Component Tester DB234

Fast and very accurate measurements at 200kHz, 100kHz, 10kHz and 1kHz

- **4 measuring frequencies: 200kHz, 100kHz, 10kHz and 1kHz**
- **Overall accuracy better than 0,05% and 2 x 10^{-4} for loss factor**
- **Especially suitable for film, foil, tantalum and electrolytic capacitors, as well as all other CLR applications**
- **Built-in contact check function**
- **Very high measuring speed: 6 to 20ms from trig to end of measurement, depending of frequency**
- **Input protection: 2 Joule up to 1kV**
- **Measuring ranges: 0,1pF to 1mF depending of frequency**
- **Measures up to 99nF (0,2%) @ 200kHz**
- **External bridge module for long cables (2m or 78,6inch) between the instrument and the bridge module**
- **Measuring cables: 1m or 39,3 inch (supplied as standard)**
- **Internal bias voltage: Up to ±3VDC on generator terminal, set in 0,1V steps.**
- **External bias voltage: Up to ±48VDC**
- **Average: 1 to 99 measurements**
- **CE approved**
- **Display readings: Direct or deviation capacitance and tan d or ESR for loss measurements and L/Q, Rs, Rp,**
- **Focused strategy on component testing for nearly 50 years**

General

The DB234 Component Tester is specially designed for very high accuracy and automatic high-speed testing of capacitors. The instrument is reliable, user-friendly and easy to set up to any test application on production lines, in quality control departments or in laboratories.

The DB234 performs capacitance and loss factor tests at any of the 4 standard frequencies. Dual frequency tests at any combination of frequencies are possible as well. Or the user may set up a test sequence in order to perform multiple frequency testing, easily and quickly.

As standard the instrument has a built-in comparator for deviation measurements, IEEE488 (GPIB) and RS232C data interfaces as well as handler interface (opto-coupler type) with 12+4 bins for production sorting. The high-speed data interfaces may be used for an external computer in order to control the system, or for collection of data for statistics and analysis.

Bin sorting with up to 12 bins for capacitance for 1st frequency and up to 4 bins for tan δ using 2nd frequency. Or tan δ may be measured at several frequencies using the 4 bins for different levels of the dissipation factor.

The standard fitted PCMCIA card is the smart way of storing set-ups and measuring data. Fail-safe loading of set-ups to several instruments will be done fast and efficient.

The external bridge module allowing the user to install the DB234 in applications where long distance between the instrument and the contacts is unavoidable. Total cable length of more than 3m or 118 inches is possible.

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simac

Specifications for DB234:

Measuring Voltages:	1 V RMS up to 10µF at 1kHz
	1 V RMS up to 1µF at 10kHz
	1 V RMS up to 100nF at 100kHz
	1 V RMS up to 10nF at 200kHz
	Above: (linearly decreasing with the impedance) Programmable in 0.1V steps (maximum 1,5V RMS)

		1kHz	10kHz	100kHz	200kHz
Measuring Speed:	From trig to end of measurement: *	20ms	20ms	6ms	6ms
	From trig to data ready: *	28ms	28ms	14ms	14ms
	Additional time per meas. by average	16ms	16ms	2ms	2ms
	*) allowing 3ms contact bouncing or 1 range change				
	Multiple measurements (average):	The sum of each measurement (from trig to end of measurement) + 8ms for calculation time			

Measuring Cables: 1m (39,3 inch) from front panel to fixture (Cables supplied by Danbridge)
Input Protection: 2 Joule up to 1kV or 4µF charged 1000V
Bias Voltage internal: Up to ±3,0VDC on generator terminal, set in 0,1V steps (internally generated)
Bias Voltage external: Up to ±48V DC

	Frequency	1kHz	10kHz	Accuracy ±1 digit Capacitance	Tan δ
Accuracy:		1pF - 39pF	0,1pF - 3,9pF	0,5%	± ,0010
		40pF - 3,9µF	4pF - 3,9µF	0,05%	± ,0002
		4µF - 399µF	4µF - 39µF	0,1%	± ,0007
		400µF - 1mF	40µF - 400µF	1%	± ,0020
		100kHz	200kHz		
		,03pF - ,9pF	,01pF - 3,9pF	0,5%*	± ,0010
		1pF - ,9µF		0,05%	± ,0002
			4pF - 9,9nF	0,1%	± ,0005
		1µF - 9µF	10nF - 99nF	0,2%	± ,0010
		10µF - 40µF	100nF 999nF	1%	± ,0020
		*Accuracy ± 0,2pF	*Accuracy ± 2pF	*Accuracy ± 0,2pF	

Bin Sorting: Up to 12 limits for 1st parameter and 4 limits for 2nd parameter by opto-couplers
Interfaces:
Rear panel: IEEE 488 (GPIB) and RS232C
Control: Measure end, data ready, trig ready, fault and status
Trig input: DC, AC and contact closure
Front panel: PC board for set-ups
Environment:
Ambient temperature: 10-30 degrees Celsius
Warm-up time: Minimum 30 minutes
Power: 90-130 and 200-260 V AC, 50-60 Hz,
Calibration interval:
Minimum: Every 12 months

Dimensions:

	Mainframe:	Bridge module:	Export Packing Europe	Export Packing Overseas
Height:	140mm or 5,5 inch	35mm or 1,4 inch	30cm	32cm
Width:	438mm or 17,2 inch	192mm or 7,5 inch	51cm	52cm
Depth:	360mm or 14,2 inch	205mm or 8,1 inch	56cm	55cm
Weight:	Total 16kg or 36 lb.		21kg	23kg

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