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# Ultrasonic Paint Thickness Gauge User Manual

## Overview of the product

Ultrasonic thickness gauges operate on the principle of ultrasonic pulse reflection for material measurement. When an ultrasonic pulse emitted by the probe penetrates the measured object and reaches the material interface, it is reflected back to the probe. The thickness of the material is determined by precisely measuring the time it takes for the ultrasonic wave to propagate through the material. These instruments are primarily used to measure the thickness of metals (such as steel, cast iron, aluminum, copper), plastics, ceramics, glass, fiberglass, and any other ultrasonic-permeable conductors. They find extensive applications across industries including petroleum and petrochemicals, automotive manufacturing, shipbuilding, aerospace, rail transit, metallurgical processing, mechanical engineering, and container pipeline systems.

## Features

- The thickness of the metal layer below can be measured through the coating without damaging the coating
- Suitable for measuring the thickness of metals (such as steel, cast iron, aluminum, copper, etc.), plastics, ceramics, glass, glass fiber and any other ultrasonic good conductor
- It is known that thickness can be used to reverse the sound velocity to improve the measurement accuracy
- It has the function of indicating coupling state
- It has EL backlight display, which is convenient for use in dim environment
- It has energy saving functions such as automatic sleep and automatic shutdown
- Aluminum magnesium alloy shell, more robust, compact, portable, high reliability, high durability, suitable for harsh operating environment, vibration, impact and electromagnetic interference

## Technical Parameter

- Measurement range: 0.65~500mm (standard mode, steel)
  0.65-50mm (through mode, steel)
- Penetration range: can penetrate the coating below 3mm
- Sound velocity range: 500~18000m/s
- Resolution: 0.1mm
- Accuracy of indication: ± (0.6%H+0.1)mm; H is the actual thickness of the measured object
- Working mode: standard and through two thickness measurement modes
- Unit system; metric or imperial (optional)
- Working power: lithium battery
- Continuous working time: more than 160 hours (without backlight)
- Shape and size; 145*70*32mm (length * width * height)

## Standard layout

| | |
|---|---|
| main engine | 1 unit |
| Standard probe | 1 only |
| couplant | 1 bottle |
| Special instrument boxes | One |
| Charging case, charging cable | 1 set |
| Warranty card, certificate of conformity | 1 set |
| operating instruction | 1 copy |

## Maintenance

1. Do not use sharp objects to carve the display screen;
2. The instrument and probe should be avoided from strong vibration;
3. Avoid placing the instrument in a humid environment;
4. When inserting and removing the probe, you should hold the movable sleeve along the axis and press hard, and do not rotate the probe to avoid damaging the cable core of the probe;
5. The attachment of oil and dust will gradually age and break the probe wire, so the dirt on the cable should be removed after use;
6. When the battery capacity is nearly or completely used, the battery should be replaced in time to avoid affecting the measurement accuracy. When the instrument is not used for a long time, the battery should be removed to avoid leakage of the battery, corrosion of the instrument case and electrode sheet. Pay attention to the positive and negative polarity when installing the battery! The polarity inversion may cause damage to the instrument.