

PRECISION ALTERNATING CURRENT BRIDGES

(HIGH FREQUENCY)

MSLC series

Introduction:

MHFACB series of precision high frequency bridges viz... wheatstone bridge, maxwell inductance bridge, wien bridge, maxwell-wein bridge, Anderson inductance bridge, De-sauty bridge, H.V.Schering bridge, Wagner bridge, mutual inductance heavyside bridge, Campbell bridge etc are offer for identification of steady state/stray parameter like resistor, inductor, capacitance and resistance etc. These bridges consists of four arm excited by high frequency voltage source with a detector capable of measuring vector voltage signal generated on account of any vector disturbance in parameter of arm impedance. These bridges are offer in more than more than 20 different models virtually offering solution to principal parameter like resistor, capacitance, inductance and other inferential parameters... These measurement set up are useful diagnostic tool for academic/research application, organic/inorganic chemical, heavy electrical/mechanical industries, machine tools, solids state physics application and many uncountable defense/nuclear applications. Careful selection design topology ensures better controllability and reliability with additional integrated power/voltage and control/protection. Company offers tailor made solution to custom requirement.

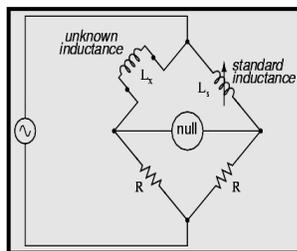
Operating Principle: An A.C. bridge is said to be balanced when following mathematical relation is met.....

$$Z_1/Z_2 = Z_3/Z_4$$

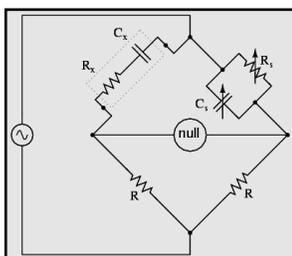
where Z_1, Z_2, Z_3 & Z_4 electrical elements of bridges. These magnitude/phase value is adjusted either by changing frequency, magnitude of individual element such that high frtequency detector shows null. Subsequently desired values of parameter under test is computed.

Benefits:

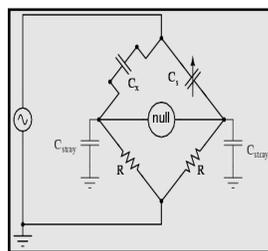
- Simple installation and operational compatibility. /Consistent performance over large temperature range (80°C)
- Scaled directly in Volt/Ampere with repeatable accuracy. /Auto zero offset without drift with ultra high input impedance...
- RS-232 interface./ All standards din sizes and custom sizes.



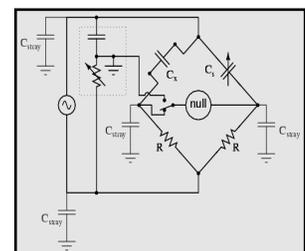
Maxwel inductance bridge



Maxwell- Wein bridge



High Voltage Schering Bridge



bridge with wagner earthing

Electrical/Mechanical specifications High frequency A.C. Bridge Analyzer:

Model	Range volt	Pulse/D.C./Pulse Frequency Range	Burdon	Accuracy Restricted to Resolution level	Resolution Quantified/ optional	Voltage/current source Volt/current/optional As demanded	INTERFACE
MLCHVEM-9999990101	10.0/5.0 - 999999MUV 1.0 mV-10.0Volts	0-50K.Hz	< 100 mu-volts	99.99999%	5 nV/5nA	015 VOLTS/001.0 A	RS-232/USB
MLCHVEM-9999990401	10.0/5.0 - 999999MUV 1.0 mV-20.0Volts	0-50 k.Hz	< 100 mu -volts	99.99999%	5 nV/5nA	040 VOLTS/001.0 A	RS-232/USB
MLCHVEM-9999990102	05.0/1.0 - 999999MUV 1.0 mV-10.0Volts	0-50K.Hz	< 100 mu -volts	99.99999%	5 nV/5pA	015 VOLTS/001.0 A	RS-232/USB
MLCHVEM-9999990402	05.0/1.0 - 999999MUV 1.0 mV-20.0Volts	0-50 k.Hz	< 100 mu -volts	99.99999%	5 nV/5pA	040 VOLTS/001.0 A	RS-232/USB
MLCHVEM-9999991002	05.0/1.0 - 999999MUV 1.0 mV-99.9Volts	0-50k.Hz	< 100 mu -volts	99.99999%	5 nV/5pA	100 VOLTS/001.0 A	RS-232/USB
MLCHVEM-9999992002	05.0/1.0 - 999999MUV 1.0 mV-199Volts	0-50 k.Hz	< 100 mu -volts	99.99999%	5 nV/5pA	200 VOLTS/001.0 A	RS-232/USB
MLCHVEM-9999992003	05.0/1.0 - 999999MUV 1.0 mV-199Volts	0-50 k.Hz	< 100 mu -volts	99.99999%	5 nV/5fA	200 VOLTS/010.0m A	RS-232/USB

Six digit after product code indicate count, next, Two digit indicate voltage and last digit indicate 01- nano amp/02-pico amp/03-femto amp.

General electrical/mechanical specifications Bridge Analyzer:

Operating voltage: 220 volt A.C. (50-20,000 Hz)/ 12 volts D.C.

Measurement range (full scale): as above in different model.

Voltage measurement range: 0-1000 mili-Volt/0-10,000 mili-volt/0-1000 volt/0-10000 volts a.c. /D.C. (pulse mode H.V.)-optional

Ampere meter signal: 10⁻⁹/10⁻¹²/10⁻¹⁵100 ampere AC/DC (optional)

Input capacitance: 10 nF

Response time: 1000 sample/sec

Burden: less than 100 micro volt/full scales current or better

Accuracy: 0.5/1.0/2.0 % reading

Repeatability: 100 of reading

Resolution: 1/5 nV & 1/5 nano amps or optional and may be altered based on time behaviour of signal

Range (V/I -A.C./D.C.):10⁻⁰⁹-10⁻⁰⁴ /10⁻⁴-10⁺¹ /10⁺¹-10⁺³ volt least count- 5.0 nano volt pto 100 nano volt

Input imedence: ultra low(<1000 nano volt burdon),

Filtering: low pass(adjustable)

Offset: variable upto 10,000 nano volts (manual/auto)

CMMR: >80 db at 50-60 Hz

Isolation: > 100 giga ohm

Connector: BNC-9 pinx2 and BNC-25 pinx2

Size: 8x8x12 inches/rack mounted or portable

Interface: RS-232

Option : ADDITIONAL SOFTWARE to plot V/I OR ANY DESIRED INFERENTIAL PARAMETER.

THESE SPECIFICATIONS OR PART THERE OF MAY BE MODIFIED TO MEET ANY TAILOR MADE SOLUTIONS.

NOTES: The numeral after product code indicates the (ampere meter) range and last digit corresponds to size (5x5x8, 8x8x12)



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General electrical/mechanical specifications of high frequency power source:

Operating voltage: 220 volt A.C. (50-20,000 Hz)/ 12 volts D.C.
Voltage measurement range: 0-1000 mili-Volt/0-10,000 mili-volt/0-1000 volt/0-10000 volts a.c. /D.C. (pulse mode H.V.)-optional
Ampere meter signal: $10^{-3}/10^{-6}/10^{-9}$ ampere AC/DC (optional)
Input capacitance: 10 f.f.
Response time: 1000 sample/sec
Burden: less than 100 micro volt/full scales current or better
Accuracy: 0.5/1.0/2.0 % reading
Repeatability: 100 of reading
Resolution: 1/5 nV & 1/5 nano amps or optional and may be altered based on time behaviour of signal
Range (V/I -A.C./D.C.): $10^{-09}-10^{-04} / 10^{-4}-10^{+1} / 10^{+1}-10^{+3}$ volt least count- 50 nano volt
 $10^{-12}-10^{-07}$ amp/ $10^{-7}-10^{-2} / 10^{-02}-10^{+2}$ amp least count- 5.0 pico ampere
Linearity adjustment: upto 100 nano volt
Input imedence: ultra low(<1000 nano volt burdon),
Filtering: low pass(adjustable)
Offset: variable upto 10,000 nano volts (manual/auto)
CMMR: >80 db at 50-60 Hz
Isolation: > 100 giga ohm
Connector: BNC-9 pinx2 and BNC-25 pinx2
Size: 8x8x12 inches/rack mounted or portable
Interface: RS-232
Option : ADDITIONAL SOFTWARE to plot V/I OR ANY DESIRED INFERENTIAL PARAMETER.
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