

Power Quality Clamp Meter 596228 (46832-10)

FESTO

LabVolt Series

Datasheet



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General Description

The Power Quality Clamp Meter is a sophisticated, easy-to-use, portable instrument for measuring current, voltage, and power quality. It can be used to measure various motor parameters, such as the RMS voltage, peak starting current, power factor, current inrush duration, etc., as well as to perform time and frequency domain analysis.

When used with the Three-Phase Motor Starters and Inertia Load or with the AC Motor Drive and Blower Application, the Power Quality Clamp Meter allows students to learn about the behavior of an induction motor driving a mechanical load by measuring the transient (starting) and steady-state motor parameters.

Specifications

Parameter	Value
Functions	
	Voltmeter / Ammeter / Oscilloscope / Harmonic Analyzer / Power Meter / 3-Phase Power Meter / Inrush-Current Recorder
Voltmeter	
Measurements	RMS Voltage / DC Voltage / AC Voltage / Average Voltage / Peak Voltage / Voltage/Frequency Ratio / Voltage Ripple / Voltage Crest Factor / Frequency
Measuring Range	0-825 Vdc or ac rms
Autorange Facility	4 V / 40 V / 400 V / 750 V
Resolution	1 mV in 4 V Range / 10 mV in 40 V Range / 100 mV in 400 V Range / 1 V in 750 V Range
Frequency Range	DC / 15-1000 Hz
Maximum Overload	1000 Vrms
Ammeter	
Measurements	RMS Current / DC Current / AC Current / Average Current / Peak Current / Current/Frequency Ratio / Current Ripple / Current Crest Factor
Measuring Range	0-2000 Adc or 1400 Aac rms
Autorange Facility	40 A / 400 A / 2000 A
Resolution	10 mA in 40 A Range / 100 mA in 400 A Range / 1 A in 2000 A Range
Frequency Range	DC / 15-1000 Hz
Maximum Overload	10 kA or Arms x Frequency < 400000
Oscilloscope	
Measurements	Current / Voltage
Current Ranges	10 A / 20 A / 40 A / 100 A / 200 A / 400 A / 1000 A / 2000 A
Current Resolution	1 A in 40 A Range / 10 A in 400 A Range / 50 A in 2000 A Range
Current Maximum Overload	10 kA
Voltage Ranges	4 V / 10 V / 20 V / 40 V / 100 V / 200 V / 400 V / 1000 V
Voltage Resolution	100 mV in 4 V Range / 1 V in 40 V Range / 10 V in 400 V Range / 31.25 V in 1000 V Range
Voltage Maximum Overload	1000 Vrms
Frequency Range	DC / 15-600 Hz
Time Base	2.5 ms/div / 5 ms/div / 10 ms/div / 25 ms/div / 50 ms/div
Refresh Rate	0.5 seconds
Maximum Sampling Rate	15.625 kHz
Harmonic Analyzer	
Modes	Current / Voltage
Measurements	THD (Total Harmonic Distortion) / DF (Distortion Factor)
Ranges	Up to 30th Harmonic (40th Harmonic for 15-22 Hz)
Resolution	0.1 % (THD and DF)
Frequency Range (Fundamental)	15-22 Hz / 45-65 Hz
Power Meter	

Parameter	Value
Measurements	Active Power / Apparent Power / Reactive Power / Power Factor (PF) / Displacement Power Factor (DPF)
Active and Apparent Power Measuring Range	DC = 0-1650 k / AC = 0-1200 k
Active and Apparent Power Autoranging Facility	4 k / 40 k / 400 k / 1650 k
Active and Apparent Power Resolution	1 in 4 k Range / 10 in 40 k Range / 100 in 400 k Range / 1 k in 1650 k Range
Reactive Power Measuring Range	0-1250 kVAR
Reactive Power Autorange Facility	4 kVAR / 40 kVAR / 400 kVAR / 1200 kVAR
Reactive Power Resolution	1 VAR in 4 kVAR Range / 10 VAR in 40 kVAR Range / 100 VAR in 400 kVAR Range / 1 kVAR in 1200 kVAR Range
Reactive Power - Power Factor Range	0.3 < PF < 0.99
PF and DPF Measuring Range	0.3 Capacitive - 1.0 - 0.3 Inductive
PF and DPF Resolution	0.001
PF Frequency Range	15-1000 Hz
DPF Frequency Range	15-22 Hz / 45-65 Hz
3-Phase Power Meter	
Measurements	Active Power / Apparent Power / Reactive Power / Power Factor (PF) / Displacement Power Factor (DPF)
Measuring Range	0-1200 k
Autorange Facility	4 k / 40 k / 400 k / 1200 k
Resolution	1 in 4 k Range / 10 in 40 k Range / 100 in 400 k Range / 1 k in 1200 k Range
Reactive Power - Power Factor Range	0.3 < PF < 0.99
PF and DPF Measuring Range	0.3 Capacitive - 1.0 - 0.3 Inductive
PF and DPF Resolution	0.001
PF Frequency Range	15-1000 Hz
DPF Frequency Range	15-22 Hz / 45-65 Hz
Remark	The connected load must be well balanced, and connected in either Wye or Delta.
Inrush-Current Recorder	
Ranges	40 A / 400 A / 2000 A
Resolution	10 mA in 40 A Range / 100 mA in 400 A Range / 1 A in 2000 A Range
Frequency Range	DC / 15-1000 Hz
Maximum Overload	10 kA or Arms x frequency < 400000
Capture Time	1 s / 3 s / 10 s / 30 s / 100 s / 300 s
Maximum Sampling Rate	15.625 kHz
Included accessories	
	Soft Carrying Case
	Power Log Software
	Test Leads
	Alligator Clips
	Test Probes
	USB Cable
	International AC Adapter / Battery Eliminator
	Printed English Language User Manual
	Multi-Language Manual CD
Physical Characteristics	
Dimensions (H x W x D)	300 x 98 x 52 mm (12 x 3.75 x 2 in)
Jaw Opening	60 mm
Jaw Capacity	58 mm (Diameter)
Weight (Batteries Included)	820 g / 1.8 lb

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

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