

DC Energy Meter HYY-DC Series User Manual



Heyuan Intelligence Technology Co., Ltd

IMPORTANT DECLARATIONS

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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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Chapter 1 Meter Overview

The HYY-DC series are advanced, smart networked multifunctional DC energy meters, which equipped LCD screen and RS485 communication interface. It is suitable to be used for DC signal measurement and energy metering of batteries, solar panels etc. It can also be used for industrial and mining enterprises, civil construction, building automation and other modern DC system for distribution.

Chapter 2 Specifications

2.1 Input Voltage

Rated Voltage: 100V, 350V, 500V, 700V, 750V(optional)

Working Voltage Range

Specified Working Voltage	0.8Un~1.1Un (Umax<800V)
Extended working voltage	0.6Un~1.1Un (Umax<800V)

2.2 Input Current

Rated current : 50A, 100A, 200A, 300A, 500A(settable),

Support 75mV shunt or DC0 ~ 4V hall sensor input.

2.3 Basic Error

Load Current(I) Variation Range	Error Limit	
	Class 0.5	Class 1
0.05Ib≤I<0.5Ib	± 1.0%	± 1.5%
0.5Ib≤I≤1.2Ib	± 0.5%	± 1.0%

2.4 Power Consumption

Voltage Line: ≤1W

Current Line: ≤0.5W

Power Supply Line: ≤5W

2.5 Communication

RS485 / Modbus-RTU Communication Protocol

Baud Rate: 1200/2400/4800/9600bps (the default is 2400)

2.6 Power Supply

Power Supply: DC20V~60V or AC85V~265V/DC100V~330V(optional)

Power-line Connection Terminals: L/+ and N/-

2.7 Working Condition

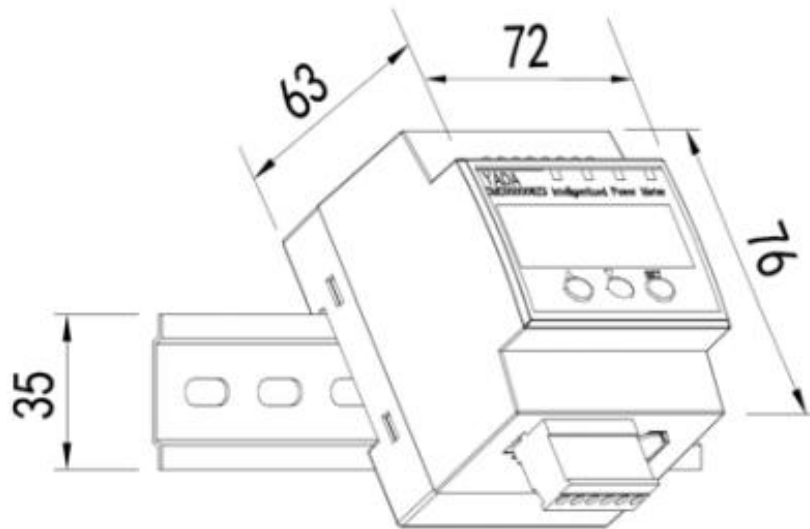
Operating Temperature: -25℃ ~ +60℃

Storage Temperature: -40℃ ~ +70℃

Relative Humidity: ≤85%(no corrosive gas)

Chapter 3 Dimension and Installation

3.1 Dimension (unit: mm)



3.2 Installation Method

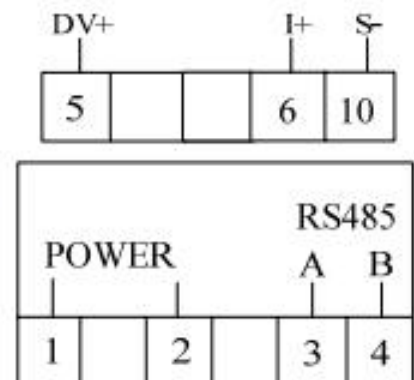
Installation Environment: the meter should be installed in a dry and dust free environment. Avoid exposing meter to excessive heat, radiation and high electrical noise sources.

Install Method: DIN rail Mounting.

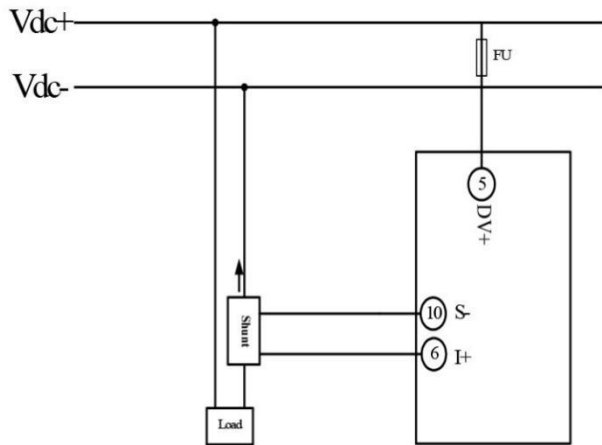
Chapter 4 Terminals

Terminal Description

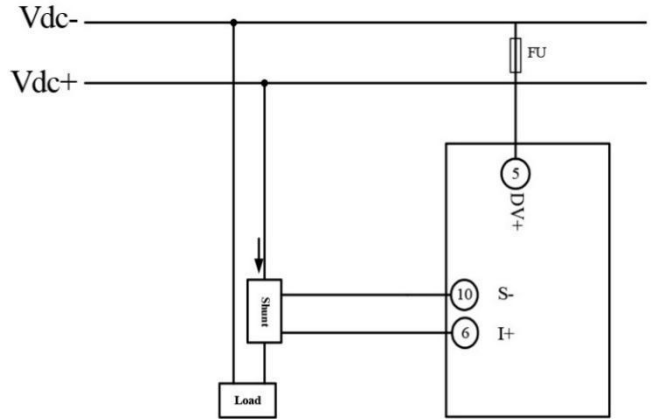
1, 2	Power	Power Supply	6	I+	Shunt input is positive
3, 4	A, B	RS485 Communication	10	S-	Shunt input is negative
5	DV+	The positive of the voltage sampling input			



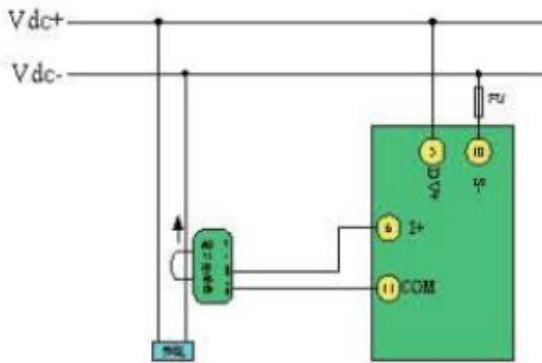
Chapter 5 Typical Wiring



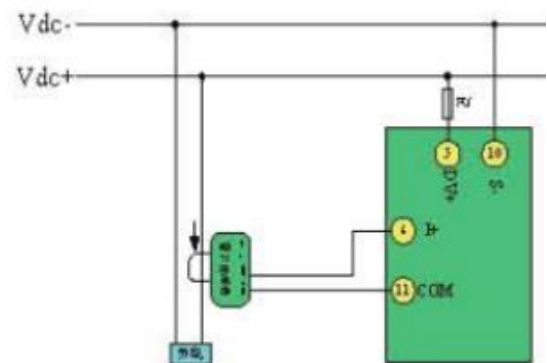
The wiring of shunt(current diverter) input(1)



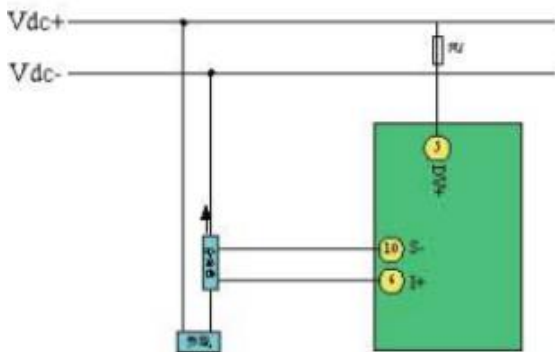
The wiring of shunt(current diverter) input(2)



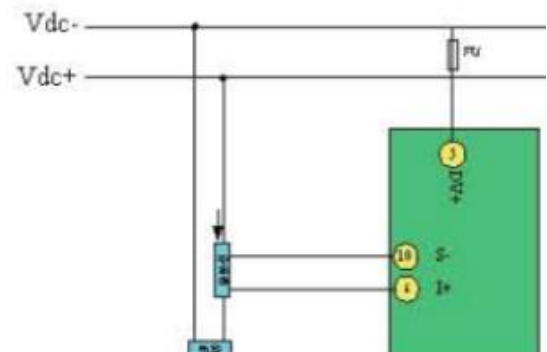
Hall current transducer
(DC Negative system)



Hall current transducer
(DC Positive system)



Current Diverter
(DC Negative system)

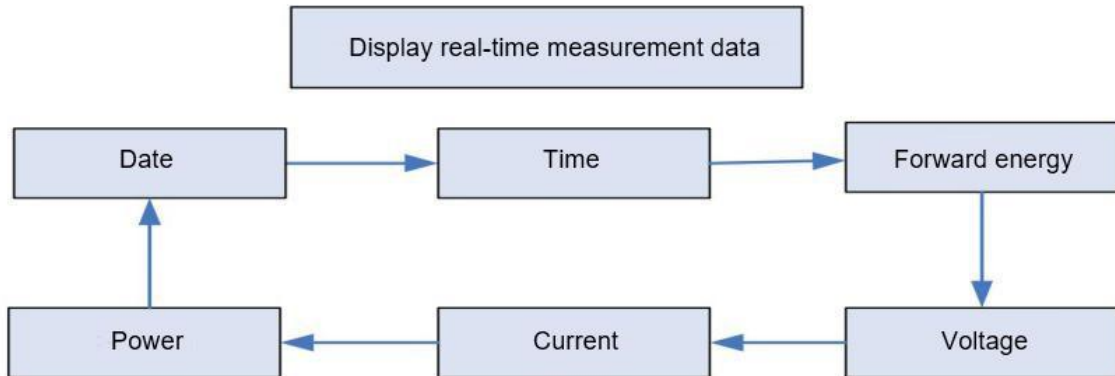


Current Diverter
(DC Positive system)

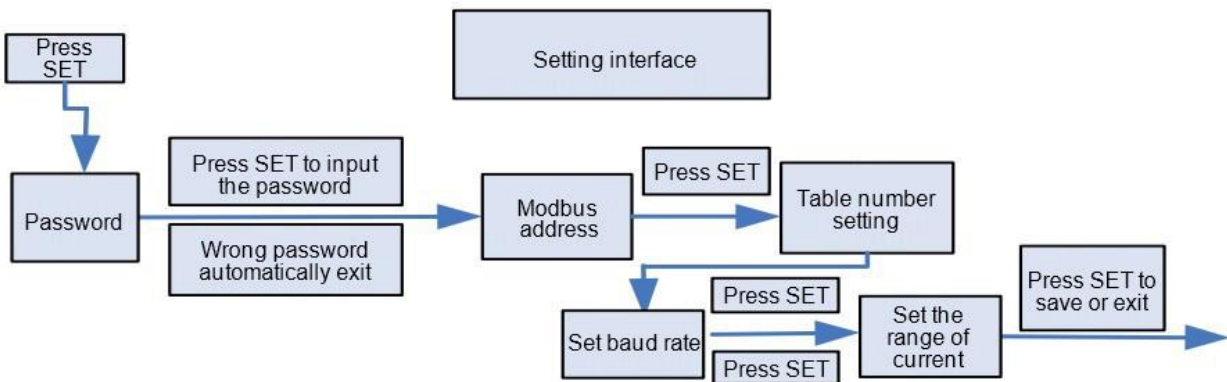
Chapter 6 Meter Display and Operation

6.1 Operation and Buttons

The display interface is composed of LCD display screen, 3 buttons and 1 LED pulse light indicator. Press buttons “▲” and “▼” to cyclically switch interfaces of date, time, energy, voltage, current, power.



Press button “SET” to enter setting interfaces.



Press button “▲” to increase values of passwords, ID, baud rate etc.

Press button “▼” to shift digits.

6.2 Display and Description

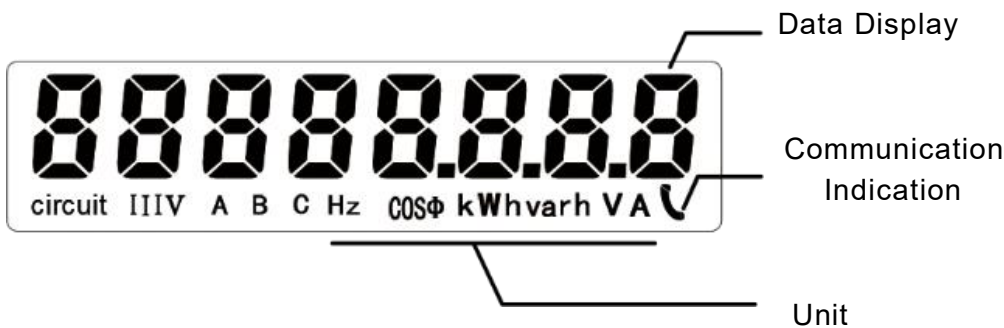
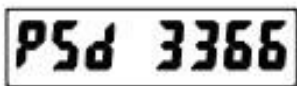

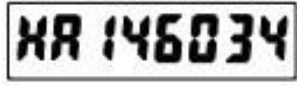
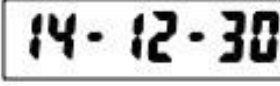







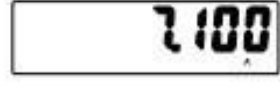


Figure 1 LCD Interface Display

LCD Display Interface Diagram

Display	Description	Display	Description
	Password3366		Baud rate and parity bit
	High 6-digit for DL/T645		Date
	Low 6-digit for DL/T645		Time
	Address		Energy
	1 current range		Voltage
	Power		Current

Chapter 7 After-sales Service

Product Warranty

1. The product warranty period is one year.
2. The company is responsible for free maintenance or exchange within three-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 8 Contact Us

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