

APPLICATION NOTES

VA8044T Coating Thickness Meter

“Seamless coating thickness measurement across both ferrous and non-ferrous metals.”



Introduction:

The VA8044T is a coating thickness gauge that measures coating thickness on both ferrous (magnetic) and non-ferrous (non-magnetic) metal substrates using magnetic and eddy current methods, complying with GB/T4956 and GB/T4957 standards respectively. It automatically identifies the substrate type and features a flip screen with adjustable display angle, data hold, backlight, audio prompt, low battery indication, and auto power off, running on two 1.5V AAA batteries.

The Problem:

In industrial manufacturing and automotive sectors, the thickness of a coating (paint, plating, or galvanization) is a critical factor in determining the longevity and safety of a product. Companies often face the following challenges:

- **Corrosion Risk:** Coatings that are too thin fail to protect the underlying metal from oxidation and environmental damage.
- **Material Waste:** Excessively thick coatings lead to unnecessary material costs and can cause mechanical interference or "orange peel" aesthetic defects.
- **Substrate Variability:** Difficulty in measuring coatings across different base materials (e.g., checking paint on a steel car door versus an aluminum hood) without switching between multiple devices.
- **Inconsistent Quality:** Manual or visual inspections are subjective and lead to high rejection rates during final audits.

Our Solution:

The VA8044T provides a high-precision, non-destructive solution by integrated dual-sensing technology into a single hand-held unit.

- **Automatic Substrate Detection:** The device automatically identifies whether the base metal is ferrous (magnetic) or non-ferrous (conductive) and switches its sensor mode accordingly.
- **Dual Working Principles:**
 - a. Magnetic Induction: Measures non-magnetic layers on steel/iron.
 - b. Eddy Current: Measures non-conductive layers on aluminum, copper, and brass.
- **High-Resolution Sensing:** Offers a measurement range up to 1500µm with a resolution of 0.1µm, ensuring that even the thinnest technical coatings meet specifications.

The Benefits:

- **Cost Efficiency:** By optimizing the coating application process, manufacturers can reduce the consumption of expensive paints and powders. Even a 5% to 10% reduction in material waste can result in significant annual savings.
- **Regulatory and Standards Compliance:** In accordance with GB/T 4956, the magnetic method is used to measure the thickness of non-magnetic coatings on magnetic metal substrates. Conforms to GB/T 4957, using the eddy current method to measure the thickness of non-conductive coatings on non-magnetic metal substrates.
- **Portability and Ease of Use:** The ergonomic “point-and-click” design enables shop-floor workers to perform quick spot checks without requiring specialized laboratory training. The large, back-lit display ensures clear visibility even in low-light factory environments.
- **Technical Specifications Summary:**

Feature	Capability
Measurement Range	Up to 1500 μm
Resolution	0.1μm
Accuracy	±3%

Contact

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