

LCR Selection Guide

DIGIBRIDGES

Feature	1659	1689/89M	1692	1693	1710	1730
Accuracy (+/-)	0.1% LCR 0.0005 DQ	0.02% LCR 0.0001 DQ	0.05% LCR 0.0003 DQ	0.02% LCR 0.0001 DQ	0.2% LCR 0.001 D	0.1% LCR 0.0001 DQ
Test Frequency	100Hz, 120Hz 1kHz, 10kHz	12Hz – 100kHz	100Hz, 120Hz 1kHz, 10kHz, 100kHz	12Hz – 200kHz	0.01 Q 120Hz 1kHz	100Hz, 120Hz 1k, 10k, 20k 50k & 100kHz 10mV – 1.0V
Test Voltage	0.3V	5mV – 1.275V	0.3V and 1.0V	5mV – 1.275V	0.25V and 1.0V	10mV – 1.0V
Monitor V/I DUT Measured Parameters	No	No	No	No	No	Yes
Measurement Range	.00001mH-99999H .00001pF-99999mF .00001Ω-99999MΩ .0001-9999	.00001mH-99999H .00001pF-99999uF .00001Ω-99999kΩ 1ppm-9999	.00001mH-99999H .00001pF-99999mF .00001Ω-99999MΩ .0001-9999	.00001mH-99999H .00001pF-99999uF .00001Ω-99999kΩ 1ppm-9999 .00001° - 180° .00001uS-99999S	.0001mH-9999.9H .1pF-99999uF .0001Ω-99.99MΩ .001-9.999 (D) .01-999.9 (Q)	0.001uH-99.999kH 0.001pF-9.9999F 0.01mΩ-99.99MΩ 0.0001-9999 -180.00° - +180.00°
Measurement Speed	2, 4, or 8 meas/sec	Up to 50 meas/sec	2, 4, or 8 meas/sec	Up to 50 meas/sec	3 meas/sec	Up to 62 meas/sec
Display	Full 5 + 4 digits, Bin #	Full 5 + 4 digits, Bin #, Δ, Δ%	Full 5 + 4 digits, Bin #, Δ, Δ%	Full 5 + 4 digits, Bin #, Δ, Δ%	Full 5 + 4 digits	Full 5 digit (pri/sec) Δ, Δ%, Pass/Fail Bin#
Plot: F, V, I Sequence DC Bias Voltage	No No 2V INT 0 - 60V EXT Built-In Kelvin plus Optional fixtures	No No 2V INT 0 - 60V EXT Built-In Kelvin plus Optional fixtures	No No 2V INT 0 - 60V EXT Built-In Kelvin plus Optional fixtures	No No 2V INT 0 - 60V EXT Built-In Kelvin plus Optional fixtures	No No 0 - 32V EXT Kelvin Clips plus Optional fixtures	No No 0-5V INT with R _{BIAS} 0 - 5V EXT Kelvin Clips plus Optional fixtures
Test Connection	Yes	Yes	Yes	Yes	No	No
Auto Parameters	Yes	Yes	Yes	Yes	Yes	Yes
Auto Range	Yes (10)	Yes (15)	Yes (10)	Yes (15)	No	Yes (8)
Binning	No	Yes	No	Yes	No	Yes
Bin Sum	Yes (1 or 10)	Yes (1 – 256)	Yes (1 – 10)	Yes (1 – 256)	No	Yes (1-256)
Averaging	No	Yes	No	Yes	No	No
Median Mode	Yes	Yes	Yes	Yes	Yes	Yes
Offset / Zero	Optional Cal Kit	Optional Cal Kit	Optional Cal Kit	Optional Cal Kit	No	No
Calibration	Yes	Yes	Yes	Yes	No	Yes (50)
Save Setup	No	No	No	No	No	No
Floppy Drive	Yes	Yes	Yes	Yes	No	No
Self Diagnostics	No	No	No	No	No	No
RS232	Option	Option	Option	Option	No	Yes
IEEE-488	Option	Option	Option	Option	No	Yes
Handler Port	No	Yes	Yes	Yes	No	No
Constant V	No	No	No	Yes	No	No
Constant I	25, 400, 6.4k, 100k (Range dependent)	25, 400, 6.4k, 100k (Range dependent)	25, 400, 6.4k, 100k (Range dependent)	25, 400, 6.4k, 100k (Range dependent)	No	No
Source						100/25, 100, 25, 10 (Constant current)
Impedance (Ω)	No	Yes	Yes	Yes	Yes	Yes
Delta % (Δ %)	No	Yes	Yes	Yes	No	Yes
Delta LCR	No	Yes	Yes	Yes	No	No
D & Q in ppm	No	Yes	No	Yes	No	No
Ratio Display	No	Yes	No	Yes	No	No
Program Delay	No	Yes	No	Yes	No	Yes (0-10s)

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LCR Selection Guide

PRECISION LCR METERS

Feature	1750	1910	1920	7400	7600
Accuracy (+/-)	0.1% LCR 0.001 DQ	0.1% LCR 0.001 DQ 0.18°	0.1% LCR 0.001 DQ 0.18°	0.05% LCR 0.0005 DQ 0.18° AutoAcc™	0.05% LCR 0.0005 DQ 0.18° AutoAcc™
Test Frequency	20Hz – 200kHz	20Hz – 1MHz	20Hz – 1MHz	10Hz – 500kHz	10Hz – 2MHz
Test Voltage	10mV – 2.5V	20mV – 1.0V	20mV – 1.0V	20mV – 5.0V	20mV – 5.0V
Test Current	No	No	No	250uA – 100mA	250uA – 100mA
Monitor V/I DUT	Yes	Yes	Yes	No	No
Measured Parameters	L, C, R, Z, D, Q, θ	L, C, R, Z, D, Q, θ , Y, G, B, ESR, DCR	L, C, R, Z, D, Q, θ , Y, G, B, ESR, DCR	L, C, R, Z, D, Q, θ , Y, G, B	L, C, R, Z, D, Q, θ , Y, G, B
Measurement Range	.0001uH-9999.9H .0001pF-9999.9mF .0001 Ω -9999.9M Ω .0001-9999 -90.00° – +90.00°	0.001nH-99.999H 0.01pF-9.9999F 0.0001m Ω -99.999M Ω 0.00001-99.999 D 0.00000-9999.9 Q -180.000° - 179.99° 10nS-9999.9S 0.1m Ω -100k Ω DCR	0.001nH-99.999H 0.01pF-9.9999F 0.0001m Ω -99.999M Ω 0.00001-99.999 D 0.00000-9999.9 Q -180.000° - 179.99° 10nS-9999.9S 0.1m Ω -100k Ω DCR	0.001nH-9.9999H 0.01fF-9.9999F 0.01m Ω -99.999M Ω .1ppm-9999999 -180.000° - 180° 0.01nS-999.999S	0.001nH-9.9999H 0.01fF-9.9999F 0.01m Ω -99.999M Ω .1ppm-9999999 -180.000° - 180° 0.01nS-999.999S
Measurement Speed	Up to 20 meas/sec	Up to 40 meas/sec	Up to 40 meas/sec	Up to 40 meas/sec	25 meas/sec
Display	Full 5 + 4 digits, Bin #, Δ , $\Delta\%$	Full 5 digit (pri/sec) Engineering/Scientific Δ , $\Delta\%$, Pass/Fail Blank (No display)	Full 5 digit (pri/sec) Engineering/Scientific Δ , $\Delta\%$, Pass/Fail Blank (No display)	Full 7 digit (pri/sec), Bin #, Bin Sum, Δ , $\Delta\%$, Pass/Fail Blank (No display)	Full 7 digit (pri/sec), Bin #, Bin Sum, Δ , $\Delta\%$, Pass/Fail Blank (No display)
Plot: F, V, I	No	No	No	Yes	Yes
Sequence	No	Yes	Yes	Yes	Yes
DC Bias Voltage	0 - 35V EXT	No	0 - 2V INT	0 - 2V INT 0 - 200V EXT 0 - 500V EXT 7400A	2V INT 0 - 200V EXT 0 - 500V EXT 7600A
DC Bias Current	No	0 – 1.0A INT 0 – 20.0A EXT (1320)	No	No	No
Test Connection	Kelvin Clips plus Optional fixtures	4-BNC Kelvin plus Optional fixtures	4-BNC Kelvin plus Optional fixtures	4-BNC Guarded plus Optional fixtures Option	4-BNC Guarded plus Optional fixtures Option
Auto Parameters	Yes	Yes	Yes	Yes	Yes
Auto Range	Yes	Yes	Yes	Yes	Yes
Binning	Yes (10)	No	No	Yes (15)	Yes (15)
Bin Sum	Yes	No	No	Yes	Yes
Averaging	Yes (1 – 10)	Yes (1 – 1000)	Yes (1 – 1000)	Yes (1 – 1000)	Yes (1 – 1000)
Median Mode	Yes	Value of last 3 msmt	Value of last 3 msmt	Yes	Yes
Offset / Zero	Yes	Yes	Yes	Yes	Yes
Calibration	Built-In Auto Cal	Built-In Auto Cal	Built-In Auto Cal	Built-In Auto Cal	Built-In Auto Cal
Save Setup	Yes (10)	Yes	Yes	Yes	Yes
Floppy Drive	No	No	No	Yes	Yes
Self Diagnostics	Yes	Yes	Yes	Yes	Yes
RS232	No	Yes	Yes	Yes	Yes
IEEE-488	Yes	Yes	Yes	Yes	Yes
Handler Port	No	Yes	Yes	Yes	Yes
Printer Port	No	No	No	Yes	Yes
Constant Voltage	No	Yes	Yes	Yes	Yes
Constant Current	Yes	No	No	Yes	Yes
Source Impedance	25, 100 Ω , Off (Range dependent)	5, 25, 50, 100 Ω	5, 25, 50, 100 Ω	25, 400, 6.4k, 100k Ω (Range dependent)	25, 400, 6.4k, 100k Ω (Range dependent)
Delta % (Δ %)	Yes	Yes	Yes	Yes	Yes
Delta LCR	Yes	Yes	Yes	Yes	Yes
D & Q in ppm	Yes	Yes	Yes	Yes	Yes
Ratio Display	No	No	No	No	No
Program Delay	No	Yes (0 – 1000ms)	Yes (0 – 1000ms)	Yes (0 – 1000ms)	Yes (0 – 1000ms)

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