

4017

DC Digital Power Analyzer (100Vp,12Adc/60Ap)



DC DIGITAL POWER ANALYZER



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Features

- 6 Selectable Voltage Ranges :
2.5 VDC / 0.1mV , 5 VDC / 0.1mV , 10 VDC / 1mV
25 VDC / 0.001V , 50 VDC / 0.001V , 100 VDC / 0.01V
- 18 Selectable Current Ranges :

0.375m ADC / 0.01uA	0.375 ADC / 0.01mA
0.75m ADC / 0.1uA	0.75 ADC / 0.1mA
1.5m ADC / 0.1uA	1.5 ADC / 0.1mA
3.75m ADC / 0.1uA	3 ADC / 0.1mA
7.5m ADC / 0.001mA	6 ADC / 0.1mA
15mA ADC / 0.001mA	12 ADC / 0.001A
0.0375 ADC / 0.001mA	15 ADC / 0.001A <800ms>
0.075 ADC / 0.01mA	30 ADC / 0.001A <400ms>
0.15 ADC / 0.01mA	60 ADC / 0.001A <200ms>
- Embedded high-speed DSP, 16 bits Analog / Digital converters to provide continuous gapless measurement with max sampling rate up to 409.6kHz
- Input Range to 100 VDC / 12 ADC and provide the 3 Current ranges up to 15Apeak, 30Apeak, 60Apeak that the highest inrush current.
- 0.375mA minimum current range & 0.01uA Current resolution that meets the measuring the current of IoT device.
- 3.5-inch color LCD digital numeral and graphic (TFT) display
- Data Logger mode :
 - Up to 256 records for VDC, ADC, Watt measurements
 - External PC for unlimited number of records for long-term quality monitoring
- Built-in power switch to control
 - Test period and repetition times up to 9999 times
 - Repeat test period can up to more than 138days.
- Inrush Current and Voltage measurement.
- Support external shunt measurement function for expanding the measurement of Current range.
- Support external shunt measurement function : Can be used with Prodigit 7550A, 1000A and 2000A to expand the higher measurement current and power integration Whr, Ahr measurement function demand
- Optional Interface : GPIB 、 RS232 、 USB 、 LAN 、 9943 Measuring Fixture Connection

Description

- The 4017 is a new generation digital power analyzer designed specifically for DC power measurement. The 3.5" TFTLCD display screen provides graphics display and digital display. It can be providing highly accurate and convenient power measurements.
- Suitable for any type of battery including dry cell, button cell battery, lithium cell lithium battery, alkaline cell and rechargeable battery. Especially 2.5V and 5V range can provide 0.1mV resolution.
- The 4017 digital power analyzer offers a wide measurement range. It supports 18 selectable current ranges from 0.375mA to 12Adc and 6 selectable voltage ranges up to 100Vdc. For an even wider range of current and voltage measurements, it can also be combined with an external shunt (such as the Prodigit 7550A, 1000A Precision Current Shunt) and set to the required current scaling. With this setup, it can support current measurements up to 250A, 1000A and 2000A.
- The 490.6KHz V/A high synchronous sampling rate and DSP accumulation of data supports no gap analysis over long periods of time. This feature is particular important for IoT devices, smartwatch, Bluetooth device current and power measurements... etc. While the current of these types of UUTs keeps changing according to the operating modes, the 4017 can accurate measure key data like average current Aav, Ahr, and Whr. during the entire measured period.
- The Built-in battery charge and discharge mode accurately measures battery capacity in % for charge and discharge operation. It can be used to verify the current for battery power meter when the battery works on regular/irregular and charge / discharge <Gauge Meter>.
- In order to understand the stability of the UUT (unit under test), the 4017 provides the Data Logger function. The Data Logger can store 256 states each for VDC, ADC, Watt, and ITHD. If a PC is available, there is no limit to the stored number of state . This provides a convenient and accurate power measurement of UUT stability over time.
- To understand the effect of the UUT (unit under test) on long-term, repeated ON/OFF power cycles, the 4017 has a built-in a power switch that can control the ON/OFF angle of the DC input power, test period and repetition times up to 9999 times. For example, when running a turn ON and turn OFF every 10 minutes continuously, the longest observation test period can be longer than 138 days.
- For remote operation, the 4017 digital power analyzer provides 4 optional interfaces GPIB / RS232 / USB / LAN for data capture and storage.
- Available 9943 test kits: USB type A, USB Type C, Micro-USB, red/black connector cables. these test kits provide the necessary connections between an UUT and the 4017 DC analyzer.

Specifications

MODEL			4017		
DCV VDC, Vpk+/Vpk-, Vmax/Vmin	Input Resistance ≥ 400KΩ	Range	2.5VDC / 0.1mV	5VDC / 0.1mV	10VDC / 1mV
		Max. Input	10VDC		
	Input Resistance ≥ 4MΩ	Range	25VDC / 0.001V	50VDC / 0.001V	100VDC / 0.01V
		Max. Input	100VDC		
Accuracy			±0.1% of (Reading + Range)		
			±0.5% of (Reading + Range, For Peak)		
DCA DCA, Apk+/Apk-, Amax/Amin	Shunt 0.015A (75Ω)	Range	0.375mADC / 0.01uA 0.75mADC / 0.1uA	1.5mADC / 0.1uA 3.75mADC / 0.1uA	7.5mADC / 0.001mA 15mADC / 0.001mA
		Max. Input	15mADC continuous		
	Shunt 0.15A (1Ω)	Range	0.0375ADC / 0.001mA	0.075ADC / 0.01mA	0.15ADC / 0.01mA
		Max. Input	0.15ADC continuous		
	Shunt 1.5A (0.08Ω)	Range	0.375ADC / 0.01mA	0.75ADC / 0.1mA	1.5ADC / 0.1mA
		Max. Input	1.5ADC continuous		
	Shunt 12A (0.01Ω)	Range	3ADC / 0.1mA 6ADC / 0.1mA 12ADC / 0.001A	15Apeak / 0.001A < 800ms > 30Apeak / 0.001A < 400ms > 60Apeak / 0.001A < 200ms >	
		Max. Input	60Apeak per 200ms / 12ADC continuous		
	Ext. Input	Input impedance	10KΩ		
		Input Range	0~+/-2.5Vpeak		
Scaling		1.00~100000.00			
Accuracy			±0.1% of (Reading + Range)		
			±0.5% of (Reading + Range, For Peak)		
DC Power Watt		Range	Vrange*Arange		
		Accuracy	±0.2% of (Reading + Range)		
Inrush V/A	Voltage	Range	Same as DCV		
		Max. Input			
		Accuracy	±2% of (Reading + Range)		
	Current Shunt 12A (0.01Ω)	Range	3A~60A		
		Max. Input			
Accuracy			±2% of (Reading + Range)		
Measurement Wide			100mS		
Accumulated Time			0 _D 0 _H 0 _M 0 _S ~ 9999 _D 23 _H 59 _M 59 _S		
DC Ahr / Whr Calculator	WHr		0.000000 nWHr~999.999999 WHr		
			1.000000~999.999999 KWHr		
			1.000000~9999.999999 MWHr		
	Ahr		0.000000 uAhr~999.999999 Ahr		
			1.000000~999.999999 KAHr		
			1.000000~9999.999999 MAhr		
Counter			0 _H 0 _M 0 _S ~99 _H 59 _M 59 _S		
Accuracy			±0.2% of (Reading + Range)		
Data Logger	Item		Vrms · Arms · Watt		
	Update Rate		0.2 · 0.5 · 1 · 2 · 5 · 10 Second		
ON / OFF Cycling	ON time		0 _M 0.500 _S ~ 10 _M 0 _S		
	OFF Time		0 _M 0.500 _S ~ 10 _M 0 _S		
	Repeat Cycle		0~9999		
Low Pass Filter(V & A)			50KHz		
Interface (Option)			RS-232, GPIB, USB, Ethernet		
Operating Theory	+ or - Peak Value (+/-Vpk, +/-Apk)		Max [Value _(t)] or Min [Value _(t)]		
	Max.or Min Value (Vmax/Vmin, Amax/Amin, Wmax/Wmin)		Max [Value] or Min [Value]		
Sampling Rate			>400k Hz		
Inrush Sampling			<2.5us		
V/A ADC			Dual 16-Bit, 500KSPS ADC with DSP		
Power Input			110 / 220V 50/60Hz		
Consumption			50VA		
Protection (fuse)	Shunt 0.015A (10Ω)		3.6x11mm 250Vac 0.2A Fast		
	Shunt 0.15A (1Ω)		3.6x11mm 250Vac 0.2A Fast		
	Switch		6*30mm 250V/10A		
Display			3.5" TFT LCD, 320 x RGB x 240		
Dimensions	Height		99.4 mm with feet		
	Width		213 mm		
	Depth		304 mm		
Weight			3.5 Kg		
Storage temperature			-20 °C to +60 °C (-4 °F to 140 °F)		
Operating temperature			0 °C to 40 °C (32 °F to 104 °F)		
Maximum operating altitude			2000 M (6562 ft)		
Maximum relative humidity			80% for temperatures up to 31 °C (88 °F) decreasing linearly to 50 % relative humidity at 40 °C (104 °F)		