



There are two operating modes of **ST-1D**

ultrasonic thickness gauge: standard mode and coating mode. The operating principle of coating mode is E-E (echo-echo). When there is coating or oil paint on the surface of the object, the net thickness of the material can be directly measured neither without necessarily removal of the coating nor without the calibration. While the defect of this mode is that the measuring range is relatively narrow: 0.118in-0.709in (with standard probe). The operating principle of standard mode is P-E. With the covered coating, the measurement will not be very accurate, so the coating should be removed before measuring in standard mode. The advantage of this mode is that the measuring range is relatively wide: 0.031in-19.685in (with standard probe).

**Display:**

128x64 dot-matrix LCD screen  
(1.65inx2.24in; 42mmx57mm)  
EL backlight and switchable contrast ratio  
Digit height: 0.54in or 13.75mm

**Measurement update rate:**

4 Hz in standard measurement mode  
25 Hz in MIN capture mode

**Material velocity range:**

1000 to 9999 m/s; 0.039 to 0.394 inch/ $\mu$ s

**Power:**

Two 1.5V AA alkaline batteries  
Warning with low battery voltage

**Standard package:**

ST-1D thickness gauge  
Standard probe (PT-08)  
Carrying case  
Two 1.5V AA alkaline batteries  
Couplant  
Operating manual  
Certification of quality  
Packaging list

**Operating principle:**

Standard mode: P-E (pulse-echo) method with dualelement probes  
Coating mode: E-E (echo-echo) method with dualelement probes

**Probe zero adjustment:**

Selectable: 1-point calibration: normal measurement  
2-point calibration: curve surface measurement or other special application with a high precision

**V-path correction:**

Automatic

**Measuring range:**

0.8mm to 300mm; 0.031in to 11.81in in standard mode  
3.0mm to 18.0mm; 0.118in to 0.709in in through coating mode  
Depending on probe, material and surface condition

**Digital resolution:**

0.001in or 0.1mm

**Units:**

Selectable: inch or mm



**Operating time:**

Up to 200 hours (without backlight) with alkaline batteries, depending on operating mode

**Auto shut-off:**

After 5 minutes of non-use

**Operating temperature:**

-10°C to +50°C; +14°F to +122°F

Specification to -20°C/-4°F on request

**Size:**

5.86in×2.87in×1.25in; 149mm×73mm×32mm  
(H×W×D)

**Weight:**

200g; 7oz (including batteries)

**Data logger capacity:**

Up to 500 readings can be divided into a maximum of 5 files (user-selectable)

**Optional accessories:**

Attachable rubber case

Numerous special probes on request

Couplants and high-temperature couplant

4-step/6-step block for calibration

Data transmission cable

Application software

**Operating language:**

English

**Measuring error:**

Up to 1in:  $\pm 0.002$ in or  $\pm 0.1$ mm

Above 1in:  $\pm 1\%$ H

H is the height of the testing object

**Repeatability:**

$\pm 0.001$ in or  $\pm 0.1$ mm

**Application software:**

UMVIEW

**Interfaces:**

Serial RS 232C port in combination with a communicative cable;

Data transfer parameters: 8 bits, 1 stop bit, 9600 baud, no parity.

