DIN-rail Type Power Meter

Operation Manual

This manual is applied to the following model：

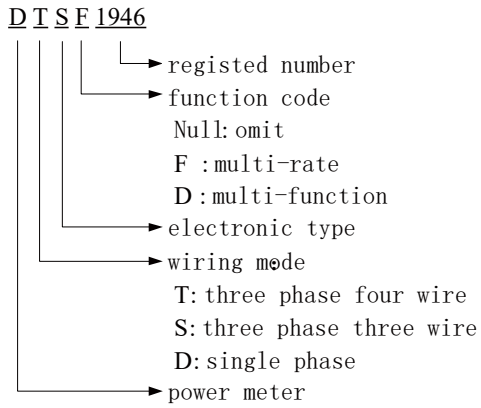
DTS1946

JIANGSU SFERE ELECTRIC CO., LTD.

1. Introduction

DIN-rail type electric 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		Three phase power meter
		DTS1946
Wiring mode	Single phase	-
	Three phase three wire	-
	Three phase four wire	√
Voltage range	220V	-
	3×220V/380V	√
	3×380V	-
Current specification	Direct input	5(100)A

	Input via CT	1.5(6)A
Real-time measurement	Voltage & current	√
	Power	√
	Power factor	√
	Frequency	√
	THD	√
Energy metering	Bi-directional energy	√
	Four-quadrant energy	-
	Multi-rate energy	-
Demand		-
Events record		-
Communication interface	RS485	○
Energy pulse		√
Display mode		LCD

Note: in the upper format, √ means the function is available; - means the function is not available; ○ means the function is optional.

4.Technical index

Electrical feature		
Model / Function		DTS1946
Accuracy		Voltage, current: 0.5 Class; Power, active energy: 1 Class
Rated voltage		3×220/380V
Input current	Direct input	5(100)A
	Input via CT	1.5(6)A
Frequency		50/60 Hz
Wiring mode		3P4W
Voltage range		0.8Un ～ 1.2Un
Consumption	voltage circuit consumption	< 5VA

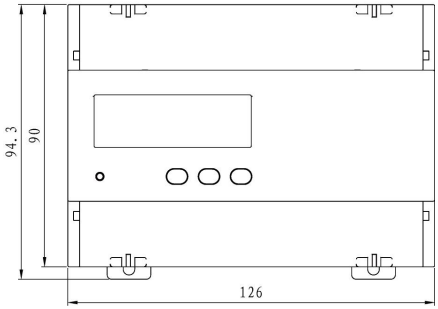
	current circuit consumption	< 2VA
Start current	direct input	0.004Ib
	input via CT	0.002In
Energy pulse		One optoelectronic isolation output, pulse width（80±20%）ms
RTC error		≤0.5s/day
Communication feature		
RS485 port		Modbus-RTU protocol，baud rate up to 9600bps DL/T 645 protocol，baud rate up to 9600bps
Mechanical feature		
Dimension		126×90×63.5
IP protection		IP54（front case）/IP20（rear case）
Environment feature		
Work temperature		(-10～55)℃
Storage temperature		(-25～70)℃
Relative humidity		(5～95)%（no condensation）
EMC		
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

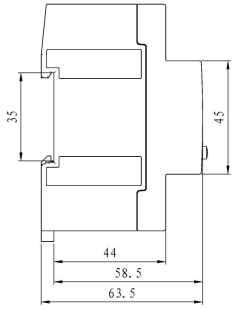
5.1 Outline dimension

Three phase meter outline dimension (mm)

front view



side view



5.2 Installation method