



AMPROBE® MODEL DM-III

ADVANCED DIGITAL RECORDER / DATA LOGGER

Detailed Technical Specifications



The accuracy is stated as [% of the reading ± number of digits]. It refers to the following atmospheric conditions: temperature 73°F ± 2°F (23°C ± 1°C) with relative humidity < 75%.

Voltage Measurement (Autoranging)

Range	Accuracy	Resolution	Input Impedance
15-310V	±(0.5%+2digit)	0.2V	300kΩ (phase-neutral)
310-600V		0.4V	600kΩ (phase-phase)

Voltage Anomalies Detection (Manual Selection of Range)

Range	Accuracy	Resolution	Input Impedance
15-310V	±(0.5%+2digit)	0.2V	300kΩ (phase-neutral)
30-600V		0.4V	600kΩ (phase-phase)

Time

Accuracy (ref. to 50Hz)	Resolution
±10ms (_ period of fundamental)	10ms (_ period of fundamental)

Current Measurement (Using External Transducer)

Range	Accuracy	Resolution	Input Impedance	Protection Against Overloads
0.005-0.26V	±(0.5%+2digit)	0.0001V	100kΩ	5V
0.26-1V		0.0004V		

Minimal Current measurable is equal to 0.5% of Clamp Full Scale

Power Measurement (cosφ: 0.5c – 0.5i)

Value	Ranges	Accuracy	Resolution
Active Power	0 – 999.9Ω	±(1.0%+2digit)	0.1Ω
	1KΩ – 999.9KΩ		0.1KΩ
	1MΩ – 999.9MΩ		0.1MΩ
Reactive Power	0 – 999.9VAR	±(1.0%+2digit)	0.1VAR
	1KVAR – 999.9KVAR		0.1KVAR
	1MVAR – 999.9MVAR		0.1MVAR
Apparent Power	0 – 999.9VA	±(1.0%+2digit)	0.1VA
	1KVA – 999.9KVA		0.1KVA
	1MVA – 999.9MVA		0.1MVA
Active Energy	0 – 999.9Wh	±(1.0%+2digit)	0.1Wh
	1KWh – 999.9KWh		0.1KWh
	1MWh – 999.9MWh		0.1MWh
Reactive Energy	0 – 999.9VARh	±(1.0%+2digit)	0.1VARh
	1KVARh – 999.9KVARh		0.1KVARh
	1MVARh – 999.9MVARh		0.1MVARh

Detailed Technical Specifications Cont'd

Cosφ Measurement

Cosφ	Resolution	Accuracy (expressed in degrees)
0.20	0.01	0.6
0.50		0.7
0.80		1

Measurement of Harmonics

Voltage

Range	Accuracy	Resolution
DC – 25h	±(5.0%+2digit)	0.1V
26h – 33h	±(10.0%+2digit)	
34h – 49h	±(15.0%+2digit)	

The voltage harmonics will be null under the following threshold:

- DC: if <1V or <2% of 1st harmonic
- 1st harmonic: if <2V
- 2nd ÷ 49th: if <1V or <2% 1st harmonic

Current

Range	Accuracy	Resolution
DC – 25h	±(5.0%+2digit)	0.1A
26h – 33h	±(10.0%+2digit)	
34h – 49h	±(15.0%+2digit)	

The current harmonics will be null under the following threshold:

- DC: if <2% of 1st harmonic or < 0,2% of clamp full scale
- 1st harmonic: if < 0,2% of clamp full scale
- 2nd ÷ 49th: if <2% 1st harmonic or < 0,2% of clamp full scale

Setting the FLEX option the DC component will be ignored.

Frequency Measurement

Instrument set to 50Hz

Range	Accuracy	Resolution
47 ÷ 53	±(1.0%+1digit)	0,1Hz

Frequency Measurement

Instrument set to 60Hz

Range	Accuracy	Resolution
57 ÷ 63,6	±(1.0%+1digit)	0,1Hz

Compliance

DM-III complies with the standards prescribed for:

- class 2 EN61036 – static counters of active energy
- class 3 IEC1268 – static counters of reactive energy

Temperature drift

Temperature drift: 0,1 x accuracy/K

Safety

The instrument complies to the standards: EN 61010-1 + A2(1996)
 Insulation: Class 2
 Pollution: 2
 Overvoltage category: CAT III 300V~; CAT II 350V~ (Phase-Earth)
 CAT III 600V~ (Phase-Phase)

