EXTECH INSTRUMENTS

PRODUCT DATASHEET

# Ultrasonic Thickness Gauges

**Extech offers Thickness Gauges designed in compact, handheld, rugged housing ideal for field use. The ultrasonic technology allows for non-destructive thickness measurements for primarily steel structures. Select models with digital thickness readout or live color waveform and datalogging function.**

**Applications:**

- **Boiler Tubes**
- **Containers**
- **Compressors**
- **Pressure Vessels**
- **Home Oil Tanks**
- **Shafts**
- **Storage Tanks**
- **Pipes**
- **Bridge Pins**
- **Ship Hulls**
- **Steam Lines**
- **Bond Inspection**

Transducer

TKG100 TKG250 TKG150

## Common Features

- Wide measurement range:
  5MHz probe: 0.040" to 20" of steel
  10MHz probe: 0.020” to 20" of steel (optional)
- Sunlight readable dot-matrix display with backlight
- Multiple transducer options for high temperature and difficult to measure materials
- Fast minimum feature to capture minimum thicknesses
- On screen display of 8 languages
- Splash-proof (IP54), high impact, compact housing

### Model TKG100 & TK150 Additional Feature

- Sun light readable

### Model TKG150 Additional Features

- Echo to Echo option to reduce coating errors
- 100K internal datalogger with export to Excel
- B-scan (visual cross section of test piece)
- Vibrate on alarm

### Model TKG250 Additional Features

- Color LCD display shows red, yellow and green visual alarm indication
- Live Waveform (A-scan for thickness verification)
- File compare feature as a real time corrosion monitor
- Dynamic change of waveform color on alarm
- Grid review of saved readings
- Echo to Echo option to ignore coatings
- 100K internal datalogger with export to Excel
- B-scan (visual cross section of test piece)
- Vibrating alarm indication

*Specifications on back page*

## Ordering

TKG100..... Digital Ultrasonic Thickness Gauge
TKG150..... Digital Ultrasonic Thickness Gauge/Datalogger
TKG250..... Color Waveform Ultrasonic Thickness Gauge/Datalogger
*For replacement accessories and 10MHz transducer, please contact us.*

MADE IN U.S.A.

2 YEAR WARRANTY

CE

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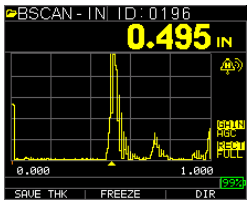
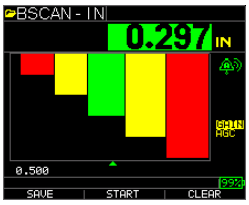
Rev. 6/17/14

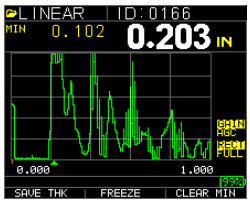
## TKG250 Color Screen displays



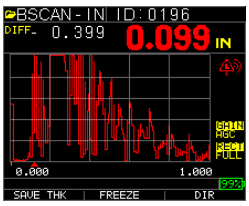

Alarm Warning Screen



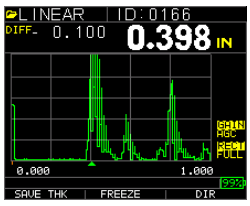

B-Scan Screen



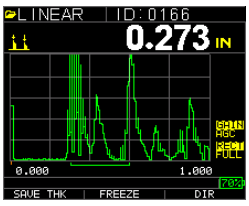

Normal Screen - No Alarm




Change color on Alarm




Differential Screen




RF Waveform Screen

**All models include 2oz bottle of couplant, 2 AA batteries, Transducer (5MHz, 0.375" diameter ) with potted cable, and hard case, plus a certificate of calibration to NIST. TKG150 and TKG250 also include protective holster, USB cable, and Extech XPorter software.**

| Common Functions | Description |
|---|---|
| Thickness Range (in Steel) | 5MHz probe: 0.040 to 20" (1.0 to 508mm); 10MHz probe: 0.020 to 20" (0.50 to 508mm) |
| Material velocity calibration range | 0.200 to 0.7362 in/µS (0.508 to 18.699mm/µS) |
| Languages | English, French, Spanish, Italian, Czech, German, Portuguese, Slovak, Finnish, and Hungarian |
| Hold Mode | Holds display to retain last thickness reading with reverse video display |
| Freeze Mode | Freezes display (ideal for high temperature readings) |
| Fast Min/Max Mode | Displays Min or Max and actual thickness value at 20 measurements/sec |
| Units | Inches/Millimeters/Microseconds |
| Alarms | Audible beeping; illuminae flashing display and keypad; and vibration feedback (only on the TKG150/TKG250 models) |
| Illuminating Keypad | F1 = Red, F2 = Yellow, F3 = Green for easy, go/no-go testing |

| Additional Functions | Model TKG100 | Model TKG150 | Model TKG250 |
|---|---|---|---|
| Gain - Variable adjustment | — | Low, Standard, High | In 1dB steps from 20-90dB or Automatic Gain Control (AGC) for waveform |
| B-Scan - Displays a cross section of the test piece | — | Displays a visual cross section of inspection area with no correlation to distance. B-Scan alarm colors consist of: Red = below minimum/above maximum; Yellow = Caution; and Green = Good. | |
| Echo to Echo | — | Measure the metal thickness only (paint & coatings do not affect base material thickness value) | |
| Differential Mode | — | Displays the difference from the actual thickness measurement and a user entered reference value | |
| Velocity Mode | — | Displays acoustic sound speed to measure thickness of unknown materials | |
| Datalogger | — | Stores 50k readings (expandable to 100k) and 5,000 waveforms; file names up to 20 characters long; and the included Extech XPorter software extracts .csv data files that can be opened for viewing in MS Excel, Notepad, or Wordpad. TKG250 also has file compare & grid review features. | |
| Range | — | — | Adjustment of manual range control or auto zoom tracking to center echoes independent of selected range |
| Rectification Modes | — | — | RF, Half Wave Positive, Half Wave Negative and Full Wave Rectification |
| Live Waveform (A-Scan) | — | — | Full adjustments for gain in 1dB step or AGC, main bang blank, blank after first received echo, range including zoom auto tracking to center echoes independent of material and rectification |
| Battery Life | Up to 50 hrs (20hrs w/backlighting) | Up to 50 hrs (20hrs w/backlighting) | 8 to 14hrs (depends on operating conditions) |

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