

Inch & Millimeter Converter — Quick Guide

What This Is

A free web app that runs entirely in your browser — no install, no account, and no data sent to a server. Every calculation happens on your device.

What It's For

Inches and millimeters don't share a common notation. Millimeters are decimal; inches are conventionally expressed as fractions — sixteenths, thirty-seconds, and finer. Digital calipers and laser measures complicate this further: they report decimal inches to far more precision than most people think in, leaving a gap between what the instrument displays and the fraction you'd actually mark or cut to.

Why You'd Want to Use It

This app closes that gap so you don't have to do it in your head. Read a measurement off a caliper, a laser tool, or a metric spec sheet, type it in as-is — decimal or fraction, doesn't matter — and get back the number in the form you actually work in, rounded to a precision you choose rather than one the instrument chose for you.

It's built for the moments a plain calculator can't help with: converting a metric drawing dimension to the nearest sixteenth on a tape measure, checking how far off a caliper's precise reading is from the mark you're about to cut, or simply wanting to see where a number falls without doing the arithmetic by hand.

What It Does

- Converts between inches and millimeters instantly. Type into either field and the other updates immediately, using the exact definition $1 \text{ in} = 25.4 \text{ mm}$.
- Accepts fractional input natively. Type a mixed number like "1-5/16", a simple fraction like "3/8", or a decimal like "0.375" — all are read the same way, leading-zero optional.
- Shows the nearest fraction at your chosen precision. Pick a precision from 1/8" down to 1/128", matching the resolution of a dial caliper, a fine machinist's scale, or a digital tool's finest readout.
- Reveals the rounding error, not just the rounded answer. Every fraction shown comes with the exact gap between it and your original value, given as a decimal, a best-fit fraction, and a millimeter equivalent.

- Flags exact ties. When a value sits precisely halfway between two fractions, both options are shown side by side instead of silently picking one.
- Displays a visual ruler. A tick-marked strip shows exactly where your value falls between the marks you already recognize, the same way a dial caliper's needle does.
- Provides a quick-reference chart. A collapsible table lists common fractions — including $1/32''$, $1/64''$, and $1/128''$ — alongside their decimal and millimeter equivalents.

How to Use It

- 1 Open the app in your browser. No sign-in or setup is required.
- 2 Type a measurement into either the Inches or Millimeters field. Fractions, mixed numbers, and decimals are all accepted in the Inches field.
- 3 (Optional) Choose a precision chip. Select $1/8''$ through $1/128''$ to set how finely the nearest-fraction result rounds.
- 4 Read the nearest-fraction result. The rounded fraction, its exact decimal value, and its millimeter equivalent are shown together.
- 5 (Optional) Check the rounding error line. See exactly how far the rounded fraction is from your original value, in inches, as a fraction, and in millimeters.
- 6 (Optional) Glance at the ruler view. See where your value falls visually, relative to the tick marks on either side.
- 7 (Optional) Expand the quick reference chart. Browse common fractions and their decimal/millimeter equivalents without typing a value.

A Note on Rounding

Rounding to a coarser fraction always introduces some error — that's unavoidable whenever a precise reading is expressed at a coarser resolution than it was measured at. This app doesn't hide that trade-off. The rounding error line and the ruler view exist so you can see exactly what you're giving up by working in sixteenths instead of sixty-fourths, and decide whether that's acceptable for the cut or fit in front of you.