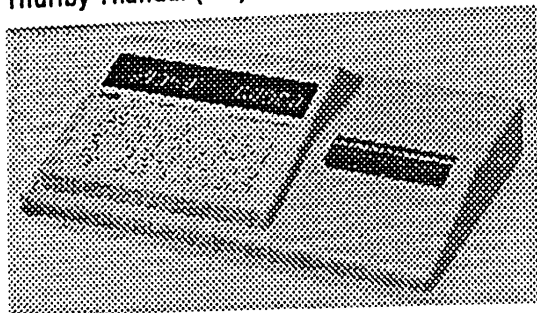# LCR400

Automatic 0.1% LCR Bridge with Limits Comparator

Thurlby Thandar (TTi)

- 0.1% basic accuracy for L, C & R measurements
- Measurement frequency of 100Hz, 1kHz or 10kHz
- Dual 5 digit displays show secondary parameter (D or Q) simultaneously with L, C or R
- Fully Autoranging with range hold function
- Auto function, series or parallel equivalent circuits
- Switchable internal bias for electrolytic capacitors
- Built-in high quality 4-terminal test fixture
- Null for up to 100pf of stray capacitance
- Limits comparator with binning. Multiple limits set via keyboard or RS232. Up to 8 pass and 2 fail bins
- Up to 9 complete set-ups can be stored
- RS232 interface gives link to PC for range/function control, limits setting and results logging
- PC software included

The LCR400 is a precision LCR measurement bridge with a basic accuracy of 0.1% and measurement frequency of up to 10kHz.

Dual displays show D or Q values along with the main measurement parameter. Function and ranging are automatic (with range hold), the equivalent circuit can be series or parallel.

The unit can be set to sort a range of components into bins according to value. Multiple bins can be set to sort different tolerances of the same value or different values. Up to nine set-ups can be stored in non-volatile memory and quickly recalled.

Component connection is made via a built-in four terminal test fixture or plug-in axial adaptor providing measurement without contact resistance. The capacitance of any external test fixture can be nulled out.

An RS232 interface allows connection to a PC and can be used to set up all measurement and sorting functions as well as store readings.

Measurement

Parameters:	R, L, C, D & Q.
Modes:	Series or parallel equivalent circuit.
Selection:	Fully autoranging including selection between L, C and R.
Measurement Freq.:	100Hz, 1kHz or 10kHz; frequency accuracy ± 0·01%.
Ranges:	R 0.1mΩ - 990MΩ
	L 0.001µH - 9900H
	C 0.001pF - 99mF
	D 0.001 - 999
	Q 0.001 - 999

Accuracy:		100Hz	1kHz	10kHz
R	0.1% ± 1 digit	2Ω-1MΩ	2Ω-150KΩ	2Ω-100KΩ
	2% ± 1 digit	0.2Ω-5MΩ	2Ω-1MΩ	0.2Ω-500KΩ
L	0.1% ± 1 digit	1mH-500H	0.1mH-25H	10µH -2.5H
	2% ± 1 digit	0.1mH-5MH	10µH-250H	1µH -25H
C	0.1% ± 1 digit	4nF-1mF	1nF-100µF	100pF-10µF
	2% ± 1 digit	400pF-10mF	100pF-1mF	10pF-100µF

(R accuracies apply for Q<0.1. L accuracies apply for Q>10. C accuracies apply for D<0.1 and after Null).

Limits Comparator

Type:	Comparison with multiple limits set up from the keyboard or PC via RS232 interface.
Binning:	8 Pass bins for the major parameter, plus minor parameter Fail and general Fail bins.

Display

Display Type:	Dual 5-digit 0·56" LEDs with range and function indication.
Display Functions:	Simultaneous display of R + Q, L + Q, C + D, or C + R. Prompts for accuracy optimisation. Simultaneous display of Pass/Fail status with Bin No. in Sort mode.

Inputs

Connection:	4-terminal connection for both radial and axial devices.
Maximum Voltage:	0·3Vrms.
Bias Voltage:	Switchable 2V polarising voltage for measuring electrolytic capacitors.
Input Protection:	Fuse protected against high energy discharges from large capacitors up to 50V.

Interfaces

RS232:	Serial link to PC permitting range/function control, limits setting and results logging.

General

Keyboard:	Numeric keyboard for entry of limits data.
Non-Volatile Memory:	Up to 9 complete set ups can be stored.
Power:	230V or 115V ±14%, 50/60Hz; 25VA max. Installation Category II.
Safety:	Complies with EN61010-1.
EMC:	

Complies with EN55081-1 and EN55082-1.