

W1 系列三相电子式多功能电能表

W1 Series Multi-function Electric Energy Meter

一、概述 Introduction

1.1 用途和适用范围 Application & range

W1 系列三相电子式多功能电能表系列产品博采国际上众家之长，结合本公司在我国多功能电能表行业多年的设计开发及大量的现场运行经验，采用现代先进微电子技术、计算机技术、电测量技术及高精度计量芯片，数据通信技术以及先进的制造工艺研制而成，是本公司符合国家电网公司 1 级三相智能电能表技术规范的一代电能计量装置。我们对该型号表进行了大量的可靠性冗余设计。各项技术指标符合《GB/T 17215.323—2008》、《GB/T 17215.321—2008》、《JJG 596—2012》、《DL/T 614—2007》、《DL/T 645—2007》等国家标准以及行业标准。

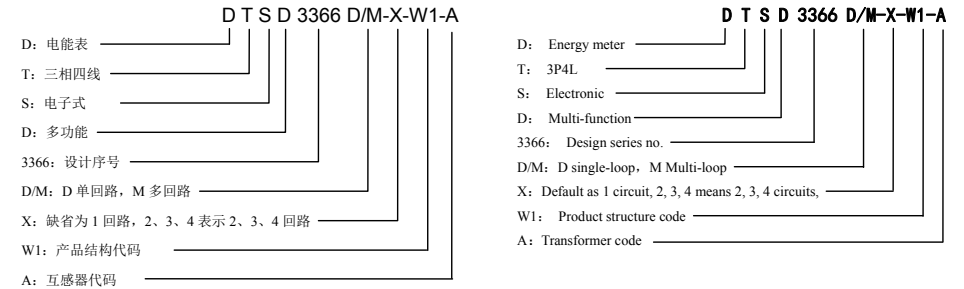


W1 Series 3 phase Multi-function electric energy meter products are the new Multi-function intelligent energy meters which based on our many years expertise in power monitors of intelligent design and development and a large number of operating experience. It has the advantage with High accuracy, good stability, reasonable layout, advanced technology, practical, strong function, easy to operate and other characteristics. It can be accurately and quickly to measure all kinds of electrical parameters. Various technical standard comply with "GB/T 17215.323—2008", "GB/T 17215.321—2008", "JJG 596—2012", "DL/T 614—2007" and other national standards and industry standards, its communication comply with DL/T 645—2007.

1.2 该电能表具有如下主要功能 Main functions:

- ◇ 计量各回路组合有功电能、组合无功电能，各回路四象限无功电能；
Measuring each loop forward/reverse, active/reactive power energy, and four quadrants energy;
- ◇ 电压、频率和各回路各种电参数瞬时的测量（电流/有功功率/无功功率/功率因数等）；
Measuring voltage, frequency and instantaneous values of each electric parameters in each loop(current/voltage/active power/reactive power/power factor etc);
- ◇ 自动轮显和按键显示；
Recycle display and Key display;
- ◇ 存储 12 个结算日电量数据；
Storage 12 clearing day energy data;
- ◇ 带负荷记录，每小时可记录一条各参量的负荷记录；
With load record, can hourly record one load record of each parameter.;
- ◇ 对电量、参变量均进行带 CRC 校验的多重备份；
Multiple backup with CRC for power, parameters;
- ◇ 多种冻结方式，定时冻结、瞬时冻结、约定冻结、整点冻结和日冻结；
With many kinds of electric quantity freezing: the integral point freezing, fixed time freezing, instantaneous freezing, agreement freezing and date electric quantity freezing;
- ◇ 符合 DL/T645-2007 规约的通信功能；
Comply with DL/T645-2007;

二、型号规格描述 Definition for model & specification



三、主要技术参数 Main technical index (以下参数均以铭牌标注为准 The following parameters are subject to the nameplate)

准确度等级 Accuracy level: 有功 active power 1 级 class; 无功 reactive power 2 级 class

参比电压 Rated voltage: 3×220V/380V

功率消耗 Power consumption: 每相电压回路 Each voltage circuit: ≤1.5W、2VA;

电流测量范围 Measuring range of current: 50(100)A 配 CTF16T-2k5-100 互感器 50(100)A match CTF16T-2k5-100
20(50)A 配 CTF16T-2k5-50 互感器 20(50)A match CTF16T-2k5-50
20(100)A 配 CTF16T-2k5-100 互感器 20(100)A match CTF16T-2k5-100

可按用户要求定制 Customized

参比频率 Rated frequency: 50Hz

PT、CT: 变比可通过现场按键或后台软件设置 The ratio of each loop can be set by the button on the meter or the daemon system.

辅助电源 Power supply (范围内可选 The scope of the optional): ①DC20~60V; ②AC85~265V or DC85~330V

参比温度 Reference temperature: 23℃±2℃; 参比湿度 Reference humidity: 40%RH~60%RH

工作温度 Working temperature: -10℃~50℃; 运输及储存温度 Temperature for transport & storage: -40℃~70℃

相对湿度 Relative humidity: ≤85%RH

海拔 Altitude: 低于 Less than 4000m

计时准确度 Timing accuracy: 日计时误差≤0.5 s/d (23℃), 随温度变化的改变量优于 0.1s/(d·℃)

The timing error of day ≤ 0.5 s / d (23 °C), with the amount of temperature changing better than 0.1 s / (d · °C)

起动电流 Start-up current: 电流为 0.004Ib Current is 0.004Ib

潜动 Shunt running: 电压回路加额定电压的 115%，电流线路无电流，仪表测试输出不产生多于一个脉冲

When the voltage circuit is 115% of the rated and no current, the meter should be not pulse output

脉冲常数 Pulse constants: 请参见产品标牌 Refer to the product's label

外形尺寸 Dimension: 76±0.5mm×72±0.5mm×63±0.5mm (L×W×T); 主机重量 Weight: 约 About 0.2kg

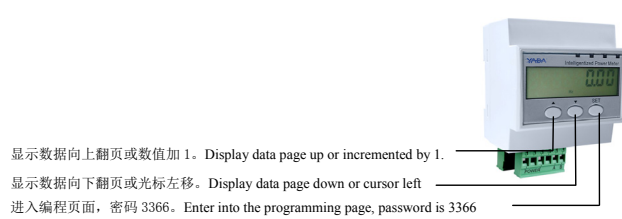
四、通讯接口 Communication port

本仪表配置有一个 RS485 通讯接口。通讯波特率为 1200bps、2400bps、4800bps、9600bps、19200bps 可设。通过接口，可与 PC 机完成编程参数设置和抄读数据。This meter is with one RS485 communication port. The baud rate is 1200bps, 2400bps, 4800bps, 9600bps and 19200bps(settable). It can finish the setting of programmable parameters and reading data by communication port.

出厂默认波特率为 2400bps。本通讯协议完全符合 DL/T 645-2007。The default baud rate is 2400bps. This communication protocol complies with DL/T645-2007.

第一回路地址为本机表号，后续回路地址为本机表号依次加“1”。The first loop address is this meter's No., the follow-up circuit address is this meter's No. plus one.

五、显示操作 Display operating



按向“▲”或“▼”键可显示日期、时间、电压、频率、电流、功率、功率因数、电能等参数,按“SET”键进入编程页面。

Press ▲“or”▼” to display date, time, voltage, frequency, current, power, power factor, energy etc., press “SET” to enter the programming page.

显示数据向上翻页或数值加1。Display data page up or incremented by 1.
显示数据向下翻页或光标左移。Display data page down or cursor left
进入编程页面, 密码 3366。Enter into the programming page, password is 3366

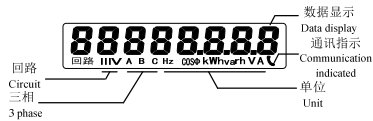


图1 LCD显示界面参考图

Picture 1 Reference diagram for LCD display



图2 第1回路B相电流

Picture 2 the 1st circuit phase B current

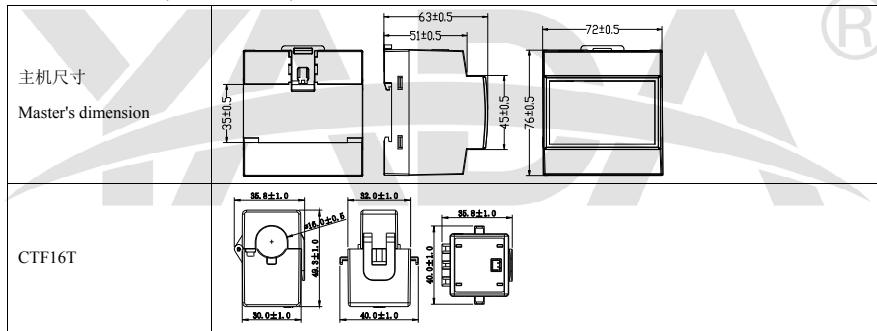


图3 第4回路有功电能

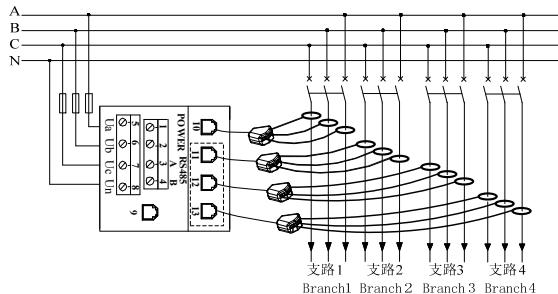
Picture 3 the 4th circuit active power

六、外形尺寸及接线图 Dimension & connection diagram

6.1 外形尺寸 Dimension (单位 Units: mm)



6.2 接线图 Connection diagram (对应测量回路数以实际购买的产品为准 The corresponding measuring circuit of the actual purchase of products shall prevail)



注意: 每相电压电流必须相对应, 互感器箭头方向要与负载方向一致。

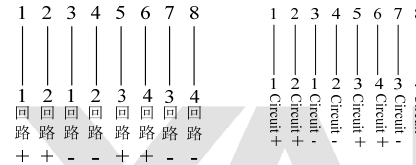
Note: Each phase voltage and current should be corresponding to each other, and the direction of arrow of transformer.

接线端子定义 Connection terminal definition

1、2	工作电源 Power supply
3、4	RS485
5	A相电压 Phase A voltage
6	B相电压 Phase B voltage
7	C相电压 Phase C voltage
8	N零线 Neutral
9	脉冲输出通道 Pulse output interface
10、11、12、13	电流互感器接口 CT port (1~4回路可选 The optional of 1~4 loop)

脉冲输出通道接线 Pulse output channel connection

脉冲接口8芯线由左往右排序 the order of pulse interface 8 core lines is from left to right



七、储运注意事项 Transport, storage

- 产品在运输与拆封时不应受剧烈冲击, 并根据国家标准 GB/T13384-2008《机电产品包装通用技术条件》的规定运输贮存。
The products should not be subject to server impact during transportation or Taking down the seal, and should in accordance with GB/T13384-2008"General Instrument packaging technology," to transport and store.
- 本产品属电子器件, 故搬运、取放时应尽量避免重物撞击和磕碰。
This product belongs to the electronic device, should be avoided heavy impact and collision.
- 保存环境温度应为-40℃~70℃, 相对湿度不超过85%且在空气中不含腐蚀性的有害物质。
The ambient temperature should be -40℃~70℃ for storage, relative humidity no more than 85%, and the air should not contain harmful substances which will cause corrosion,
- 电能表应在原包装的条件下放在仓库保存, 叠放高度不超过5箱。
The meter should lay under the conditions of the package, a high degree of no more than 5 stacked layers.

八、产品质保及服务 Warranty and Service of Product

电表自出厂日起18个月内, 如用户发现不符合上述特性及技术的要求, 且在由有关电力计量部门证明又完全按照本说明书中所规定的要求操作的情况下, 我公司负责免费修理。The meter within 18 months after delivery, if the users do the operating complete following up the instruction, found the meters are not to conform to the above characteristics and technical requirements, and got the proved of relevant electric measurement departments. Our company will be responsible for free repair.

注: 以上图片仅供参考, 产品以实物为准,

Note: The above pictures are for reference only, the products are subject to the actual product,

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