



Klasmeier
Präzision in Temperatur

Reference Book - Temperature -

Thomas Klasmeier
4th Edition (English)



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Klasmeier

Präzision in Temperatur

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Foreword

The Reference Book - Temperature is designed as a practical companion for professionals and students in the field of metrology.

As a metrologist and engineer, I have compiled this reference book with a focus on temperature to provide precise and up-to-date information on temperature measurement and calibration.

The book originally grew out of a collection of formulas I began compiling during my studies. Over time, it expanded steadily and became an essential tool in my daily laboratory work. It has also served as valuable support material for participants in my seminars. Following many requests, I decided to publish this collection in the form of a book.

Today, it offers you a reliable source of tables, equations, and diagrams that can assist you in your daily work in temperature measurement and calibration.

I hope it will serve you as a useful reference and practical guide in your professional activities.

Fulda/Germany, 2025

Thomas Klasmeier

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Thermocouples

<i>Material Combinations</i>			
<i>Type</i>	<i>+ Leg</i>	<i>- Leg</i>	<i>Range in °C</i>
<i>T</i>	Cu	CuNi	-270 ... 400
<i>J</i>	Fe	CuNi	-210 ... 1200
<i>E</i>	NiCr	CuNi	-270 ... 1000
<i>K</i>	NiCr	Ni	-270 ... 1372
<i>N</i>	NiCrSi	NiSi	-200 ... 1200
<i>R</i>	Pt13Rh	Pt	-50 ... 1768
<i>S</i>	Pt10Rh	Pt	-50 ... 1768
<i>B</i>	Pt30Rh	Pt6Rh	0 ... 1820
<i>C</i>	W5Re	W26Re	0 ... 2315
<i>A</i>	W5Re	W20Re	0 ... 2500
cf. DIN EN 60584-1			

<i>Type</i>	<i>+ Leg</i>	<i>- Leg</i>	<i>Range in °C</i>
<i>Au/Pt</i>	Au	Pt	0 ... 1000
<i>Pt/Pd</i>	Pt	Pd	0 ... 1500
cf. DIN EN 62460			

International Standardized Color Codes¹

International

USA

Germany

UK

France

Japan



B						
C						
D						
E						
G						
J						
K						
N						
R						
S						
T						

¹ Some regions may use national variations not shown here. - Poster from Klasmeier

Obsolete Thermocouples

<i>Type</i>	<i>+ Leg</i>	<i>- Leg</i>	<i>Identification Colors</i>		
			<i>Positive</i>	<i>Negative</i>	<i>Sheath</i>
<i>U</i>	Cu	CuNi	red	brown	brown
<i>L</i>	Fe	CuNi	red	blue	blue
cf. DIN EN 43714					

Obsolete Thermocouple Wires

<i>Type</i>	<i>+ Leg</i>	<i>- Leg</i>	<i>Identification Colors</i>		
			<i>Positive</i>	<i>Negative</i>	<i>Sheath</i>
<i>UX</i>	Cu	CuNi	red	brown	brown
<i>LX</i>	Fe	CuNi	red	blue	blue
cf. DIN EN 43714					



Reference Book – Temperature

Your compact guide for precision in temperature measurement

Temperature measurement is one of the most important disciplines in metrology and calibration. This reference book provides engineers, technicians, metrologists, and students with a practical and reliable source of knowledge.

The book offers:

- Clearly structured tables, formulas, and diagrams for quick reference
- Practical support for temperature measurements and calibrations
- Reliable data for laboratory work, industry, and education
- A handy format that makes it easy to use at the workplace or in the field

With its focus on accuracy and clarity, Reference Book – Temperature is designed to assist you in your daily professional practice. Whether you are performing calibrations in an accredited laboratory, working with industrial sensors, or studying the fundamentals of metrology.



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