

# Non-Contact Temperature Measurement

MAURER – INFRARED – RADIATION THERMOMETER

**Temperature range 50 to 850°C (122 - 1562°F)**

**Temperature control during production process in only 5 msec.  
compact units – Infrared – measuring transducer and electronic process  
unit in one case with light beam aiming device**

## Series KTR 2300



MAURER – Infrared – radiation thermometer can also assist you to monitor your heating processes, ensuring a uniform standard of quality for your products.

leaflet KTR 2300

<http://www.maurer-ir.de>

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# Infrared Radiation Thermometer Series KTR 2300

The non-contact temperature registration in the measuring technique is unthinkable without it. The **KTR 2300** is placing new standards in the **low temperature measuring technique** for metallic surfaces. It's developed with latest findings and manufactured in **up-dated technology**. Through the approved chopper system a very efficient long-term stability and low-sensitivity contrary to temperature-shocks is achieved. In view of a response time of **only 5 msec.** this thermometer is also useable for high-speed measuring applications. For exact adjustment to the measuring point a **light beam aiming device** is available for **short** measuring distances - for **longer** measuring distances a **light beam aiming device with laser**.

## Examples for application:

steel, iron, non-ferrous metal, tempering, wires, induction heating, soft soldering, pre-heating

unit types	target marking
KTR 2300	without
KTR 2300-1	light beam aiming device
KTR 2300-1 L	light beam aiming device/Laser

## Temperature-measuring range - linear -

No.	Meas. – range short
1	50 - 250°C (122 - 482°F)
2	70 - 300°C (158 - 572°F)
3	100 - 400°C (212 - 752°F)
4	150 - 450°C (302 - 842°F)
5	200 - 700°C (392 - 1292°F)

No.	Meas. – range long
6	200 - 850°C (392 - 1562°F)

(special meas. range on request)

## Technical Data

Measuring range	50 - 850°C (122 - 1562°F)
Spectral range	2,3 µm
Response time	0,005 - 0,5 s
Accuracy	1% ± 1°C
Reproducibility	3 ‰
Emissions factor	100 - 10 %
Working temperature	0°C - 50°C (32 - 122°F)
stock temperature	-10°C - +70°C (14 - 158°F)
Temperature-sensitivity	0,05 % / °C
Humidity tolerance	35 - 85 % RF
Output (choiceable)	0 - 20 mA
	4 - 20 mA
	0 - 10 V
Operating voltage	DC 24 V ± 10 %
	AC 24 V ± 10 %
Current input	approx 300 mA
Unit connection	5 - pole socket
Dimensions H / B / D	54 x 54 x 171 mm (2,13x2,13x6,73 inch)
Weight	0,6 kg (1,32 lbs)
Protection grade	IP 65

## Objectives:

For accommodation to the measuring application are several objectives and optic systems available.

## Options: - built-in digital display

scanner	electronic process unit	electrical assembly	mechanical assembly
SC 1010	AE 1010	- digital display	- units with cooling case
SC 1012	AE 1012	- 2 contact outputs	- blowing device
		- interface RS 232 o.s.	- mirror 90°
		- power supply 230V/AC - 24 V/DC	- mounting parts

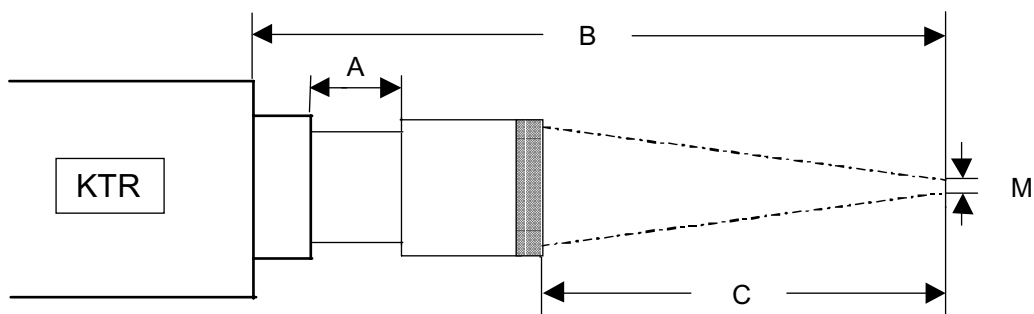
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Reg.-Nr.: Q1 0201014

# Optic tables for KTR 2300



Optic-type	: L 2050-T		
Lens	: f 50 22,4 Ø		
Meas. aperture	: 0,5 mm Ø		
beam aperture	: 5,0 mm Ø		
Meas. distance from casing of meas. head B / mm	Meas. distance from optic front edge C / mm	Optic extension A / mm	Target size M / mm=d
290	230	13,0	2,4
305,5	250	12,5	2,7
357	300	10,0	3,2
453,6	400	6,6	4,1
552,4	500	5,4	5,0
651,3	600	4,3	5,9
750,6	700	3,6	6,8
850,1	800	3,1	7,7
949,6	900	2,6	8,7
1049,2	1000	2,2	10,0
1548,7	1500	1,7	14,0
2048,3	2000	1,3	20,0
2547,9	2500	0,9	24,0
3047,5	3000	0,5	27,5

Optic-type	: L 2060-T		
Achromat	: f 60 22,4 Ø		
Meas. aperture	: 0,5 mm Ø		
beam aperture	: 5,0 mm Ø		
Meas. distance from casing of meas. head B / mm	Meas. distance from optic front edge C / mm	Optic extension A / mm	Target size M / mm=d
370	310	13	3,2
400	341,1	11,9	3,5
450	393,3	9,6	4,0
500	444,9	8,1	4,5
600	546,7	6,3	5,5
700	648	5,0	6,5
800	748,8	4,2	7,5
900	849,5	3,5	8,5
1000	949,9	3,1	10
1500	1451	2,0	14
2000	1951,6	1,4	18
2500	2452,1	0,9	23
3000	2952,5	0,5	28

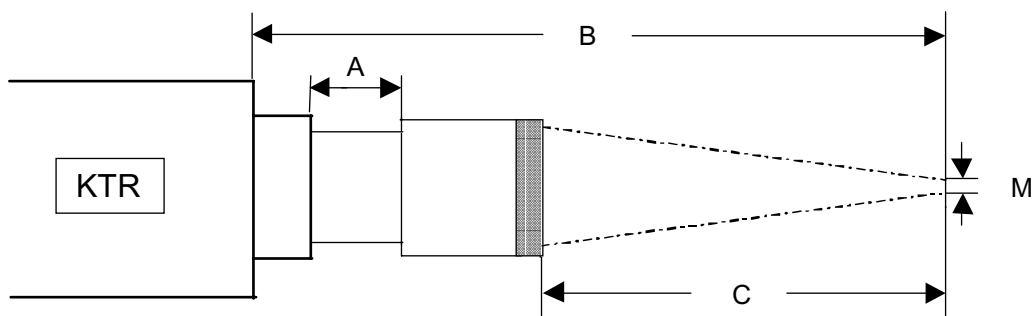
Target=98 % of beam density of the surface

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# Optic tables for KTR 2300



Optic-type	: L 2050-N1		
Lens	: f 50 22,4 Ø		
Meas. aperture	: 0,5 mm Ø		
beam aperture	: 5,0 mm Ø		
Meas. distance from casing of meas. head B / mm	Meas. distance from optic front edge C / mm	Optic extension A / mm	Target size M / mm=d
209,5	150	12,5	1,5
216,8	160	9,8	1,7
225,5	170	8,5	1,8
234,2	180	7,2	2,0
243	190	6,0	2,2
251,9	200	4,9	2,4
260,9	210	3,9	2,6
269,8	220	2,8	2,8
278,9	230	1,9	3,0
288,1	240	1,1	3,2
297,5	250	0,5	3,4
307	260	0	3,6

Optic-type	: L 2050-N2		
Achromat	: f 50 22,4 Ø		
Meas. aperture	: 0,5 mm Ø		
beam aperture	: 5,0 mm Ø		
Meas. distance from casing of meas. head B / mm	Meas. distance from optic front edge C / mm	Optic extension A / mm	Target size M / mm=d
230	170	13,0	2,0
256,1	200	9,1	2,3
302,8	250	5,8	2,7
350,4	300	3,4	3,1
398,8	350	1,8	3,5
447,3	400	0,3	4,0
457	410	0	4,5

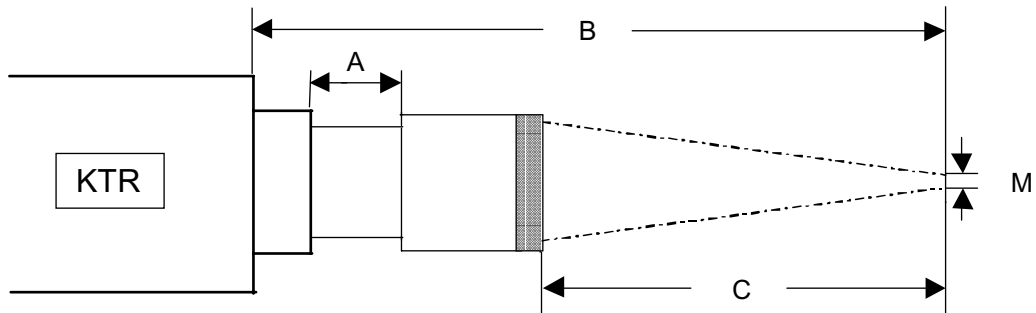
Target=98 % of beam density of the surface

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# Optic tables for KTR 2300



Optic-type : IR 2040-N (CaF2)

Lens : f 40 22,4 Ø

Meas. aperture : 1,5 mm Ø

beam aperture : 8,0 mm Ø

Meas. distance from casing of meas. head B / mm	Meas. distance from optic front edge C / mm	Optic extension A / mm	Target size M / mm=d
138	100	13,0	3,3
183,2	150	8,2	4,7
192,8	160	7,8	5,0
202,2	170	7,2	5,3
211,6	180	6,6	5,7
221	190	6,0	6,2
230,5	200	5,5	6,8
250	220	5,0	7,3
269,6	240	4,6	8,0
289,2	260	4,2	8,8
308,8	280	3,8	9,6
328,2	300	3,2	10,5
377,8	350	2,8	12,2
427,4	400	2,4	14,1
477	450	2,0	16,2
526,6	500	1,6	18,5
626,2	600	1,2	22,0
725,8	700	0,8	26,0
825,5	800	0,5	31,0

Target=98 % of beam density of the surface

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