

## YD2060-D1 说明书 Instruction

### 一、简介 Introduction

YD2060-D1 多功能智能电力监测仪是一款采用先进技术设计的新型经济多功能智能表，具有精度高、稳定性好、布局合理、工艺先进、实用性强、功能强大、操作方便等特点，可准确、快捷地对回路各个电参数进行测量计算。

该智能表采用单片机作控制核心，具有测量、计量、采集、监视、可编程等功能，并具有体积小、安装方便等优点，并具有极高的精度和良好的 EMC 性能，可测量一回路线路的全部电力参数。用 RS485 通讯接口与上位机实现数据交换，极大地方便了用电自动化管理。

YD2060-D1 is multi-function intelligent power meter has the advantage of high accuracy, good stability, reasonable layout, advanced technology, easy to operate and etc.

The multi-functional adopting SCM chip as the controlling core, it provides the measurement, computation, monitoring, communication, data acquisition, control and good EMC performance. It can measure all of the parameters in one circuit. RS485 communication interface provides data exchange with the host computer, which greatly facilitates the automation of power management.

### 二、功能 Function:

#### ● 多电量测量 Measurand

- 频率 Frequency
- 相电压、平均相电压 (RMS) Phase voltage, the average phase voltage
- 线电压、平均线电压 (RMS) Line voltage, the average line voltage
- 相电流、平均电流 Phase current, the average phase current
- 各相有功功率、总有功功率 Each phase active, the total active power
- 各相无功功率、总无功功率 Each phase reactive power, the total reactive power
- 各相视在功率、总视在功率 Each phase apparent power, the total apparent power
- 各相功率因数、总功率因数 Each phase power factor, the total power factor

#### ● 电能计量 Computation

正向、反向有功电能，正向、反向无功电能。

Forward、reverse active power energy; forward、reverse reactive power energy.

#### ● 采集 Data Acquisition

采用 RS485 数字通讯接口采集所有数据，支持 MODBUS 规约。

RS485 digital communications interface using all data collected to support MODBUS statute.

#### ● 监视 Monitoring

有 4 个 LED 指示灯对工作状态进行监视：运行/通讯发送/电能脉冲。

There are six LED indicators monitor the status of work: running /communications send/ electric pulse.

#### ● 可编程 Programmable setting

##### ■ 接线方式 Measuring system connection mode:

3 相 4 线 3P4L、3 相 3 线 3P3L

##### ■ 通讯参数 Communication:

本机地址 ADD: 1~247

波特率 Baud: 1200/2400/4800/9600/19200

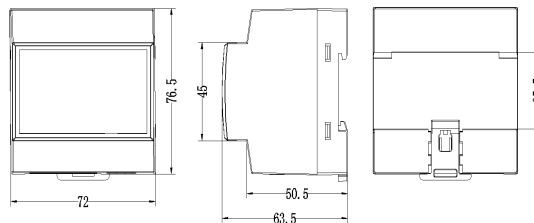
校验位 Parity bit: 奇/偶/无 Odd/Even/Null

### 三、安装 Installation

#### ● 外形图 Externality



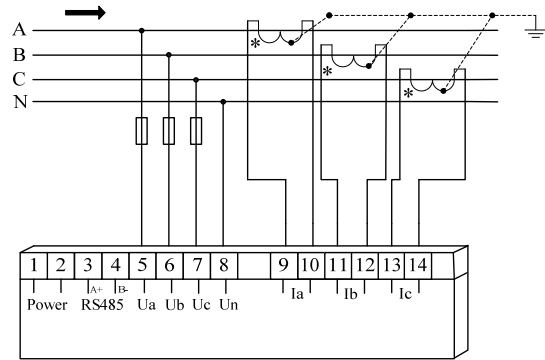
#### ● 外形尺寸 External Dimensions (单位 Units: mm, 公差 Tolerance: ±0.5)



● 端子定义 Terminals

|       |                        |
|-------|------------------------|
| 1、2   | 工作电源 Working Power     |
| 3、4   | RS485                  |
| 5     | A 相电压 A phase voltage  |
| 6     | B 相电压 B phase voltage  |
| 7     | C 相电压 C phase voltage  |
| 8     | 电压零线 Zero-voltage line |
| 9、10  | A 相电流 A phase current  |
| 11、12 | B 相电流 B phase current  |
| 13、14 | C 相电流 C phase current  |

● 接线图 Wiring Diagram (3相4线3P4L)



● 安装 Installation

采用 DIN (35mm) 导轨安装。DIN (35mm) guide apparatus.

● 导线 Wire

电压回路应采用 1.5mm<sup>2</sup> 以上的多股铜导线, RS485 可采用双绞线, 最好有屏蔽。Voltage circuit should be used more than 1.5mm<sup>2</sup> multiple copper conductors, RS485 can be shielded twisted pair line.

四、技术指标 Technology indexes

外形 External

主机尺寸 Host dimensions: 72±0.5mm×76.5±0.5mm×63.5±0.5mm

测量 Measured

数据刷新 Data refresh: 1s

电压 Voltage

测量范围 Measurement range:

30~600V(线电压 Line voltage) 20~400V(相电压 Phase voltage)

PT: 1~10000

连续过载 Overload capacity: 800V

电流 Current:

测量范围 (用户可选) Measurement range: 0~6A

CT: 1~10000 连续过载 Overload capacity: 2 倍 2 time

功率 Power:

测量范围 Measurement range

单相功率 Single phase power: 0~2400W/var/VA (按实际输入 U\*I)

总功率 Total power: 0~7200W/var/VA (按实际输入 3\*U\*I)

频率 Frequency:

测量范围 Measurement range: 45~60Hz

功率因数 Power factor:

测量范围 Measurement range: -1~1

精度 Accuracy:

电流 Current: 0.5%(0.5~6A)

电压 Voltage: 0.5%(20~400V); 线电压 Line voltage: 1.0%

功率 Power: 1.0% (U\*I)

功率因数 Power factor: 1.0%

频率 Frequency: 0.5%

电能 Energy: 1.0%(0.5L/0.5C)

谐波测量 Measurement harmonic

电压 Voltage THD: 3~25

电流 Current THD: 3~25

电源 Power supply:

①DC18~90V; ②AC85~265V/DC85~330V(自选 Optional)

功耗 power consumption: 2W

工作条件 Working condition:

工作温度 Working temperature: -10~+50℃

储存温度 Storage temperature: -25~+75℃

相对湿度 Relative Humidity: 20~95% 无凝露 Without condensation

绝缘强度 Dielectric strength:

输入 Input/电源 Power: 2.0kV/ min·1mA

RS485/其它 Other: 1.0kV/ min·1mA

通讯 Communication:

接口 Port: RS-485

地址 Address: 1-247

波特率 Baud: 1200/2400/4800/9600/19200

数据位 Data bit: 8bits

停止位 Stop bit: 1bits

校验位 Parity bit: 奇/偶 /无 Odd/Even/Null

通讯规约 Communication rules: ModBus RTU

电磁兼容 Electromagnetic Compatibility:

浪涌 Surge: 电源 Power supply: 4kV

I/O 线 I/O Line: 2kV

快速脉冲串 Quick transient pulse series:

电源 Power supply: 4kV, 2.5kHz

I/O 线 I/O Line: 2kV, 5kHz

静电放电 Static discharge:

接触放电 Contact discharge: 6kV

气隙放电 Contact discharge: 8kV

注: 以上图片仅供参考, 产品以实物为准,

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