Ultra-thin Power Meter

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EPM 300A-1Series

1.1Introduction

EPM 300A-1 is intelligent mutilpurpose power which integrates the remote measuring and remote communication functions.

This meter could test, display and Remote Transfer all the common power parameters,2-ch digital inputs. And communicate with the computer to be a intelligent monitoring system.

1.2Functions

1.2.1 Function description

1.2.1.1 Analog measure

- Voltage
- Current
- Voltage unbalance degree
- Current unbalance degree
- Current load degree
- Active power, reactive power and apparent power
- Power factor
- Frequency
- Total active energy absolute ,total reactive energy absolute
- Input active energy absolute, input reactive energy absolute
- Output active energy absolute, output reactive energy absolute
- 4 quadrants reactive energy

1.2.1.2 Load type

Indicate the current load type:

Capacitive load or Inductive load

1.2.1.3 Remote transfer

2DI real time switch-status monitoring

1.2.1.4 Communications

- Communication interface:RS485
- ModBUS-RTU protocol

1.2.1.5 Display

Real time display above parameters and DI status

1.2.1.6 Factors setting and don't lose even power off

1.3. Technical Specification

ITEMS			DETAILS
Input Test Display	Web		3P3L,3P4L Configuration
	Voltage	Rated value	AC400V or AC100V Optional
		Overload	Measurement:1.2 times, Instantaneous 2 times/10s
		Consumption	<1VA per phase
		Impedance	>400kΩ
		Precision	RMS measurement Precision ±0.2%
	Current	Rated value	AC5A or AC1A
		Overload	Continued 1.2 times Instantaneous 10 times/10s
		Consumption	<0.4VA per phase

		Impedance	<20mΩ
		Precision	RMS measurement Precision ±0.2%
	Frequency		40~60Hz Precision ±0.02Hz
	Power		Active power, reactive power, apparent power Precision ±0.5%
	Energy		● Total active energy absolute ● Total reactive energy absolute ● Input active energy absolute ● Input reactive energy absolute ● Output active energy absolute ● Output reactive energy absolute ● 4 quadrants reactive energy ● Precision active-energy ±0.5%,reactive-energy ±1%
	Display		● LCD display ● Modbus communication to change the display interface
Digital input	Input		2-ch input, Opto-coupler isolation
	Isolation Voltage		2500Vrms
Comm.	Interface		RS485
	Protocol		ModBUS-RTU
	Baud rate		2400/4800/9600/19200bps Odd parity check, even parity check, none parity check
Working power	Working voltage		AC:85V～265V or DC:100V～360V
	Power consumption		≤2VA
Work environment	Work temperature		-20℃～55℃
	Storage temperature		-40℃～85℃
	Humidity		0～95% non-condensate
Safe	Insulating strength		Between input/output/hull/power supply: 2kV Acrms，1 min.
Dimension weight	Size		96mm×96mm×71 mm
	Weight		0.4kg

1.4.EMC Standard

TEST ITEMS	LEVEL	STANDARD
high frequency anti-jamming test	Ⅲ，Ⅳ	GB/T 15153.1/1998
electrostatic discharge anti-jamming test	Ⅲ	GB/T 15153.1/1998
electrical fast transient anti-jamming test	Ⅳ	GB/T 17626.4-2008
surge anti-jamming test	Ⅳ	GB/T 15153.1/1998
power frequency magnetic fields anti-jamming test	Ⅳ，Ⅴ）	GB/T 17626.8-2006

2.Functional Configuration

Functional Classification	Item	EM300A							
		-1AY	-1BY	-1CY	-1DY	-1AS	-1BS	-1CS	-1DS
Display Mode	LCD Display	•	•	•	•				
	LED Display					•	•	•	•
Measuring Function	Three phase total energy measurement(U/I/P/Q/S/F/PF)	•	•	•	•	•	•	•	•
IO Function	Switching Input(DI)	2	2	4	4	2	2	4	4
	Relay Output(DO)			2	2			2	2
	4-20mA Analog Input(AI)				1				1
	4-20mA Analog Output(AO)				1				1
	Pulse Output				1				1
Communication	RS485	•	•	•	2	•	•	•	2
Energy Consumption Statistics Analysis	Four Phase Electric Energy	•	•	•	•				
	Multi-rate Statistics		•	•	•				
Data Record	Most Value Statistics		•	•	•		•	•	•
	SOE Event Sequential Record		•	•	•		•	•	•
	Built-in Clock		•	•	•		•	•	•
Data Analysis	Three Phase Unbalance Degree	•	•	•	•	•	•	•	•
	Demand Analysis		•	•	•		•	•	•
Auxiliary Function	Constant Value Out-of-limit System		•	•	•		•	•	•
Electric Energy Quality	Total harmonic distortion (Voltage/Current)			•	•			•	•
	Total harmonic distortion (Odd/Even)			•	•			•	•
	Sub-harmonic ratio			•	•			•	•

3. Part Numbers

EPM300A □ □ □

Display Modes:
Y: Liquid Crystal Display
S: LED Display

Function Codes:
A: A Type
B: B Type
C: C Type
D: D Type
...: ....

Auxiliary Code: Indicates the appearance of meter

Appearance Code	Unit (mm)		Outline Dimension
	Frame Dimension	Slot Dimension	
1	96*96	91*91	96*96*60
2	96*96	91*91	96*96*71
3	120*120	115*115	120*120*82

Function Description
A: Multi-functional

Three-phase power meter number code