



# UM-1 Series Technical Specifications

## Product Introduction

UM-1 series ultrasonic thickness gauge is a high accuracy, hand-held thickness meter of high stability. Domestically, we are the first to develop the ultrasonic thickness meters which can penetrate the coating in 2006.

The UM-1D offers through-coating thickness measuring capability. It measures the thickness of an object by precisely calculating the times of the probe sending ultrasonic pulse to the object and passing through the object until the probe receiving the reflection from the boundary.

It uses the most advanced microprocessor and ultrasonic technology to offer users many outstanding features. It features zero drift, reliable and stable reading, and no need of zero calibration. You can now test painted objects without needing to remove the paint or make corrections for the paint thickness.

## Technical parameter

Display Type	128×64 dot-matrix LCD screen with EL backlight			
Operating Principle	P-E (pulse-echo) , E-E (echo-echo) with dual-crystal probes (Only UM-1D)			
Measuring Range In Standard Mode	0.8mm to 300mm, depending on material and probes			
Measuring Range In Thru Coating Mode	3mm-20mm with PT-08 probe(Only UM-1D)			
Measuring Limits of Tube (Steel):	$\Phi 20\text{mm} \times 3.0\text{mm}$ (PT-08 probe) $\Phi 15\text{mm} \times 2.0\text{mm}$ (PT-06 probe)    The measuring error is up to $\pm 0.1\text{mm}$			
Measuring Error	Low limit to 10mm: $\pm 0.1\text{mm}$ 10mm to high limit: $\pm (1\%H + 0.1) \text{ mm}$ Note: H is the actual thickness of the testing material			
Repeatability:	0.1mm			
Display Resolution	0.1mm, 0.001 inch			
Units	Inch or Millimeter			
Calibration Method	Zero calibration, Two-point calibration			
V-Path Correction	Automatic			
Update Rate	4Hz			
Material Velocity Range	1000 ~ 9999 m/s (0.0394 to 0.3937 in/us)			
Memory Function	5 arrays are divided to store 500 thickness values			
Minimum Value Checking	Move the probe along the surface of the testing material, the gauge is able to find the thinnest point automatically.			
Warning Function	If the measured value exceeds the pre-set thickness limit, the warning tone will start.			
Velocity Storage	Velocities of 5 different materials can be stored totally			
Languages	English and Chinese			
Communication Port	USB port or Serial RS 232 port (Optional)			
Application Software	UmView Software for transmission, storage, analysis and documents editing (Optional)			
Power Requirements	Two 1.5V AA alkaline batteries (Warning with low battery voltage)			
Operating Time	Up to 200 hours with alkaline batteries (without backlight)			
Instrument Shut-off	AUTO OFF after 5 minutes of inactivity			
Operating Temperature	$-10^{\circ} \text{C}$ to $+50^{\circ} \text{C}$ , $-20^{\circ} \text{C}$ in special requirements			
Size	149mm X 73mm X 32mm(H X W X D)			
Weight	210g including batteries			

## Optional Accessories

High-temperature probe	Castiron Probe	Small Tube Probe	Fingertip Probe	Probe Cable
Step Calibration Block	Application Software	Data Transmission Cable	Rubber Sheath	Couplant and High-temperature Couplant