

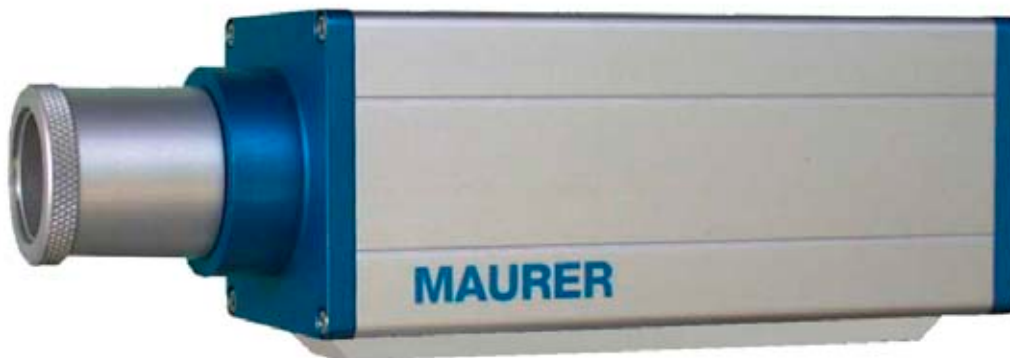
# Non-Contact Temperature Measurement

MAURER – INFRARED – RADIATION THERMOMETER

**Temperature range 550 to 4000°C (1022 - 7232°F)**

**Temperature control during production process**  
**compact units** – Infrared – measuring transducer and electronic process  
unit in one case with light beam aiming device  
or viewfinder

**Series KTR 1085**



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

leaflet KTR 1085

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

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# Infrared Radiation Thermometer Series KTR 1085

More than 50 years experience in the non-contact temperature measurement and also the continuous development of thermometer makes it possible, that we can offer you a complete program of perfected unit types. Above all the **non-contact temperature measurement** is appropriated for fast **annealing processes**. The **Series KTR 1085** are partial radiation thermometer, which record the infrared radiation emitted from the heat source over a narrow spectral range, and convert it into a signal suitable for recording, switching and controlling purposes. When using the non-contact temperature measurement it's to note, that the emission of an annealing position is depending on material and surface. This physical characteristic is described as emissivity, and can (if known) be preset at the instrument in the form of an emission factor.

## Examples for application:

steel, iron, non-ferrous metal, wires, glass feeder, glass tub, glass arching, hardening, induction heating, ceramics, soldering, forging, welding, transforming, vacuum-furnace, rolling

unit types	target marking
KTR 1085 - 1	light beam aiming device
KTR 1085 - 2	optical viewfinder

## Temperature - Measuring - range - linear -

No.	Meas.- range short
1	550 - 1050°C (1022 - 1922°F)
2	600 - 1200°C (1112 - 2192°F)
3	650 - 1300°C (1202 - 2372°F)
4	700 - 1400°C (1292 - 2552°F)
5	750 - 1500°C (1382 - 2732°F)
6	800 - 1700°C (1472 - 3092°F)
7	900 - 2000°C (1652 - 3632°F)
8	1000 - 2200°C (1832 - 3992°F)
9	1100 - 2500°C (2012 - 4532°F)

No.	Meas.- range long
10	550 - 1800°C (1022 - 3272°F)
11	600 - 2000°C (1112 - 3632°F)
12	650 - 2200°C (1202 - 3992°F)
13	700 - 2500°C (1292 - 4532°F)

(Special meas.- range on request)

## Technical Data

Measuring range	550 - 4000°C (1022 - 7232°F)
Spectral range	0,85 - 1,1 µm
Response time	10 - 100 ms
Accuracy	1 % ± 1°C
Reproducibility	3 ‰
Emissions factor	100 - 10 %
Working temperature	0°C - 60°C (32 - 140°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 - 1 V
Operating voltage	DC 24 V ± 10 %
	AC 24 V ± 10 %
Current input	< 160 mA
Unit connection	5 - pole socket
Dimension H / W / D	54 x 54 x 147 mm (2,13x2,13x5,70 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  
- maximum reading memory

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

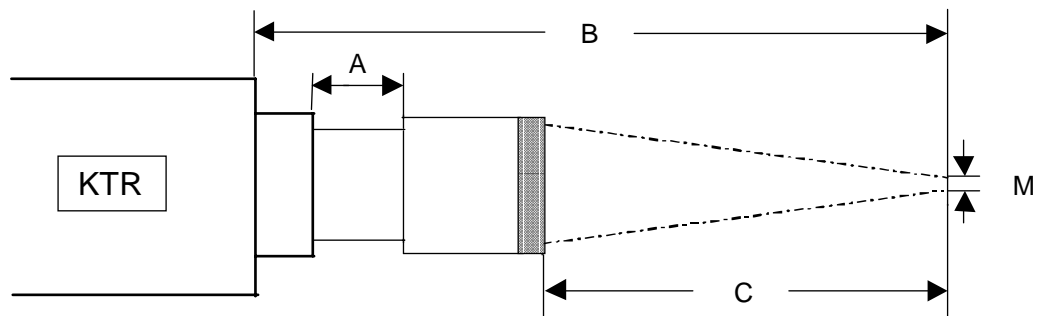
**Dr. Georg Maurer GmbH – OPTOELEKTRONIK –**

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Reg.-Nr.: Q1 0201014

# Optic tables for KTR 1075+1085 and QKTR 1075+1085



Optic-type	: L 1060-T		
Achromat	: f 60 22,4 Ø		
Meas. aperture	: 0,5 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
375	319	13	2,7
400	345,4	11,6	2,9
500	447,6	9,4	3,5
600	549,8	7,2	4,2
700	651,4	5,6	5,0
800	752,4	4,6	6,0
900	853	4,0	7,0
1000	953,5	3,5	7,2
2000	1955,6	1,4	15
3000	2956,3	0,7	24
4000	3956,5	0,5	31

Optic-type	: A 1080		
Achromat	: f 80 31,5 Ø		
Meas. aperture	: 0,5 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
620	557,5	13	3,5
700	639,9	10,6	4,0
800	741,4	9,1	4,5
900	842,5	8,0	5,0
1000	943,4	7,1	6,0
1100	1044,3	6,2	6,5
1200	1144,9	5,6	7,0
1300	1245,4	5,1	7,5
1400	1345,8	4,7	8,0
1500	1446,2	4,3	8,5
1600	1546,5	4,0	9,2
1700	1646,9	3,6	10,0
1800	1747,2	3,3	10,8
1900	1847,4	3,1	11,5
2000	1947,5	3,0	12,1
3000	2948,5	2,0	18,0
4000	3949,2	1,3	24,0

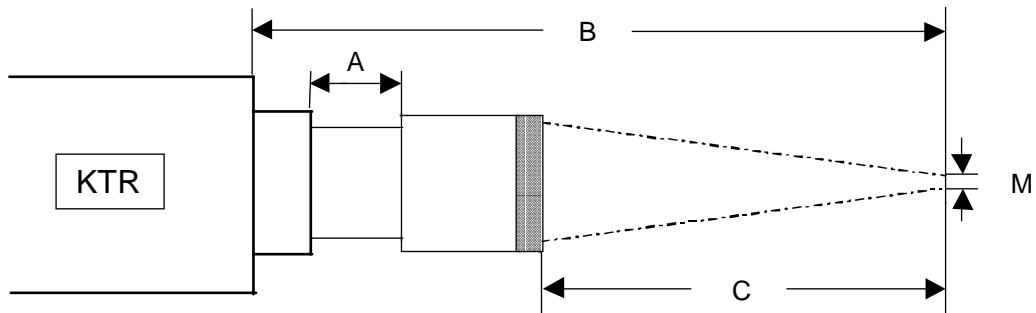
Target=98 % of beam density of the surface

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# Optic tables for KTR 1075+1085 and QKTR 1075+1085



Optic-type : L 1050-N1			
Lens : f 50 22,4 ∅			
Meas. aperture : 0,5 mm ∅			
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
180	124	13	1,5
190	137	10	1,6
200	149,5	7,5	1,7
210	162	5,0	1,8
220	173,5	3,5	1,9
230	185	2,0	2,0
240	196	1,0	2,1
250	207	0	2,2

Optic-type : L 1060-N1			
Achromat : f 60 22,4 ∅			
Meas. aperture : 0,5 mm ∅			
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
285	229	13	1,5
300	245,4	11,6	1,6
350	299,9	7,1	1,9
400	352,3	4,7	2,3
450	404,1	2,9	2,7
500	455,5	1,5	3,2
550	507	0	3,8

Optic-type : L 1050-N2			
Lens : f 50 22,4 ∅			
Meas. aperture : 0,5 mm ∅			
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
210	154,0	13,0	1,3
220	166,1	10,9	1,4
240	188,6	8,4	1,6
260	210,9	6,1	1,8
280	232,6	4,4	2,1
300	253,9	3,1	2,3
320	274,9	2,1	2,5
340	295,5	1,5	2,7
360	316,0	1,0	2,9
380	336,5	0,5	3,1
400	357,0	0,0	3,3

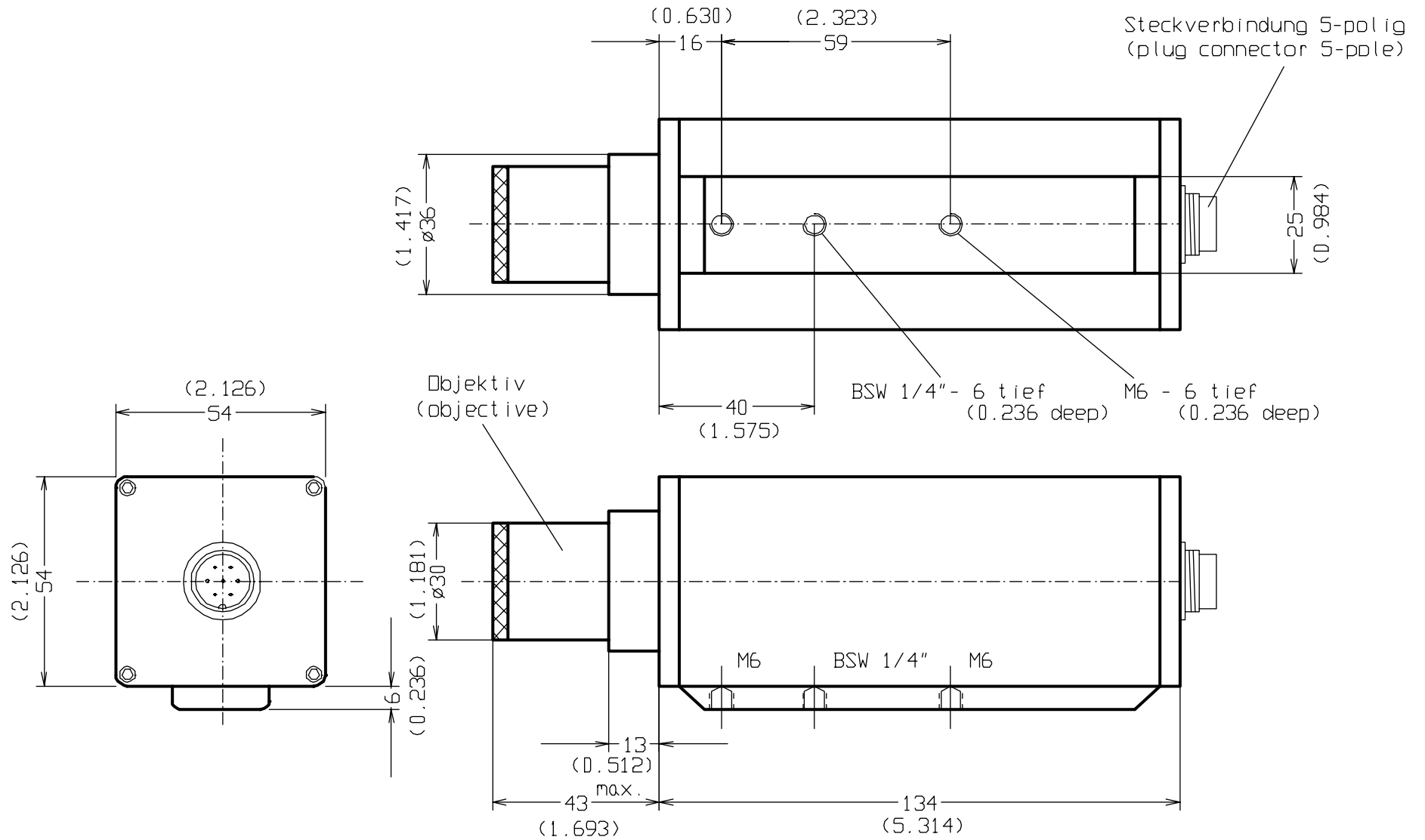
Optic-type : L 1060-N2			
Achromat : f 60 22,4 ∅			
Meas. aperture : 0,5 mm ∅			
Meas. distance from casing of meas. head B / mm	Meas. distance from optic front edge C / mm	Optic extension A / mm	Target size M / mm=d
350	294	13	2,0
400	346,7	10,3	2,4
450	398,9	8,1	2,8
500	450,1	6,9	3,2
550	501,1	5,9	3,7
600	522	5,0	4,2
650	603	4,0	4,7
700	653,9	3,1	5,2
750	704,4	2,6	5,6
800	754,9	2,1	6,1
1000	956,2	0,8	9,2

Target=98 % of beam density of the surface

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(xxx) - Maße in Zoll  
(dimensions inch)

				Maßstab 1:1	
				Fa.Dr. Maurer GmbH	
				STANDARDGEHÄUSE (standard case)	
				KTR 1000	
				Blatt	
				Bl.	
				940302	
				11.06.03	
Zust.	Änderung	Datum	Name		