Speed Unit Converter (m/s, km/h, ft/min, mph, knot)

Convert a speed between metres per second, kilometres per hour, metres per minute, feet per second and per minute, miles per hour and knots.

Method: Unit definitions per NIST SP 811 and the SI Brochure (exact where defined)

Input parameters

Unit system: SI

Parameter	Value	Unit
Speed (choose its unit)	10.000	m/s

Calculated results

Parameter	Value	Unit
metre per second	10.000	m/s
kilometre per hour	36.000	km/h
metre per minute	600.00	m/min
foot per second	32.808	ft/s
foot per minute	1,968.5	ft/min
mile per hour	22.369	mph
knot	19.438	kn

Notes for this case

- km/h ÷ 3.6 = m/s.

Formula and method

$$x_{\text{unit}} = \frac{x_{SI}}{f_{\text{unit}}}$$

Variables

x	Speed (choose its unit)	m/s

Method and standards

Each unit's factor to the SI unit is held once in the unit registry.

Assumptions and limits

- Exact factors where the definition is exact.

References

- Unit definitions per NIST SP 811 and the SI Brochure (exact where defined)

Report details

Report reference	FCC-ARKR-C275 (the same inputs always give the same reference)
Generated	17 November 2026, 19:47 UTC
Calculator	Speed Unit Converter (m/s, km/h, ft/min, mph, knot)
Method last reviewed	12 November 2026
Software release	FireCAD Calc, release of 17 November 2026
Release checks	2 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/general/unit-conversions/velocity-unit-converter

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.