AMPROBE® MODEL DM-III

ADVANCED DIGITAL RECORDER / DATA LOGGER

- Comes as a complete kit, CT's and PC software are included with product
- Works with single and three phase systems (Y and delta)
- Detects and records voltage anomalies, Sags and Surges
- Built in scope displays waveforms
- Records up to 64 parameters (single or three phase) simultaneously
- Manual and programmable recording start
- Password protection
- Selectable fundamental frequency of 50 or 60 Hz
- Special data compression system and user selectable rates allow recording from several hours to several years
- Download capabilities, Windows compatible PC software
- Line or battery powered
- Safety: CATIII, 600V Phase to phase, CATIII, 300V Phase to ground, EN 61010-1+A2(1996)

Features	
AC Voltage including Sags and Surges	0 - 600V
AC Current	0 - 1000A (expandable to 3000A with optional CT's)
Power	Working (W), Reactive (VAR) and Apparent (VA)
Power Factor	0.00 – 1.00
Energy	Working (kWh), Reactive (VARh) and Apparent (VAh)
Peak Demand	kW
Harmonics	Up to 49th
Frequency Measurement	57 to 63.6 Hz at 60Hz fundamental 47 to 53 Hz at 50Hz fundamental
Phase sequence	1 - 2 - 3
Co-generation	Computes incoming and outgoing energy
Selectable Fundamental Frequencies	50/60 Hz
Available Recording Time	Several hours to several years depending on setup

Optional Accessories	Part Number
3000 Amps optional flexible current transducer	ACF 3000SR

Replacement Parts (supplied with product)	Part Number
Carrying case	HW1254A
External power supply 12VDC	DM-EXTPS
Clamp 1000A/1V	DM-CT-HT
Test leads and alligator clips (set of 4)	KITENERGY3
PC Software Toplink	www.amprobe.com
Special RS-232 Computer Cable	C232NG1
Instruction Manual	www.amprobe.com

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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)
Voltage

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)

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General Characteristics

Mechanical Features

Dimensions:	8.9”(L) x 6.5” (La) x 4.1”(H) 225(L) x 165(La) x 105(H) mm
Weight:	3.3 Lb (1.5kg)
Internal power supply:	6 batteries 1.5V series AA LR6
Battery Life:	50 hours
External power supply:	Use only Amprobe power supply Adapter code 9821-120120V.
Display :	dot matrix with backlight
resolution	128 x 128 dots (16384 dots)
dot size	0.5mm x 0.5mm
visible area	2.9” x 2.9” (73mm x 73mm)
Sampling speed:	156.25usec a 50Hz.
No. of samples per period:	128
Clamp:	
Opening	2.15” (53 mm)
Maximum diameter of the cable:	2.00” (50 mm)

Environment

Operating Conditions

Reference temperature:	73°F ± 2°F (23°C ± 1°C)
Operating temperature:	32°F to 122°F (0°C to 50 °C)
Relative humidity:	<70%
Storage temperature:	14°F to 140°F (-10°C to 60 °C)
Storage humidity:	<80%

EMC

This instrument has been designed in compliance with the EMS standards in force and its compatibility has been tested for EN61326-1 (1997) + A1 (1997).

SPX ATP ADVANCED TEST PRODUCTS

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