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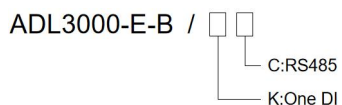
ADL3000-E-B 导轨式多功能电能表
安装使用说明书 T1.0

1. 概述 General

ADL3000-E-B 导轨式多功能电能表, 是主要针对电力系统, 工矿企业, 公用设施的电能统计、管理需求而设计的一款智能仪表, 产品具有精度高、体积小、安装方便等优点。集成常见电力参数测量及电能计量及考核管理, 提供上 12 月的各类电能数据统计。具有 2~31 次分次谐波与总谐波含量检测, 带有开关量输入和开关量输出可实现“遥信”和“遥控”功能, 并具备报警输出。带有 RS485 通信接口, 可选用 MODBUS-RTU 协议。该电力仪表可广泛应用于各种控制系统, SCADA 系统和能源管理系统中。产品符合企业标准 IEC62053-21、IEC62053-22 的要求。

ADL3000-E-B is a smart meter designed for power supply system, industrial and mining enterprises and utilities to calculate the electricity consumption and manage the electric demand. It features the high precision, small size and simple installation. It integrates the measurement of all electrical parameters with the comprehensive electricity metering and management provides various data on previous 12 months, checks the 31st harmonic content and the total harmonic content, realizes the remote communication and the remote control with switching input and relay output and boasts the alarm output. It is fitted with RS485 communication port and adapted to MODBUS-RTU. ADL3000-E-B can be used in all kinds of control systems, SCADA systems and energy management systems. All meters meet the related technical requirements of electricity power meter in the IEC62053-21、IEC62053-22 standards.

2. 型号说明 Type description



3. 功能列表 Function description

功能 Function	功能说明 Function description	ADL300-E-B
电能计量 Measurement of kWh	有功电能计量 (正、反向) Active kWh (positive and negative)	■
	无功电能计量 (正、反向) Reactive kWh (positive and negative)	■
	A、B、C 分相正向有功电能 A, B, C phase positive active kWh	■
电量测量 Measurement of electrical parameters	U、I	■
	P、Q、S、PF、F	■
谐波测量 Harmonic measurement	2~31 次谐波电压电流 2~31 ST Voltage and current harmonic	■
LCD 显示	8 位段式 LCD 显示、背光显示	■

LCD Display	8 bits section LCD display, background light	
按键编程 Key programming	4 按键可编程通信、变比等参数 4 keys to communication and set parameters	■
脉冲输出 Pulse output	有功脉冲输出 Active pulse output	■
	无功脉冲输出 Reactive pulse output	□
	时钟脉冲输出 Clock pulse output	□
复费率及 附带功能 Multi-tariff and functions	有源开关量输入 Active switch input	
	开关量输出 Switch output	□
	支持 14 个时区、8 个时段表、 14 个日时段、8 个费率 Adapt 14 time zones, 8 time interval lists, 14 time interval by day and 8 tariff rates	□
	最大需量及发生时间 Max demanded kWh and time happened	□
	上 48 月、上 90 日历史冻结数据 Frozen data on last 48 months, last 90days	□
通讯 Communication	日期、时间 Date, time	□
	红外通讯 Infrared communication	■
	第一路通讯: RS485 接口, 同时支持 Modbus The first communication path: Communication interface: RS485, Communication protocol: MODBUS-RTU	■

4. 技术参数 Technical parameter

项目		性能参数	
规格 Specification		三相四线 3 phase 4 wires, Earthed (UL) 三相三线 3 phase 3wires	
测量	电压 Voltage	参比电压 Reference voltage	3~66/115V、3~220/380V(Two sizes) (UL) 3×100V、3×380V、3×57.7/100V、3×220/380V
		功耗 Consumption	<10VA(单相) (Single phase)
		阻抗 Impedance	>2MΩ
	电流 Current	精度等级 Accuracy class	误差 Error ±0.2%
		输入电流 Input current	3~1(6)A Min:0.01A,Standard:1A,Max:6A (UL)
		功耗 Consumption	<1VA(单路额定电流)(Single phase rated current)
	精度等级 Accuracy class	误差 Error ±0.2%	
	功率 Power	有功 Active、无功 reactive、视在功率 apparent power, 误差 error ±0.5%	
电网频率 Frequency	45~65Hz, 误差 Error ±0.2%		

计量	电能 Energy	有功电能 (准确度等级: 0.5S 级、1 级) Active energy(Accuracy class:0.5S, 1) 无功电能 (准确度等级 2 级) reactive energy(Accuracy class 2)
	时钟 Clock	≤0.5s/d
数字信号	电量脉冲输出 Energy pulse output	1 路有功光耦输出、1 路无功光耦输出 1 active optocoupler output, 1 reactive optocoupler output
	开关量输入 Switching input	1 路光耦输入, 允许接入最大电压: DC/AC 220V 1 optocoupler input, Maximum allowed voltage: DC/AC 220V、OVC III
	测量等级 Measurement category	OVC III
脉冲 Pulse	脉冲宽度 Width of pulse	80±20ms
	脉冲常数 Pulse constant	6400imp/kWh, 400imp/kWh (与基本电流对应) (Correspond with the basic current)
通信 communication	接口与通信规约 Interface and communication	RS485 口: Modbus RTU 规约 RS485: Modbus RTU
	通信地址范围 Range of communication address	Modbus RTU: 1~ 247;
	波特率 Baud rate	支持 support 1200bps~19200bps
环境	工作温度 Relative temperature	-25℃~+55℃
	相对湿度 Relative humidity	≤95% (无凝露) (No condensation)

5. 外形尺寸 Dimension drawings

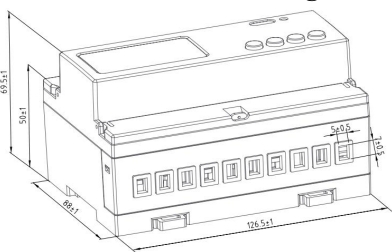


图 1 经互感器接入 Fig1 connect via CT

6. 接线与安装 Wiring and installing

6.1 电压电流接线示意图 Wiring sample of voltage and current

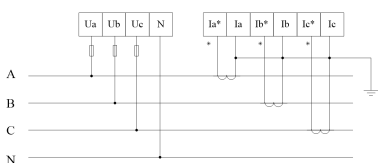


Fig 2 Three phase four lines connect via CT

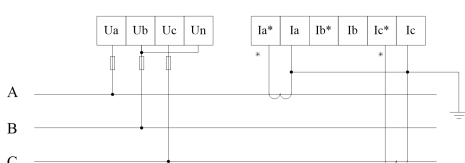
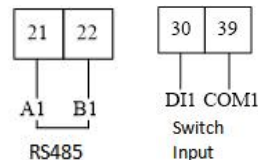


Fig 3 Three phase three lines connect via CT

6.2 通信、开关量输入 Communication, Switch input



7. 按键功能说明 Key function description

按键图标 Key symbol	按键名称 Key name	按键功能 Function
	菜单键 Menu	进入/退出菜单 Enter/quit menu
	电压电流类 向上键 Voltage and current, up	查看界面中查看电压电流 编程界面中左移及闪烁移位 Check the voltage and current Leftward and change flash in programming menu
	功率类 向下键 Power, down	查看界面中查看功率 编程界面中右移及修改闪烁位 Check the power, rightward and change the value on flash
	电能类 编程确定键 Energy, enter	查看界面中查看电能 编程界面中确定保存设置 Check the energy Enter in programming menu

8. 通信说明 Communication description

仪表 RS485 通信接口支持 MODBUS-RTU 通信协议, 通信口波特率可在 1200bps、2400 bps、4800 bps、9600bps 和 19200 bps 之间设置, 校验位为无校验。

The meter adapts MODBUS-RTU protocol, and the baud rate can be chosen from 1200bps、2400 bps、4800 bps、9600bps and 19200 bps. The parity is None.

仪表的 RS485 通信口要求使用屏蔽双绞线连接, 布线时要考虑整个网络的布局: 如通信线缆的长度、走向、上位机的位置、网络末端的匹配电阻、通信转换器、网络可扩展性、网络覆盖范围、环境的电磁干扰情况等因素, 都要综合考虑。

The meter needs shielded twisted pair conductors to connect. Customers should consider the whole network's parameters such like communication wire's length, the direction, communication transformer and network cover range, etc.

9. 联系方式

服务热线: 800-820-6632 0510-86179970

网址: www.acrel.cn