Temperature Difference Converter (K, °C, °F)

Convert a temperature difference (rise, range or approach) between kelvin, degrees Celsius and degrees Fahrenheit, without the zero offset.

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

Input parameters

Unit system: SI

Parameter	Value	Unit
Temperature difference (choose its unit)	10.000	K

Calculated results

Parameter	Value	Unit
kelvin	10.000	K
degree Celsius (difference)	10.000	°C
degree Fahrenheit (difference)	18.000	°F

Notes for this case

- Differences scale by 9/5 between °C and °F; no offset.

Formula and method

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

Variables

x	Temperature difference (choose its unit)	K

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-E46W-6NNX (the same inputs always give the same reference)
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Calculator	Temperature Difference Converter (K, °C, °F)
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/temperature-difference-converter

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.