

MATS-2010SD

Soft Magnetic Material Dynamic Hysteresisgraph System

Model MATS-2010SD



Automatic measurement on basic magnetization curve and magnetic hysteresis loop under static state of soft magnetic material, accurate measurement on static magnetic characteristic parameters such as initial permeability μ_i , maximum permeability μ_m , saturation magnetic induction B_s , remanence B_r , coercive H_c and hysteresis losses P_u .

Windows measurement software applied simply. It conforms to China National Standards GB3657 - 83, industry standard SJ / T10281 - 91 and international standard IEC60404 - 4.

In accordance with measuring principle of ballistic method, combine computer control technology, A/D and D/A, replace conventional ballistic galvanometer with electronic integrator, realize analog ballistic method measurement under microcomputer control, can completely eliminate non-instant error caused by ballistic galvanometer in classical ballistic method, with high measurement accuracy, fast speed and good repeatability, can eliminate the influence of various artificial factors, and supply reliable basis for research on material magnetization process.

General Features

Software Features

Software Screen

Technical Data

Standard Package

System Specifications

Adopt ballistic method measurement, technical indices as follows:

| Parameters measured | B_s (%) | B_r (%) | H_c (%) | P_u (%) | μ_m (%) | μ_i (%) |
|--------------------------------------|-----------|-----------|-----------|-----------|-------------|-------------|
| Uncertainty (k=2) | 1 | 1 | 1.5 | 1 | 2 | 5 |
| Repeatability (constant temperature) | ± 0.5 | ± 0.5 | ± 0.5 | ± 0.5 | ± 1 | ± 3 |

When testing hysteresis loop with scanning method, H and B measuring errors can be estimated as: B: 1% + 1/2 LSB H: 1% + 1/2 LSB

Instrument Specifications

MATS - 2010SD Static Hysteresisgraph

PC6011 A/D D/A Card

Output Voltage: 0 ~ $\pm 25V$

Output Current: 0.01mA ~ 10A

Current Range: 1mA, 2mA, 5mA, 10mA, 20mA, 50mA, 100mA, 200mA, 500mA,
1A, 2A, 5A, 10A total 13 automatic ranges

Stability: superior to 0.05%

Flux Range: 0.25, 0.5, 1, 2, 5, 10, 20mWb, total seven automatic ranges

Sensitivity: 0.05 μ Wb (ballistic method)

0.1 μ Wb (magnetic field sweep)

A / D Conversion: 12Bit, 32 channels

Conversion Time: < 10 μ s

Conversion Accuracy: 0.05 % (full range)

D/A Conversion: 12Bit, 2 channels

Setup Time: < 10 μ sBus

Structure: PCI busbar