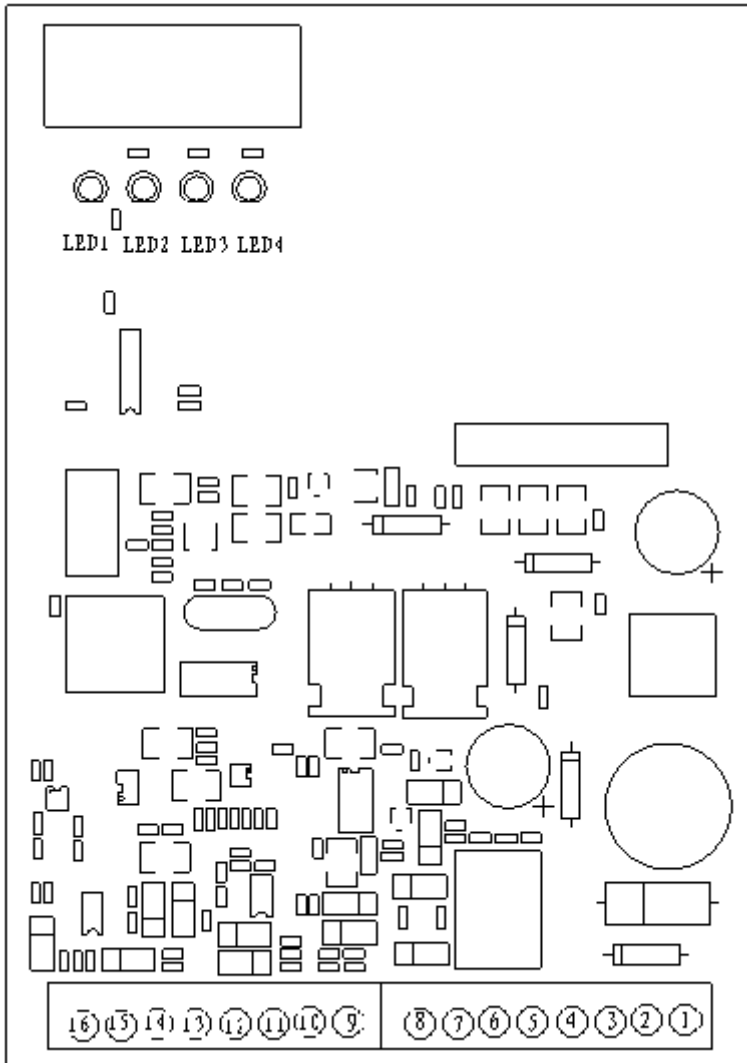
Picture three: Connection sketch map