

Single-Phase Power Analyzer AN87310(F)



Product Introduction

This AN87310(F) series AC/DC power meter adopts STM32 controller as the core and supplemented by FPGA, using direct sampling and intelligent identification technology, widely used in electrical measurements of single-phase electrical equipment, such as voltage, current, power, power factor, frequency, electrical energy, time, harmonics etc., wide range, 4-window LED highlight, simple operation, U disk read/write, serial communication, parameter alarm, voltage/current ratio settings and other functions, multi-purpose, professional and reliable.

Features

- Universal wide-range design for AC/DC, DC~100kHz bandwidth, stronger load adaptability
- Reliable, stable, compact, light
- Fast measurement, refresh rate up to 0.1s
- Standard RS-232 or RS-485 port, support MODBUS communication, automatic testing

Applications

- Strict industrial site type test
- High temperature aging room test
- Power tool test
- Lighting test
- Standby power measurement of household appliances and commercial appliances lines
- Current: 1mA~22A/5mA~55A, voltage: 0.15~1200V, rated power and standby power can be measured
- Minimum power resolution: 0.1mW
- 50th harmonic and distortion analysis

Specifications

Model	AN87310(F)
Current	20A/50A (optional)
Wiring	1P2W(1-phase 2-wire)
Input impedance	Voltage: approx. 2M Ω ; Current direct input: approx. 10m Ω ; Current sensor input: approx. 100k Ω
Full range peak factor	3
Rated voltage (direct input)	15/30/60/100/150/300/600/1000[V]; *1000V Full range peak factor: 1.5
Rated current (direct input)	100m/200m/500m/1/2/5/10/20[A]
Rated current (sensor input)	50m/100m/200m/500m/1/2/5/10[V]
Voltage/current accuracy	(1% ~ 110%) $\times$ range
Power factor	$\pm(0.001 \sim 1.000)$
Voltage accuracy	DC: $\pm(0.1\% \times \text{display} + 0.2\% \times \text{range})$ 0.5Hz $\leq$ f<45Hz: $\pm(0.1\% \times \text{display} + 0.2\% \times \text{range})$ 45Hz $\leq$ f $\leq$ 66Hz: $\pm(0.1\% \times \text{display} + 0.1\% \times \text{range})$ 66Hz<f $\leq$ 1kHz: $\pm(0.1\% \times \text{display} + 0.2\% \times \text{range})$ 1kHz<f $\leq$ 10kHz: $\pm\{[0.07 \times f]\% \times \text{display} + 0.3\% \times \text{range}\}$ 10kHz<f $\leq$ 100kHz: $\pm(0.5\% \times \text{display} + 0.5\% \times \text{range})$, $\pm\{[0.04 \times (f-10)]\% \times \text{display}\}$
Current accuracy	DC: $\pm(0.1\% \times \text{display} + 0.2\% \times \text{range})$ 0.5Hz $\leq$ f<45Hz: $\pm(0.1\% \times \text{display} + 0.2\% \times \text{range})$ 45Hz $\leq$ f $\leq$ 66Hz: $\pm(0.1\% \times \text{display} + 0.1\% \times \text{range})$ 66Hz<f $\leq$ 1kHz: $\pm(0.1\% \times \text{display} + 0.2\% \times \text{range})$ 1kHz<f $\leq$ 10kHz: $\pm\{[0.07 \times f]\% \times \text{display} + 0.3\% \times \text{range}\}$ 10kHz<f $\leq$ 100kHz: $\pm(0.5\% \times \text{display} + 0.5\% \times \text{range})$, $\pm\{[0.04 \times (f-10)]\% \times \text{display}\}$
Active power accuracy	DC: $\pm(0.1\% \times \text{display} + 0.2\% \times \text{range})$ 0.5Hz $\leq$ f<45Hz: $\pm(0.3\% \times \text{display} + 0.2\% \times \text{range})$ 45Hz $\leq$ f $\leq$ 66Hz: $\pm(0.1\% \times \text{display} + 0.1\% \times \text{range})$ 66Hz<f $\leq$ 1kHz: $\pm(0.2\% \times \text{display} + 0.2\% \times \text{range})$ 1kHz<f $\leq$ 10kHz: $\pm(0.1\% \times \text{display} + 0.3\% \times \text{range})$, $\pm\{[0.067 \times (f-1)]\% \times \text{display}\}$ 10kHz<f $\leq$ 100kHz: $\pm(0.5\% \times \text{display} + 0.5\% \times \text{range})$, $\pm\{[0.09 \times (f-10)]\% \times \text{range}\}$
Active power range/ resolution	2.2mW~4.4kW@220V, PF=0.01~1, 0.1mW
Frequency range/accuracy	DC, 0.5Hz~100kHz, $\pm 0.1\% \times \text{display}$
Harmonic measurement	11Hz~600Hz, 1~50th harmonic content, total distortion
Electric energy range	0~99999MWh (Resolution: 1mWh/0.01mAh), $\pm 0.5\% \times \text{display}$
Electric energy counting	H:9999, Min:59, Sec:59
Filter	500Hz, 5.5kHz Voltage line, current line and frequency filter
Ratio	1~5000
Current Sensor Ratio Range	0.010~100,000 mV/A
Data update cycle	100m/250m/500m/1/2/5[s]
Alarm	5groups, voltage, current, power upper/lower limit, threshold
Control interface	Standard: RS-232; Optional: RS-485
Dimension	Dimension: 213(W) $\times$ 88(H) $\times$ 380(D) mm, Opening: 210(W) $\times$ 85(H) mm, Foot height: 15 mm

Any changes to the above parameter specifications will not be notified separately.