NO: 13040503.0054.01

DCM3366D-X-W1 电子式直流电能表说明书

Instruction for DCM3366D-X-W1 Electronic DC Energy Meter

目录 Content

1、概述 General

DCM3366D 型直流电子式电能表是我公司生产的新一代产品。采用液晶显示，具有 RS485 通讯功能可用与微机进行数据交换。适合蓄电池，太阳能电池板等直流信号设备电量测量和电能计量使用，亦可用于工矿企业，民用建筑，楼宇自动化等现代供配直流电系统。

DCM3366D DC energy meter is a new type product of our company which adopts LCD display and RS485 communication with the microcomputer. It is suitable to be used for batteries, solar panels power DC signal measurement and energy

metering equipment. It also can be used for industrial and mining enterprises, civil construction, building automation and other modern DC system for distribution.

电能表供固定安装在室内或室外使用，适用于环境温度为-25℃~+60℃，相对湿度不超过 85％（温度 25℃），且在空气中不得含有腐蚀性气体；要避免盐雾、高电磁辐射和凝露等影响。

This meter should be fixed in the inside or outside to use, and the environmental temperature to apply in is -25℃~+60℃, relative humidity is not more than 85％ (temperature is 25℃). It should not contain corrosive gas in the air. Avoid the impact of the salt spray, high electromagnetic radiation and condensation etc.

DCM3366D 系列产品有多种不同型号，产品功能众多，可满足目前国内外不同场合的特殊要求。

DCM3366D series provides many different types of products which can meet domestic and international market specific requirements.

主要功能如下 Main function：

✧ 正反向电能单独计量。Positive/ reverse power can be measured separately.

✧ 测量 1 路实时直流电压，1~4 个分支回路直流电流、功率。
Measuring 1-loop DC voltage in real time,measuring DC current power of 4branches circuit .

✧ 各支路上 12 个月电能结算。Monthly statement of energy for last 12months of

each branches.

✧ 负荷数据记录，负荷记录模式字可设电压、电流、功率、电能。

Load recording, can be settable from voltage, current, power and energy.

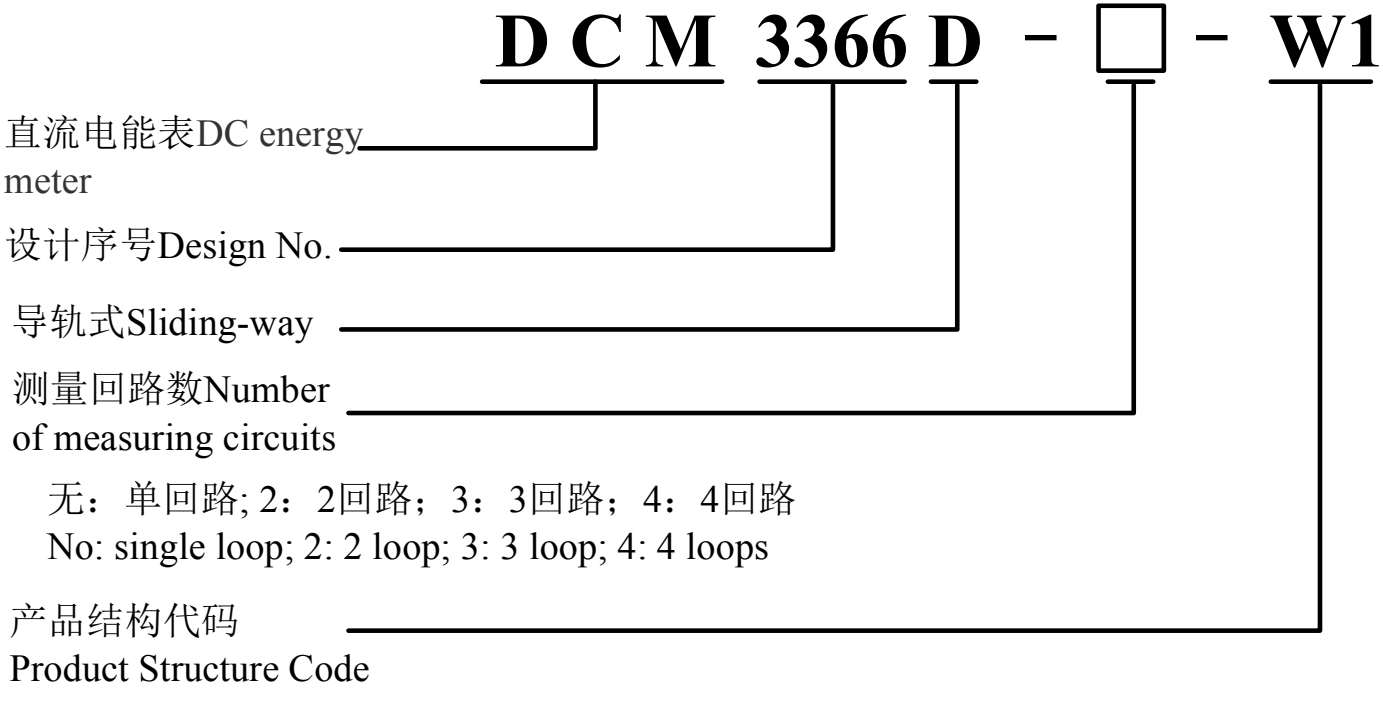
✧ 负荷记录存储空间保证在记录正向电能，时间间隔为 1 分钟的情况下可记录不少于 40 天的数据容量。

Storage space of load recording: the data capacity is not less than 40 days at interval of 1 minute when recording positive energy.

✧ RS-485 通讯接口，采用 DL/T645-2007 通讯协议和 Modbus（RTU 格式）协议。

RS-485 communication port, complying with DL/T645-2007 and Modbus-RTU communication protocol.

型号定义 Type definition：



2、规格及主要技术参数 Specification & Main technical parameters

(以下参数均以铭牌标注为准 The following parameters are subject to the nameplate)

2.1 规格 Specification

✧ 准确度等级 Accuracy class：0.5 级 class、1 级 class、2 级 class

✧ 额定电压(Un)：24V、48V、100V、350V、500V、700V，额定电压大于 500V 需经分压器转换为小于 100V 进行测量。

Rated voltage(Un): 24V、48V、100V、350V、500V、700V, The rated voltage is greater than the 500V required for the measurement of the Less than 100V

by the voltage divider.

✧ 额定电流(Ib)：50A、100A、200A 等可设置，采用 DC0~4V 或 0~20mA 传感器输入。

Rated current(Ib): 50A、100A、200A etc. can be set,Use DC0~4Vor 0~20mA sensor input.

✧ 供电范围：DC20V~60V、AC85V~265V or DC85V~330V 可选

The range of power supply: DC20V~60V、AC85V~265V or DC85V~330V optional.

2.2 技术参数 Technical parameters

2.2.1 基本误差 The basic error

在额定电压（Un）下,电能表的基本误差不应超过下表的误差极限。

Under the rated voltage(Un), the basic error of meter error limit should not exceed the table.

负载电流（I）变化范围 Load current (I) variation range	误差限值 Error limit	
	0.5 级	1 级
0.05Ib≤I<0.5Ib	±1.0%	±1.5%
0.5Ib≤I≤1.2Ib	±0.5%	±1.0%

2.2.2 工作电压范围 Operating voltage range

规定工作电压 Specified operating voltage	0.8Un~1.1Un
扩展工作电压 Extended operating voltage	0.6Un~1.1Un

2.2.3 潜动 Creeping

在参比条件下电能表电流线路短路，电压电路分别施加 1.1Un 和 0.8Un，在 20min 时间内，电能表不应有脉冲输出或代表脉冲输出的指示灯无闪烁。

Short-circuit current meter under the reference conditions,Voltage circuit are applied 1.1Un and 0.8Un, in 20min time meter should not have a pulse output or pulse output representative of light no flicker.

2.2.4 电源输出 Power output

✧ 电能表带有 DC±12V 电源输出，仅供配置专用传感器使用。

Meter with DC±12V power output,provide power supply for dedicated sensor.

✧ 输出电压偏差小于 5%（仅负载时），正负平衡输出功率最大为 2W。

Output voltage deviation is less than 5%（only when the load), balance of positive and negative output power up to 2W.

2.2.5 功率消耗 Power Consumption

电压线路 voltage line	≤1W
电流线路 current line	≤0.5W
辅助电源线路 power supply line	≤5W

2.2.6 工作环境条件 Working conditions

工作温度范围 Working temperature range	-25℃~60℃
极限工作温度范围 Limit working temperature range	-40℃~70℃
储存运输极限温度 Storage and transport limit temperature	-40℃~70℃
相对湿度 Relative humidity	＜75%（年平均 The annual average）

2.2.7 通讯接口 Communication port

通讯波特率 Communicationbaudrate	RS485：1200/2400/4800/9600bps 可选，出厂默认 2400 RS485：1200/2400/4800/9600bps optional The default baud is 2400
数据格式 data format	E-8-1
通讯规约 Communication protocol	DL/T645-2007 通讯协议 Communication protocol Modbus-RTU

2.2.8 电磁兼容 EMC

绝缘强度 Insulation strength	电压/电源/外壳 voltage / Power / Frame：2.0kV/min 通讯/电源 communication/power supply：2.0kV/min
静电抗扰 VESD	接触放电 Contact discharge8 kV 空气放电 Air discharge8 kV
电快速脉冲群抗扰性 Fast pulse group immunity	2kV
浪涌抗扰性 Surge immunity	2kV/4kV

2.2.9 机械参数 Parameters

✧ 外型尺寸 Dimension：72±0.5mm×76.5±0.5mm×63.5±0.5mm

✧ 重　　量 Weight：约 about0.5kg

3、显示与操作 Display and operating

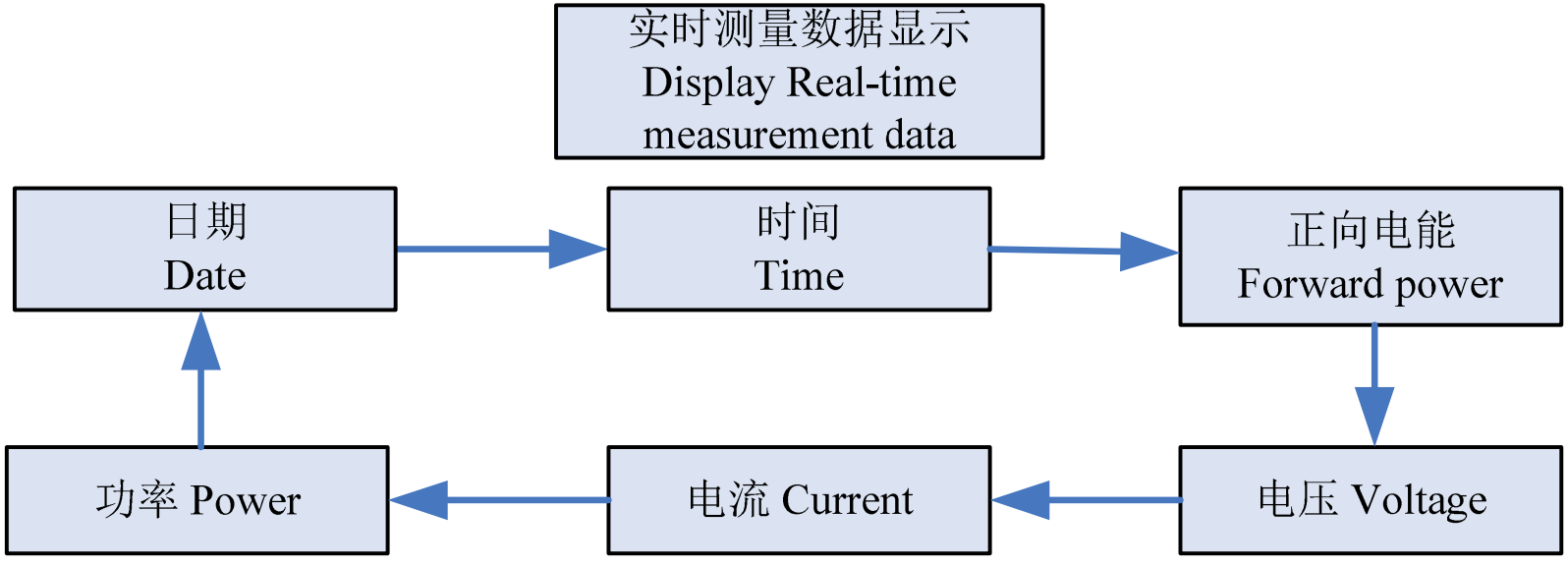
3.1 显示屏操作与按键 Display and button operating

显示界面主要由液晶显示屏、三个按键、4 个 LED 指示灯组成；“▲”、“▼”、“**SET**”键。

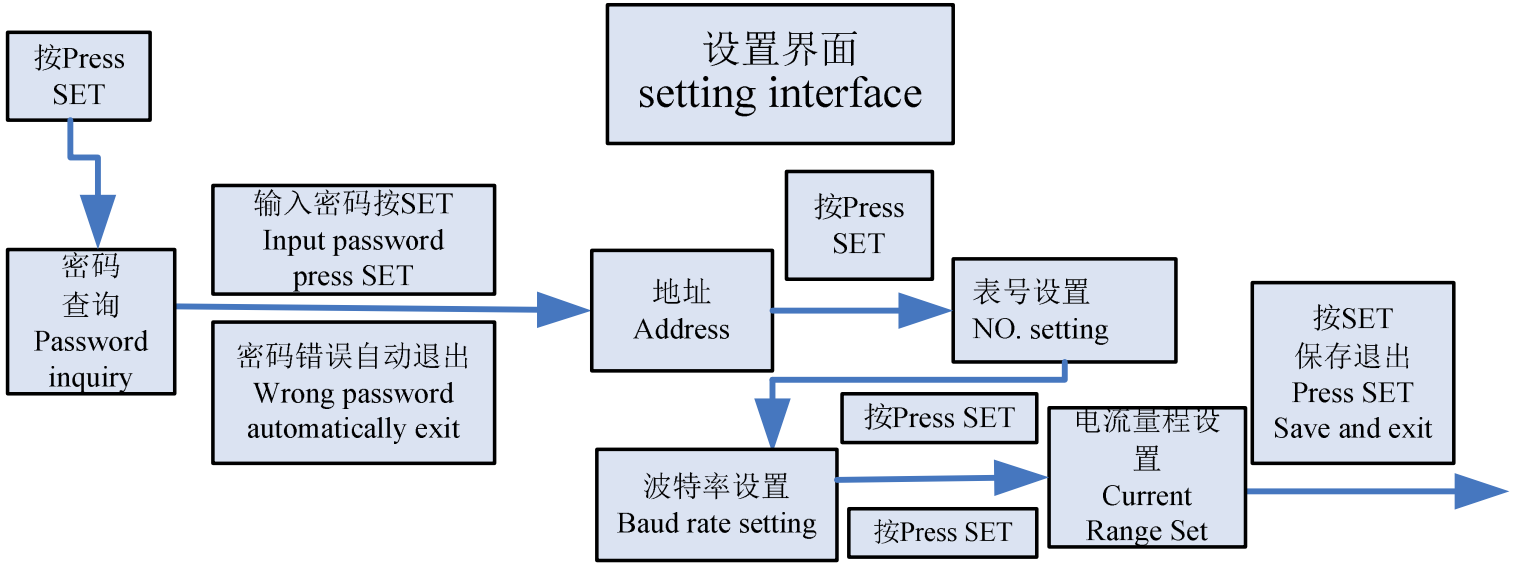
通过按键“▲”、“▼”可以在日期、时间、电能、电压、电流、功率之间循环切换页面。

Display interface is composed of display screen, three buttons, four LED lights,“▲”,“▼”,“**SET**”button.

Press “▲”、“▼”can cycle display date, time, energy, voltage, current and power.


实时测量数据显示
Display Real-time
measurement data
日期
Date
时间
Time
正向电能
Forward power
功率 Power
电流 Current
电压 Voltage

按“SET”键可以进入设置界面 Press “SET”to enter setting interface



其中输入密码，修改地址、表号、波特率，通过“▲”选择数值，“▼”进行移位
Entering a password, modify the address, table number, baud rate, by "▲" select value, "▼" shift

电表断电后按键不唤醒液晶显示。Buttons cannot wake up the LCD display when the meter powered off

脉冲指示：电能脉冲指示，红色；平时灭，计量正向电能时闪烁。

Pulse indicating：Energy pulse indicating, red, flickers when the forward power energy is consumed otherwise out.

3.2 显示字符说明 Characters introductions

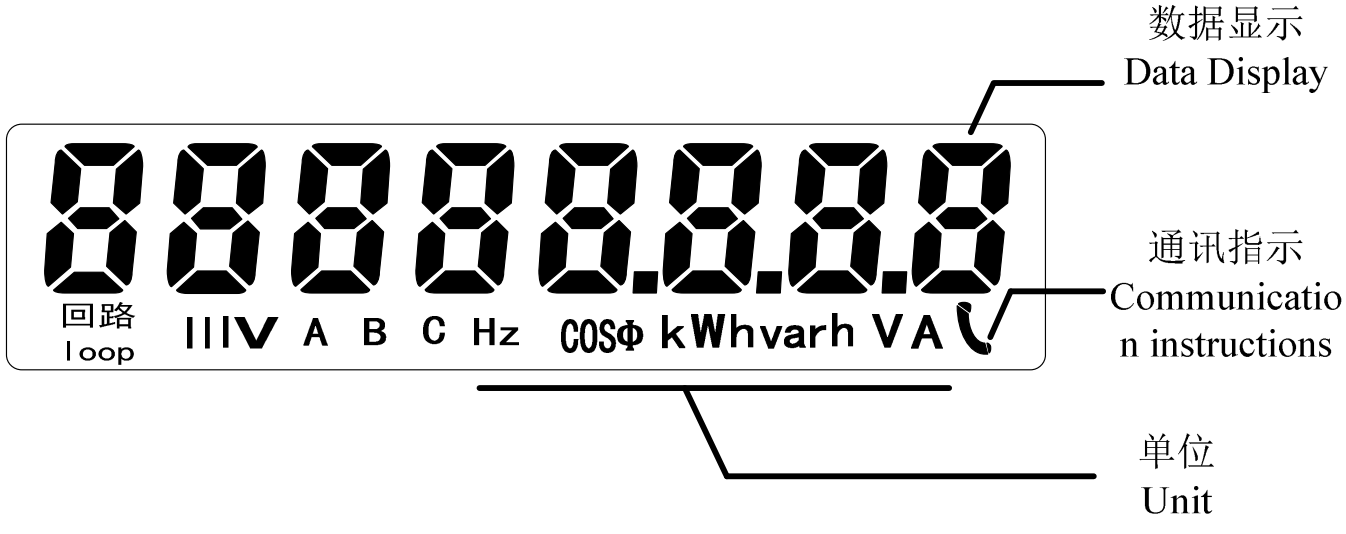
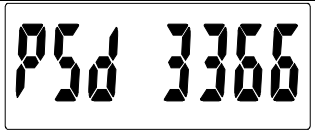
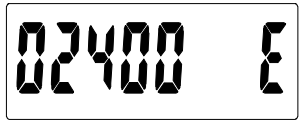
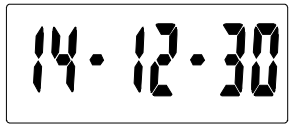
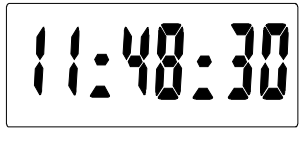
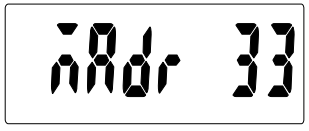
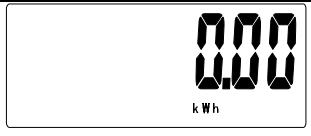
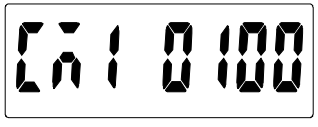
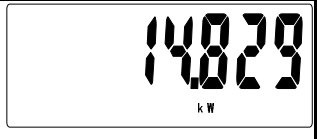


图 1　**LCD** 显示界面参考图

Picture 1　LCD display interface for reference

LCD 显示字符和显示说明对照 Characters and signification

LCD 显示 display	**文字说明 Caption**	**LCD 显示 display**	**文字说明 Caption**
	密码 Password3366		波特率与校验位 Baud Rate and Parity
	表号高 6 位 The high 6 bit of bar code		日期 Date
	表号低 6 位 The low 6 bit of bar code		时间 Time

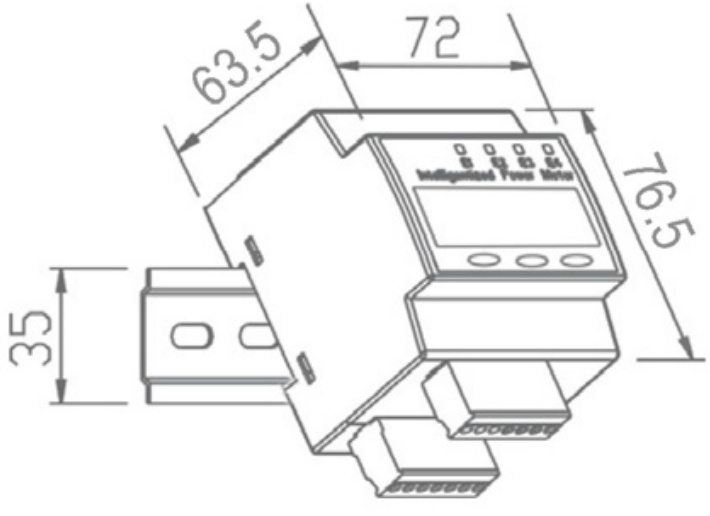
LCD 显示 display	文字说明 Caption	LCD 显示 display	文字说明 Caption
	Modbus 地址 address		电能 Energy
	1 路电流量程 Current range of the 1st loop		电压 Voltage
	2 路电流量程 Current range of the 2st loop		电流 Current
	3 路电流量程 Current range of the 3st loop		功率 Power

注：电能、电流、功率分四回路显示，显示符号：1（Ⅰ）、2（Ⅱ）、3（Ⅲ）、4（Ⅳ）。

Note: There are four-loop displaying for energy, current and power and the symbols are 1(Ⅰ), 2(Ⅱ), 3(Ⅲ), 4(Ⅳ).

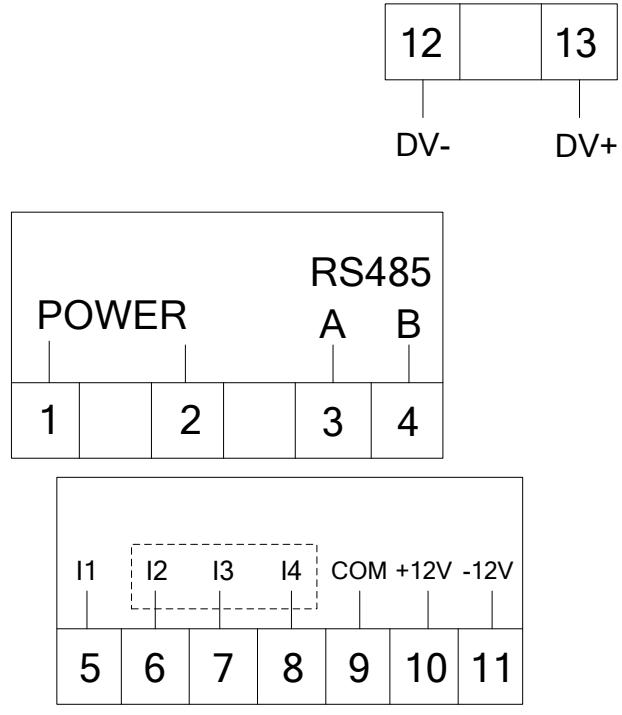
4、外形图与接线图 Dimension diagram and Wiring diagram

4.1 外形及尺寸 External Dimension (单位 Units：mm，公差 Tolerance：±0.5)



4.2 典型接线方式 Wiring diagram

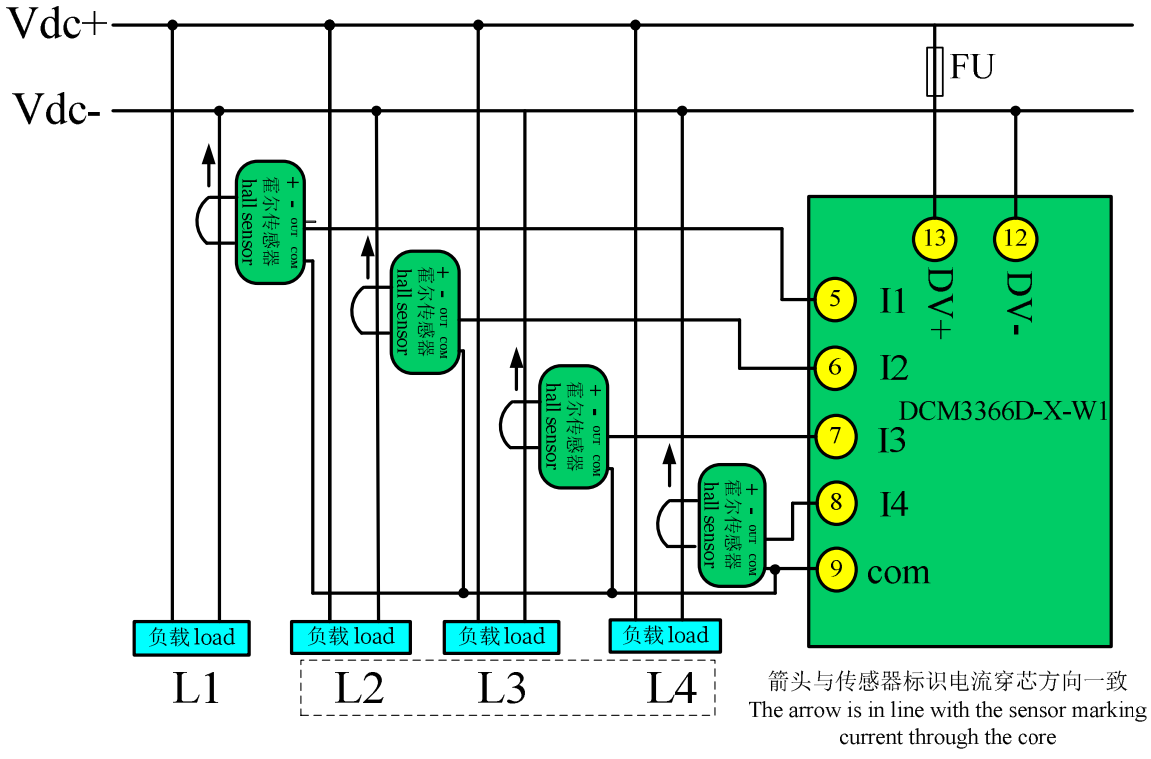
端子定义 Terminal definition



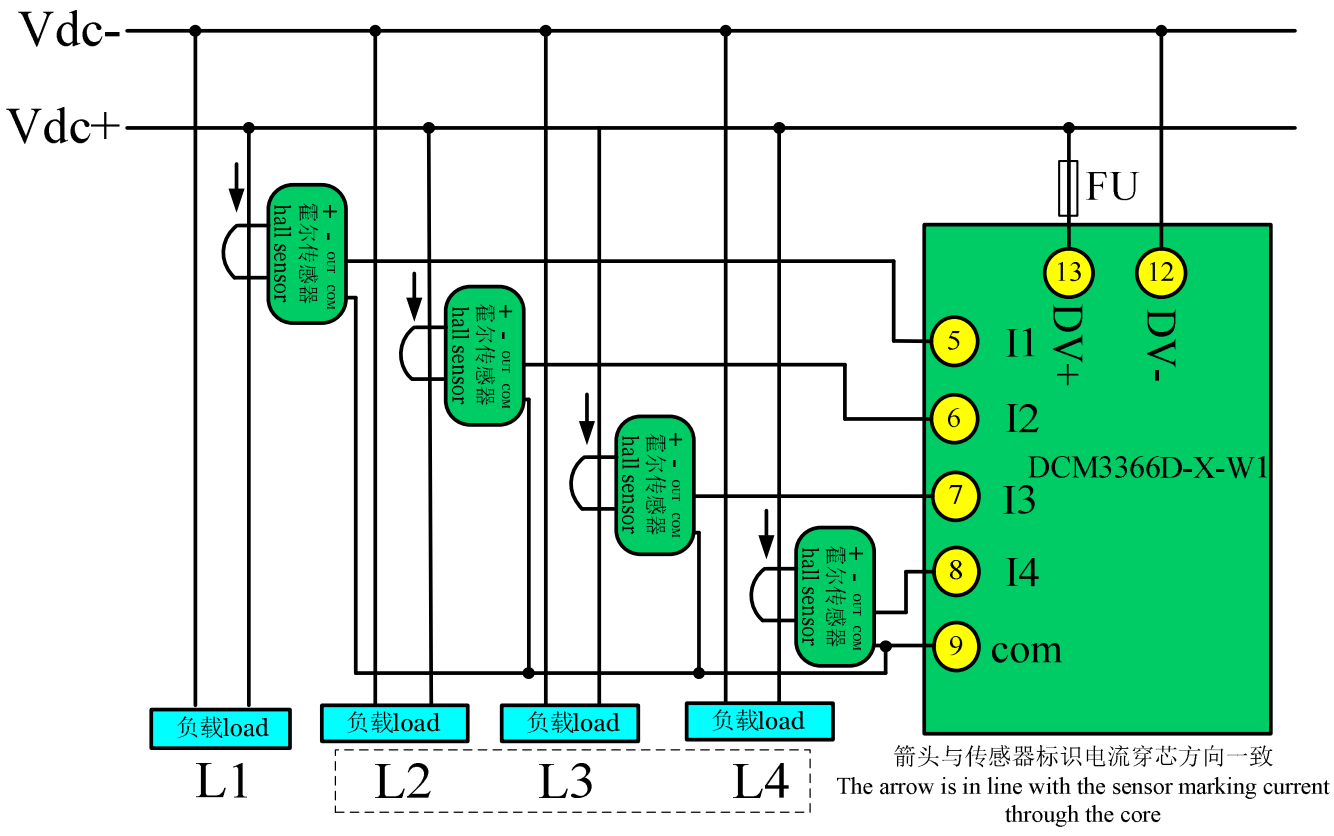
端子说明 Terminal instruction

1,2	POWER	辅助电源 power supply（不分正负 regardless positive and negative）
3,4	A,B	RS485 通讯 communication
5~8	I1~I4(可选 Voptional)	电流传感器输出正 Current sensor output is positive
9	COM	传感器输入与电压输出公共端 The common port of sensor input and voltage output
10,11	±12V	DC±12V 输出 output
12	DV-	电压采样 sampling voltag (-)
13	DV+	电压采样 sampling voltag (+)

接线示例 Wiring diagram：



直流负系统接法 DC negative system connection



直流正系统接法 DC positive system connection

5、储运注意事项 Transport storage

5.1 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 follow GB/T13384-2008"General Instrument packaging technology," to transport and store.

5.2 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.

5.3 保存地点环境温度应为-40~70℃，相对湿度不超过 85%。

The ambient temperature should be -40~70℃ for storage, the relative humidity should be no more than 85%.

5.4 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。拆箱后的电表，如发现外观损伤，请不要对电表安装、加电；单表叠放高度不超过 5 块，拆包的电表不宜贮存。

The meter should lay under the conditions of the package, a high degree of no more than 5 stacked layers. If find the appearance of damage when unpacking, the meter should not be installed or power-on. Meter should not be stored after the package is taken down. The height of single meter stacked not more than 5 pieces.

6、保证期限 Warranty and service

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要求，或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。

Within 18 months after delivery，if find any unconformity on the condition that users have followed the specified requirements of instructions and the sealed mark remains in good condition (or The Power Metering Sector provides relevant certificates), our company is in charge of 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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