DZS100-1P
Single-Phase Energy Meter
User Manual

Heyuan Intelligence Technology Co., Ltd

IMPORTANT DECLARATIONS

Please read this manual carefully before the product is operated. And once you start operating the meter, you'll be considered to have read this manual and accept all our terms. Heyuan shall not be responsible or liable for any damages or injuries caused by improper meter installation and/or operation.

Attention: the following symbols in this manual refer to meanings as follows

 **Electric Shock Symbol: Carries information about procedures which must be followed to reduce the risk of electric shock and danger to personal health**

 Safety Alert Symbol: Carries information about circumstances which if not considered may result in injury or death

The meter must be installed and operated by one who has experience with high-voltage devices or has qualifications. Please connect the meter to correct voltage before operating the meter. Please install and use the meter according to the user manual. Heyuan shall not be responsible or liable for any damages or injuries caused without following the instructions in the user manual.

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Contents

Chapter 1 Meter Overview

DZS100-1P is a compact single-phase energy meter, integrating measuring, metering, LCD display and communication in one. It meters electric parameters of energy, voltage, current, power, power factor etc. Equipped with RS485 communication interfaces, it supports both DL/T645-2007 and Modbus RTU protocol.

Physical performance of DZS100-1P complies with national standard of GB/TI7215.321-2008 and all required standards of energy meters carried out by Electric Power Industry Standard DL/T614/2007.

With high-precision metering IC and high-speed MCU data processing unit, the high-accuracy wide-range accurate measurement can be realized. It is possessed with advantages of LCD display, high reliability, high overload, strong stability, low consumption, data saved automatically power-off. Besides, the data can be exchanged between RS485 communication interface and upper computer. What's more, small size, high accuracy and easy installation are also its advantages.

With standard 35mm Din-rail installation, the meter can be installed in distribution cabinet and small distribution box. It is suitable for submetering in single device, school dormitories, tenants and large public buildings etc. It can also be used for energy management examination in enterprises and public institutions.

Chapter 2 Specification & Technical Parameters

2.1 Specification

Reference Voltage: 220V (Un)
Current Specification: 5(40)A, 10(60)A
Pulse Constant: 1600imp/kWh, 800 imp/kWh
Frequency: 50Hz
Accuracy Class: Class 1.0
(Note: the parameters are subject to those marked on the nameplate.)

2.2 Main Technical Parameters

2.2.1 Accuracy Complying with Requirements As Follows

Current	Power Factor	Intrinsic Error
0.05Ib<I<0.1Ib	1.0	+/-1.5
0.1Ib<I<Imax	1.0	+/-1.0
0.1Ib<I<0.2Ib	0.5	+/-1.5
0.2Ib<I<Imax	0.5	+/-1.0

2.2.2 Electricity Parameters

Voltage Consumption in Circuit: <2W, 10VA
Current Consumption in Circuit: <1VA
Voltage Range: Normal Range: 0.9-1.1Un
Limit Range: 0.7-1.2Un

2.2.3 Creeping

When the energy meter is loaded with 115% of reference voltage and there is no current in current circuit, the energy meter shouldn't output more than one pulse in testing within the prescribed time.

2.2.4 Starting

After the loaded current rises to 0.004Ib at the rated voltage, the energy meter should have the pulse output or the indicator flash representing the energy output within the prescribed time.

2.2.5 Working Condition

Working temperature: -10-+50℃
Ultimate Working Temperature: -20-+60℃
Storage and Transportation Temperature: -40℃ ~ +70℃
Relative Humidity: < 75% (annual mean)

2.2.6 Communication Interface

Communication Interface: RS485 Interface
Baud Rate: Baud rates are settable. Standard baud rates are 1200bps, 2400bps, 4800bps and 9600bps. The factory default is 2400bps.
Communication Data Format: even/odd/no parity check can be set. The factory default is E-8-1.
Communication Address: The default address for DL/ T645-2007 communication is the meter code (12 referring to BCD code). The default for MODBUS protocol is 01.

2.2.7 Dimensions

External Dimensions: 90mm×18mm×72mm（±0.5mm）
Weight: about 0.25kg

Chapter 3 Functions & Operations

3.1 Energy Metering

Total active energy metering and storage. Present total active energy = import total active energy + export total active energy.

3.2 Display Function

LCD Display with 6+1 digits. Display items include total active energy, voltage, current, power, power factor. The display is automatic and cyclic and stops when power failure.

3.3 Metering Function

Metering voltage, current, power, frequency, power factor.

3.4 Communication Function

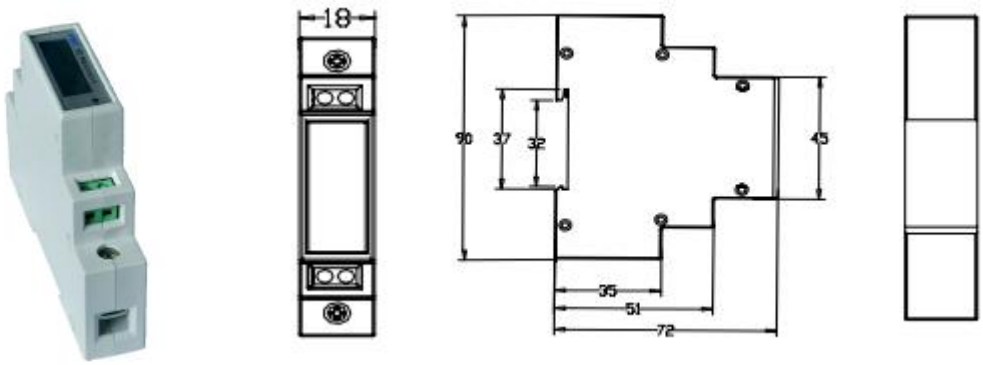
There is a RS485 communication Interface, which exchanges data with upper computer. The baud rate of RS485 interface can be set as 1200bps, 2400bps, 4800bps or 9600bps. The factory default is 2400bps. Communication protocols are DL/T645-2007 and Modbus-RTU protocols.

3.5 Pulse Indicator

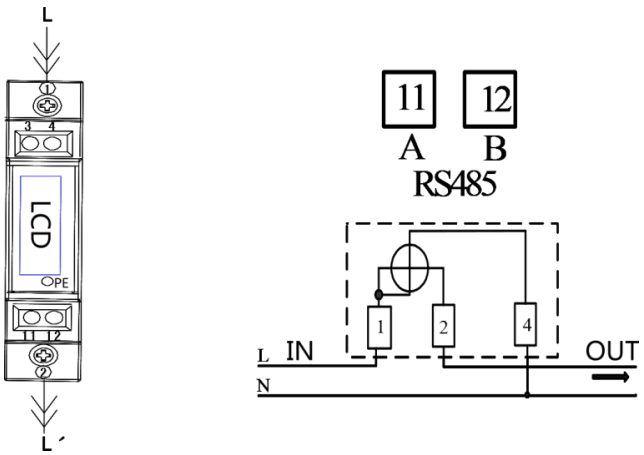
There is an active pulse output indicator with color of red. It flashes when metering the active energy.

Chapter 4 Installation & Wiring

4.1 Overall Dimension



4.2 Terminals & Wiring



Chapter 5 After-sales Service

Product Warranty

1. The product warranty period is one year.
2. The company is responsible for free maintenance or exchange within one-year warranty period.
3. The cost of the components and freight shall be charged for improper meter installation and/or operation.
4. Over the warranty period, part of the maintenance cost according to actual situation will be charged.

Service Guarantee

1. Product technical consulting and quality complaints will be replied within 12 hours.
2. Solutions for quality complaints will be provided within 24 hours.
3. Except statutory holidays and force majeure.

Chapter 6 Contact Us

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