



About us

Mine Instruments works in the Electronics and Mechanical field and have a strong presence in Education and Industry sector, providing reliable and quality solutions. We believe in creating values by providing innovative and unparalleled services to enable our customers build solutions in the field of Electronic Manufacturing, Design & Engineering, Research, New Product design and Supply Chain Management.

A Cryostat (from Cryo meaning cold and State meaning stable) is a device used to maintain low Cryogenic temperature of samples or devices mounted within the Cryostat. Low temperatures may be maintained within a Cryostat by using various refrigeration methods, most commonly using cryogenic fluid such as Liquid Nitrogen. Hence it is usually assembled into a vessel, similar in construction to a Vacuum Flask or Dewar. Cryostats have numerous application within science, engineering, and medicine.

Feature's

- Temperature range: -180°C to 60°C
- Fully controllable
- Based on Nitrogen Cooling Element



Temperature controller

- -180°C to 60°C
- Heater output facility
- RS232 PC interface

Technical Specifications

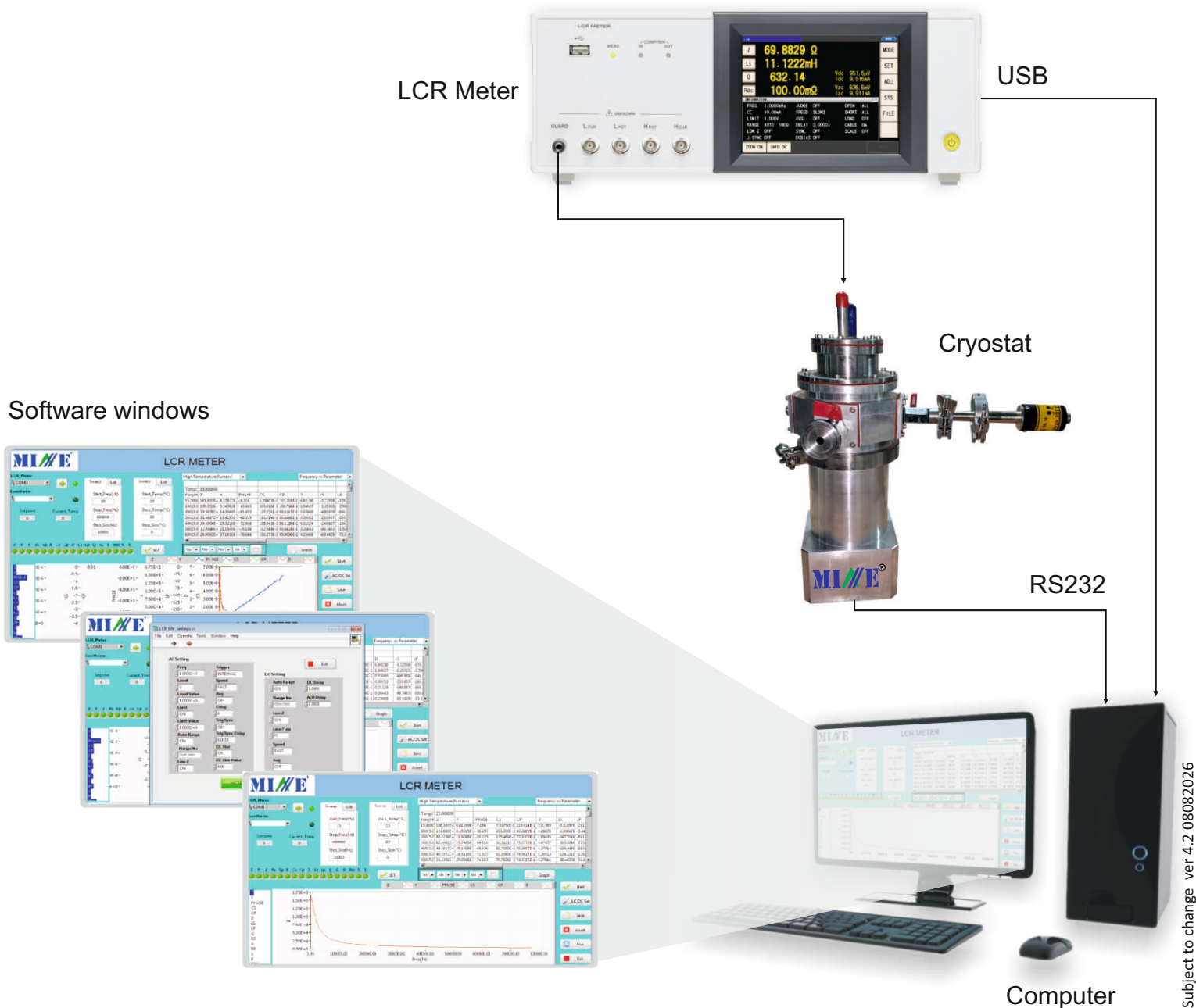
- 93K to 333K operating temperature range
- Unique thermal link variable temp. Easiest to use.
- High Temperature stability , fast thermal response
- 800ml liquid nitrogen reservoir
- High Power control heater installed on sample mount
- 4 BNC feed through
- Nitrogen fill and vent port
- Thermal link adjuster with vary-power thermal link insert
- Copper style sample holder
- PT-100 Platinum temperature sensor installed on sample mount
- Material : Stainless Steel & Aluminum, Copper
- Minimum temp (°C) -180°C
- Cooling time (minutes) 150

Learning's

- Parameter over a frequency range at fixed temperature.
- Parameter over a temperature range at fixed frequency.
- Dielectric constant over a frequency range at fixed temperature.
- Dielectric constant over a temperature range at fixed frequency.
- Z Plot over a frequency range at fixed temperature.
- Z Plot over a temperature range at fixed frequency.
- Modulus over a frequency range at fixed temperature.
- Modulus over a temperature range at fixed frequency.
- Epsilon prime v/s epsilon double prime over a frequency range at fixed temperature over a temperature range at fixed frequency.

Application

- Material Science Lab/ Dielectric-Measurement/Electrical Characterization.



LCR Meter



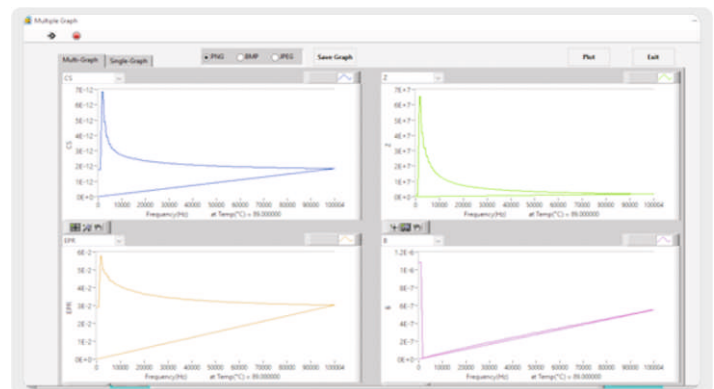
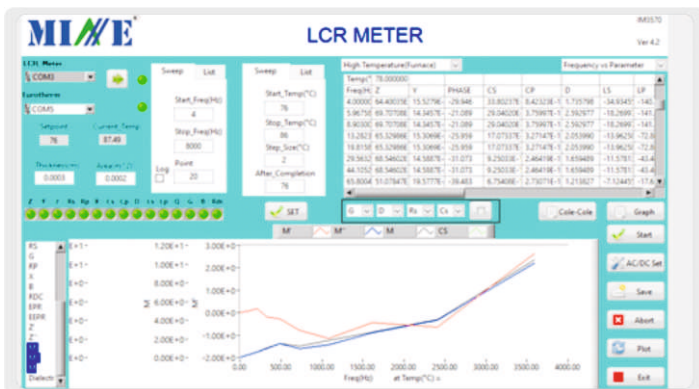
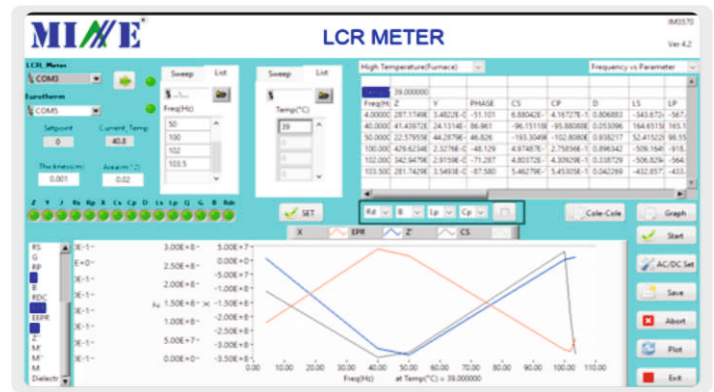
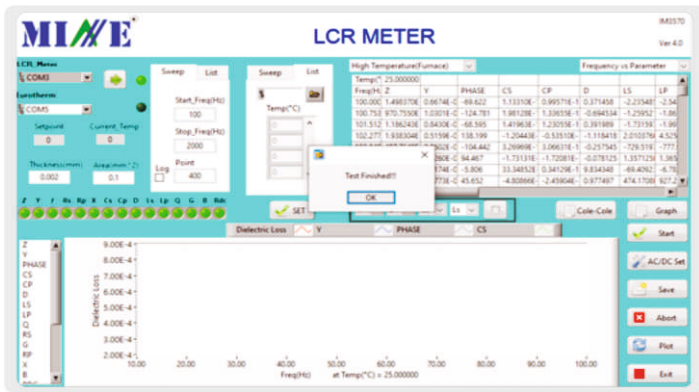
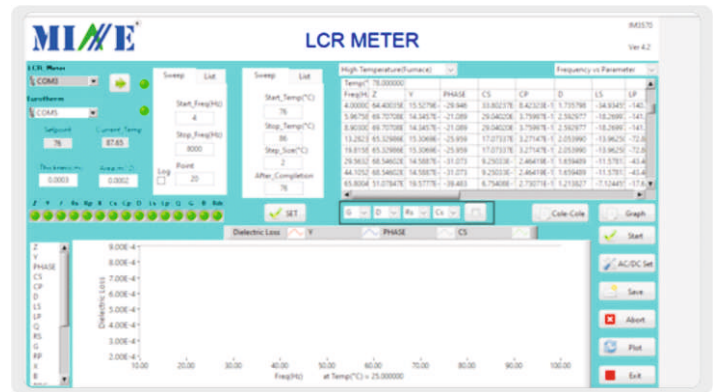
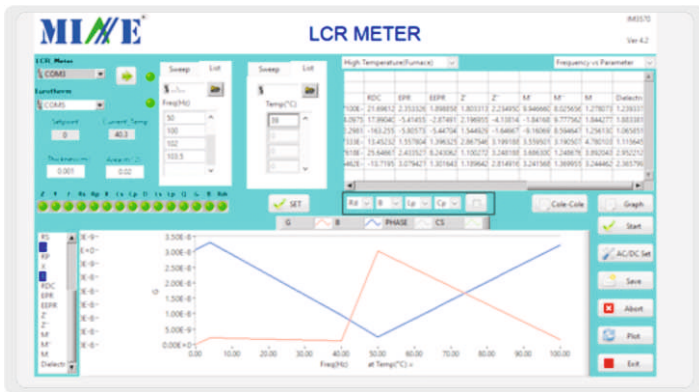
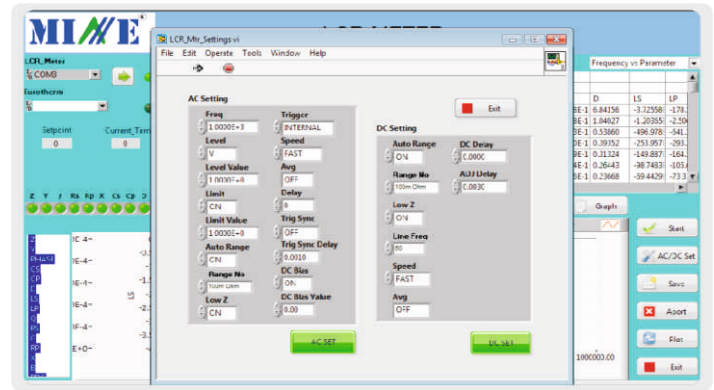
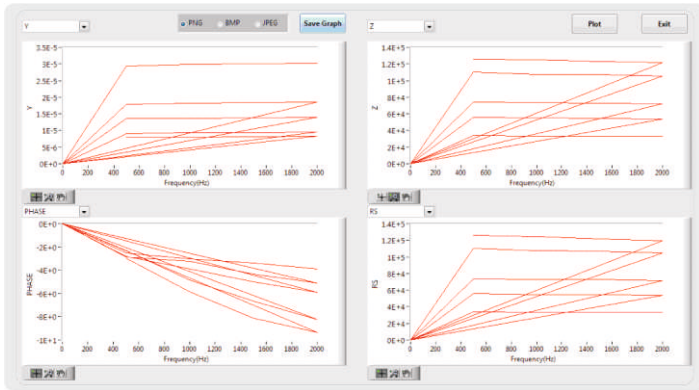
Feature's

- DC, 4 Hz to 8 MHz measurement frequency.
- High-speed measurement of 1ms (fastest time).
- High-precision measurement of $\pm 0.05\%$ rdg. (representative value).
- Guaranteed accuracy range from 1m Ω .
- Low-impedance measurement with unmatched repeatability.
- DC bias function: Measure under conditions simulating actual use or in accordance with industry standards.
- Exceptional specifications & cost-performance for a wide range of applications.

Technical Specifications

Measurement modes	LCR (Measurement with single condition), Continuous testing (Continuous measurement under saved conditions)
Measurement parameters	Z, Y, θ , X, G, B, Q, Rdc (DC resistance), Rs(ESR), Rp, Ls, Lp, Cs, Cp, D(tan δ), σ , ϵ
Measurement range	100m Ω to 100M Ω , 10 ranges(All parameters are determined according to Z)
Basic accuracy	Z $\pm 0.05\%$ rdg. θ : $\pm 0.03^\circ$ (representative value, Measurable range: 1 m Ω to 200 M Ω)
Measurement frequency	4 Hz to 8 MHz Measurement signal level: Fixed at 1 V
DC bias measurement	Generating range: DC voltage 0 V to 2.50 V (10 mV resolution) In low Z high accuracy mode: 0 V to 1 V (10 mV resolution)
Output impedance	Normal mode: 100 Ω , Low impedance high accuracy mode: 10 Ω
Display	5.7-inch color TFT with touch panel
Interfaces	EXT. I/O(HANDLER) ,USB, USB flash drive, LAN, GP-IB, RS-232C
Power supply	100 to 240 V AC, 50/60 Hz, 50 VA max.
Included accessories	Power cord $\times 1$, Instruction manual $\times 1$, LCR application disc (Communications user manual) $\times 1$

Software windows





Package Contents

Vacuum Pump with Pirani Gauge	1 nos.
LCR Meter	1 nos.
Cryostat	1 nos.
Liquid Nitrogen Storage Container (50 Ltr.)	1 nos.
Temperature Controller (MI-TC01)	1 nos.
Power Cable	3 nos.
DIN Cable	1 nos.
K10 Clamp with Oring	2 nos.
K25 Clamp with Oring	2 nos.
Software : Suitable software to measure Temperature Vs Parameter and frequency Vs Parameter	1 nos.
Single User Software License for Operating using LCR Meter	Single User
RS232-USB Cable	1nos.
USB B-A Cable	1nos.
*Note: Laptop/PC not included	

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