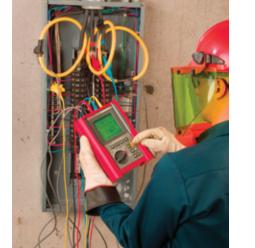
AMPROBE®

Data Sheet



DM-III MULTITEST F Power Quality Recorder

Amprobe's full-featured Three-Phase Power Quality Recorders provide the essential functions and capabilities required to operate accurately and effectively in today's demanding electrical environments.

■ POWER QUALITY ANALYZER/DATA LOGGER

- True RMS (TRMS)
- Measures & Records Broad Spectrum of Power Quality Parameters
 - AC Current
 - AC Voltage to 600 V
 - Sags and Surges
 - Harmonics
 - Active, Reactive and Apparent
 - Power
 - Peak Demand
 - Power Factor
 - Frequency
 - Phase Sequence
- Compatible with wide range of current transducers
- Works with single and three phase
- Detects & records Sags and Surges
- Displacement power factor for power factor correction determination
- Built in scope displays waveforms
- Phase sequence indication
- Records up to 64 parameters
- Selectable fundamental frequency
- Special data compression system
- Download capabilities, Windows compatible
- A complete kit: 3000A Flexible CT, 1000A Clamp, Voltage Leads, Ground Probes & Leads, PC software & cable

continued on next page ▶







No hassle warranty

No waiting.





Our commitment to high-quality products and customer service is demonstrated by our industry exclusive "No Hassle" warranty. In the unlikely event that an Amprobe Test Tool requires warranty service, any of our local dealers are authorized to replace it, on the spot.

(note: \$500 MSLP limit)



Data Sheet

■ INSULATION TESTER FUNCTIONS:

- Tests insulation integrity of wires, cables, transformers & electrical motors
- Selectable test voltages up to 1000 V
- Programmable timer to perform the Dielectric Absorption Ratio
 Test
- Sensitive Ohmmeter for checking resistance of motor windings
- Selectable polarization of ohmmeter for checking grounding continuity
- Automatic voltmeter protects against misuse on hazardous energized systems

■ GROUND RESISTANCE & RESISTIVITY FUNCTIONS:

- Three measuring modes:
 - 2 point continuity/resistance test
 - 3 point Fall of Potential test
 - 4 point Earth Resistivity measurement
- Automatic voltage measurement prevents false measurements
- Automatically applies three testing frequencies for the most accurate readings
- Detects faulty test conditions such as poor soil conditions and input noise

■ PHASE SEQUENCE

- Phase sequence indication
- Frequency measurement
- Phase-to-Phase voltage measurement





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Supplied Current Transducer	AM-FLEX33 3000A Flexible 7" internal diameter CT				
Input accuracy	±(0.5% Rdg + 2 LSD)				
AC Current	DM-CT-100: 0.5A to 100A; DM-C	T-HTA: 5 – 1000A; AM-FLEX33: Selectable: 5 – 1000A or 15 – 3000A			
AC Voltage including					
Sags and Surges	±(0.5% Rdg + 2 LSD)				
Harmonics	±(0.5% Rdg + 2 LSD) @DC to 25				
Power		d Apparent (VA) ±(1.0% Rdg + 2 LSD)			
Energy	Working (kWh), Reactive (VARh) and Apparent (VAh) ±(1.0% Rdg + 2 LSD)			
Peak Demand	KW ±(1.0% Rdg + 2 LSD)				
Power Factor	0.00 – 1.00				
Frequency measurement	57 to 63.6 Hz at 60Hz fundamer	ital; 47 to 53 Hz at 50Hz fundamental; ±(1.0% Rdg + 2 LSD)			
Phase sequence	1 - 2 - 3				
Co-generation	Computes incoming and outgoi	ng energy			
Selectable Fundamental					
Frequencies	50/60 Hz				
Available Recording Time	Several hours to several years de	epending on setup			
No. of the control of	P	A			
Megohmmeter	Range	Accuracy			
Insulation resistance with 50 VDC test voltage	0.01 – 19.99, 49.9	± (2% Reading + 2 digits)			
30 VDC test voltage	49.9 – 99.9MΩ	± (5% Reading + 2 digits)			
Insulation resistance with					
100 VDC test voltage	0.01 – 19.99, 99.9	± (2% Reading + 2 digits)			
	99.9 – 199.9MΩ	± (5% Reading + 2 digits)			
Insulation resistance with					
250 VDC test voltage	0.01 – 19.99, 199.9, 249	± (2% Reading + 2 digits)			
	249 – 499 ΜΩ	± (5% Reading + 2 digits)			
Insulation resistance with 500 VDC test voltage	0.01 – 19.99, 199.9, 499	± (2% Reading + 2 digits)			
300 VDC test voltage	499 – 999 MΩ	± (5% Reading + 2 digits)			
Insulation resistance with					
1000 VDC test voltage	0.01 – 19.99, 199.9, 999	± (2% Reading + 2 digits)			
	999 – 1999 MΩ	± (5% Reading + 2 digits)			
Low Resistance (without timer)	0.01 – 19.99, 99.9Ω	± (2% Reading + 2 digits)			
Low Resistance (with timer)	$0.01 - 9.99\Omega$	± (2% Reading + 2 digits)			
Ground Resistance	Range	Accuracy			
Ground resistance	0 – 19.99, 199.9, 1999 Ω	± (5% Reading + 3 digits)			
Ground resistivity	0.6 – 125.6 Ωm	± (5% Reading + 3 digits)			
	0.125 – 1.256, 19.99, 199.9 kΩm	± (5% Reading + 3 digits)			
LowΩ: 200mA Continuity Test (A		/#\			
Range [Ω]	Resolution $[\Omega]$ Accuracy(*)				
0.01 – 9.99	0.01 ±(2% Reading + 2 digit)				
10.0 – 99.9		eading + 2 digit)			
	(*) After Test leads calibration				
Test Current	> 200mA DC per R≤5Ω (Test lead	ds included)			
Resolution for Test current	1mA				
Open Circuit Voltage	4V ≤ V0 ≤ 24V				



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Specifications (continue	u,		
Insulation Test			
Test Voltage [V]	Range [MΩ]	Resolution [M Ω]	Accuracy
50	0.01 – 9.99	0.01	±(2% Reading + 2 digit)
	10.0 – 49.9	0.1	±(2% Reading + 2 digit)
	50.0 – 99.9	0.1	±(5% Reading + 2 digit)
100	0.01 – 9.99	0.01	±(2% Reading + 2 digit)
	10.0 – 99.9	0.1	±(2% Reading + 2 digit)
	100.0 – 199.9	0.1	±(5% Reading + 2 digit)
250	0.01 – 9.99	0.01	±(2% Reading + 2 digit)
	10.0 – 199.9	0.1	±(2% Reading + 2 digit)
	200 – 249	1	±(2% Reading + 2 digit)
	250 – 499	1	±(5% Reading + 2 digit)
500	0.01 – 9.99	0.01	±(2% Reading + 2 digit)
	10.0 – 199.9	0.1	±(2% Reading + 2 digit)
	200 – 499	1	±(2% Reading + 2 digit)
	500 – 999	1	±(5% Reading + 2 digit)
1000	0.01 – 9.99	0.01	±(2% Reading + 2 digit)
	10.0 – 199.9	0.1	±(2% Reading + 2 digit)
	200 – 999	1	±(2% Reading + 2 digit)
	1000 – 1999	1	±(5% Reading + 2 digit)
Open circuit Test Voltage	<1.3 x Nominal Test		
Short Circuit Current	<6.0mA with 500V		
Nominal Test Current	500V: >2.2mA with other: >1mA with 1		
Pange [Ha]	Posolution [Ha]	Accuracy	
Range [Hz] 47.0 – 63.6	Resolution [Hz]	Accuracy ±(0.1%Reading+1 dig	.:+\
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		oisiin in equality	
Phase Rotation: Voltage Meas	surement		
Range [V]	Resolution [V]	Accuracy	
0 – 460V	1	±(3%Reading + 2 dig	it)
Ground Test: Resistance Meas	surement With Earth Ro	ds	
Range RE $[\Omega]$	Resolution $[\Omega]$		
0.01 – 19.99	0.01		
20.0 – 199.9	0.1		
200 - 1999	1		
Accuracy	±(5% Reading + 3 c	ligit)	
Test Current	<10mA – 77.5Hz		
Open circuit Test Voltage	<20V RM		



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Ground Test: Resistivity Measur	Ground Test: Resistivity Measurement				
Range p	Resolution				
0.60 – 19.99 Ωm	0.01 Ωm				
20.0 – 199.9Ωm	0.1Ωm				
200 – 1999Ωm	1 Ωm				
2.00 – 99.99kΩm	0.01 kΩm				
100.0 – 125.6kΩm(*)	0.1 kΩm				
	(*) setting distance = 1	0m			
Accuracy	±(5% Reading + 3 digit	t)			
Test Current	<10mA – 77.5Hz				
Open circuit Test Voltage	<20V RMS				
Voltage Measurement – (Autora	ange)				
Range [V]	Resolution [V]				
15 – 310V	0.2V				
310 – 600V	0.4V				
Accuracy	±(0.5% Reading+2digi	t)			
Voltage Sag And Surge Detection	on -(Manual Range)				
Range [V]	Resolution (Voltage)				
15 – 310V	0.2V				
30 – 600V	0.4V				
Resolution (Time)	10ms (_ period)				
Accuracy (Voltage)	±(1.0% Reading+2digit)				
Accuracy (Rif. 50hz) (Time)	10ms (_ period)				
Input Impedance	300k $Ω$ (Phase-Neutral)	; 300k Ω (Phase-	Phase)		
Current Measurement – STD & F	FlexEXTclamps				
Range [V]	Resolution [Mv]				
0.005 – 0.26V	0.1				
0.26 – 1V	0.4				
(*): Example: with a 1000A/1V	full scale clamp, the inst	rument detect o	nly current higher than 5A		
Accuracy	±(0.5% Reading+2digi	t)			
Input Impedance	200kΩ				
Overload Protection	5V				
Current Measurement – FlexINT	clamp – 1000A Range				
Current Range	Input Voltage Range	Resolution	Accuracy		
5.00 – 20.00A	$425\mu V - 1.7mV$	0.850µV	± (4.0% rdg + 8.5µV)		
20.00 – 99.99A	1.7mV – 8.499mV	0.850μV	± (1.0% rdg + 8.5μV)		
100.0 – 999.9A	8.5mV – 84.99mV	8.5µV	± (1.0% rdg + 85μV)		
Input Impedance	9.166kΩ				
Overload Protection	5V				



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Current Measurement – FlexINT clamp – 3000A Range				
Current Range	Input Voltage Range	Resolution	Accuracy	
15.00 – 99.99A	1.27mV – 8.499mV	0.850µV	± (1.0% rdg + 8.5µV)	
100.0 – 270.0A	8.5mV – 22.75mV	8.5µV	± (1.0% rdg + 42.5uV	
270.0 – 999.9A	22.75mV – 84.99mV	8.5µV	± (1.0% rdg + 85uV)	
1.00 – 3.00kA	85mV – 255mV	850µV	± (0.5% rdg + 8.5mV)	
Input Impedance	9.7kΩ			
Overload Protection	5V			
Power Measurement – (Autorang	ge)			
Quantity	Range	Resolution		
Active Power	0 – 999.9W	0.1W		
	1 – 999.9kW	0.1kW		
	1 – 999.9MW	0.1MW		
	1000 – 9999MW	1MW		
Reactive Power	0 – 999.9VAR	0.1VAR		
	1 – 999.9kVAR	0.1kVAR		
	1 – 999.9MVAR	0.1MVAR		
	1000 – 9999MVAR	1MVAR		
Apparent Power	0 – 999.9VA,	0.1VA		
	1 – 999.9kVA,	0.1kVA		
	1 – 999.9MVA	0.1MVA		
	1000 – 9999MVA	1MVA		
Active Energy (Classe2 EN61036	i) 0 – 999.9Wh,	0.1Wh		
	1 – 999.9kWh,	0.1kWh		
	1 – 999.9MWh	0.1MWh		
	1000 – 9999MWh	1MWh		
Reactive Energy (Classe3 IEC126	58) 0 – 999.9VARh,	0.1VARh		
	1 – 999.9kVARh,	0.1kVARh		
	1 – 999.9MVARh	0.1MVARh		
	1000 – 9999MVARh	1MVARh		
Accuracy	±(1.0%Reading+2digit	·)		
Cos j Measurement				
Cos J	Accuracy [°]			
1.00 - 0.80	0.6			
0.80 - 0.50	0.7			
0.50 - 0.20	1.0			
Resolution	0.01			
Voltage and Current Harmonics I				
Range	Accuracy			
DC - 25H	±(5% + 2 digit)			
26H – 33H	±(10% + 2 digit)			
34H – 49H	±(15% + 2 digit)			
Resolution Harmonics values are null unde	0.1V / 0.1A			
		20/ of Full Carl		
- DC: its values is null if it is < 2% of Fundamental or is <2% of Full Scale clamp				
- 1st Current Harmonic: its values is null if it is < 0.2% Full Scale clamp				
- 2nd – 49th: its values is null if it is < 0.5% of fundamental or is < 0.1% of Full Scale clamp				



Data Sheet

Technical Data – General Information

General	
Safety	EN 61010-1 + A2 (1997)
Protection Classification	Class 2 - Double Insulation
Pollution Degree	2
Degree of Protection	IP50
Over-Voltage Category	CAT II 600V~ / 350V~ (phase –earth); CAT III 600V~ / 300V~ (phase –earth)
Usage	Indoor; max height 2000m
EMC	EN61326-1 (1997) + A1 (1998)
	The Instrument complies with European Guidelines for CE mark
Safety Test	
Low½ (200mA)	IEC 61557-4
Insulation Test	IEC 61557-2
Phase Sequence	IEC 61557-7
Ground Test	IEC 61557-5
Power Quality	
Voltage Sag and Surge	EN50160
	:-hour meters for Active Energy EN61036 (CLASS 2)
Alternating Current Static VAR-	hour Meters for Reactive Energy IEC1268 (CLASS 3)
General Specifications	
Mechanical Data	
Dimensions	225 (L)x165 (W) x 105 (H)mm
Weight	1,2Kg approx
Power Supply	6 x 1.5-LR6-AA-AM3-MN 1500 batteries
Battery Life	
Low½	~ 800 test
Insulation Test	~ 500 test
Ground Test	~ 1000 test
Phase Sequence	~ 1000 test
Power Quality (recording)	~20 hours
External Power Supply Adapte	r Code DMT-EXTPS (only for POWER QUALITY function)
Display	
Display Type	Graphic with Backlight
Resolution	128x128
Visible Area	73mmx73mm
Memory	
Safety Test Memory	999 measurement
Power Quality	2MByte (with 63 channels select and Integration Period = 15min -> more than 30 days).
Environment	
Reference Temperature	23° ± 5°C
Working Temperature Range	0° – 40°C
Working Humidity	< 80%
Storage Humidity Range	-10 – 60°C
Storage Humidity	< 80%

AMPROBE®

Data Sheet



Includes Amprobe's Download Suite Software

Replacement Parts (supplied with product)

AM-FLEX33 3000A Flexible CT
DM-CT-HTA 1000AClamp
HW1254A Soft Carrying case

DMT-EXTPS External power supply 12VDC

MTL-VOLT Complete set of voltage and megohmmeter

test leads and alligator clips

MTL-EARTH Carrying case containing: 4 earth rods and 4

test leads (banana – alligator clip)

C-2001 Special RS-232 Computer Cable

www.amprobe.com PC Software

www.amprobe.com Instruction Manual

Optional Accessories

DM-CT-HTA 1000A Clamp

DM-CT-100 100A Compact Clamp (0.5Ato 100A)

RS-USB USB-RS-232 Adapter

CC-DM-III Hard Case

Amprobe® Test Tools

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