

SHT-III Digital Gaussmeter

Operation Manual



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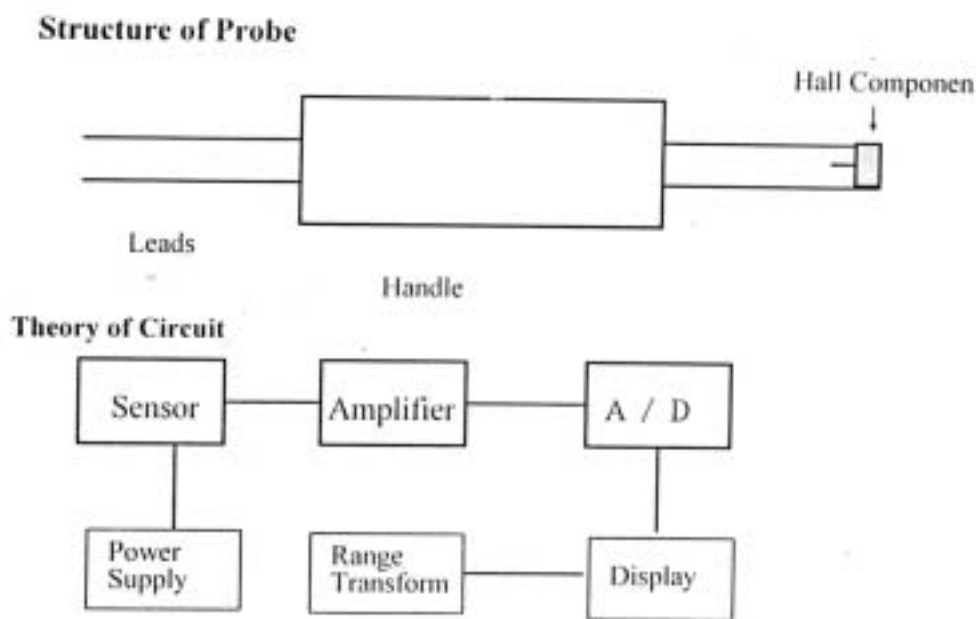
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SHT---III digital Gaussmeter is authorized by Computation Department for batch production. The instrumentation can change measuring range, amend Non-linearity error automatically by hardware circuit. The circuit's design is reasonable and the performances are credible. The instrument has been employed widely in aviation, metallurgy, engineering physics, and Academy of China Science and Computation departments.

The instrument can be used to measure surface magnetic field, aperture magnetic field, act as the criterion of magnetic field and so on. The instrument can transform magnet into electricity by Hall component and can show the measured value by LED. It can match appropriate probe and as thin as a wafer probe.

● **Structure and Theory**

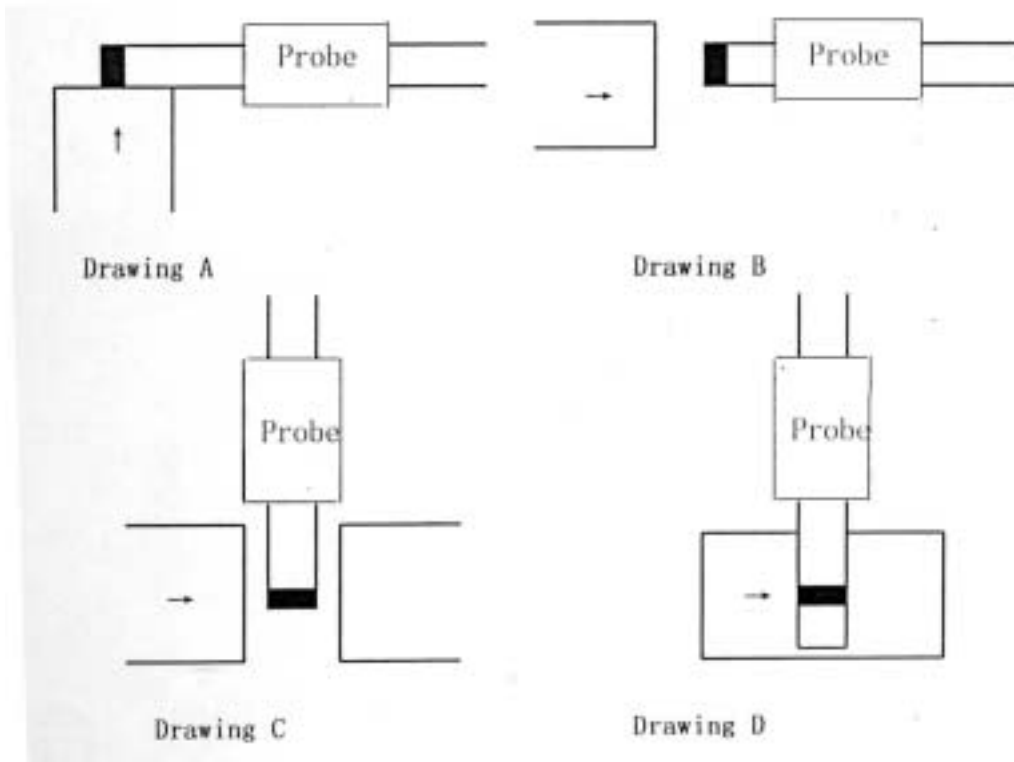
SHT-III digital Gaussmeter employed GaAs Hall component with high precision and stability as sensor to measure magnetic field.



● **Usages**

1. The instrument can employ radial sensor to measure surface magnetic field. The probe should be vertical to the measured magnetic field and be close to the field. (See Drawing A)
2. The instrument can employ landscape orientation sensor to measure surface magnetic field. The top of probe should be vertical to the measured magnetic field. (See Drawing B)
3. Measure aperture magnetic field with as thin as wafer probe or special probe. (See Drawing C)

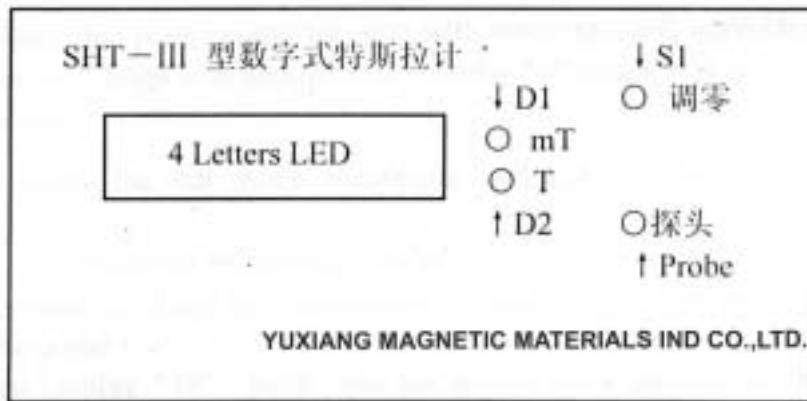
4. Measure aperture magnetic field with as thin as wafer probe. (See Drawing D)



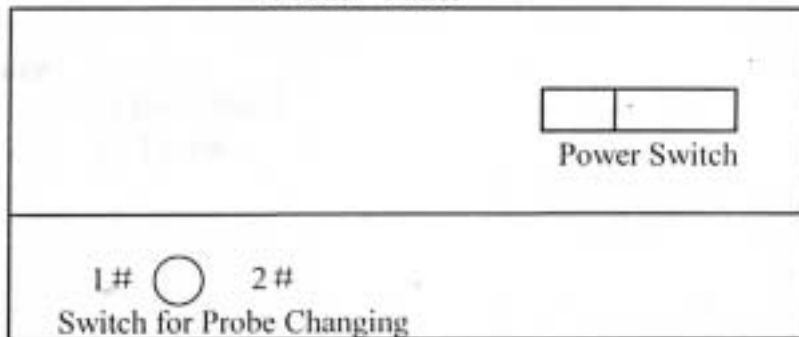
● **Parameters**

1. Measuring Range: 0~2T
2. Precision: $\pm 1.0\%$ FS
3. Transferable Measuring Range:
 First Range: 0~200mT
 Second Range: 0.2~2T
4. Resolution: 0.01mT(range:0~200mT)
 0. 1mT(range:0. 2~2T)
5. Sampling Speed: 3~5 time/second
6. Display Style: 4 letters LED
7. Measuring Range transform: automatically
8. Dimension of Probe: 1.5X3X35 +10X185mm
9. Operating temperature:5~40°C
10. Auxiliary Power Supply: 220V/50Hz $\pm 10\%$ AC
11. Volume: 230X80X220mm

● **Panel Illustration**



Front Panel



Back panel

● **How to operate**

1. Connect probe with Gaussmeter
2. Power on
3. Warm-up for 15 minutes.
4. Put the probe far away from magnetic field. If the display is not zero, adjust S1 for zero.
5. Move the probe for the maximal value when measuring.
6. Change measuring range:
Display $\pm 1.mT$ when over 0~200mT and the measuring range change automatically 5 seconds later.
Magnetic field less than 0.2T, the measuring range changes automatically.
7. How to read: Range 0~200mT(D1 lighting)
Reading: $\pm X X X.XmT$,
Range: 0.2~2T(D2 lighting)
Reading: $\pm X.X X X T$.
8. Judge the polarity: put the side with white upward; approach the measured magnetic body with another side. Display “+” means N pole.

- **Precaution**

1. Put away the hat when measuring and put on the hat after measuring.
 2. The probe must not be crashed, bended.
 3. Guarantee to keep the instrument in good repair for one year. (Exclude the probe).
 4. When employ “1#” probe, put the switch to 1# position in back panel. When employ “2#” probe, put the switch to 2# position.
- 1# Probe Number:04031 2#Probe Number:04083

- **Reference:**

1T=1000mT

1mT=10Gs