# UFM-8

## Ultrasonic Thickness Gauge

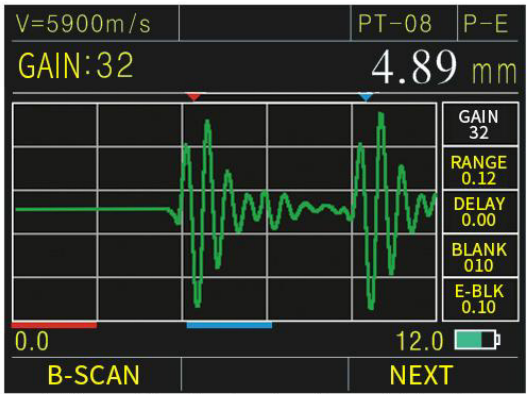

**The UFM-8 is a compact, non-destructive ultrasonic thickness gauge based on the pulse-echo reflection principle. Acoustic waves are emitted into a material from one side, enabling real-time thickness measurement without cutting or otherwise altering the workpiece.**

The instrument is suited for a wide range of industries, including manufacturing, metal processing, aerospace, railway, chemical processing and general inspection. Typical applications include measuring plates and machined parts, as well as monitoring wall-thickness reduction caused by corrosion in pipelines and pressure vessels.

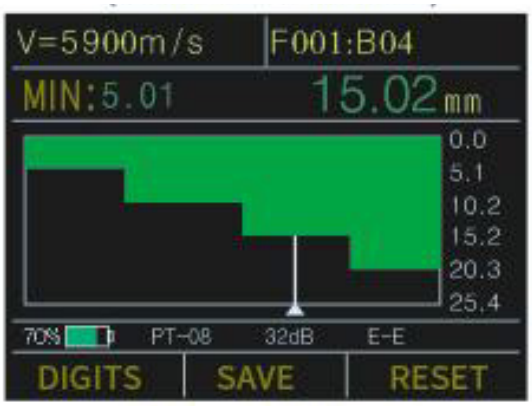
## Key Features

**A-scan (real-time, colour):** the colour waveform display allows the user to verify measurement readings directly. Gain, blanking and gate can be adjusted to obtain correct readings under varying conditions. A red arrow marks the exact measurement point on the waveform, which should align with the leading edge of the first bottom echo.

**B-scan (real-time, colour):** displays a cross-sectional profile of the workpiece along the probe's path, making it possible to visualise the bottom surface. The minimum value is captured automatically and indicated by a red triangle; any point on the image can be inspected by moving the pointer.




***A-scan** displaying an ultrasonic wave.*




***B-scan** displaying a cross-sectional view.*

## Key Features *(continued)*

**Adjustable gate:** a measurement is only registered when the echo exceeds the gate threshold. This is particularly relevant for low-signal applications such as very thin or very thick materials.

**Gain adjustment:** the echo signal amplification can be increased or decreased manually in 1 dB steps, which is especially useful for sound-attenuating materials such as metal castings.

**Blanking:** suppresses unwanted clutter in a defined range of the waveform, eliminating interference caused by surface roughness or internal irregularities.

**Min/max capture:** current, minimum and maximum thickness values are displayed simultaneously.

**Difference / reduction rate:** difference mode shows the deviation from a preset reference thickness. Reduction rate expresses wall-thickness loss as a percentage, useful for materials that have thinned due to bending or corrosion.

**Alarm:** upper and lower thickness limits can be set; the display colour changes dynamically when a limit is exceeded.

| Specifications | |
|---|---|
| Operating principle | Ultrasonic pulse-echo, dual-element transducer |
| Display | 2.4" colour OLED, 320 × 240 px, contrast 10,000:1 |
| Measuring range | 0.50 – 508 mm (0.025" – 20.00"), depending on material, probe and surface condition |
| Resolution | Selectable: 0.01 mm / 0.1 mm (0.001" / 0.01") |
| Measuring units | mm / inch |
| Measuring error | ±0.05 mm (up to 25 mm) \| ±0.2%H (25–100 mm) \| ±0.5%H (100 mm and above) |
| Repeatability | ±0.05 mm |
| Sound velocity range | 500 – 9,999 m/s |
| Update rate | Selectable: 4 Hz / 8 Hz / 16 Hz |
| V-path correction | Automatic |
| Probe calibration | One-point and two-point calibration |
| Display modes | Normal \| Min/max capture \| Diff/RR% |
| Alarm | Configurable upper and lower limits |
| Auto power-off | Selectable: always on / 5 / 10 / 20 min |
| Power supply | 2x AA batteries (Battery life: approx. 40 hours) |
| Operating temperature | –10°C to +50°C |
| Dimensions (H x W x D) | 153 × 76 × 37 mm |
| Weight | 280 g (including batteries) |

| Data Logger Features | |
|---|---|
| Capacity | 100,000 readings, 1000 waveforms, 400 files |
| File structure | Grid file |
| Rows x Columns | 21 x 12 |
| Communication port | USB 2.0 |
| Software | DataView PC software |

## Model Overview

| Model | UFM-8 | UFM-8D | UFM-8DL |
|---|---|---|---|
| A-scan & B-scan | ✓ | ✓ | ✓ |
| Through paint/coatings | - | ✓ | ✓ |
| Data logger (100,000 readings) | - | - | ✓ |
| DataView software | - | - | ✓ |

## Standard Supply

- Thickness gauge
- Standard probe
- Carrying case
- Couplant
- Operating manual
- Certificate of conformity
- Packing list

## Optional Accessories

- Probes (various)
- Probe cables
- Step calibration blocks

## Probe Specifications

| Model | PT08 | TC510 | PT12 | ZT12 | PT06 | PT04 | GT12 |
|---|---|---|---|---|---|---|---|
| Type | Standard | Standard | Standard | Cast iron | Small tube | Fingertip | High temp. |
| Frequency | 5 MHz | 5 MHz | 5 MHz | 2 MHz | 7.5 MHz | 10 MHz | 5 MHz |
| Contact diameter | 11 mm | 13.5 mm | 13.5 mm | 17 mm | 8 mm | 6 mm | 15 mm |
| Measurement range | 0.8 - 100 mm | 1.2 - 200 mm | 1 - 200 mm | 4 - 508 mm | 0.8 - 30 mm | 0.7 - 12 mm | 4 - 80 mm |
| Temperature range | -10 ~ 70 ℃ | -10 ~ 70 ℃ | -10 ~ 70 ℃ | -10 ~ 70 ℃ | -10 ~ 70 ℃ | -10 ~ 70 ℃ | -20 ~ 300 ℃ |
| |  |  |  |  |  |  |  |