中文版

///////////////////////////////////////////////////////////////////////////////////////////////

接线说明：仪表通迅格式为TTL电平串口通迅．为了使用方法，接口采用MICRO USB母座．方便连接，请不要认为可以直接

与电脑进行USB通讯！例如与电脑通迅，需要电脑侧准备USB-TTL转换器，再与仪表相连．

此协议仅供专业编程人员参阅,比如实现多机联机,其他设备互通.普通用户无需阅读.

一.设备数据输出方式.

 波特率:19200 检验位:NONE 数据位:8 停止位:1

 每一次输出,都会输出一组由44个字节组成的设备信息.

 实际示例: FE FE FE FE 00 00 03 5A 98 00 00 00 00 00 00 00 00 00 00 00 03 00 00 00 F0

 序号对应: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

01 02:固定为FEFE　数据组起点标志

03 04:固定为FEFE　数据组起点标志

05　 :本机通迅地址　出厂默认为0

06 07:电压值　高字节

08 09:电压值 低字节 变量格式为Unsigned long　注意：转换结果是以mV为单位

10 11:电流值　高字节

12 13:电流值　低字节 变量格式为Unsigned long　注意：转换结果是以mA为单位

14 15:功率值　高字节

16 17:功率值　低字节 变量格式为Unsigned long　注意：转换结果是以10mW为单位

18 19:电能值　高字节

20 21:电能值　低字节 变量格式为Unsigned long　注意：转换结果是以WH为单位

22 23:频率值 读数/100

24 :功率因素

25 :校验值 前面所有字节相加

 说明:

 仪表每一次都会输出一组信息.可根据需要过滤选择自已有用的信息.

二.如何向设备发出指令

 所有指令以7733开头作为标识

 1.向设备发出清零电能指令

 实际示例:77 33 C0 03

 序号对应:01 02 03 04

 01 02:标识头 03:设备地址+0xC0 04:本次记录清零指令码0x03

 2.向设备发出改变数据输出模式的指令

 实际示例:77 33 C0 41

 序号对应:01 02 03 04

 01 02:标识头 03:设备地址+0xC0 04:指令码[40-停止输出 41-输出一组数据 42-开始连续输出数据] 出厂默认为40

 3.向设备发出修好设备地址的指令:

 实际示例:77 33 C0 81

 序号对应:01 02 03 04

 01 02:标识头 03:设备地址+0xC0 04:指令码[新地址=0x81-0x80] 可设置地址范围0x00-0x7f共128 因此指令码范围是0x80-0xff

 4.向设备发出强制指令:

 实际示例:77 33 8A

 序号对应:01 02 03

 01 02:标识头 03:指令码[8A-无条件停止输出 8B-无条件单次输出一组数据

　　此命令忽略设备地址,当忘记设备地址无法控制时可以用此命令查看设备地址.

附:数据均为16进制,只是为了便于讲解才加的空格,实际数据并无空格.

English version

///////////////////////////////////////////////////////////////////////////////////////////////

Wiring instructions: Instrument communication format is TTL level serial communication. In order to use the method, the interface adopts MICRO USB base. Convenient connection, please do not think it can be directly connected.

USB communication with computer! For example, when communicating with a computer, it is necessary to prepare a USB-TTL converter on the computer side and connect it with the instrument.

This protocol is only for professional programmers to refer to, such as the realization of multi-online, other equipment interoperability. Ordinary users do not need to read.

1. Equipment data output mode.

Baud Rate: 19200 Check Bit: NONE Data Bit: 8 Stop Bit: 1

Each output will output a set of 44 bytes of device information.

Practical examples: FE FE FE FE 00 00 03 5A 98 00 00 00 00 00 00 00 00 00 00 00 03 00 00 00 F0

Number correspondence: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

01 02: Fixed as FEFEFE Data Group Starting Mark

03 04: Fixed as FEFEFE Data Group Starting Mark

05: The default factory address is 0.

06 07: High-byte Voltage Value

08 09: Voltage value low byte variable format is Unsigned long Note: The result of conversion is in mV units

10 11: Current Value High Bytes

12 13: Current value low byte variable format is Unsigned long Note: The conversion result is in mA units

14 15: Power Value High Bytes

16 17: Power Value Low Byte Variable Format Unsigned Long Note: The conversion result is in 10mW units

18 19: High bytes of power value

20 21: Low byte variable format for power value is Unsigned long Note: The conversion result is in WH units

22 23: Frequency value reading/100

24: Power factor

25: All bytes before the check value are added

Explain:

Each time the instrument outputs a set of information, which can be filtered and selected for its own use.

2. How to issue instructions to equipment

All instructions are marked with 7733 as the beginning

1. To issue zero-clearing power instructions to equipment

Practical example: 77 33 C0 03

Number correspondence: 01 02 03 04

01 02: Identification Header 03: Device Address + 0xC4: This Record Zero Clearing Instruction Code 0x03

2. Send instructions to the device to change the data output mode

Practical example: 77 33 C0 41

Number correspondence: 01 02 03 04

01 02: Identification Header 03: Device Address + 0xC4: Instruction Code [40 - Stop Output 41 - Output a set of data 42 - Start Continuous Output Data] Outgoing by default 40

3. Issue instructions to fix the address of the equipment:

Practical example: 77 33 C0 81

Number correspondence: 01 02 03 04

01 02: Identification Header 03: Device Address + 0xC4: Instruction Code [New Address = 0x81-0x80] Address Range 0x00-0x7f Total 128 So Instruction Code Range is 0x80-0xff

4. To issue mandatory instructions to the equipment:

Practical example: 77 33 8A

Number correspondence: 01 02 03

01 02: Identification Header 03: Instruction Code [8A-Unconditional Stop Output 8B-Unconditional Single Output Set of Data

This command ignores the device address and can be used to view the device address when it is forgotten that the device address cannot be controlled.

Attachment: The data are all hexadecimal, and the blanks are added only for the sake of explanation. There are no blanks in the actual data.