

# **DIN-rail Mounted Energy Meter**

## **User Manual**

**Applied to:**

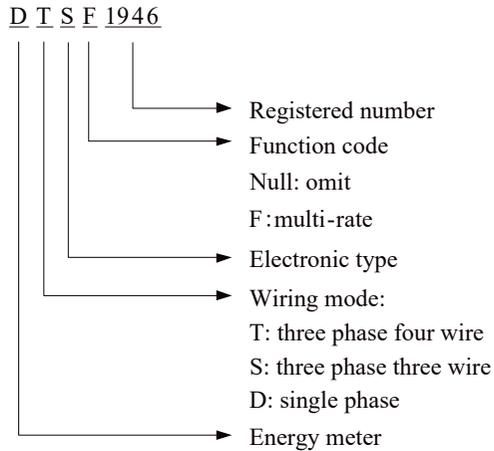
-DDS1946-2P

**JIANGSU SFERE ELECTRIC CO., LTD.**

## 1. Introduction

DIN-rail mounted energy meters are designed and produced according to user's real electricity consumption situation by adopting advanced energy measurement IC and using digital sampling processing and SMT technologies. They adopt modularity structure with the features such as small volume, convenient installation and reliable working.

## 2. Naming rule



## 3. Model Selection

| Function \ Model |                        | Single phase   |
|------------------|------------------------|----------------|
|                  |                        | DDS<br>1946-2P |
| Wiring mode      | Single phase           | √              |
|                  | Three phase four wire  | -              |
|                  | Three phase three wire | -              |
| Voltage range    | 220V                   | √              |
|                  | 3×220/380V             | -              |

|                          |                               |             |
|--------------------------|-------------------------------|-------------|
|                          | 3×380V                        | -           |
| Current specification    | Direct input                  | 5 ( 100 ) A |
|                          | Input via CT                  | -           |
| Real-time measurement    | U/I                           | √           |
|                          | P/Q/S                         | √           |
|                          | PF                            | √           |
|                          | F                             | √           |
|                          | THD                           | -           |
| Energy metering          | Bi-directional energy         | √           |
|                          | Four-quadrant reactive energy | √           |
|                          | Multi-rate energy             | -           |
| Demand                   |                               | √           |
| Max./min. value          |                               | √           |
| Events record            |                               | √           |
| RS485 communication port |                               | √           |
| Energy pulse             |                               | √           |
| Display mode             |                               | LCD         |

**Note: √ Yes, - No;**

## 4. Technical specification

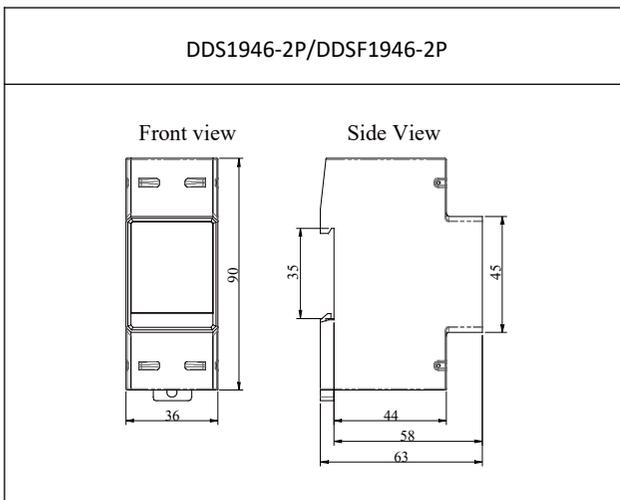
| Electrical feature |  |         |
|--------------------|--|---------|
| Model              | DDS1946-2P   |         |
| Accuracy           | Voltage, current: 0.2 Class,<br>Power, active energy: 0.5S Class,<br>Reactive energy: 2 Class. |         |
| Rated voltage      | 220V   |         |
| Input current      | Direct input   | 5(100)A |
|                    | Input via CT   | -       |

|   |                             |   |
|---|-----------------------------|---|
| Frequency   |                             | 50/60 Hz  |
| Wiring mode   |                             | Single phase  |
| Voltage range   |                             | 0.8Un ~ 1.2Un   |
| Consumption   | Voltage circuit consumption | < 4VA   |
|   | Current circuit consumption | < 1VA   |
| Start current   | Direct input                | 0.002Ib   |
|   | Input via CT                |   |
| Energy pulse  |                             | One active energy pulse output, pulse width ( 80±20% ) ms |
| RTC error   |                             | ≤0.5s/day   |
| <b>Communication feature</b>  |                             |   |
| RS485 port  |                             | Modbus-RTU protocol, baud rate up to 9600bps              |
| <b>Mechanical feature</b>   |                             |   |
| Dimension (mm)  |                             | 36×90×63.5  |
| IP protection   |                             | IP54 ( front case ) /IP20 ( rear case )                   |
| <b>Environment feature</b>  |                             |   |
| Work temperature  |                             | (-25~70)°C  |
| Storage temperature   |                             | (-30~80)°C  |
| Relative humidity   |                             | (5~95)% ( no condensation )                               |
| <b>EMC</b>  |                             |   |
| Electrostatic discharge immunity                                      |                             | IEC 61000-4-2-III class                                   |
| Radiated, radio-frequency, electromagnetic field immunity             |                             | IEC 61000-4-3-III class                                   |
| Electrical fast transient/burst immunity test                         |                             | IEC 61000-4-4-IV class                                    |
| Surge immunity  |                             | IEC 61000-4-5-IV class                                    |
| Immunity to conducted disturbances, induced by radio-frequency fields |                             | IEC 61000-4-6-III class                                   |

|   |                          |
|---|--------------------------|
| Power frequency magnetic field immunity                           | IEC 61000-4-8-III class  |
| Voltage dips, short interruptions and voltage variations immunity | IEC 61000-4-11-III class |

## 5. Installation and wiring

### 5.1 Outline dimension



### 5.2 Installation method

